

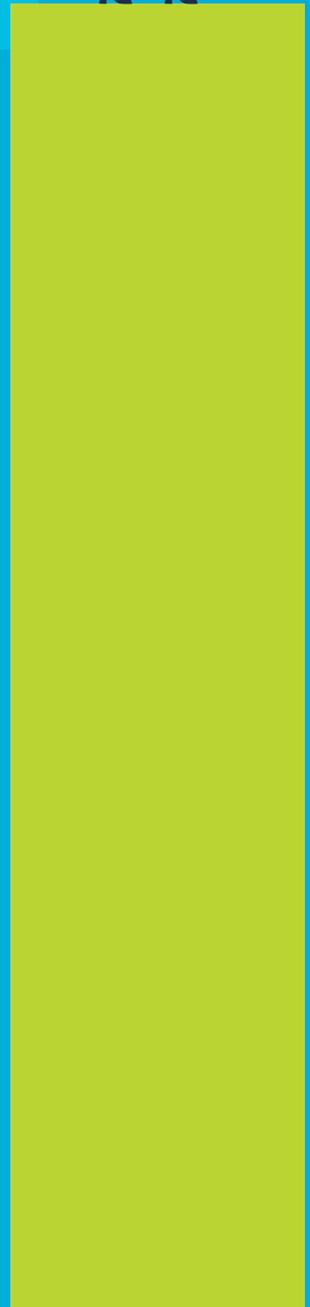
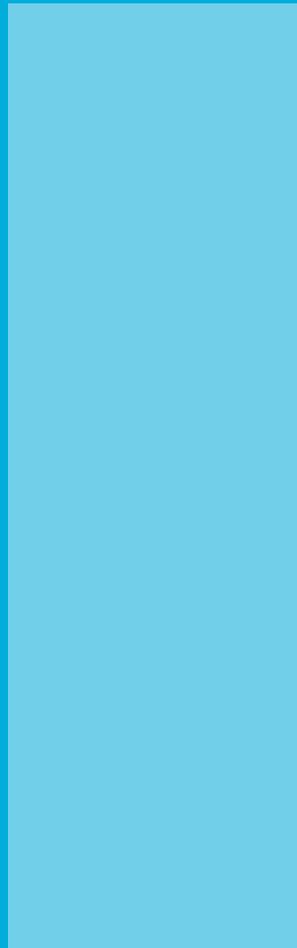


Alberta Teachers'  
Retirement Fund Board



# LOOKING FORWARD TO YOUR FUTURE

2017 ANNUAL REPORT



## THE ALBERTA TEACHERS' RETIREMENT FUND BOARD (ATRF) IS A CORPORATION ESTABLISHED UNDER ALBERTA'S *TEACHERS' PENSION PLANS ACT.*

ATRF functions as the trustee, administrator and custodian of the assets of the Teachers' Pension Plan for all Alberta teachers employed in school jurisdictions and charter schools, as well as teachers employed by private schools that have elected to join the Private School Plan.

The Plans are defined benefit pension plans registered under the *Income Tax Act* and are sponsored by the Government of Alberta and The Alberta Teachers' Association, as representatives of the plan members. These plan sponsors are responsible for changes to plan design, benefits and funding, and share in plan gains and losses.





## 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.**

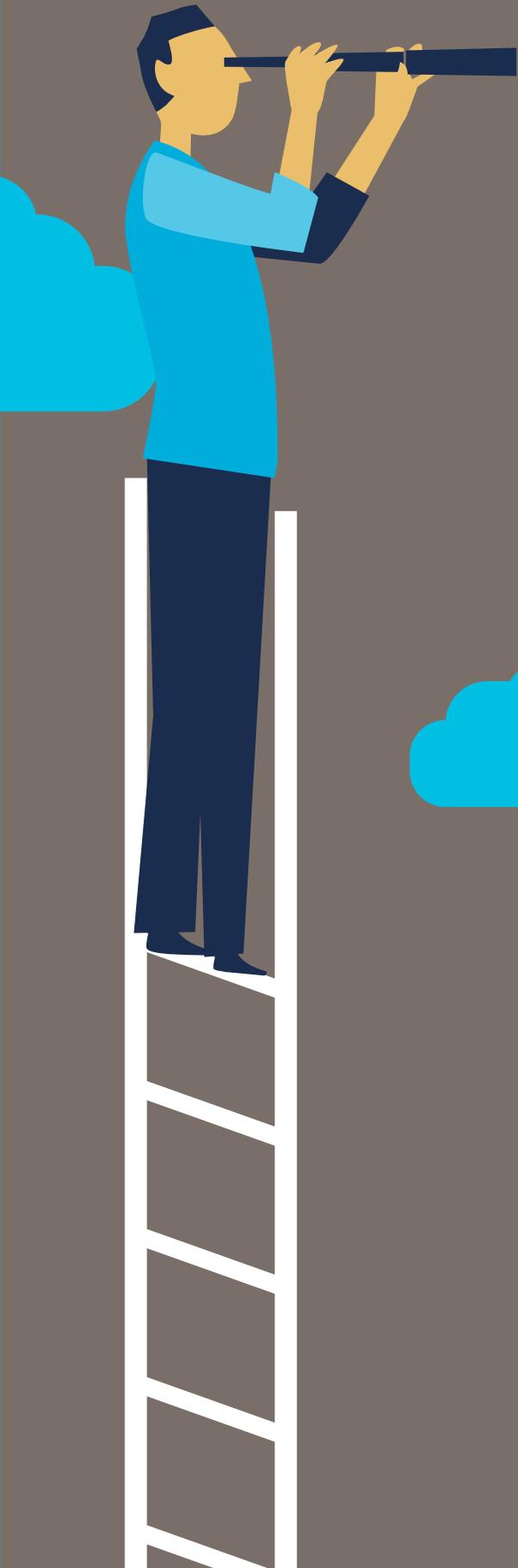
- We listen to understand your needs.
- We provide accurate and timely information and benefit payments.
- We deliver value-added investment performance.

## CORPORATE VALUES

- Excellence
- Accountability
- Integrity
- Partnership



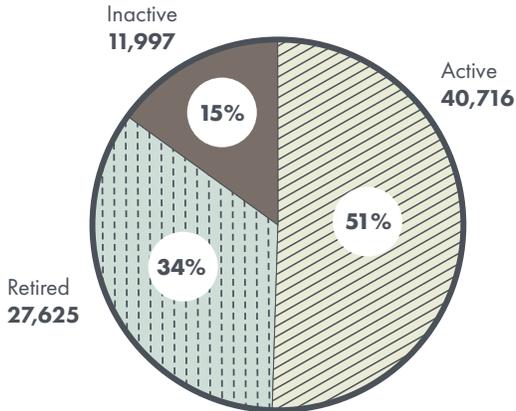




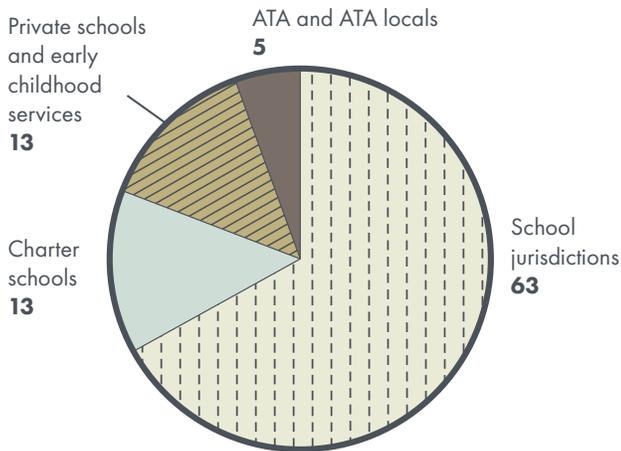
# 2016-17 HIGHLIGHTS

# 2016-17 HIGHLIGHTS

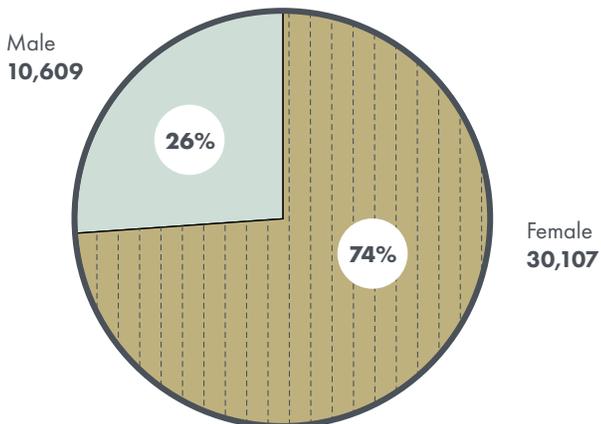
## WHO WE SERVE



**80,338**  
PLAN MEMBERS



**94**  
EMPLOYERS



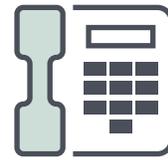
**GENDER DISTRIBUTION OF ACTIVE AND DISABLED MEMBERS**

## HOW WE SERVE



### PERSONAL INTERVIEWS WITH TEACHERS

745 in the ATRF office  
1,004 throughout Alberta



### NUMBER OF INCOMING TELEPHONE CALLS

more than 28,000



### TEACHERS WHO ATTENDED A SEMINAR

578 at the 10 Teachers' Conventions  
1,315 at 35 seminars in  
19 locations across Alberta



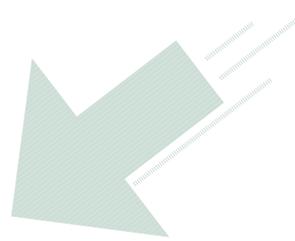
### RESPONSES TO MEMBER EMAILS

more than 4,000



### PENSION ESTIMATES

50,404 completed in MyPension  
3,130 completed by counsellors



## CONTRIBUTION RATE REDUCTIONS

### TEACHERS' PENSION PLAN

TEACHERS' PENSION PLAN CONTRIBUTION RATES		
% of pensionable salary	Effective Sept. 1, 2016	Effective Sept. 1, 2018
up to YMPE <sup>1</sup>	10.74%	10.17%
above YMPE	15.34%	14.52%
<b>Total Teachers' Contribution</b>	<b>12.68%</b>	<b>11.92%</b>
Total Government Contribution	11.95%	11.29%

### PRIVATE SCHOOL TEACHERS' PENSION PLAN

PRIVATE SCHOOL TEACHERS' PENSION PLAN CONTRIBUTION RATES		
% of pensionable salary	Effective Sept. 1, 2016	Effective Sept. 1, 2018
up to YMPE <sup>1</sup>	9.09%	8.76%
above YMPE	12.98%	12.52%
<b>Total Teachers' Contribution</b>	<b>10.87%</b>	<b>10.27%</b>
Total Employer Contribution	10.23%	9.73%

<sup>1</sup> YMPE: Yearly Maximum Pensionable Earnings used by the Canada Pension Plan (\$55,900 in 2018)

## PLAN MEMBER STATISTICS

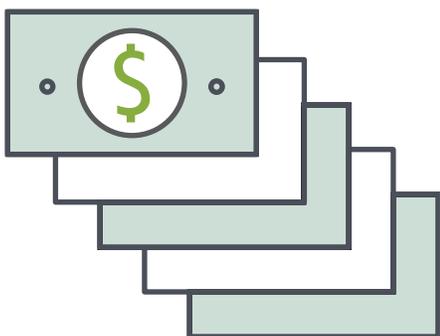
at August 31

	2017	2015	2010	2005	2000
Active and disabled member average age	42	41.8	41.7	42.4	42.7
Active and disabled member average years of pensionable service	11.4	11.2	11.1	12.2	12
Retired member average age	71.2	70.4	68	68	68
New retired member average age	60.2	60	59	58	57.8
Average pensionable service of new retired members	26.2	25.6	26.2	26.4	26.6

- 230 retired members are age 95 or older; 35 members are centenarians.
- The oldest plan member is 107 years old, and has been receiving her pension for 43 years.
- The average annual pension in payment is \$31,655.

**92%** CUSTOMER SERVICE SATISFACTION SCORE

**\$97** ADMINISTRATIVE COST PER MEMBER compared to \$150 average cost per member for a peer group of Canadian public sector pension organizations



**IN 2016-17:**

**TOTAL CONTRIBUTIONS**

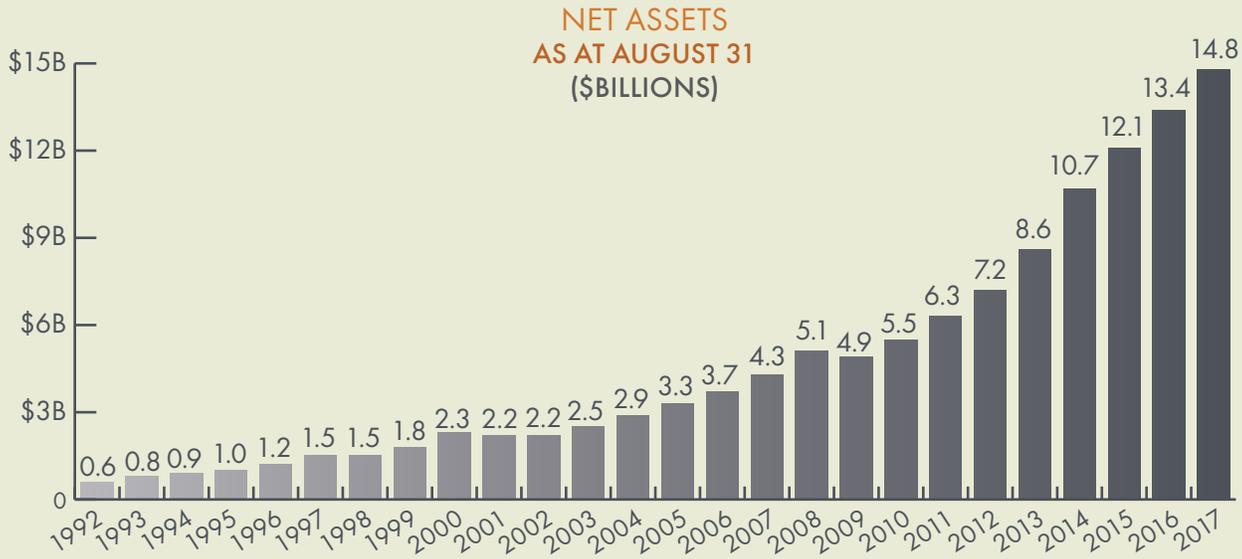
**\$849 MILLION**

**TOTAL BENEFITS PAID**

**\$459 MILLION\***

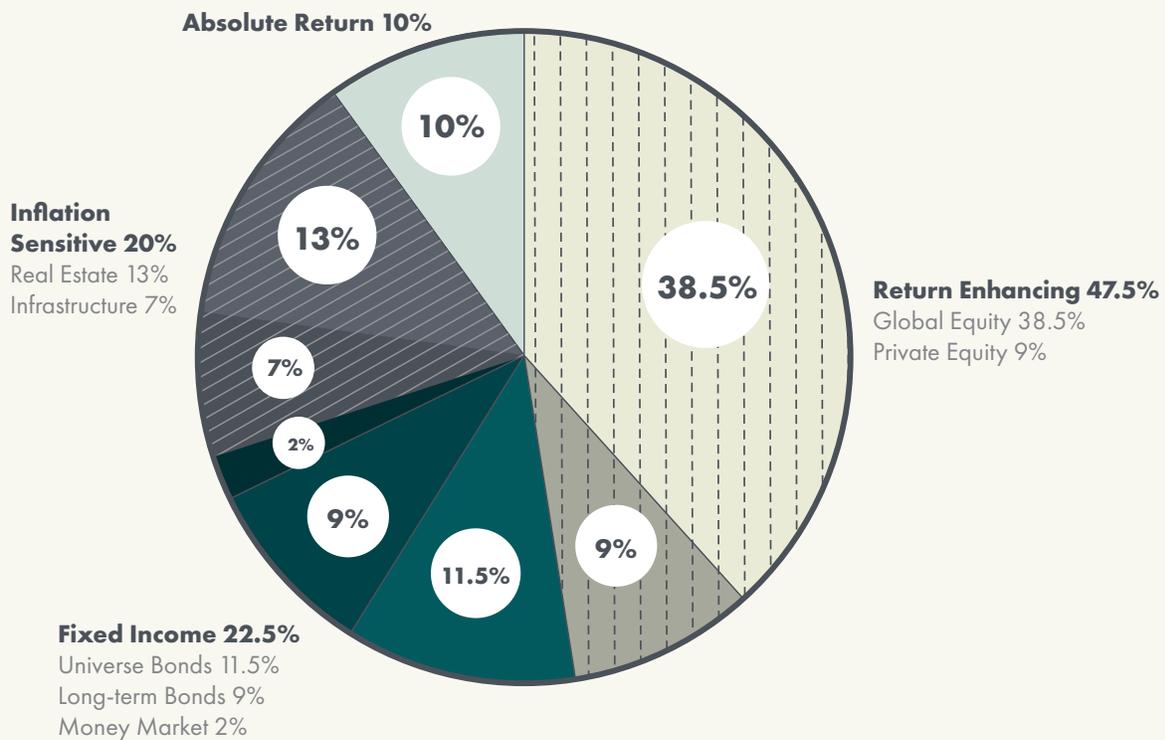
\*An additional \$471 million was received from the Government of Alberta for benefits paid by ATRF relating to the pre-1992 period.

# 2016-17 MEMBER AND FINANCIAL HIGHLIGHTS



MARKET VALUE OF THE PLANS' ASSETS GREW TO **\$14.8 BILLION.**

## POLICY ASSET MIX AS AT AUGUST 31, 2017



# \$10.5 BILLION

The increase in assets over the last 10 years.

7.7%

Annual rate of return

10.3%

Four-year rate of return



90%

FUNDED

Teachers' Pension Plan

Up from 74% funded  
5 years ago

98%

FUNDED

Private School Teachers' Pension Plan

Up from 81% funded  
5 years ago



# MESSAGES

FROM THE BOARD & ATRF MANAGEMENT

# FROM THE BOARD

## BOARD CHAIR MESSAGE

The Alberta Teachers' Retirement Fund has long been guided by the values that drive the organization's work: excellence, accountability, integrity and partnership.

These values help ATRF ensure it delivers on its mission, which is to secure the pensions of our more than 80,000 plan members. Our values and mission are not just buzzwords or abstract concepts. We live and work by them. In doing so, ATRF provides a crucial service to Alberta's teachers—one that is embedded in the concept of 'Looking forward to your future.'

For the Board, this means we ensure strong governance of a corporation that plays a vital role in securing the retirement future of Alberta's teachers. The investments made on behalf of teachers help grow and secure the fund, improving its assets and funded position. And the service provided to members on all aspects of their pension means they are properly equipped to receive the pension promise, namely, a secure retirement income that helps them realize the goals they have long worked and planned for. Our members—quite literally—bank on this. This is why ATRF proudly embraces the 'Looking forward to your future' concept.

### ON A PATH TO FULL FUNDING

I am pleased to report the funding of the Plans continued to improve in 2016-17. The market value of the Plans' assets has increased to \$14.8 billion.

The Teachers' Pension Plan deficiency – the difference between the actuarial value of the Plan's assets and its liabilities – decreased by \$434 million to \$1.52 billion. The ratio of funding assets to funding liabilities increased to 90% from 86%. The Plan also has a very healthy fluctuation reserve of \$905 million, providing a significant buffer against lower than expected investment returns.

Also improving was the funded position of the Private School Teachers' Pension Plan. The Plan's deficiency decreased by \$2.33 million to \$1.17 million. The ratio of funding assets to liabilities improved to 98% from 94%. A fluctuation reserve of \$4.39 million will help offset potentially lower than expected market returns in the future.

### CONTRIBUTION RATES

I am also pleased to announce that the Board approved reductions in contributions to be effective September 1, 2018. These reductions recognize the improvement in the overall funded

position of the Plans as per the August 31, 2017 actuarial valuation, which incorporated prudent measures such as lowering long-term return expectations and building additional provisions for adverse experience.

For the Teachers' Pension Plan, the teachers' contributions will reduce by 0.76 % of teachers' salaries, and contributions from the Government of Alberta will reduce by 0.66% of teachers' salaries, for a total contribution reduction of 1.42%.

For the Private School Teachers' Pension Plan, the teachers' contributions will reduce by 0.60% of teachers' salaries, whereas contributions from the private schools will reduce by 0.50% of teachers' salaries, for a total contribution reduction of 1.10%.

The Board continues to closely monitor the Plans and take action, as needed, to ensure long-term stability, security and sustainability. On this front, the Board is currently engaged in a comprehensive review of the funding policy to ensure it remains well-positioned to provide guidance on funding decisions, and anticipate and mitigate funding challenges while enhancing the Plans' long-term sustainability.

### ACKNOWLEDGEMENTS

The makeup of our Board has also changed over the past fiscal year. I am pleased to welcome five new members to the ATRF Board: John Butler, Catherine Connolly, Maria Holowinsky, Marvin Romanow and Kareen Stangherlin. Together, they bring new ideas and perspectives as the Board continues to offer a diverse mix of educational, private and public sector experience and expertise. See page 11 for more details about our Board members. I would like to acknowledge the contributions of past Board members, Gene Williams and Lowell Epp, who completed their terms in October 2016 and May 2017, respectively. I would also like to thank Richard Fortier for his services as an external member of our Investment Committee. Their contributions served the Board and ATRF greatly, and I thank them for their work.

It remains my privilege to undertake this work alongside my fellow ATRF Board members and with the employees of ATRF. Indeed, I would like to thank every one of you. By taking ATRF's values to heart and truly embracing the concept of 'Looking forward to your future,' we continue to make a significant difference to Alberta's active and retired teachers.

*[Original Signed]*

Greg Meeker  
Board Chair



# Looking forward to your future.



ROD MATHESON  
Chief Executive Officer

That's a message you'll find throughout this year's edition of the ATRF Annual Report. Simply put, it embodies the dynamic relationship we maintain with our pension plan members and stakeholders.

'Looking forward to your future' represents our constant search for opportunities in which to invest, grow and safely manage members' pensions—all with the intention of delivering the pension promise for members to receive a predictable and reliable pension income in retirement.

The 'Looking forward to your future' concept also reflects the individualized support we provide plan members: to ensure they get timely and accurate pension information. This includes assisting members ready to retire or those, for example, considering the impact career or life changes may have on their pensions. Our role doesn't end there though, as we continually provide support to retired plan members.

Finally, 'Looking forward to your future' embodies our understanding that plan members are continually thinking about and planning for their future. Members want answers to their pension and retirement questions, the first time they ask. And they need assurance their financial future is always in safe hands.

Through 2016-17, the 'Looking forward to your future' approach has been reflected in our results. It was a strong year for ATRF. And while economic growth has returned to many parts of the globe, the geopolitical environment has proved challenging—to say the least. That being said, public and private equity markets, as well as real estate and infrastructure, had strong returns, contributing to an overall net fund return of 7.7%. This exceeded our long-term funding objective, as well as the Plans' benchmark return.

Over the past 15 years, ATRF's investment portfolio has generated an annual return of 7.3%, slightly above our long-term funding objective.

Our member services team continued providing plan members with what they needed, the first time and where, when and how they wanted it. In 2017, we released the results of our plan member survey (see page 22 for more details). Member service satisfaction levels remain high, with plan members continuing to find value in our website, resources, online tools and service. We regularly assess how ATRF meets and responds to plan member information and service needs, so I am encouraged to see so many positive results on a wide range of services. This survey equips us with information we can use to continue enhancing services for our plan members.

On the actuarial front, the Plans' funded status continues to improve. ATRF remains on a path to full funding. The Teachers' Pension Plan is now 90% funded, while the Private School Teachers' Pension Plan is 98% funded.

Our growth has also been recognized externally. In 2017, ATRF was ranked as Canada's fourth-fastest growing pension fund. We were also ranked 20th out of the country's top 100 pension funds in terms of assets, according to the annual Benefits Canada magazine report. These rankings reflect the growth we have experienced and the steps we've taken to build on our asset portfolio.

## ACKNOWLEDGEMENTS

I am pleased to acknowledge the addition of Tina Antony, ATRF's Vice President, General Counsel and Corporate Secretary, to our executive management team. Tina brings more than 20 years of experience, specializing in mergers and acquisitions, securities law, fund formation, corporate finance and governance.

I would like to thank the entire team at ATRF for another successful year. Our employees are truly the biggest asset of the fund. Every part of the organization helps ATRF ensure we deliver our mission and values, in support of our aim to continue 'Looking forward to your future.'

*[Original Signed]*

Rod Matheson  
Chief Executive Officer

# GOVERNANCE



## GOVERNANCE

ATRF has eight board members appointed under the *Teachers' Pension Plans Act*. The ATRF Board divides its work into a specific number of committees (adjusted from time-to-time) to carry out its responsibilities. In 2016-17, the Board significantly reconstituted its committees and modified existing committees:

### AUDIT AND FINANCE COMMITTEE

The Audit and Finance Committee is responsible for performing duties that enable the Board to fulfill its oversight responsibilities in relation to the corporation's financial reporting, accounting systems and internal controls. The committee meets with ATRF's external auditors, and recommends the approval of financial statements to the Board. It also reviews management's business plans, operating and capital budgets, and makes recommendations to the Board.

### GOVERNANCE COMMITTEE

The Governance Committee provides assistance to the Board in fulfilling its responsibility in developing and recommending to the Board a set of corporate governance principles, policies, standards and practices that support ATRF's strategic priorities.

### 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 the corporation's human resources and compensation matters.

### 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, made up of the entire Board, 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 certain administrative decisions made by ATRF staff. The committee consists of the entire Board.

Board and committee composition:

	Board	Investment	Audit & Finance	Governance	Human Resources & Compensation	Review
John Butler	√	√	√	Vice Chair		√
Catherine Connolly	√	Chair		√		√
Karen Elgert	√	√			Vice Chair	√
Maria Holowinsky	√	√	√	Chair		√
Sandra Johnston	√	√		√	Chair	√
Greg Meeker	Chair	√	Vice Chair			√
Marvin Romanow	Vice Chair	Vice Chair			√	√
Kareen Stangherlin	√	√	Chair		√	√

## BOARD ATTENDANCE & 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 Government of Alberta or The Alberta Teachers' Association; employers are reimbursed for time spent by certain Board members. The Board annually reviews and sets the remuneration for Board members eligible to receive remuneration. The review is based on a survey of the remuneration being paid by other similar Canadian public-sector pension investment and administration organizations. Five out of eight Board members were eligible to receive remuneration during the 2016-17 fiscal year.

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

	<b>2016-17 (\$)</b>
Board Member Retainer	\$15,000
Committee Chair Retainer	4,000
Fee per Board Meeting	1,200
Fee per Committee Meeting (in excess of 4 hours)	1,200
Fee per 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.

Provided below is a summary of Board member attendance and remuneration for the 2016-17 fiscal year.

### Board Meeting Attendance/Remuneration

<b>Board Member</b>		<b>Board Meeting Attendance<sup>5</sup></b>	<b>Committee Meeting Attendance<sup>5</sup></b>	<b>2016-17 Total Remuneration (\$)</b>
Greg Meeker	Chair of the Board	7/7	13/13	\$ n/a <sup>8</sup>
John Butler <sup>1</sup>		5/5	8/8	27,200
Catherine Connolly <sup>1</sup>	Chair, Investment Committee	5/5	9/9 <sup>6</sup>	33,200
Karen Elgert		6/7	6/8	n/a <sup>8</sup>
Lowell Epp <sup>2</sup>		5/6	9/9	n/a <sup>8</sup>
Maria Holowinsky <sup>3</sup>	Chair, Governance	1/1	4/7 <sup>6,7</sup>	21,600
Sandra Johnston	Chair, Human Resources & Compensation Committee	6/7	14/14	n/a <sup>8</sup>
Marvin Romanow <sup>4</sup>		5/6	6/7	30,200
Kareen Stangherlin <sup>1</sup>	Chair, Audit & Finance	5/5	9/9	\$34,000

<sup>1</sup> Joined the Board in December 2016

<sup>2</sup> Completed term in May 2017

<sup>3</sup> Joined the Investment Committee in December 2016; Joined the Board in May 2017

<sup>4</sup> Joined the Board in October 2016

<sup>5</sup> Does not include special meetings of the Board or attendance as an observer at Board or Committee meetings

<sup>6</sup> Includes attendance as an External Member of the Investment Committee

<sup>7</sup> Includes a Committee meeting from which the member recused herself to avoid a potential conflict of interest

<sup>8</sup> In accordance with legislation, no cash remuneration is paid to this Board member, as this individual works for an employer or employer-contributor. Employers are reimbursed for time spent by certain Board members; in 2016-17, the amount reimbursed was \$21,600 in total.

### BOARD DIVERSITY

In recruiting for 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 currently:

<b>Gender</b>	<b># of Board Members</b>	<b>% of Board Members</b>
Men	3	37.5%
Women	5	62.5%
Total	8	100%

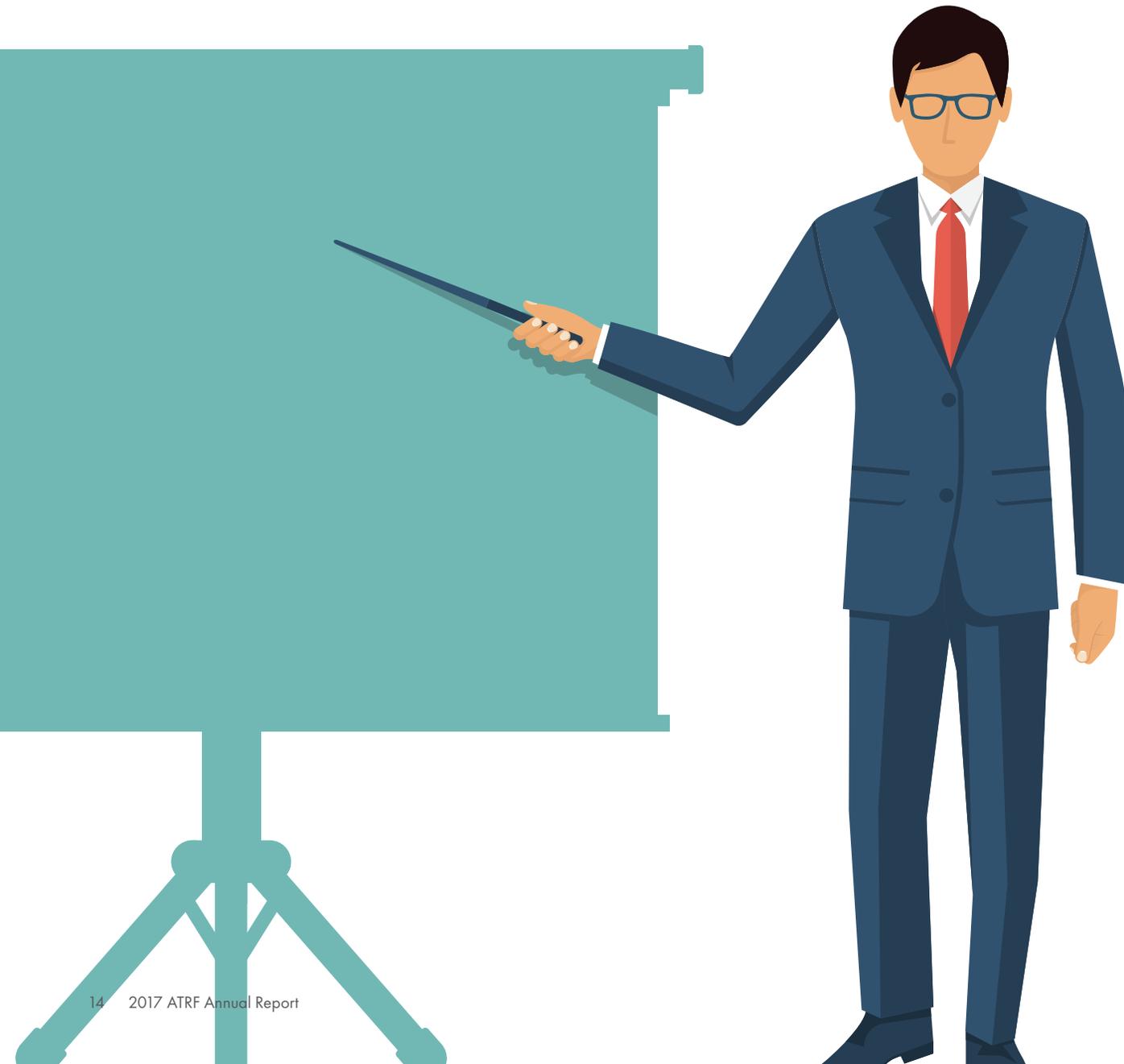
## BOARD MEMBER SKILLS AND EDUCATION

ATRF believes the ongoing development and education of its Board members is integral to achieving a high level of Board effectiveness. During the 2016-17 fiscal year, the Board, its committees and individual Board members participated in presentations and received educational information and/or materials on a variety of topics.

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

## WHISTLEBLOWER DISCLOSURES

ATRF has an established policy and program which provides all employees and board members with the ability to confidentially report any failure to comply with our Code of Professional Conduct. In 2016-17, there were no disclosures received.



# ATRF BOARD



## GREG MEEKER

Greg joined the ATRF Board in 2007, and in 2009 assumed the role of Board Chair. He is an Assistant Principal at Ross Sheppard High School in Edmonton. Previously, Greg taught at Victoria School of the Arts and Centre High School in Edmonton. He is also a former member of the Alberta Teachers' Association (ATA) Pension Committee and a member of the Science Council. Greg is Vice Chair of ATRF's Audit and Finance Committee, and a Member of the Investment Committee.



## JOHN BUTLER

John is a director of Bristol Gate Capital Partners Inc. His 38-year career includes having been a partner at the law firm Torys LLP, a senior executive at Barrick Gold Corporation and the Senior Managing Director, General Counsel and Corporate Secretary of the Canada Pension Plan Investment Board. He joined the ATRF Board in December 2016. John is a Member of the Investment, Audit and Finance Committees, and Vice Chair of the Governance Committee.



## CATHERINE CONNOLLY

Catherine is the founder and president of Gist Solutions. 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. Catherine is Chair of the Investment Committee and a Member of the Governance Committee.



## 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 joined ATRF in August of 2009. She is a member of the Investment Committee and is Vice Chair of the Human Resources and Compensation Committee.



### MARIA HOLOWINSKY

Maria is Director of Research with CWB Wealth Management. Previously, she was President and CEO of Adroit Investment Management, which amalgamated with CWB Wealth Management in March 2017. Maria is on the Board of the Edmonton Economic Development Corporation, where she serves as Chair of the Governance Committee. She joined the ATRF Board in May 2017. Maria is Chair of the Governance Committee, and a Member of the Investment and Audit and Finance Committees.



### SANDRA JOHNSTON

Sandra is Coordinator, Teacher Welfare with the ATA. After teaching for nine years in the Peace River School Division, Sandra became the Assistant Supervisor of Curriculum and Instruction. She joined the ATRF Board in December 2012. Sandra is Chair of the Human Resources and Compensation Committee, and a Member of the Investment and Governance Committees.



### MARVIN ROMANOW

Marvin is a Corporate Director and Executive in Residence at the University of Saskatchewan, and a Board member of SaskPower. He is also Chairman of Freehold Royalties, on the Board of the Arnie Charbonneau Cancer Institute, and the former CEO of Nexen Inc. He joined the ATRF Board in October 2016. Marvin is Vice Chair of the Board, Vice Chair of the Investment Committee, and a Member of the Human Resources and Compensation Committee.



### KAREEN STANGERLIN

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. Kareen is Chair of the Audit and Finance Committee, and a Member of the Investment and Human Resources and Compensation Committees.



ROD MATHESON  
Chief Executive Officer



DEREK BRODERSEN  
Chief Investment Officer



TINA ANTONY  
Vice President, General Counsel and  
Corporate Secretary



ALBERT COPELAND  
Vice President, Information &  
Technology Services



MARGOT HRYNYK  
Vice President, Corporate Services



JULIE JOYAL  
Vice President, Pension Services



MYLES NORTON  
Vice President, Finance

# PLAN MEMBER SERVICES



## OUR CUSTOMER SERVICE STATEMENT:

### WE PROVIDE WHAT YOU NEED THE FIRST TIME

ATRF strives to give plan members what they need the first time—where, when and how they want it. Our dedicated, caring and knowledgeable team provides personalized services to plan members, and the assistance they need to understand their ATRF pension plan.

**Plan members are at the center of everything we do.** Whether members prefer to speak directly with an ATRF representative or access information through our website, our goal is to provide an exceptional member experience to help them understand and value their pension and make informed decisions.

Obtaining pension information is as simple as contacting our office by phone, email, in person or online. Members who get timely and accurate information about their pension are better prepared for decisions they need to make at various stages of their careers. No matter where they are in their careers, the ATRF team is available to assist with their pension inquiries.

We are continuously evolving and improving our plan member services, based on changing demographics, growth in membership, continued expectations of excellent service, and advances in tools and technology.



## WHO WE SERVE

80,338  
plan members:

40,716  
active and disabled plan members  
who accrue pensionable service

27,625  
retired plan members who are  
currently collecting a pension

11,997  
inactive members who are not accruing  
pensionable service and are not yet  
collecting a pension

712  
are members of the Private  
School Teachers' Pension Plan.

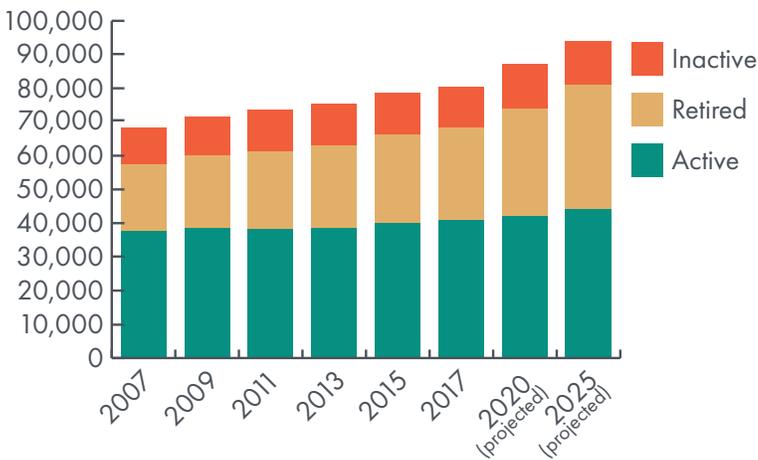
94  
employers:

63  
school jurisdictions

13  
charter schools

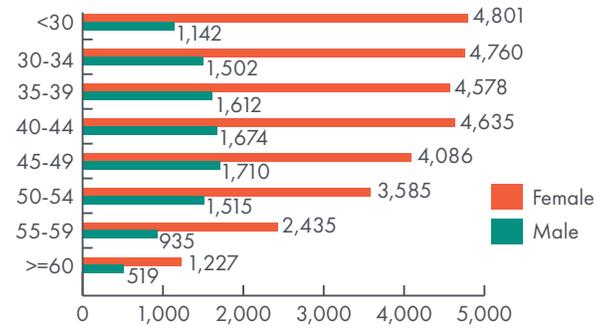
13  
private schools and  
early childhood services

5  
ATA and ATA locals

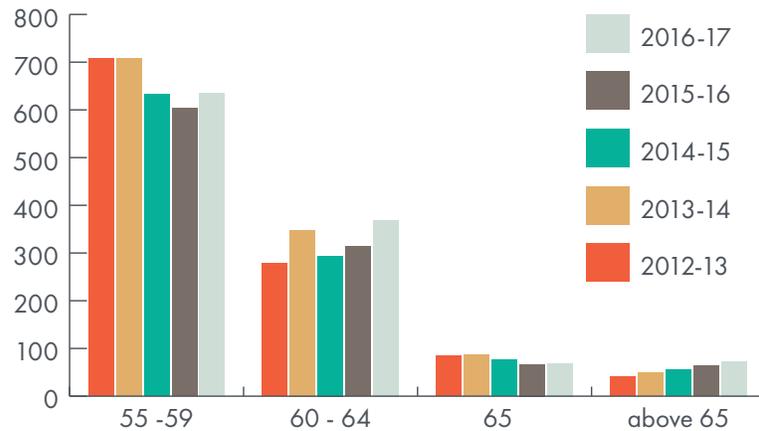


### PLAN MEMBERSHIP OVER THE YEARS

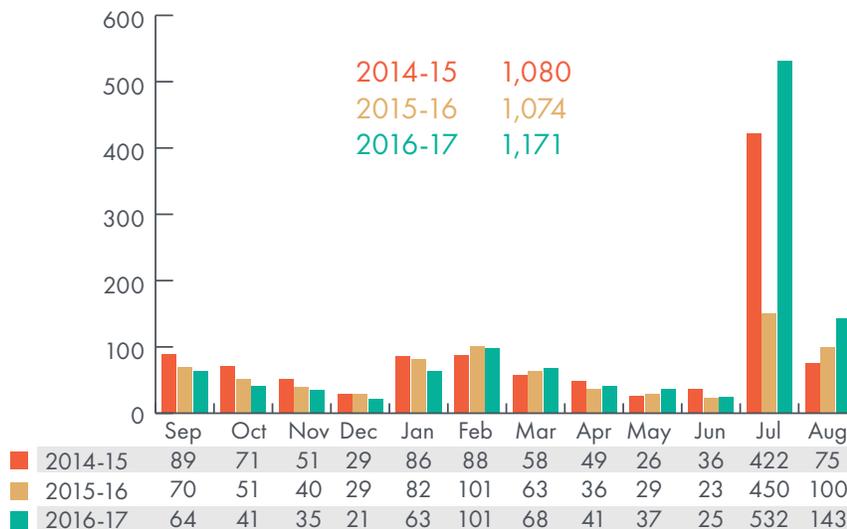
In the past decade, the membership base has grown by nearly 20%, including a 40% increase in retired members.



### AGE DISTRIBUTION OF ACTIVE AND DISABLED MEMBERS



### AGE AT WHICH RETIRED MEMBERS BEGAN RECEIVING THEIR PENSIONS



### NEW PENSIONS PROCESSED

## ONLINE SERVICES

ATRF's website, [www.atrf.com](http://www.atrf.com), is the go-to destination for everything members need to know about their pension plan. It provides information of specific interest to members currently teaching, or who are already retired.

We have seen a steady increase in the number of members taking advantage of our website services. Sections most helpful to members include:

- Life Events, such as joining the Plan, marriage and leave of absence
- About Your Plan, such as plan provisions, pension formula, pension options
- Increasing Your Pension, such as purchasing service following a leave

**46% of all plan members are now registered for MyPension, compared to 42% last year—a 9% increase.**

### TEACHERS' LOUNGE, ONLINE VIDEOS AND WEB TOOLS

The Teachers' Lounge is where members can watch videos and use interactive tools to learn about their pension plan. In the Teachers' Lounge, members can access:

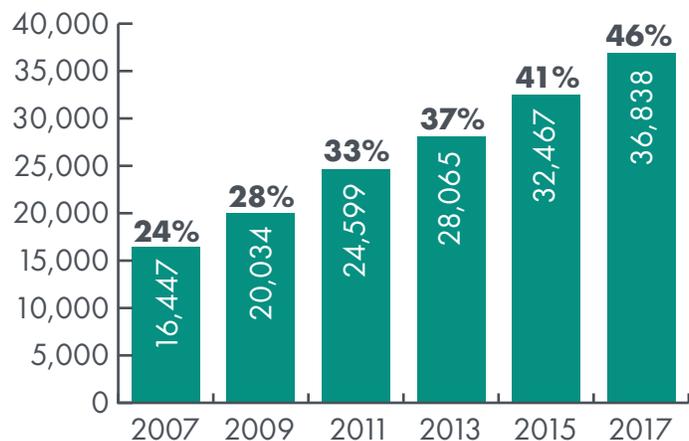
- Completing Your Pension Package video
- Steps to Retirement video
- Pension Option Selection tool
- Who Told You That?! game

### TIMELY SERVICE TO PLAN MEMBERS

Our service levels are among the best in the industry. To ensure we deliver the required services to members in a timely manner, we have established benchmarks for key services. We measure completion of a service from the date we receive the necessary information from the plan member or the employer, to the date service or information is provided. On average, we exceeded the benchmark in all processes in the 2016-17 fiscal year.

## MYPENSION

For secure and easy access to personal pension information, members are encouraged to register for their own MyPension account. This allows members to immediately access their pension information at anytime, anywhere. We see an increasing number of plan members registered for MyPension:



### MEMBERS REGISTERED FOR MYPENSION

MyPension allows members to:

- View or update personal information (including nominee and beneficiaries)
- Submit their pension application to start the retirement process
- Access Plan Member Statements and Pension Information Statements
- Use the Secure Message Centre to post and receive electronic messages from ATRF
- Get real-time pension estimates and termination benefit estimates
- Get estimates on the amount required to purchase service
- Print T4A slips

Service Provided	Benchmarks for 2016-17	Average time in 2016-17	% that met or exceeded benchmark
Ongoing retired member 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	82%
Pension payment processed for new retired members	Within 5 days	4 days	67%
Pension estimate	Within 5 days	2 days	97%
Termination benefit package	Within 7 days	4 days	86%
Purchase of service estimate	Within 7 days	1 day	97%
Written inquiries	Within 3 days	1 day	97%
Telephone inquiries	Within 1 day	1 day	100%

# THE GRADES ARE IN

## PLAN MEMBER SURVEY SHOWS SERVICE LEVELS REMAIN HIGH

Our 2017 plan member survey shows our customer service levels remain high, with plan members finding value in our website, information resources, and our online MyPension tools and service.

"We regularly assess how ATRF meets and responds to plan member information and service needs," says ATRF CEO, Rod Matheson. "I am encouraged to see so many positive results on a wide range of services. This survey equips us with information we can use to continue enhancing services for our plan members."

**ATRF continues to have high customer service satisfaction with a score of 92%, and an 81% overall satisfaction level.**



### Other key results include:

**90%** of respondents rated the website as good or excellent



**91%** rated our online services as good or excellent



**84%** rated our communication materials as good or excellent

The 2017 plan member survey was conducted electronically in March 2017. It was received by more than 45,000 active, retired and inactive members. More than 14,000 replied —a very strong 31% response rate.

ATRF has surveyed its plan members since 1997. The survey has normally been conducted every two years for active members, and every four years for retired members. This year, we decided to survey all plan members, including inactive members, at the same time.

In the future, ATRF plans to engage employers in a similar survey to continuously improve our services and learn how we can make their work easier when it comes to the administration of pensions for their employees.

## HERE'S WHAT SOME MEMBERS TOLD US:



### LEVEL OF CUSTOMER SERVICE:

"Thanks for all you do to keep my pension safe."

"The older I get, the more I appreciate the security it offers me. Very helpful and sensitive to my concerns and needs."

"I really appreciated that ATRF anticipated questions I didn't know I would have until I got there, and had answers ready."

"Offer more long-term planning for teachers in the middle of their careers."



### SATISFACTION WITH OVERALL SERVICES PROVIDED BY ATRF:

"Very impressed. I had made an inquiry through email about something your website could not seem to handle regarding retirement dates. In under an hour, I had an answer."

"This is an amazing pension plan that I truly appreciate."

"As a younger person not close to retiring, I would like to see more opportunities to learn about the benefits of getting to know more about ATRF at this point in my career."



### COMMUNICATION MATERIAL:

"The communication up to this point has been very good and has been helpful in planning my retirement."

"More easily accessible info on buying back pensionable service and impacts of maternity leaves on pension."

"Keep it up. It's valuable to be able to access all information on the website."



### INPUT FROM NEWLY RETIRED MEMBERS

All 1,171 plan members who retired during the 2016-17 fiscal year received a New Retired Member Questionnaire. This year, we completed a refresh of this survey. The new event-driven survey is now sent electronically to teachers shortly after they complete the process toward retirement. The response rate was 38%, compared to 8% with the previous hard copy survey. The high response rate is due to the convenience and user-friendly format of the electronic survey.

Member feedback and suggestions are key to helping us provide excellent service. Plan members can share feedback with us in a variety of ways, including the feedback button on our website or via email, letter, phone, and responding to our member surveys.



New retired members in 2016-17 gave a **97%** satisfaction score for the overall level of service they received from ATRF.

## FINDING THE ANSWERS WITH ATRF

Having access to a team of knowledgeable and understanding ATRF pension experts over the course of a teaching career proved invaluable, according to retired plan members Carol Anderson and Judy Darroch.

Both agreed their interaction with ATRF resulted in a smooth pension experience.

That's not to say the two teachers didn't encounter issues and concerns about their pensions along the way. But having the ability to pick up the phone or drop in and meet with professional and experienced pension experts made life a little less stressful.

"Thank goodness for the pension counsellor I was dealing with," said Carol, who remembers a series of calls and meetings about one specific pension issue. "She thought of things I never would have thought about. I appreciated the fact I could phone a pension counsellor and ask them a question, think about it for a while, ask another question and then if I needed to, drive to the office and meet with that person to go over even more information."

Another ATRF pension counsellor also met with her at a Tim Horton's to accommodate her schedule.

The access was important, but the teachers agree that what's equally important for active teachers—no matter how new or experienced they may be—is to begin thinking about and planning their retirement.

When it comes time to decide on retirement, both suggest teachers figure out what their goals are, and learn about the pension implications of life and career decisions.

"Retirement is such a big decision. And it's a permanent decision," said Judy, who retired three years ago. "It's very personal. You have to ask yourself a lot of questions. For example, do you retire and take what you have, or sub and work somewhere else part time to make up the difference?"

A lot of teachers get advice from their colleagues about retirement, which helps prepare for the eventual retirement conversations with ATRF.

"When you're nearing retirement, you start asking your colleagues questions about their pensions and advice along the way," said Judy. "But you also find a lot more information that's pertinent to you once you're in

front of your pension counsellor. I was able to ask and confirm information I had heard about, and they were able to provide scenarios based on the options I was considering. The information was laid out very well for me, and very easy to go through."

According to Carol, issues like maternity leave and buying back service, moving from school to school (or even to different jurisdictions) can, over the length of a career, make it more challenging to understand pension statements and information at first glance.

"It can be totally confusing, even when you're prepared. I had it laid out for me in the ATRF office. I asked questions, and all the time in the world was offered to me. I went away, thought about it, talked it over with my family, had more questions, and came back again. And you know what? She answered all of my questions. There were big decisions to make. They were very professional, and she told me what I needed to know."

As the two retired teachers point out, retirement is a major decision for anyone. And it goes beyond just filling out paperwork. They were both pleased that ATRF gave them the personal touch.

Online tools, as well as the Pension Points newsletter, also proved helpful in keeping tabs on their pensions and learning about changes and news in the pension realm, they said.

At the same time, ATRF provided a service that reflected the importance of retirement.

"It's not only about the numbers," added Carol. "It's in the emotions, too. Retirement is a big decision. You want to get it right. But the pension counsellor I dealt with didn't push me or influence me in any particular direction. She didn't try to influence me by saying that, 'More than 25 people have taken this option and they're all happy so you should do this, too.'"



Carol Anderson (left) and Judy Darroch (right) are two retired Edmonton-area teachers. Both have dealt extensively with our office as they managed their pensions and planned for retirement.

“She answered all my questions and went the extra mile to check the numbers and made me feel like she was taking a personal interest in my file. She was awesome. Just amazingly awesome.”

# PERSONALIZED SERVICE AT THE HEART OF ATRF'S MEMBER ENGAGEMENT

At ATRF, our pension counsellors and specialists spend a lot of time on the phone and meeting plan members and employers. These experts help members sort through questions about their pensions, and assist all plan members at every stage of their lives. No two interactions are the same. That's because we focus on finding personalized solutions for each plan member—no matter the individual or their situation. We take a future and goal-oriented approach to our role.

ATRF's pension counsellors work primarily with active plan members. They can be new teachers, those in the middle of their career, and teachers at the end of their career who are contemplating retirement.

"Plan members' needs are different at each of those stages," says Lisa Bitensky, a pension counsellor. "For example, we talk to younger teachers about maternity leave, and sabbaticals for professional improvement. Those will be different kinds of conversations and follow-throughs than with someone who's approaching retirement."

ATRF's pension specialists work with plan members and employers, and assist with requests such as membership data updates, and questions about the Plan rules. They also process all transactions related to life events, from enrolment, to retirement, and supporting plan members through more difficult situations like a divorce or death of a spouse.

Finding the right answer for each member is ATRF's goal.

"We receive a lot of questions from members wondering, 'What does everyone else do in a similar situation?'" says Lisa. "We're here to ensure they're thinking about the right things, and know from experience that teachers don't want to miss any details. It's about getting them the information they need."

Many calls and questions are about understanding the available pension options. It's times like this when our team works to find an individualized solution or answer to a member's question or issue.

"It's not about finding out why other people are choosing various pension options. It's about finding out what each member's needs are, and providing solutions that work best for them," says Dana Adams, a pension counsellor.

**"It's important to help them step back and look critically at their own situation. We try not to tell people what they should do. Instead, it's a matter of giving them information that fits their own unique circumstance. Everyone's situation is different. We acknowledge that their thought process is correct, and therefore, asking the right questions."**

Marc Bisson, a pension counsellor, agrees.

"Working an extra year to raise your pension each month by a hundred dollars may be significant for one person. But for someone else, it isn't. We try to stay away from catch-all rules, and ask plan members to relate it to themselves. They can decide what's important."

Of course, facts and numbers don't lie, as Lisa points out. So, ATRF is always ready to provide estimates and numbers to help a member decide whether he/she should, for example, work for another year leading up to retirement, or consider working half-time, or even working after retirement. What's the impact on the pension? And what are the unique implications it will have on the plan member?

"Plan members can be overwhelmed when faced with issues and questions about their pension. This can be due to the perceived notion that pensions are unclear and confusing," says Marc. However, that confusion can sometimes be misplaced.

"There is certainly a perception that pensions are difficult and complicated," he says. "But when plan members start talking with us, they actually reveal they are far more knowledgeable than they give themselves credit for."

Marc also adds it's important to track information on MyPension, ATRF's online tool, as well as read your annual statement and understand what it means. ATRF's regular Pension Points newsletters also keep members informed of changes, plus offer tips and insight into pension management.

## MEETING MEMBERS' NEEDS

Outside the office, ATRF pension counsellors host presentations to teachers in a variety of settings. These range from sessions specifically targeted for new teachers, teachers nearing retirement, and those who have made the retirement decision and are now focused on completing the next steps to start receiving their pension.

To make the most efficient use of their time, the pension counsellor team carefully monitors provincial demographics, and selects communities and local events to ensure a meaningful presence.

"We work hard to learn about the demographics of the province and where the teachers are," says Marc. For example, he points out that Calgary currently has a high proportion of teachers who are closer to the retirement age range, whereas communities like Grande Prairie or Wainwright have younger demographics. "That knowledge helps determine the type of issues and outreach required by our pension counsellors."

## SUPPORTING RETIRED MEMBERS

ATRF's pension specialists recognize that service doesn't end once retirement begins. That's why they draw on their knowledge of challenges that may arise during retirement, and work to answer questions and guide retired members through their own concerns.

Our pension specialists are quick to note that a key part of their skillset isn't just knowledge of retirement-related issues, but understanding and empathy too.

"Every person who calls in has a unique question, so we always handle those discussions a little bit differently," says Shelley Walchuk, a pension specialist.

"Issues can be complex, even for retired members. For example, a retired member might have experienced a divorce. Should one of them pass away and they have a joint-equal pension, the pension could revert back to an ex-spouse," explains pension specialist, Becky Butt.

"There can be a lot of moving pieces retired members need to consider. Not a lot of decisions need to be made after retirement, but there's always a lot of information to convey," says Becky.



Rebecca Butt (left) and Shelley Walchuk (right) are part of ATRF's pension services team. They work closely with retired plan members to ensure their needs and concerns are addressed.

## VALIDATION IS KEY

No matter the stage of career or life a plan member is in, validation is a key message for our pension experts.

"We let them know they're asking the right questions," says Linda Lau, a pension counsellor.

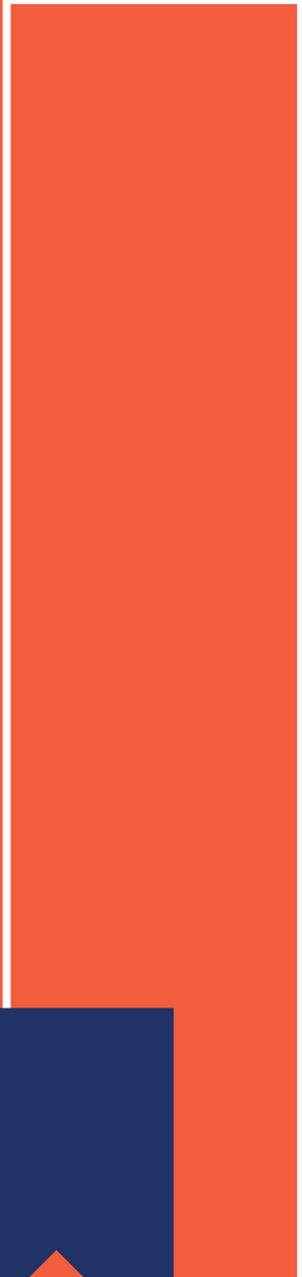
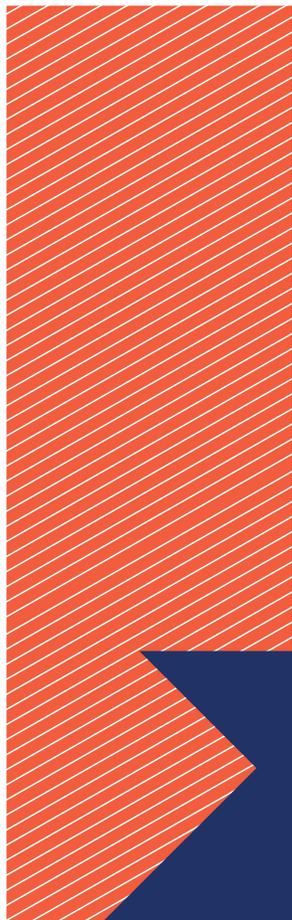
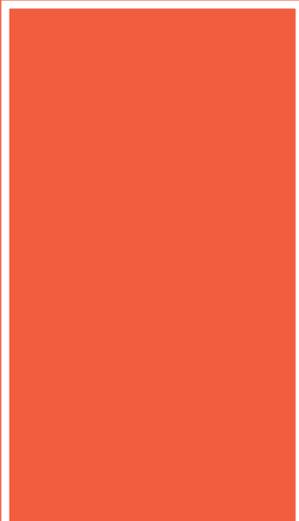
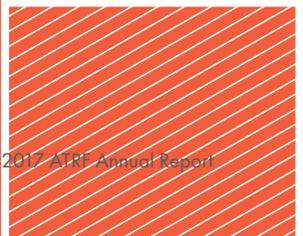
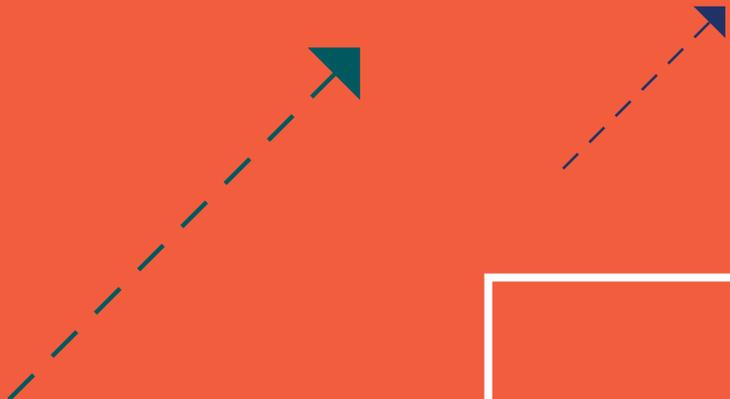
For example, teachers often hear and talk about the "85 factor" (the calculation that shows eligibility to retire early with an unreduced pension when age plus pensionable service is equal to 85).

Some plan members call ATRF and point out that although their age and years of service are not 85, they still want to retire.

"They're doing a great exercise of not focusing on the number 85, which is arbitrary," says Marc. "Instead, they're looking at the amount of money they are going to be receiving, and making a decision based on factors like their pension, RRSPs, savings, job satisfaction and post-retirement plans. Even though they're asking the right questions, they think they're doing something wrong because somebody else told them 85 is the number they should focus on. But they're doing everything a financial planner would want them to do, which is to look at the big picture."



# FUNDING



## ATRF 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.

## HOW THE PLANS ARE FUNDED

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

The **primary objective** is benefit security, which means making sure the Plans become and remain fully funded—ensuring there is enough money to pay all current and expected pensions for all plan members.

Keeping contribution rates stable and affordable is the **second objective**. The cost of the Plans should be sustainable over time, and should reflect the long-term view of the Plans' assets and liabilities. The goal is to have contributions remain relatively stable and not increase to unaffordable levels.

The funding policy is reviewed annually. Currently, the Board is undertaking a comprehensive review of the funding policy. This review will ensure the funding policy remains well-positioned in providing guidance to the Board on funding decisions that anticipate and mitigate the funding challenges, and enhance the Plans' long-term sustainability.

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

## TEACHERS' PENSION PLAN

### Pre-1992

The 2007 Memorandum of Agreement between the Government of Alberta 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 Government of Alberta guarantees the payment of pensions related to the pre-1992 period. ATRF receives sufficient funds each month to pay these pensions, as they become due. In 2016-17, the government provided \$471 million to meet this obligation.

### Post-1992

The cost of pension benefits earned for service after August 1992 is shared equally 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 Government of Alberta over a 15-year period. Pensions for service post-1992 are not guaranteed if the Plan is terminated. Therefore, the primary objective is to ensure there are sufficient assets to pay all post-1992 pensions.

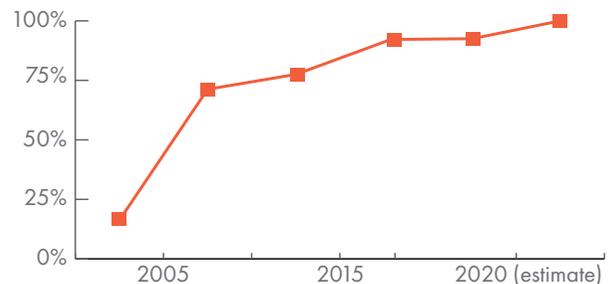
## PRIVATE SCHOOL TEACHERS' PENSION PLAN

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.

## ON A PATH TO FULL 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.

### TPP FUNDED RATIO



The Plans' funding is calculated using actuarial assumptions and methods. The funding assumptions include margins for adverse plan experience, to help achieve the funding objectives of contribution stability and benefits being fully funded. From time to time, changes can be made to the assumptions to reflect updated long-term expectations based on evolving economic and demographic environments. This year, for example, the long-term expected return of the fund was reduced to 6.5%, from 7.0%, reflecting lower expected inflation and lower expected long-term returns. The discount rate used to evaluate the Plans' liabilities has also been reduced, from 6.0% to 5.4% to account for this lower long-term expected rate of return on investments and a small increase in the margin for adverse deviation (from 1.0% to 1.1%). This change to more conservative assumptions will further enhance the long-term sustainability of the Plans.

The funding valuation uses an actuarially-accepted practice of smoothing fund returns over a five-year period to moderate short-term adjustments to contribution rates. This practice is intended to even out the impact from the volatility of market returns on the Plans' funded status. This results in a "fluctuation reserve" (or the amount the fair value of assets exceeds the funding value of assets).

As at August 31, 2017, the fluctuation reserve for the Teachers' Pension Plan was \$905 million, and \$4.39 million for the Private School Teachers' Plan. These reserves provide a healthy buffer against lower than expected future returns.

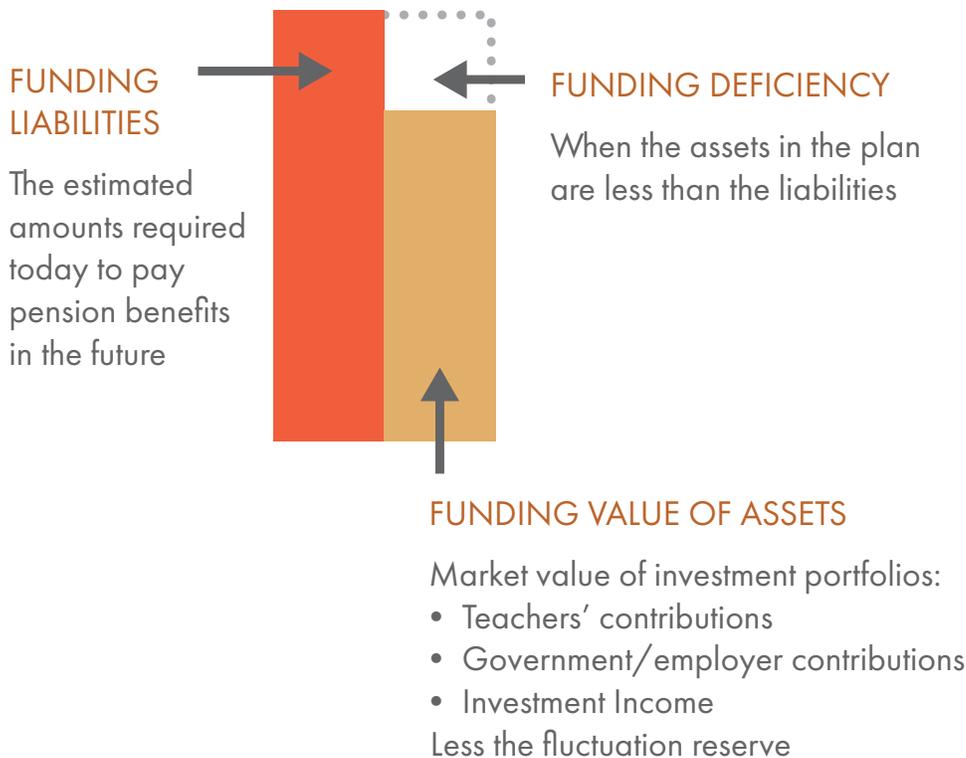
The funded status of the Plans based on the actuarial valuation as at August 31, 2017 is:

#### TEACHERS' PENSION PLAN POST-1992 PERIOD

Funding Value of Assets	\$13.79 billion
Funding Liabilities	\$15.31 billion
Funding Deficiency	\$ 1.52 billion
Funded Ratio	90%

#### PRIVATE SCHOOL TEACHERS' PENSION PLAN

Funding Value of Assets	\$68.33 million
Funding Liabilities	\$69.50 million
Funding Deficiency	\$ 1.17 million
Funded Ratio	98%



## CONTRIBUTION RATES

We are pleased to announce that the Board approved reductions in contributions to be effective September 1, 2018. These reductions recognize the improvement in the overall funded position of the Plans as per the August 31, 2017 actuarial valuation, which incorporated prudent measures such as lowering long-term return expectations and building additional provisions for adverse experience.

For the Teachers' Pension Plan, the teachers' contributions will reduce by 0.76% of teachers' salaries, whereas contributions from the Government of Alberta will reduce by 0.66% of teachers' salaries, for a total contribution reduction of 1.42%.

For the Private School Teachers' Pension Plan, the teachers' contributions will reduce by 0.60% of teachers' salaries, whereas contributions from the private schools will reduce by 0.50% of teachers' salaries, for a total contribution reduction of 1.10%.

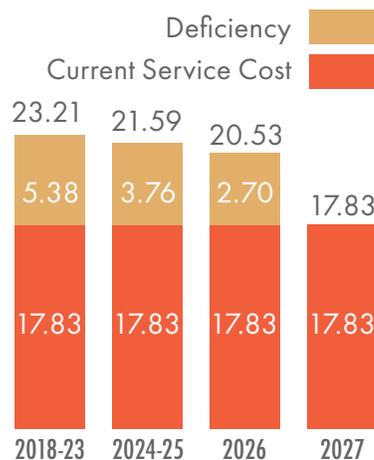
### TEACHERS' PENSION PLAN

TEACHERS' PENSION PLAN CONTRIBUTION RATES		
% of pensionable salary	Effective Sept. 1, 2016	Effective Sept. 1, 2018
up to YMPE <sup>1</sup>	10.74%	10.17%
above YMPE	15.34%	14.52%
<b>Total Teachers' Contribution</b>	<b>12.68%</b>	<b>11.92%</b>
<b>Total Government Contribution</b>	<b>11.95%</b>	<b>11.29%</b>

<sup>1</sup> YMPE: Yearly Maximum Pensionable Earnings used by the Canada Pension Plan (\$55,900 in 2018)

Effective September 1, 2018, the total contribution rate will be 23.21% of teacher salaries, consisting of a current service cost of 17.83% of salaries and total deficiency contributions of 5.38% of salaries.

The deficiency contributions are planned to decrease according to the following schedules.

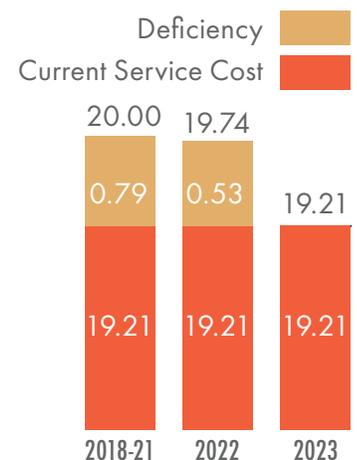


### PRIVATE SCHOOL TEACHERS' PENSION PLAN

PRIVATE SCHOOL TEACHERS' PENSION PLAN CONTRIBUTION RATES		
% of pensionable salary	Effective Sept. 1, 2016	Effective Sept. 1, 2018
up to YMPE <sup>1</sup>	9.09%	8.76%
above YMPE	12.98%	12.52%
<b>Total Teachers' Contribution</b>	<b>10.87%</b>	<b>10.27%</b>
<b>Total Employer Contribution</b>	<b>10.23%</b>	<b>9.73%</b>

Effective September 1, 2018, the total contribution rate will be 20.0% of teacher salaries, consisting of a current service cost of 19.21% of salaries and total deficiency contributions of 0.79% of salaries.

The deficiency contributions are planned to decrease according to the following schedules.



# FUNDING CHALLENGES

There are two main levers available to the Board to achieve long-term sustainability:

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

The plan sponsors have a third lever:

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

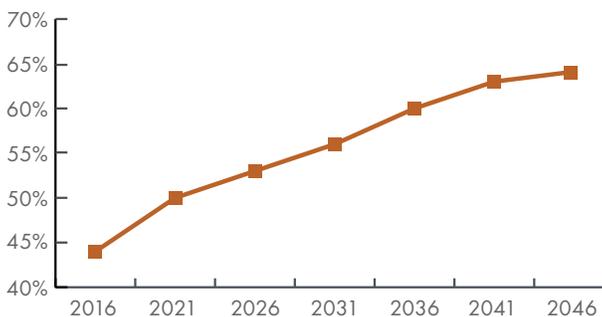
Like other retirement systems, the Plans continue to face funding challenges due to long-term low interest rates, plan maturity and increasing plan members' longevity. We illustrate below some of these challenges.

## PLAN MATURITY

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

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

**PROJECTED RETIREES' LIABILITIES AS A PERCENTAGE OF TOTAL LIABILITIES**

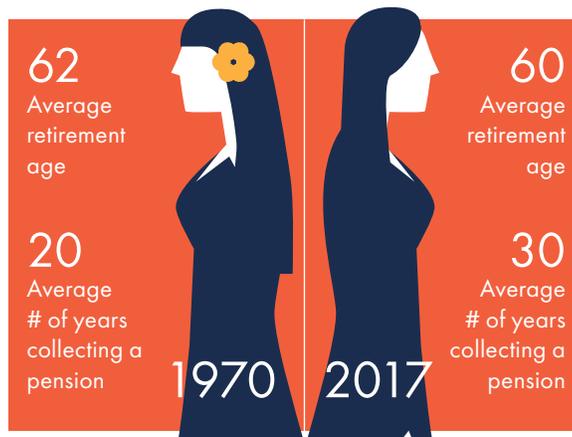


Another measure of plan maturity is the ratio of active to retired members. A decreasing ratio indicates a plan is maturing.



## PLAN MEMBERS' INCREASING LONGEVITY

Increased life expectancy is positive, yet it does present a funding challenge for pension plans. It means pensions are paid for a longer period of time after retirement, and 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. This means the Plan pays pensions for 50% more years on average now than in the 1970s.



## 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 investment returns year-to-year can be quite volatile and absent any adjustment could lead to frequent contribution rate changes.

To reduce the impact of volatile market returns on the Plans' funded status and contribution requirements, an actuarially-accepted practice of smoothing market returns over a five-year period is used. This practice produces a funding value of plan assets that can be

higher or lower than the market value in any given year. This approach effectively handled investment losses stemming from the 2008-09 financial crisis by providing time for markets to recover and limited contribution rate increases. Similarly, the strong investment performance over the past four fiscal years has provided both Plans the ability to mitigate potential future market losses.

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.

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## FINANCIAL STATEMENTS VALUATION

ATRF conducts two different actuarial valuations of the Plans. One is for funding purposes, as discussed in the Funding section of this report. The second is for the Financial Statements, as per 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 fair or market value of assets must be used.
2. The funding valuation incorporates a margin for adverse deviation in the discount rate used to determine the present value of liabilities of the Plans, to again mitigate volatility in contribution rates. The Financial Statement valuation uses a discount rate without margin.

Accordingly, the asset and liability amounts in the financial statements differ from those in the funding valuation.

# INVESTMENTS





## Q&A WITH THE CIO

Derek Brodersen is ATRF’s Chief Investment Officer. He oversees the organization’s investment activities and strategies, and has presided over significant growth in both the investment portfolio and ATRF’s own investment resources. A senior executive with decades of experience in the private and public sector, Derek offered his insights into the fund’s 2017 performance, and the issues and market conditions we’ve been monitoring.

### How did the fund perform in 2017?

The past year has been an interesting one in global financial markets. While economic growth has returned to most parts of the world, the geopolitical environment has been anything but stable. The U.S. election, Brexit, North Korea and the Middle East all made headlines, and created uncertainty in financial markets and political circles. At the same time, a significant change was taking place in both the tone and actions of key central bankers around the world. After years of “pulling out all the stops” to stimulate economic growth and avoid deflation, central banks have begun to reverse some of this extraordinary stimulus, gradually increasing interest rates and reducing or eliminating their programs to purchase bonds in the open market.

Because financial market returns are unpredictable, ATRF maintains a highly diversified portfolio. This means that not all assets are expected to perform well at the same time. This past year was no exception, as some asset classes generated very strong returns, while others had more modest, or even slightly negative, returns.

While interest rates remain historically low, they did move somewhat higher in the past year, largely as a result of positive economic growth. This led to negative returns from bonds for the first time in several years. However, both public and private equity market returns were positive across the globe, with continental Europe leading the way as modest economic growth and falling unemployment began to be reflected in improved corporate earnings. With bond yields remaining near historic lows, the demand by investors for alternative forms of income is higher than ever. This continues to have a significant impact on the value of income-oriented assets such as infrastructure and real estate. Both these asset classes generated double-digit returns for ATRF in 2016-17. ATRF’s absolute return assets include a variety of investment strategies intended to generate investment returns that are relatively stable, and largely uncorrelated with more traditional assets such as equities. This past

year was a difficult one for our absolute return strategies, as the lack of clear market trends and historically low market volatility provided few robust trading opportunities, leading to only marginally positive returns.



DEREK BRODERSEN  
Chief Investment Officer

**On the whole, the fund’s assets delivered a strong return of 7.7% in 2017. This exceeded our long-term funding objective, as well as the benchmark return.**

While it is always interesting to look at how the fund performed in the past year, it is the long term that really matters for a defined benefit pension plan like ATRF. Over the past four years, financial markets have been strong and the Fund has earned an average of 10.3% per year, significantly above the funding objective. Over the past 10 years, which includes the 2008-09 financial crisis, the Fund has returned 6.1%, which is slightly below our long-term funding objective.

The table on page 39 provides a more detailed review of our investment returns.





**ATRF has been making more investments around the globe. Is there a concerted effort to move more into the international realm?**

Canada may be the second-largest country in the world geographically, but economically it is relatively small. For example, Canada accounts for only about 3% of the world equity market and a similar proportion of the global investment real estate market. While there are many good investment opportunities within our own borders, ATRF has always invested outside of Canada to diversify the portfolio and find the best opportunities. Until the early part of this decade, this effort was largely focused on investing in public equity markets around the world. In more recent years, however, ATRF has diversified into many non-publicly traded assets, such as real estate, private equity, and infrastructure.

**We have built a strong investment team that searches around the world for the best investment partners and the most attractive investments. This has resulted in a highly diversified portfolio that includes investments across the globe.**

Examples include office buildings in New York, distribution centres in the UK, a utility in Ireland and a hydroelectric generator in British Columbia. The map on page 42 illustrates the global nature of our portfolio. Recently, we have put more focus on developing economies by increasing our public equity exposure, and investing selectively in private market assets in large, growing economies, such as China and India.

**The theme of this year's annual report is 'Looking forward to your future.' Can you talk about how ATRF's investment strategies deliver on that goal?**

As a defined benefit pension plan, ATRF's primary goal is to provide income security to our plan members when they retire. Let's use the example of a single plan member. A new teacher who begins contributing to their plan today is not likely to retire until more than 30 years from now. Our job is to prudently invest those contributions, along with the contributions from the teacher's employer, to ensure the plan has sufficient assets to pay that member's pension at retirement. This means we must always be looking forward and thinking about the future. As noted earlier, ATRF invests around the world and across a variety of asset types in order to diversify risks and ensure a sufficient long-term return can be earned to fund the pension of every plan member when they retire.

To ensure we can deliver on the pension promise to our plan members, ATRF's investment program must constantly evolve, avoiding investment areas that are overcrowded or do not provide adequate diversification, and seek out new opportunities in areas that may be less crowded. Over the past eight years, ATRF has dramatically reduced its reliance on public equity and bond markets, and redeployed some of this capital into more complicated, but less crowded, investments such as private equity, real estate, infrastructure and absolute return. The impact of this shift has been significant, not only in the return and risk characteristics of the portfolio, but in the organization itself, as we have built internal teams to manage these new areas. More recently, we have added resources to enhance our research on asset allocation, investment risk management and responsible investing. In the coming year we are also undertaking a study to re-examine how we construct our investment portfolio, and whether the management of the fund's assets can be further improved in light of the changing economic and investment environment and the evolving demographics of the Plan.

**You mentioned adding resources to enhance responsible investing, which has been a growing topic of interest for many investors. Can you talk specifically about what ATRF has done in this area?**

The term “responsible investing” is a complicated and often confusing one, as it means different things to different people. In the institutional investing world, the acronym ESG, which stands for Environmental, Social and Governance, has become more common as it clearly identifies the three generally accepted tenets of responsible investment. Recently, ATRF adopted a Responsible Investing Policy. This details what we have been doing on this front for years. Our approach to responsible investing plays out in three main ways.

First, we integrate ESG factors into our evaluation of investments. We know that issues surrounding things like an organization’s environmental footprint, its labour practices, and its governance can have a substantial bearing on an investment’s risk and return. As such, consideration of these things is part and parcel of appropriate due diligence and an important aspect of our research.

Second, we are an active and engaged asset owner. Our internal and external investment teams communicate with the companies in which we are invested on ESG-related issues. In addition, we participate with other institutional shareholders in shared ESG initiatives, with a strong focus on corporate governance. Our collaboration with other asset owners is done through well-known organizations like the Canadian Coalition for Good Governance, of which ATRF is a founding member. We also engage through our membership in the Pension Investment Association of Canada and the CDP (Carbon Disclosure Project).

Third, ATRF takes a responsible approach to proxy voting. (Proxy voting occurs when we exercise our ownership rights by voting as a shareholder. We engage a firm and give them our proxy; they vote in accordance with guidelines we establish.) Our Proxy Voting Guidelines encourage companies to adopt best practices in corporate governance, and to improve action and disclosure on ESG issues.

**ATRF is committed to pursuing its investment goals in a responsible way. This means, as best practices in this area evolve, so will our responsible investing practices.**

**Recent fund returns have been better than your long-term expectations. Going forward, do you think this will continue? And how do strong markets impact the Plan?**

The last several years have been good from an investment perspective. Equity markets around the world have hit new highs, and the strong demand for income-generating assets, such as real estate and infrastructure, have driven those values higher as well.

**In the seven years since the 2008-09 financial crisis, the fund has returned almost 10% per year, which is well in excess of our long-term expectations.**

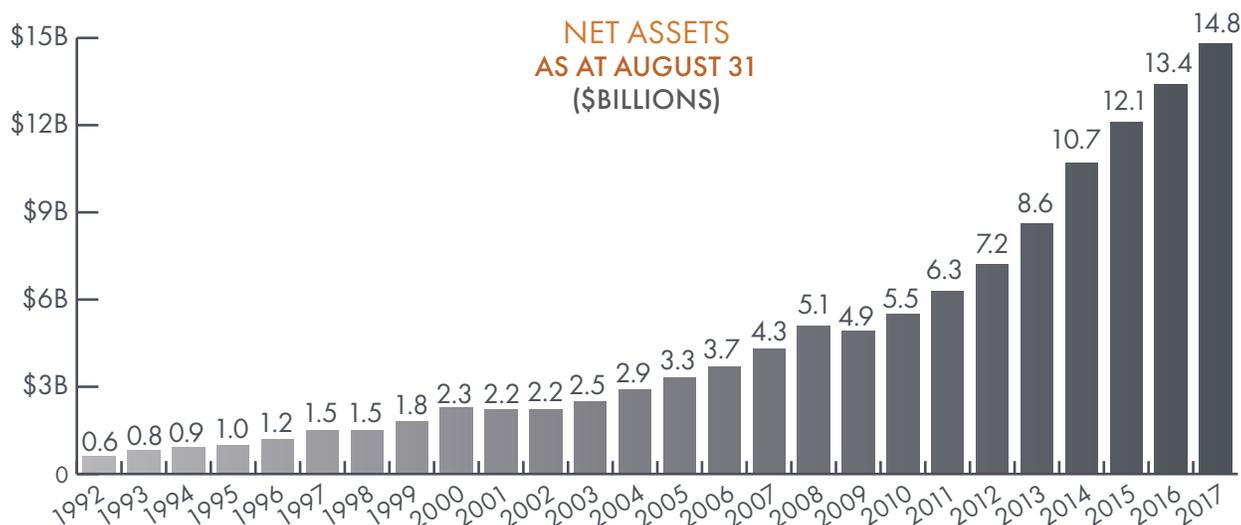
This has had a very positive impact on the funding of the Plans. Not only has the funded ratio improved more quickly than expected, but the amortization of past deficiencies has been accelerated. This allowed ATRF to reduce contribution rates in September 2016, and will allow a further reduction in September 2018.

Looking ahead, it is not realistic to assume the strong returns of the last several years will continue, as financial markets do tend to normalize over time. As a result, we have reduced our forward-looking, long-term investment return assumption for the fund from 7% to 6.5%. Part of this adjustment relates to a reduction in our assumed level of future inflation, from 2.25% to 2%, while the balance relates to a reduction in the assumed real rate of return (i.e. after inflation) on the plans’ assets. The follow-on impact of this adjustment to our investment assumptions is that the discount rate used to value the plans’ liabilities has also been reduced. This is discussed in more detail in the Funding section on page 29.

# INVESTMENT MANAGEMENT

For ATRF’s plan members, ‘Looking forward to your future’ includes the expectation of receiving a predictable and reliable pension income in retirement. ATRF’s investment management operations are focused on ensuring sufficient assets to fund the Plans and meet the pension promise to our plan members. Our investment portfolio

has grown rapidly over the past several years, as a result of strong investment returns and the fact that contributions into the Teachers’ Pension Plan from working plan members continue to exceed the value of the pensions being paid out to retired members. As of August 31, 2017, the assets of the Plan have increased to \$14.8 billion.



## POLICY ASSET MIX

The current long-term policy asset mix was adopted in 2014, following the most recent asset-liability modeling study. Usually, ATRF conducts an asset-liability modeling study every four to five years, with the goal of determining the most appropriate asset mix for the plan. The policy asset mix includes not only traditional public market assets, such as equities and bonds, but also private market assets, such as real estate and infrastructure.

Building a well-diversified portfolio of private-market asset classes in a disciplined way can take several years. ATRF began investing in real estate and infrastructure in 2010, and we have been gradually increasing our allocations to these asset classes toward reaching our long-term policy weights. During this time, the policy asset mix is adjusted each year to reflect the actual growth in these asset classes.

POLICY ASSET MIX	Policy at Aug 31, 2017	Long-term Target
Total	<b>100.0%</b>	<b>100.0%</b>
Return Enhancing	<b>47.5%</b>	<b>45.0%</b>
Global Equity	38.5%	35.0%
Private Equity	9.0%	10.0%
Fixed Income	<b>22.5%</b>	<b>20.0%</b>
Universe Bonds	11.5%	9.0%
Long-term Bonds	9.0%	9.0%
Money Market	2.0%	2.0%
Inflation Sensitive	<b>20.0%</b>	<b>25.0%</b>
Real Estate	13.0%	15.0%
Infrastructure	7.0%	10.0%
Absolute Return	<b>10.0%</b>	<b>10.0%</b>

# INVESTMENT PERFORMANCE

## RATES OF RETURN\*

as at August 31, 2017

Asset Class	1 Year (%)		4 Years (%)		10 Years (%)	
	ATRF	Benchmark	ATRF	Benchmark	ATRF	Benchmark
<b>Fixed Income</b>	<b>(1.7)</b>	<b>(2.5)</b>	<b>4.4</b>	<b>4.8</b>	<b>5.1</b>	<b>5.2</b>
Universe Bonds	(0.7)	(1.4)	4.3	4.1	5.2	5.0
Long-Term Bonds	(4.6)	(4.6)	6.2	6.8		
Money Market	0.8	0.5	0.3	0.7	1.0	1.0
<b>Return Enhancing</b>	<b>12.1</b>	<b>12.7</b>	<b>13.3</b>	<b>13.1</b>	<b>6.4</b>	<b>6.3</b>
Global Equity	11.5	11.5	12.0	12.3	6.0	6.2
Private Equity	15.0	17.8	20.0	16.7	10.1	9.4
<b>Inflation Sensitive</b>	<b>11.9</b>	<b>6.0</b>	<b>11.7</b>	<b>6.2</b>		
Real Estate	11.0	5.6	10.7	6.7		
Infrastructure	13.4	6.6	13.6	6.0		
<b>Absolute Return</b>	<b>1.3</b>	<b>4.5</b>				
<b>TOTAL PLAN</b>	<b>7.7</b>	<b>7.0</b>	<b>10.3</b>	<b>9.5</b>	<b>6.1</b>	<b>5.8</b>

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 (7% for 2017) 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
Universe Bonds	FTSE TMX Universe Bond Index
Long-term Bonds	FTSE TMX All-Government Long-term Bond Index
Money Market	FTSE TMX 30 Day T-Bill 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	Canada CPI plus 4.25%
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 a minimum, meet 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 Plans has been reduced to 6%, from 8%, as forecasts of long-term investment returns have fallen and the Board has reduced the overall funding risk of the Plans. The discount rate has been further reduced to 5.4% starting with the August 31, 2017 actuarial valuation.

Over the past 15 years, the investment return for the Teachers' Pension Plan was 7.3%, which was 0.5% 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. The return differed slightly from the return on the Teachers' Pension Plan because it did not include the loan to the Government of Alberta that was part of the assets of the Teachers' Pension Plan until the end of 2009.

## 15-YEAR RETURN VS. LONG-TERM FUNDING OBJECTIVE

as at August 31, 2017



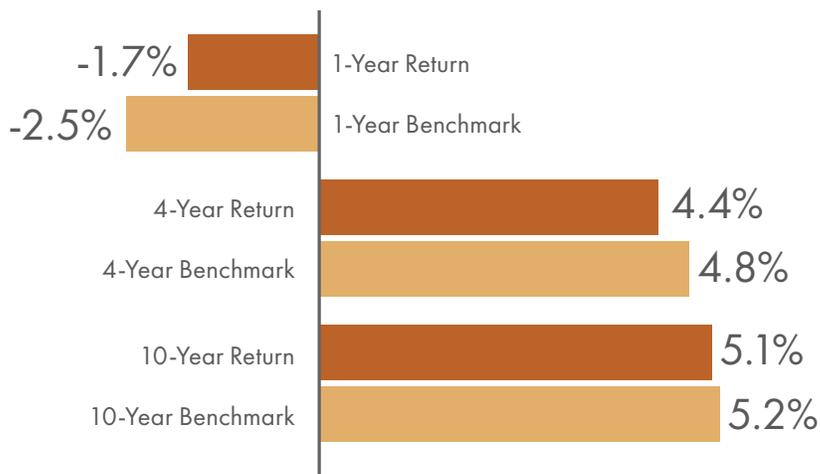
## FIXED INCOME ASSETS

Fixed income assets (short- and long-term bonds) 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 internally by ATRF's investment team, while a minority of these assets have been outsourced to external managers who are focused on particular market segments.

## FIXED INCOME ASSETS VS. BENCHMARK PERFORMANCE

as at August 31, 2017



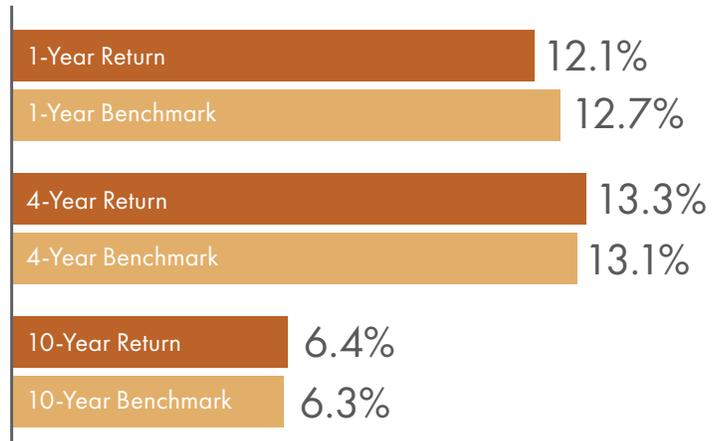
## RETURN ENHANCING ASSETS

Return enhancing assets are commonly expected to provide the highest return over the long term, but are usually among the highest risk assets in the fund. Return enhancing assets represent the largest investment category in the fund, and include a number of public and private equity portfolios.

The portfolios are highly diversified by investment style, company size and geography in order to mitigate risk. While some of these assets are managed by ATRF's internal investment team, the majority are managed by external investment partners who have specific expertise in certain markets or investment types.

Private equity assets consist of a number of limited partnerships and direct investments. Valuations for private equity investments are usually reported by general partners on the basis of calendar quarters rather than our fiscal quarters. As a result, our reported returns and benchmarks for these assets are time-lagged by two months.

## RETURN ENHANCING ASSETS VS. BENCHMARK PERFORMANCE as at August 31, 2017

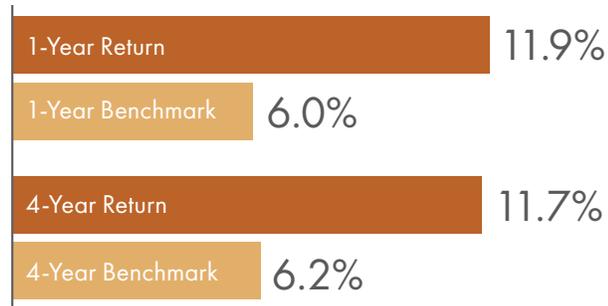


## INFLATION SENSITIVE ASSETS

Inflation sensitive assets are intended to provide returns 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. ATRF includes both real estate and infrastructure in this asset category.

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

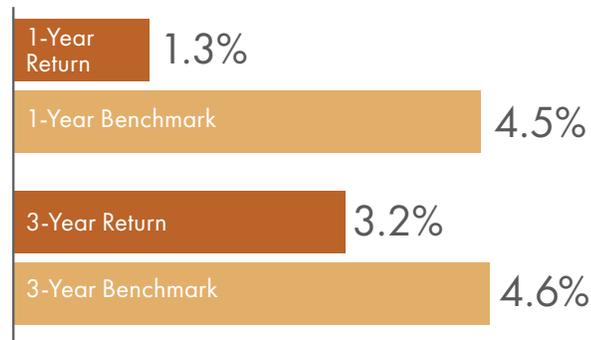
## INFLATION SENSITIVE ASSETS VS. BENCHMARK PERFORMANCE as at August 31, 2017



## ABSOLUTE RETURN ASSETS

The primary purpose of ATRF's absolute return assets is to diversify risk by generating investment returns that are relatively stable and largely uncorrelated with more traditional assets—primarily return-enhancing assets. 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.

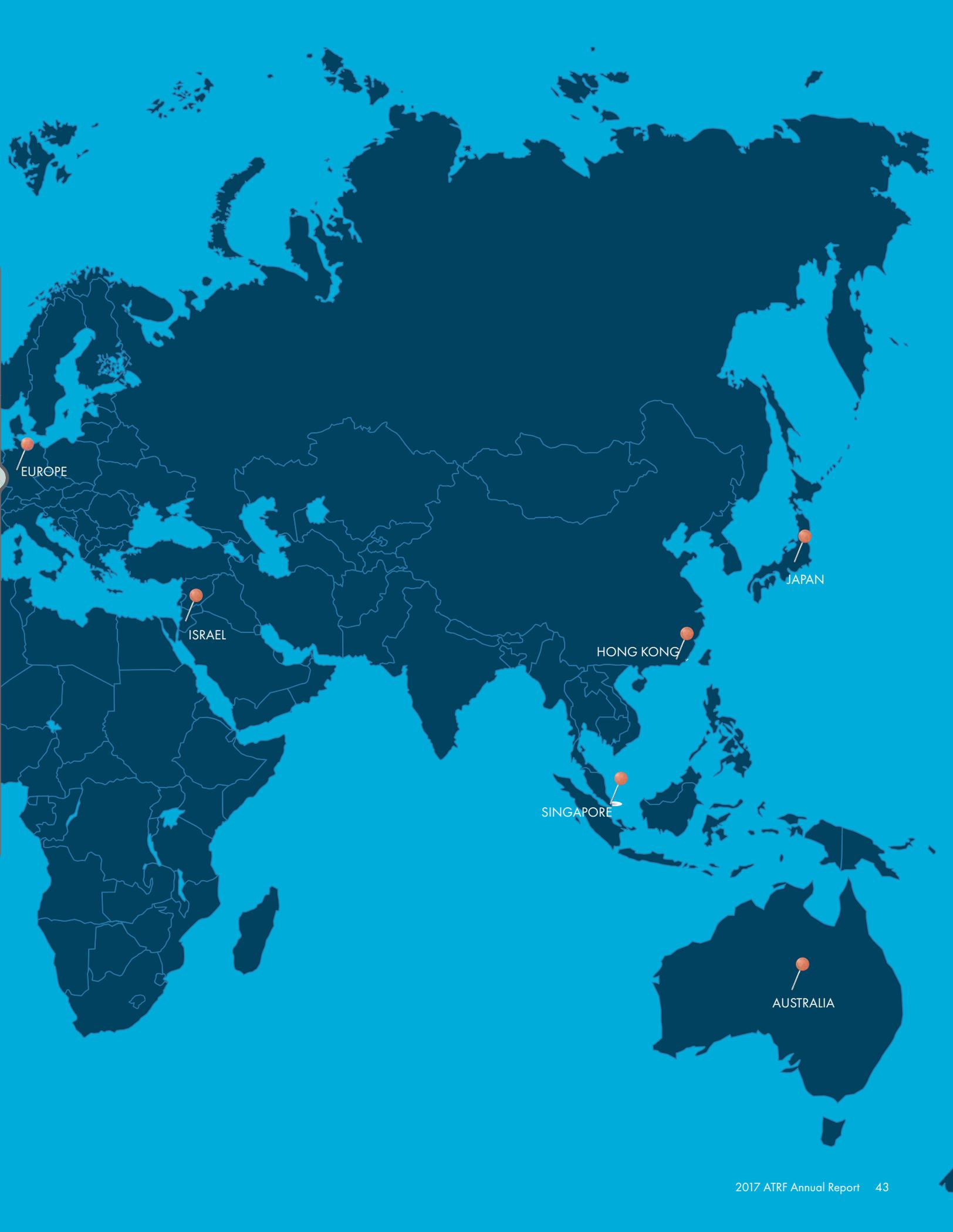
## ABSOLUTE RETURN ASSETS VS. BENCHMARK PERFORMANCE as at August 31, 2017



## ATRF'S GLOBAL INVESTMENT PORTFOLIO

This map presents a snapshot of the global reach of ATRF's investment portfolio. Our team invests around the world and across a variety of asset types. This helps us diversify risks and ensure a sufficient long-term return can be earned to fund the pension of every plan member when they retire. Each marker represents the country that is home to one or more of ATRF's investments. See the following page for a profile of one of those investments.





EUROPE

ISRAEL

HONG KONG

SINGAPORE

JAPAN

AUSTRALIA



# PROJECT PROFILE

## SUSTAINABILITY POWERS ATRF'S INVESTMENT IN K2 WIND FACILITY

The K2 Wind project is a prime example of ATRF's forward-looking approach to investments, particularly its infrastructure portfolio.

In August 2016, a consortium composed of Axiom Infrastructure, ATRF and Manulife Financial announced the acquisition of Samsung Renewable Energy's one-third interest in the K2 Wind Facility—a 270 MW wind farm located near Goderich, Ontario. The remaining two-thirds interest is held equally by Patten Energy Group and Alberta's Capital Power Corporation.

The project began operations in 2015, and sells 100% of its electrical output and environmental attributes under a 20-year power purchase agreement with Ontario's Independent Electricity System Operator (IESO).

These are just some of the all-important technical details. For ATRF's investment professionals, the project provided an ideal checklist of ingredients that makes an investment opportunity attractive.

"We approach potential investment opportunities by looking at a number of factors," explained Rakesh Saraf, ATRF's Head of Private Investments. "For example, K2 provides an ample and long-term stable cash flow, thanks to the power-purchase agreement. And not only does K2 provide green energy, it's also sustainable."

"One of the factors we considered here is the long-term sustainability of this project," agreed Derek Brodersen, ATRF's Chief Investment Officer. "Obviously, it's not a company selling a product that could be obsolete in five years. K2 is generating renewable, green energy, and ATRF will be part of this project for years to come."

This wind power generation project draws on 140 Ontario-made Siemens turbines, and provides an annual energy equivalent of approximately 100,000 Ontario homes. There are approximately 20 permanent jobs on-site for operations, in addition to the use of local subcontractors.

Meanwhile, the benefits of a sustainable energy project like K2 are important, even outside a pure risk-reward investment perspective, as the project helps the environment and aids in the fight against climate change.

"From a variety of perspectives, from risk-reward calculations to sustainability factors to environmental benefits, this project makes sense for ATRF," said Rod Matheson, ATRF's CEO. "As we continue to grow, particularly on the investment side of our operations, we are looking forward to finding opportunities like K2 to continue to diversify and strengthen our assets on behalf of plan members."

# FINANCIAL REPORTING



## PLAN MEMBER SERVICE COSTS

Plan member service costs increased to \$6.61 million, from \$6.12 million in the previous year.

The cost of providing services to plan members in the 2016-17 fiscal year was \$97 per member\*, significantly less than the average cost of \$150 per member\* for a peer group of Canadian public sector pension organizations.

\*Active and retired.

### PLAN MEMBER SERVICE COSTS



(\$ Thousands)	2017	2016
Salaries and benefits	\$ 4,553	\$ 3,989
Premises and operations	857	687
Professional fees	563	866
Communications and travel	447	433
Board and committees	146	111
Banking	46	38
<b>Total</b>	<b>\$ 6,612</b>	<b>\$ 6,124</b>
<b>Cost (\$ dollars) per plan member</b>	<b>\$ 97</b>	<b>\$ 90</b>

We remain committed to:

- implementing prudent, cost-effective investment and administration structures
- carefully managing both investment and administrative costs
- providing plan members with high-quality service and investment returns that meet the long-term funding requirements of the Plans



# INVESTMENT COSTS

## INVESTMENT COSTS

(\$ Thousands)	2017	2016
Salaries and benefits	\$ 13,433	\$ 11,051
Professional fees & transaction costs	2,702	2,289
Custodial and banking	1,943	1,799
Communications and travel	1,485	957
Premises and operations	1,230	937
Board and committees	187	103
Total investment costs	20,980	17,136
External investment management fees	106,359	70,940
<b>Total</b>	<b>\$ 127,339</b>	<b>\$ 88,076</b>
<b>Cost (\$dollars) per \$100 of assets</b>		
External investment management costs	\$ 0.72	\$ 0.53
Internal investment management costs	0.14	0.13
<b>Total</b>	<b>\$ 0.86</b>	<b>\$ 0.66</b>

ATRF holds a diversified portfolio of investments, managed both internally as well as through the use of external investment managers. External investment management fees of \$106.36 million (2016: \$70.94 million) were incurred to pay external managers for investing on behalf of ATRF. A component of the external investment management fees are performance fees of \$23.08 million (2016: \$0.87 million) incurred due to the strong realized returns generated by these external managers. As the existing investments approach maturity, ATRF continues to expect these expenses to increase. The external investment management fees are 72 cents (2016: 53 cents) for every \$100 of invested assets. Of the 72 cents, 16 cents (2016: 1 cent) were related to performance fees and 56 cents (2016: 52 cents) were related to investment management fees.

## INTERNAL CONTROLS OVER FINANCIAL REPORTING

The Chief Executive Officer and the Vice President, Finance are responsible for the design and maintenance of internal control 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.

The 2016-17 fiscal year evaluation has found that internal control over financial reporting and disclosure controls and procedures are properly designed and operated effectively throughout the year. No changes were made in internal controls over financial reporting during the year ended August 31, 2017, that materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

# COMPENSATION DISCUSSION AND 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.

## 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 our executives with pension plan member interests by encouraging and rewarding long-term performance.
- Pay for Performance: reward executives for superior performance on results.
- Ensure total pay encourages and enhances our collegial culture, and rewards team success and employee engagement.

## HUMAN RESOURCES AND COMPENSATION COMMITTEE

The Human Resources and Compensation Committee (HRCC) 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 met four times during the 2016-17 fiscal year. *In camera* sessions are held at the beginning and end of each meeting, without management present.

In 2016-17, the HRCC's key responsibilities included:

- evaluating and designing the compensation structure and succession planning for the Chief Executive Officer
- approving compensation of the Chief Executive Officer and Chief Investment Officer
- 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
- approving incentive and supplementary pension plans

## 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 four-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 set with reference to the competitive market, 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.
- **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.
- **Modest benefits and perquisites** – Benefits and perquisites are set at competitive levels, but are not intended to make-up a significant portion of compensation.
- **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

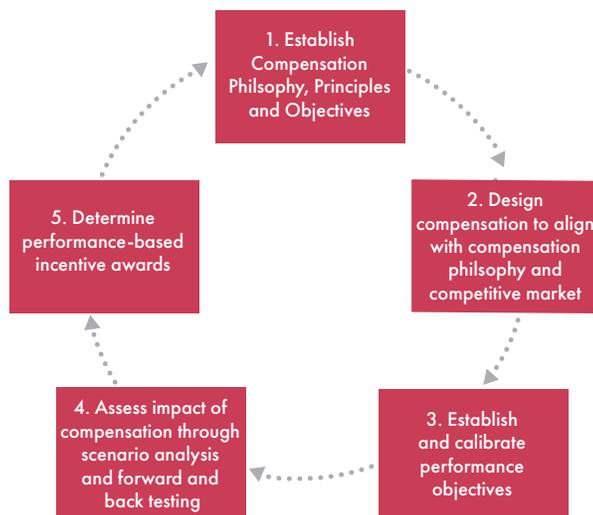
- including long-term performance measures (i.e. four-year rates of return) in the STIP and LTIP to align compensation with the time horizon of the fund
- including non-investment performance measures in the incentive plan

## 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:



### External Consultants

The HRCC is supported by independent, external human resources and compensation consultants that are retained by, and report directly to, the HRCC. In 2016-17 Global Governance Advisors (GGA) was retained as the HRCC's independent advisor.

During the 2016-17 fiscal year, GGA assisted the HRCC in:

- reviewing director compensation levels against the market and ATRF's stated philosophy
- analyzing the correlation of executive pay for performance within the compensation program
- developing the CEO's 2016-17 balanced scorecard
- developing the CIO's 2016-17 balanced scorecard
- reviewing ATRF's executive compensation philosophy

- providing education and assistance on ATRF's compensation program as part of the orientation of new Board members

GGA did not provide any other services to ATRF or to management. The HRCC reviews all fees, and the terms of consulting services provided by GGA; 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 GGA for the fiscal years 2017 and 2016:

Advisor	Executive Compensation-Related Fees		All Other Fees	
	2017	2016	2017	2016
Global Governance Advisors	\$58,800	\$36,100	\$12,600	\$5,500

## 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
<b>Base Salary</b>	Compensates for the day-to-day responsibilities of the role.	Set annually based on review of competitive market data.	Fixed (not variable)
<b>Short-Term Incentive</b>	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 1 and 4-year period, weighted to total fund and asset class (where applicable) and/or individual performance aligned to achieving annual corporate objectives.	High variability
<b>Long-Term Incentive</b>	4-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 4-year period.	High variability
<b>Pension Benefits</b>	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)
<b>Benefits</b>	Intended to attract and retain key employees.	Standard health and dental-care benefits, life insurance, illness and long-term disability coverage	Low variability
<b>Perquisites</b>	Intended to attract and retain select key employees.	Paid professional membership fees and car allowances for CEO and CIO.	Low variability

## BASE SALARY

Base salaries are intended to be competitive with the market and are reviewed annually at the end of each fiscal year. Salaries are set based on individual performance and salary range adjustments within ATRF market comparators. Base salaries for executives are reviewed and approved by the HRCC annually. The Government of Alberta instituted a salary freeze in 2016; accordingly, base salaries have not changed.

## SHORT-TERM INCENTIVE PLAN (STIP)

The short-term incentive plan 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.

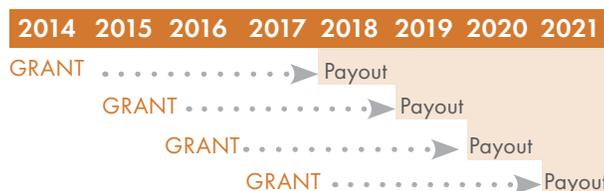
Investment incentive payments are based on the achievement of total fund and/or portfolio performance above established benchmarks. Consistent with ATRF's compensation objectives, payments are calculated based on a 75% weight towards long-term performance results over a four-year rolling average period and 25% towards the performance in the past year. Target investment incentive opportunities are set as a percentage of salary and reward 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 align participant interests with pension plan interests. The LTIP has a four-year vesting period before a payment may be awarded to a plan participant; 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 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 participates 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*.

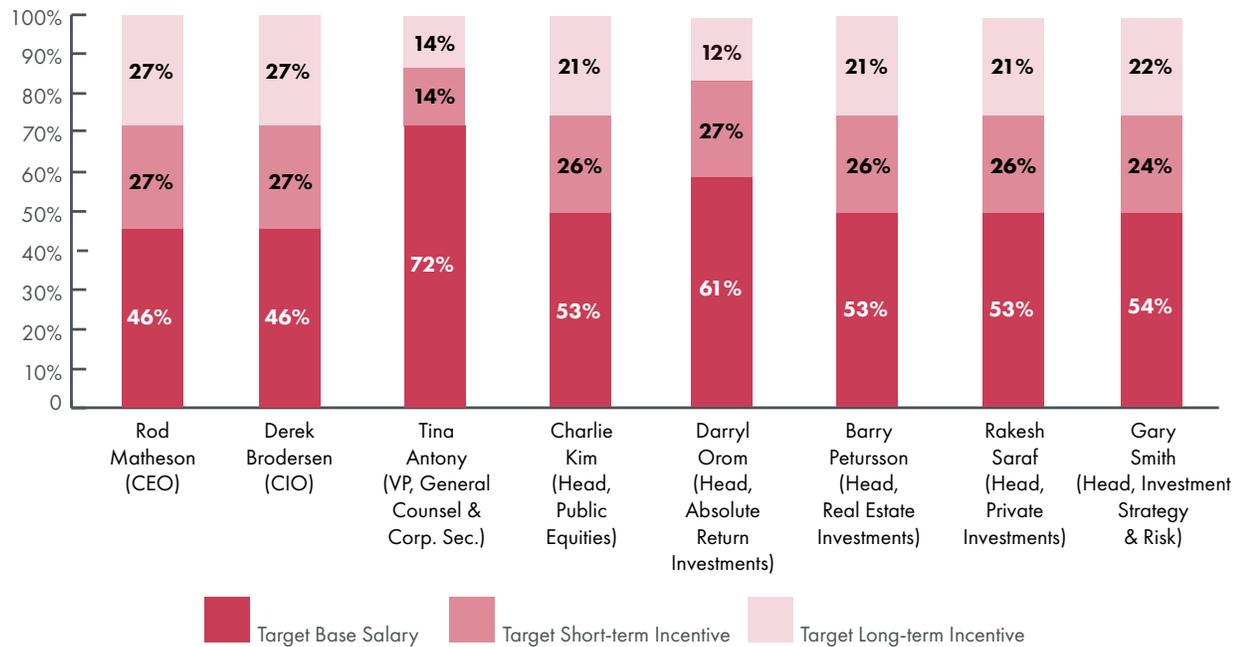
Where earnings are in excess of this capped pensionable salary, a non-registered, unfunded Supplementary Employee Pension Plan (SEPP) provides for a pension equal to the pension formula under the LAPP, with no cap applied to pensionable salary, less the initial pension provided under the LAPP. Participation in the SEPP is limited to executives, Vice Presidents, Asset Class Heads and Senior Portfolio Managers. 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 Compensation Summary on page 55.

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

(audited)



## 2016-17 PERFORMANCE AND ITS IMPACT ON COMPENSATION LEVELS

For the 2016-17 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 2016-17 fiscal year, the fund earned a net rate of return of 7.7%, exceeding the fund's 7.0% benchmark. This resulted in \$76 million of value-added investment performance by ATRF, which will be reinvested into the fund.

Over the four-year period ended August 31, 2017 the fund earned a net rate of return of 10.3%. This compares to the fund's 9.5% benchmark return resulting in a 0.8% or \$311 million of value add to the assets of the plan.

### Corporate

ATRF's corporate objectives for 2016-17 reflected milestones for the organization. The objectives included:

- Board Support and Corporate Governance;
- Plan Administration and Member Services;
- ATRF Plan Sponsor Support and Relationships with Stakeholders; and,
- Investment management results.

## COMPENSATION OF THE CHIEF EXECUTIVE OFFICER

ATRF's HRCC worked with its independent advisor, GGA, and CEO to create a set of objectives that reflected the key milestones for the CEO during the 2016-17 fiscal year. The objectives fell within the following categories:

- Total Fund Value Add Investment Performance (50%);
- Governance and Business Management (15%);
- Plan Administration and Member Services (15%);
- Investment Management (10%); and
- Stakeholder Relations (10%).

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

Performance Measure	Weight	(audited)	
		2016-17 Payout	2015-16 Payout
Total Fund Value Add Investment Performance	50%	\$ 189,900	\$ 118,800
Governance and Business Management	15%	37,200	40,300
Plan Administration and Member Services	15%	49,500	37,200
Investment Management	10%	25,800	26,500
Stakeholder Relations	10%	35,700	29,000
<b>Total Balanced Scorecard Payout</b>		<b>\$ 338,100</b>	<b>\$ 251,800</b>

## COMPENSATION

Compensation Element	2016-17 Compensation	2015-16 Compensation
Base Salary	\$ 350,000	\$ 350,000
Short-Term Incentive	338,100	251,800
Long-Term Incentive*	*	*
<b>Total Direct Compensation</b>	<b>\$ 688,100</b>	<b>\$ 601,800</b>

\*Earned long-term incentives are paid upon vesting after a four-year period. For estimated future payouts, refer to the table in the "Estimated Long-Term Incentive Awards" section on page 57.

## COMPENSATION SUMMARY

The table provides disclosure of salary, incentive payments, value of SEPP benefits and all other compensation earned for years ended August 31, 2017, 2016 and 2015 by ATRF's Chief Executive Officer, Chief Investment Officer, VP, General Counsel & Corporate Secretary, and the five Asset Class Heads – the most highly compensated senior investment professionals.

(\$ dollars, audited)	Fiscal	Short-Term	Long-Term		All Other	Total	
Name and Position	Year	Salary <sup>1</sup>	Incentive Plan (STIP)	Incentive Plan (LTIP) <sup>2</sup>	SEPP <sup>3</sup>	Compensation <sup>4</sup>	Compensation
<b>Rod Matheson</b>	2017	\$350,000	\$338,000	\$ –	\$30,500	\$49,600	\$768,200
Chief Executive Officer <sup>5</sup>	2016	350,000	251,800	–	27,000	49,300	678,100
	2015	276,000	280,100	–	25,000	42,400	623,500
<b>Derek Brodersen</b>	2017	322,900	307,000	504,800	10,400	48,500	1,193,600
Chief Investment Officer	2016	322,900	301,100	540,000	(12,600)	48,400	1,199,800
	2015	315,000	343,300	540,000	33,100	48,100	1,279,500
<b>Tina Antony</b>	2017	78,700	–	–	5,100	16,200	100,000
VP, General Counsel & Corporate Secretary <sup>6</sup>	2016	–	–	–	–	–	–
	2015	–	–	–	–	–	–
<b>Charlie Kim</b>	2017	260,000	169,900	245,700	7,600	38,000	721,200
Head, Public Equities	2016	240,000	193,500	268,300	(3,500)	37,400	735,700
	2015	238,000	174,100	252,000	13,100	36,900	714,100
<b>Darryl Orom</b>	2017	180,000	78,500	–	2,900	36,200	297,600
Head, Absolute Return Investments	2016	165,900	75,800	–	–	35,500	277,200
	2015	158,800	119,100	–	–	35,100	313,000
<b>Barry Petursson</b>	2017	263,000	231,100	261,100	20,100	37,600	812,900
Head, Real Estate Investments	2016	263,000	229,000	282,000	11,600	37,500	823,100
	2015	256,600	214,900	248,000	30,400	37,000	786,900
<b>Rakesh Saraf</b>	2017	288,000	263,800	280,500	14,300	38,700	885,300
Head, Private Investments	2016	288,000	259,400	300,000	10,500	38,500	896,400
	2015	278,300	263,700	252,000	19,200	37,800	851,000
<b>Gary Smith</b>	2017	235,000	175,000	–	11,800	41,200	463,000
Head, Investment Strategy & Risk <sup>7</sup>	2016	–	–	–	–	–	–
	2015	–	–	–	–	–	–

<sup>1</sup>Salary is comprised of all regular pensionable base pay earned. With the exception of promotions or position reclassifications, salaries in 2017 remained static to comply with the external directive for the salary freeze issued by the Government of Alberta for provincial agencies.

<sup>2</sup>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.

<sup>3</sup>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. The accrued benefits is estimated based on the projected benefit method prorated on service, incorporating the same assumptions used for the 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. As at August 31, 2017, the amount recorded in accounts payable is \$1,109,500 (2016 - \$914,200). The present value of accrued benefits, based on the accrued pensionable salary earned to August 31, 2017, that would be paid if the executives listed left employment is \$1,022,900 (2016 - \$791,900).

<sup>4</sup>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.

<sup>5</sup>Employment commenced November 2014

<sup>6</sup>Employment commenced May 2017

<sup>7</sup>Employment commenced September 2016

Change in Present Value of Accrued Benefits for SEPP:  
 (\$ dollars, audited)

<b>Name and Position</b>	<b>Present Value of Accrued Benefits August 31, 2016</b>	<b>Benefits Accrual and Change in Plan</b>	<b>Interest Cost and Change in Assumptions</b>	<b>Present Value of Accrued Benefits August 31, 2017</b>
Rod Matheson Chief Executive Officer	\$ 58,700	\$ 30,500	\$ 9,400	\$ 98,600
Derek Brodersen Chief Investment Officer	512,000	10,400	51,800	574,200
Tina Antony VP, General Counsel & Corporate Secretary <sup>1</sup>	—	5,100	100	5,200
Charlie Kim Head, Public Equities	91,100	7,600	4,400	103,100
Darryl Orom Head, Absolute Return Investments <sup>1</sup>	—	2,900	(600)	2,300
Barry Petursson Head, Real Estate Investments	125,000	20,100	14,300	159,400
Rakesh Saraf Head, Private Investments	127,400	14,300	13,100	154,800
Gary Smith Head, Investment Strategy & Risk <sup>1</sup>	—	11,800	100	11,900

<sup>1</sup>Eligibility commenced in the 2016-17 fiscal year

## 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, 2017, based on:

- actual performance multipliers for fiscal years 2014-15, 2015-16 and 2016-17, and pro-forma multipliers of one (1.0x) for future years; and
- actual fund rates of return for fiscal years 2014-15, 2015-16 and 2016-17, and no assumed growth in future years.

(\$ dollars, audited) Name and Position	Fiscal Year of Grant	Award (Target Value) <sup>1</sup>	Maximum Value <sup>2</sup>	Estimated Future Payouts		
				2018	2019	2020
Rod Matheson	2017	\$210,000	\$630,000	\$ -	\$ -	\$312,200
Chief Executive	2016	210,000	630,000	-	261,100	-
Officer	2015	210,000	630,000	484,600	-	-
Derek Brodersen	2017	193,700	581,100	-	-	288,000
Chief Investment	2016	193,700	581,100	-	240,800	-
Officer	2015	189,000	567,000	436,200	-	-
Tina Antony	2017	-	-	-	-	-
VP, General Counsel	2016	-	-	-	-	-
& Corporate Secretary <sup>3</sup>	2015	-	-	-	-	-
Charlie Kim	2017	104,000	312,000	-	-	154,600
Head, Public	2016	96,000	288,000	-	119,300	-
Equities	2015	95,200	285,600	219,700	-	-
Darryl Orom	2017	36,000	108,000	-	-	53,500
Head, Absolute	2016	33,200	99,600	-	41,300	-
Return Investments <sup>4</sup>	2015	-	-	-	-	-
Barry Petursson	2017	105,200	315,600	-	-	156,400
Head, Real Estate	2016	105,200	315,600	-	130,800	-
Investments	2015	102,600	307,800	236,900	-	-
Rakesh Saraf	2017	115,200	345,600	-	-	171,200
Head,	2016	115,200	345,600	-	143,200	-
Private Investments	2015	111,300	333,900	256,800	-	-
Gary Smith	2017	94,000	282,000	-	-	139,700
Head, Investment	2016	-	-	-	-	-
Strategy & Risk <sup>5</sup>	2015	-	-	-	-	-

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

<sup>2</sup>Represents the maximum value payable at the end of the four-year vesting period

<sup>3</sup>Eligibility will commence in the 2017-18 fiscal year

<sup>4</sup>Eligibility commenced in the 2015-16 fiscal year

<sup>5</sup>Eligibility commenced in the 2016-17 fiscal year

## SUCCESSION PLANNING & COMMITMENT TO DIVERSITY

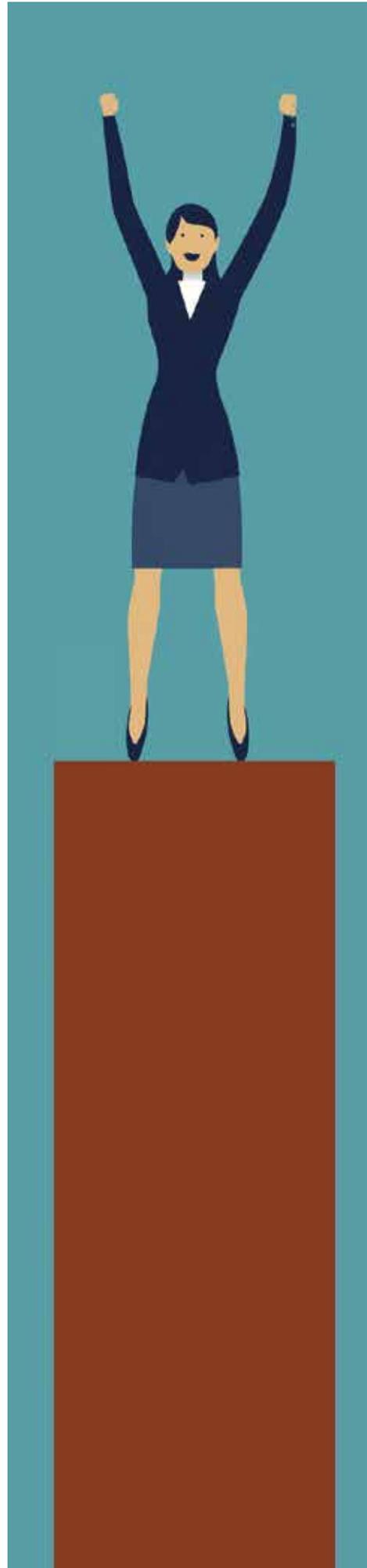
ATRF has short-term contingency plans and longer-term succession plans in place for the Chief Executive Officer and senior management. In identifying potential successors, the Board and Chief Executive Officer consider ATRF's future business strategy, the core skills and experiences required to carry 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 for the entire leadership team on an annual basis.

The succession plan for the Chief Executive Officer was updated in 2016-17 to reflect the updated leadership team.

ATRF has not set any 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.



# 2017 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

# INDEPENDENT AUDITOR'S REPORT



## Independent Auditor's Report

To the Alberta Teachers' Retirement Fund Board

### **Report on the Financial Statements**

I have audited the accompanying financial statements of the Alberta Teachers' Retirement Fund Board, which comprise the statement of financial position as at August 31, 2017, and the statements of changes in net assets available for benefits and changes in pension obligations for the year then ended, and a summary of significant accounting policies and other explanatory information.

### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these 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 financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditor's Responsibility**

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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 the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

### **Opinion**

In my opinion, the financial statements present fairly, in all material respects, the financial position of the Alberta Teachers' Retirement Fund Board as at August 31, 2017, 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.

[Original signed by Merwan N. Saher FCPA, FCA]

Auditor General

December 13, 2017

Edmonton, Alberta

# ACTUARIES' OPINION



## Actuaries' Opinion

Aon Hewitt 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, 2017. 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 and asset data provided by ATRF as at August 31, 2017 and adjusted to reflect anticipated new hires as at September 1, 2017;
- 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, 2017, 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]*

Ryan Welsh  
Fellow, Canadian Institute of Actuaries  
Fellow, Society of Actuaries

*[Original Signed]*

Damon Y. Callas  
Fellow, Canadian Institute of Actuaries  
Fellow, Society of Actuaries

November 27, 2017

**Aon Hewitt**  
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# FINANCIAL STATEMENTS

## STATEMENT OF FINANCIAL POSITION

As at August 31 (\$ Thousands)

	2017	2016
<b>ASSETS</b>		
Investments (Note 3)	\$ 15,079,529	\$ 13,412,260
Contributions receivable	25,999	25,553
Other assets	1,762	1,819
	<u>15,107,290</u>	<u>13,439,632</u>
<b>LIABILITIES</b>		
Investment related liabilities (Note 3)	311,350	50,848
Accounts payable (Note 4)	28,438	31,843
	<u>339,788</u>	<u>82,691</u>
<b>NET ASSETS AVAILABLE FOR BENEFITS (Note 5)</b>	<b>14,767,502</b>	<b>13,356,941</b>
<b>ACCRUED PENSION OBLIGATIONS (Note 5)</b>	<b>12,862,534</b>	<b>12,118,229</b>
<b>SURPLUS</b>	<b>\$ 1,904,968</b>	<b>\$ 1,238,712</b>

The accompanying notes are part of these financial statements.

Approved by the Board

[Original Signed]

\_\_\_\_\_  
Greg Meeker  
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)

	2017	2016
<b>Net assets available for benefits, beginning of year</b>	<b>\$13,356,941</b>	<b>\$12,069,426</b>
<b>Investment operations</b>		
Change in fair value of investments (Note 6)	730,875	575,567
Investment income (Note 6)	423,720	345,946
Investment expenses (Note 7)	(127,339)	(88,076)
<b>Net investment operations</b>	<b>1,027,256</b>	<b>833,437</b>
<b>Member service operations</b>		
Contributions (Note 8)		
Teachers	432,654	449,058
The Province	405,193	418,107
Private School Boards	2,272	2,374
Transfers from other plans	8,914	12,066
	849,033	881,605
Benefits paid (Note 9)	(459,116)	(421,403)
Member service expenses (Note 7)	(6,612)	(6,124)
<b>Net member service operations</b>	<b>383,305</b>	<b>454,078</b>
<b>Increase in net assets available for benefits</b>	<b>1,410,561</b>	<b>1,287,515</b>
<b>Net assets available for benefits, end of year</b>	<b>\$14,767,502</b>	<b>\$13,356,941</b>

## STATEMENT OF CHANGES IN PENSION OBLIGATIONS

For the Year Ended August 31 (\$ Thousands)

	2017	2016
<b>Accrued pension obligations, beginning of year</b>	<b>\$ 12,118,229</b>	<b>\$ 11,281,137</b>
<b>Increase (decrease) in accrued pension obligations</b>		
Interest on accrued benefits (Note 5)	788,508	791,511
Benefits accrued (Note 5)	484,444	473,739
Changes in actuarial assumptions (Note 5)	35,958	21,339
Experience gains (Note 5)	(105,489)	(28,094)
Benefits paid (Note 9)	(459,116)	(421,403)
	744,305	837,092
<b>Accrued pension obligations, end of year (Note 5)</b>	<b>\$12,862,534</b>	<b>\$12,118,229</b>

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) Funding

The determination of the value of the benefits and the required contributions for the Plans is made on the basis of periodic actuarial valuations.

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. An additional 10 percent cost-of-living adjustment for service earned after 1992 is funded entirely 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.

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. An additional 10 percent 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 early retirement 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. The benefit may take the form of a lump sum payment or a survivor pension.

### h) Other provisions

Purchase of past service and reinstatement of refunded service is allowed on a basis that is cost neutral to the Plans.

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

Pensions payable are increased each year by an amount equal to 60 percent of the increase in the Alberta Consumer Price Index. The portion of pension earned after August 31, 1992 is increased by an additional 10 percent of the increase in the Alberta Consumer Price Index.

### 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.

# NOTES TO THE FINANCIAL STATEMENTS

## 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.

### b) Future changes in accounting standards

IFRS 9 Financial Instruments, issued by the International Accounting Standards Board (“IASB”) replaces IAS 39 Financial Instruments: Recognition and Measurement, for annual reporting periods beginning on or after January 1, 2018. Management does not expect any significant impact on the Plans’ financial position and investment income when adopting the new standard for reporting period ending August 31, 2019.

IFRS 15 Revenue from Contracts with Customers, issued by the IASB, replaces IAS 11, IAS 18, IFRIC 13, IFRIC 15, IFRIC 18 and SIC-31, for annual reporting periods beginning on or after January 1, 2018. Management is currently assessing the impact on the Plans’ financial position and investment income when adopting the new standard for reporting period ending August 31, 2019.

IFRS 16 Leases, issued by the IASB, replaces IAS 17 Leases, for annual reporting periods beginning on or after January 1, 2019. The standard provides new principles for the recognition, measurement, presentation and disclosure of leasing arrangements. Management is currently assessing the impact on the Plans’ financial position and investment income when adopting the new standard for reporting period ending August 31, 2020.

### c) Investments

Investments, investment receivables and investment 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.

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.
Bond repurchase agreement	Bonds sold under repurchase agreement are recorded at cost plus accrued interest, which approximates fair value.
Public equity	Closing quoted market price. Where a market price is not available, market value is determined using appropriate valuation methods.
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 appropriate valuation techniques such as discounted cash flows, comparable purchases and sales transactions, and independent appraisals. Fair value for directly held real estate is independently appraised at least once every three years. Investments held through fund investments are valued using carrying values reported by the investment managers using similar accepted industry 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.
Derivatives	Market prices are used for exchange-traded derivatives. Where quoted market prices are not available, appropriate valuation techniques are used to determine fair value.
Absolute return	Absolute return funds are recorded at fair value reported by the investment managers.

## NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

### ii) INCOME RECOGNITION

Income is recognized as follows:

CATEGORY	BASIS OF VALUATION
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

Management expenses and performance fees for external investment managers are expensed as incurred.

### iv) TRANSACTION COSTS

Transaction costs are legal fees and due diligence costs attributable to the acquisition and disposition of investment assets or liabilities. Transaction costs are expensed as incurred. These investment related transaction costs are recorded and reflected as "professional fees and transaction costs" (Note 7).

### 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).

### 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. Actual results could differ from those estimates.

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.

Measurement uncertainty exists in the valuation of the Plans' private investments as 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 and Board member remuneration included in salaries and benefits (Note 7) are presented in the Compensation Discussion and Analysis section of the Annual Report.

# NOTES TO THE FINANCIAL STATEMENTS

## NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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.

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

(\$ Thousands)	Fair Value			2017	2016
	Level 1	Level 2	Level 3	Total	Total
<b>Fixed income</b>					
Cash	\$ 168,292	\$ -	\$ -	\$ 168,292	\$ 143,215
Money-market securities	-	193,160	-	193,160	369,176
Bonds and debentures	-	3,143,004	139,166	3,282,170	2,527,893
	168,292	3,336,164	139,166	3,643,622	3,040,284
<b>Equity</b>					
Public	5,609,233	-	-	5,609,233	5,350,528
Private	-	-	1,397,728	1,397,728	1,195,747
	5,609,233	-	1,397,728	7,006,961	6,546,275
<b>Infrastructure</b>	-	-	951,942	951,942	946,898
<b>Real estate</b>	-	-	1,939,963	1,939,963	1,518,098
<b>Absolute return</b>	-	-	1,339,709	1,339,709	1,280,067
	-	-	4,231,614	4,231,614	3,745,063
<b>Investment related assets</b>					
Accrued income	12,732	-	-	12,732	9,420
Due from brokers	15,613	2,961	-	18,574	20,294
Unrealized gains and amounts receivable on derivative contracts	-	166,026	-	166,026	50,924
	28,345	168,987	-	197,332	80,638
<b>INVESTMENT ASSETS</b>	5,805,870	3,505,151	5,768,508	15,079,529	13,412,260
<b>Investment related liabilities</b>					
Due to brokers	13,112	488	-	13,600	31,254
Bond repurchase agreements <sup>1</sup>	-	280,553	-	280,553	-
Unrealized losses and amounts payable on derivative contracts	-	17,197	-	17,197	19,594
<b>INVESTMENT LIABILITIES</b>	13,112	298,238	-	311,350	50,848
<b>NET INVESTMENTS</b>	\$5,792,758	\$3,206,913	\$5,768,508	\$14,768,179	\$13,361,412

<sup>1</sup>During the 2017 fiscal year, the Plans initiated bond repurchase agreements.

## 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, 2017:

(\$ Thousands)	Fair Value, August 31, 2016	Purchases	Sales	Realized Gain	Unrealized Gain/(Loss)	Fair Value, August 31, 2017
Fixed income	\$ 126,876	\$ 30,471	\$ (14,161)	\$ -	\$ (4,020)	\$ 139,166
Private equity	1,195,747	342,345	(317,233)	171,736	5,133	1,397,728
Infrastructure	946,898	157,474	(207,880)	46,009	9,441	951,942
Real estate	1,518,098	654,228	(300,853)	82,373	(13,883)	1,939,963
Absolute return	1,280,067	178,602	(95,969)	-	(22,991)	1,339,709
Total	\$5,067,686	\$1,363,120	\$(936,096)	\$300,118	\$(26,320)	\$5,768,508

## NOTE 4 ACCOUNTS PAYABLE

(\$ Thousands)	2017	2016
Tax withholdings	\$ 11,422	\$10,792
Accounts payable	9,392	11,156
Long-Term Incentive Plan	4,784	5,665
Supplementary Employee Pension Plan	2,745	2,522
Other	95	1,708
	\$28,438	\$31,843

## 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, 2017. Valuations for the Plans were also prepared as at August 31, 2016. The present value of the accrued pension obligations of \$12,863 million (2016: \$12,118 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.

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

	2017	2016
Rate of return on invested assets (discount rate)	6.50%	7.00%
Rate of Alberta inflation	2.00%	2.50%
General inflation	2.00%	2.25%
Real wage increases	1.00%	1.00%

# NOTES TO THE FINANCIAL STATEMENTS

## NOTE 5 ACCRUED PENSION OBLIGATIONS (CONTINUED)

### 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	
	0.50% decrease in rate of return on invested assets	0.50% increase in rate of inflation	0.50% decrease in rate of return on invested assets	0.50% increase in rate of inflation
Increase in current service costs (% of total teacher salaries)	1.49%	1.12%	1.68%	1.36%
Increase in accrued pension obligations	\$1,023 million	\$720 million	\$5 million	\$3 million

For accounting purposes, as at August 31, 2017, the current service cost (excluding 0.2% for administrative expenses) as a percent of total teacher salaries for the Teachers' Pension Plan is 13.96% and for the Private School Teachers' Pension Plan is 14.75%.

### 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 a surplus of \$1,891 million for the post-1992 period of the Teachers' Pension Plan and a surplus of \$14 million for the Private School Teachers' Pension Plan as at August 31, 2017.

(\$ Thousands)

	2017			2016		
	Teachers' Pension Plan	Private Teachers'	Total	Teachers' Pension Plan	Private Teachers'	Total
Net assets at beginning of year	\$13,291,451	\$65,490	\$13,356,941	\$12,010,712	\$58,714	\$12,069,426
Contributions	844,568	4,465	849,033	876,824	4,781	881,605
Benefits	(456,875)	(2,241)	(459,116)	(419,374)	(2,029)	(421,403)
Investment earnings	1,148,934	5,661	1,154,595	917,031	4,482	921,513
Investment and member service expenses	(133,294)	(657)	(133,951)	(93,742)	(458)	(94,200)
Net assets at end of year	14,694,784	72,718	14,767,502	13,291,451	65,490	13,356,941
Accrued pension obligations at beginning of year	12,063,702	54,527	12,118,229	11,230,996	50,141	11,281,137
Interest on accrued benefits	784,936	3,572	788,508	787,967	3,544	791,511
Benefits accrued	481,354	3,090	484,444	470,727	3,012	473,739
Changes in actuarial assumptions	35,874	84	35,958	21,341	(2)	21,339
Experience gains	(104,735)	(754)	(105,489)	(27,955)	(139)	(28,094)
Benefits paid	(456,875)	(2,241)	(459,116)	(419,374)	(2,029)	(421,403)
Actuarial value of accrued pension obligations	12,804,256	58,278	12,862,534	12,063,702	54,527	12,118,229
Surplus	\$ 1,890,528	\$14,440	\$ 1,904,968	\$ 1,227,749	\$10,963	\$ 1,238,712

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.

#### iii) 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.

## NOTE 5 ACCRUED PENSION OBLIGATIONS (CONTINUED)

Assumption changes from August 31, 2016 to August 31, 2017 include a short-term salary increase assumption to reflect applicable earnings agreements in place relating to Alberta teachers, and long-term assumption changes to reflect the changing economic environment (inflation, discount rate, and commuted value settlement rates). The impact of the short-term salary assumption change was a reduction to accrued benefits of \$210.279 million and the net impact of long-term changes related to the economic environment is an increase to accrued benefits of \$246.237 million. The following table provides details on the change in accrued benefits due to assumption changes.

(\$ Thousands)	TPP	PSTPP	Total
Short-term salary increase	\$(209,266)	\$ (1,013)	\$(210,279)
Alberta inflation	(737,130)	(3,334)	(740,464)
General inflation	16,229	99	16,328
Commutated value	(32,459)	(165)	(32,624)
Discount rate	998,500	4,497	1,002,997
Total assumption changes	\$ 35,874	\$ 84	\$ 35,958

### iv) EXPERIENCE GAINS

Experience gains of \$105.489 million (2016: \$28.094 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. For the year ended August 31, 2016, the valuation had an assumption of a 3.5% increase to earnings. The current year valuation shows an experience gain of \$175.853 million due to no changes to earnings. Additionally, other distinct factors resulted in an overall net experience gain increase. The following table provides details on the net gains on accrued benefits.

(\$ Thousands)	TPP	PSTPP	Total
Short-term salary increase	\$(174,890)	\$(963)	\$(175,853)
COLA	(49,749)	(211)	(49,960)
Demographic	56,685	(134)	56,551
Other plan experience	63,219	554	63,773
Experience gains	\$(104,735)	\$(754)	\$(105,489)

### 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 financial statements, as per the prescribed accounting standards, and the results are shown above 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.

For accounting purposes, the Plans' surplus or deficiency is determined on the 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.

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.

# NOTES TO THE FINANCIAL STATEMENTS

## NOTE 6 INVESTMENT EARNINGS

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

(\$ Thousands)	2017			2016		
	Investment Income	Change in Fair Value <sup>1</sup>	Total	Investment Income	Change in Fair Value <sup>2</sup>	Total
Fixed income						
Cash and money-market securities	\$ 6,767	\$ (15)	\$ 6,752	\$ 5,130	\$ (6,961)	\$ (1,831)
Bonds and debentures	81,193	(137,228)	(56,035)	76,274	109,504	185,778
Equity						
Public	148,496	480,105	628,601	147,562	245,833	393,395
Private	38,948	176,869	215,817	20,951	65,078	86,029
Infrastructure	53,085	55,450	108,535	38,620	68,457	107,077
Real estate	95,231	68,490	163,721	57,409	61,167	118,576
Absolute return	-	(22,991)	(22,991)	-	(14,075)	(14,075)
Derivatives	-	110,195	110,195	-	46,564	46,564
Investment Earnings	\$423,720	\$ 730,875	\$1,154,595	\$345,946	\$575,567	\$921,513

<sup>1</sup>Change in fair value includes a realized net gain of \$662,738 and an unrealized net gain of \$68,137.

<sup>2</sup>Change in fair value includes a realized net gain of \$378,423 and an unrealized net gain of \$197,144.

## NOTE 7 INVESTMENT AND MEMBER SERVICE EXPENSES

### 2017

(\$ Thousands)

	Investment	Member service	Total
Salaries & benefits	\$ 13,433	\$4,553	\$ 17,986
Professional fees & transaction costs	2,702	563	3,265
Premises and operations	1,230	857	2,087
Custodial and banking	1,943	46	1,989
Communications and travel	1,485	447	1,932
Board and committees	187	146	333
Total Operating Expenses	20,980	6,612	27,592
External investment management fees	106,359	-	106,359
Total Expenses	\$127,339	\$6,612	\$133,951

### 2016

(\$ Thousands)

	Investment	Member service	Total
Salaries & benefits	\$ 11,051	\$3,989	\$15,040
Professional fees & transaction costs	2,289	866	3,155
Premises and operations	937	687	1,624
Custodial and banking	1,799	38	1,837
Communications and travel	957	433	1,390
Board and committees	103	111	214
Total Operating Expenses	17,136	6,124	23,260
External investment management fees	70,940	-	70,940
Total Expenses	\$88,076	\$6,124	\$94,200

## NOTE 8 CONTRIBUTIONS

(\$ Thousands)	2017	2016
Teachers		
Current service	\$280,310	\$259,777
Current service additional 10% COLA	16,867	16,558
Past service	5,492	4,307
Deficiency	129,985	168,416
	<u>432,654</u>	<u>449,058</u>
The Province		
Current service	280,047	258,150
Past service	2,478	2,107
Deficiency	122,668	157,850
	<u>405,193</u>	<u>418,107</u>
Private School Boards		
Current service	1,957	1,876
Deficiency	315	498
	<u>2,272</u>	<u>2,374</u>
Transfers from other plans	8,914	12,066
	<u>\$849,033</u>	<u>\$ 881,605</u>

## NOTE 9 BENEFITS PAID

(\$ Thousands)	2017	2016
Pension benefits	\$386,437	\$351,794
Termination benefits	66,055	59,714
Transfers to other plans	6,624	9,895
	<u>\$ 459,116</u>	<u>\$ 421,403</u>

During the year \$471 million (2016: \$467 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 prices and rates. 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.

# NOTES TO THE FINANCIAL STATEMENTS

## NOTE 10 RISK MANAGEMENT (CONTINUED)

The Plans' foreign currency exposure is as follows:

(\$ Thousands)

Currency	2017			2016
	Foreign Currency Exposure	Currency Derivatives	Net Foreign Currency Exposure	Net Foreign Currency Exposure
United States Dollar	\$ 4,118,948	\$(2,726,220)	\$1,392,728	\$ 1,169,992
Euro	787,752	(241,162)	546,590	519,634
British Pound Sterling	446,820	(223,667)	223,153	263,969
Hong Kong Dollar	321,374	-	321,374	235,965
Japanese Yen	122,404	(1,645)	120,759	93,444
Swiss Franc	83,958	(497)	83,461	74,833
Other	984,554	74,527	1,059,081	734,180
	\$6,865,810	\$(3,118,664)	\$ 3,747,146	\$ 3,092,017

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 \$37 million as at August 31, 2017 (2016: \$31 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 change in market value assuming a parallel 1% change in interest rates, with all other variables held constant:

(\$ Thousands)

Term to Maturity	2017		2016	
	Market Value	Change in Market Value	Market Value	Change in Market Value
Less than 1 Year	\$ 495,796	\$ 1,933	\$ 384,176	\$ 251
1-3 Years	272,678	5,522	239,057	4,944
3-5 Years	307,951	10,863	242,357	8,746
5-10 Years	470,645	30,545	431,524	28,597
Greater than 10 Years	1,777,439	267,277	1,468,445	224,463
Other <sup>1</sup>	150,821	-	131,510	-
	\$ 3,475,330	\$316,140	\$2,897,069	\$267,001

<sup>1</sup>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 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 are subject to price risk through their public equity investments.

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 \$600 million (2016: \$551 million).

## NOTE 10 RISK MANAGEMENT (CONTINUED)

### 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 securities, securities lending, and balances receivable from sponsors and counterparties. 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 mitigate counterparty credit risk by using an internal credit-limit monitoring process, International Swaps and Derivatives Master Agreements ("ISDA") and/or Credit Support Annex ("CSA") with our counterparties. The ISDA allows for close-out netting privileges in the event of default, while the CSA enables the Plans to realize upon any collateral placed with it in the case of default of the counterparty.

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 portfolio and "BBB" for the portfolio 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. Fixed-income investments and over-the-counter derivatives exposed to credit risk, by credit rating, are as follows:

	2017	2016
Investment grade (AAA to BBB-)	94%	93%
Speculative grade (BB+ or lower)	1%	2%
Unrated	5%	5%
	100%	100%

### 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 come due. 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)	2017	2016
Money-market securities	\$ 193,160	\$ 369,176
Bonds and debentures	3,282,170	2,527,893
Public equities	5,609,233	5,350,528
	\$9,084,563	\$8,247,597

## NOTE 11 COMMITMENTS

The Plans have committed to fund certain investments over the next several years in accordance with the terms and conditions agreed to. As at August 31, 2017, the sum of these commitments equalled \$1,603 million (2016 - \$1,849 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:

	2017	2016
Net Investment Return	7.7%	6.7%
Benchmark Return	7.0%	6.6%

## NOTE 13 COMPARATIVE FIGURES

Comparative figures have been reclassified, where necessary, to conform to the 2017 presentation.

# 11-YEAR FINANCIAL AND STATISTICAL REVIEW

(UNAUDITED)

<b>Financial Position as at August 31</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>
<i>(\$ millions)</i>											
Investments											
Equities											
Public	5,609.2	5,350.5	4,872.7	4,860.2	4,626.7	3,821.8	3,545.3	3,298.8	2,873.7	3,279.6	3,529.3
Private	1,397.7	1,195.7	1,145.9	855.4	591.7	358.6	277.5	208.8	127.7	120.6	53.9
Infrastructure	952.0	946.9	543.5	404.6	278.2	186.9	123.9	-	-	-	-
Real Estate	1,940.0	1,518.1	1,090.1	725.9	446.0	334.9	60.6	-	-	-	-
Absolute Return	1,339.7	1,280.1	1,297.9	864.8	-	-	-	-	-	-	-
Other Investment Assets/(Liabilities)	(114.0)	29.8	(118.6)	30.4	15.0	24.2	7.8	-	-	-	-
Fixed Income	3,643.6	3,040.3	3,249.2	2,980.6	2,629.6	2,464.4	2,328.2	1,995.2	756.2	777.7	714.2
<b>Net Investments</b>	<b>14,768.2</b>	<b>13,361.4</b>	<b>12,080.7</b>	<b>10,721.9</b>	<b>8,587.2</b>	<b>7,190.8</b>	<b>6,343.3</b>	<b>5,502.8</b>	<b>3,757.6</b>	<b>4,177.9</b>	<b>4,297.4</b>
Loan Receivable from the Province	-	-	-	-	-	-	-	-	1,184.7	944.1	-
Contributions Receivable	26.0	25.5	19.7	21.4	19.4	17.2	12.0	11.3	11.2	9.0	13.7
Other Assets and Liabilities	(26.7)	(30.0)	(31.0)	(26.5)	(25.6)	(14.0)	(20.2)	22.9	3.0	6.4	(3.1)
<b>Net Assets Available for Benefits</b>	<b>14,767.5</b>	<b>13,356.9</b>	<b>12,069.4</b>	<b>10,716.8</b>	<b>8,581.0</b>	<b>7,194.0</b>	<b>6,335.1</b>	<b>5,537.0</b>	<b>4,956.5</b>	<b>5,137.4</b>	<b>4,308.0</b>
<b>Actuarial Value of Accrued Pension Obligations</b>	<b>12,862.5</b>	<b>12,118.2</b>	<b>11,281.1</b>	<b>10,190.6</b>	<b>9,406.3</b>	<b>9,108.7</b>	<b>8,294.4</b>	<b>7,467.7</b>	<b>6,861.7</b>	<b>6,321.9</b>	<b>11,316.3</b>
<b>Surplus/(Deficiency)</b>	<b>1,905.0</b>	<b>1,238.7</b>	<b>788.3</b>	<b>526.2</b>	<b>(825.3)</b>	<b>(1,914.7)</b>	<b>(1,959.3)</b>	<b>(1,930.7)</b>	<b>(1,905.2)</b>	<b>(1,184.5)</b>	<b>(7,008.3)</b>
<b>Activity during year ended August 31</b>											
<i>(\$ millions)</i>											
<b>Benefit and Investment Operations</b>											
Investment earnings	1,154.6	921.5	969.6	1,717.2	1,024.6	512.0	440.4	274.3	(443.5)	(209.4)	440.3
Amount assumed by the Province	-	-	-	-	-	-	-	-	-	784.5	-
Net contributions	849.0	881.6	842.6	823.8	692.2	596.3	577.5	499.2	433.7	402.8	600.8
Benefits paid	(459.1)	(421.4)	(378.2)	(337.0)	(291.2)	(220.9)	(194.5)	(173.0)	(153.0)	(130.0)	(465.3)
Investment & member service expenses	(133.9)	(94.2)	(81.4)	(68.2)	(38.6)	(28.4)	(25.3)	(20.0)	(18.2)	(18.5)	(18.3)
<b>Increase in Net Assets</b>	<b>1,410.6</b>	<b>1,287.5</b>	<b>1,352.6</b>	<b>2,135.8</b>	<b>1,387.0</b>	<b>859.0</b>	<b>798.1</b>	<b>580.5</b>	<b>(181.0)</b>	<b>829.4</b>	<b>557.5</b>
Increase/(Decrease) in Accrued Pension Obligations	744.3	837.1	1,090.5	784.3	297.6	814.4	826.7	606.0	539.7	(4,994.3)	614.0
<b>Increase (Decrease) in Surplus</b>	<b>666.3</b>	<b>450.4</b>	<b>262.1</b>	<b>1,351.5</b>	<b>1,089.4</b>	<b>44.6</b>	<b>(28.6)</b>	<b>(25.5)</b>	<b>(720.7)</b>	<b>5,823.7</b>	<b>(56.5)</b>
<b>Funding</b>											
Discount Rate	5.40%	6.00%	6.00%	6.25%	6.25%	6.75%	6.75%	6.75%	7.25%	7.25%	7.25%
Funding Shortfall (\$millions)											
Pre 1992 TPP*	-	-	-	-	-	-	-	-	-	-	6,592.0
Post 1992 TPP*	1,516.0	1,950.0	2,364.0	2,289.0	2,859.0	2,880.0	1,751.0	1,787.0	1,766.0	1,048.0	742.0
Private School TPP*	1.2	3.5	5.6	5.6	9.1	8.4	5.6	6.0	5.0	(0.4)	0.1
	1,517.2	1,953.5	2,369.6	2,294.6	2,868.1	2,888.4	1,756.6	1,793.0	1,771.0	1,047.6	7,334.1
<b>Plan Members</b>											
Active	40,716	41,015	39,997	39,185	38,346	38,336	38,242	38,578	38,422	37,627	37,577
Inactive	11,997	12,102	12,252	12,411	12,364	12,404	12,384	12,119	11,769	11,713	10,852
Retired Members	27,625	27,015	26,308	25,545	24,667	23,892	22,989	22,302	21,563	20,796	19,837
Number of New Pensions	1,171	1,074	1,080	1,214	1,131	1,234	986	1,056	1,060	1,257	1,419
<b>Member Service Costs (per member)</b>	<b>\$97</b>	<b>\$90</b>	<b>\$87</b>	<b>\$87</b>	<b>\$87</b>	<b>\$82</b>	<b>\$69</b>	<b>\$69</b>	<b>\$68</b>	<b>\$69</b>	<b>\$68</b>
<b>Benchmark</b>	<b>\$150</b>	<b>\$149</b>	<b>\$149</b>	<b>\$153</b>	<b>\$148</b>	<b>\$145</b>	<b>\$155</b>	<b>\$148</b>	<b>\$138</b>	<b>\$132</b>	<b>\$120</b>
Investment Costs (per \$100 of assets)**	\$0.86	\$0.66	\$0.63	\$0.58	\$0.39	\$0.32	\$0.33	\$0.29	\$0.28	\$0.38	\$0.30
Post 1992 TPP* - year ended Aug. 31											
Net Investment Returns	7.7%	6.7%	8.3%	18.9%	13.6%	7.5%	7.5%	5.3%	-8.8%	-3.2%	11%
Benchmark	7.0%	6.6%	6.5%	18.4%	11.5%	6.3%	7.3%	5.4%	-6.8%	-2.7%	10.9%

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.

## Alberta's



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