Agenda

ND Teachers' Fund for Retirement Board Meeting

Thursday, January 21, 2016
1:00 pm

Peace Garden Room
State Capitol, Bismarck, ND

1. Call to Order and Approval of Agenda - Pres. Gessner (Board Action) 5 min

2. Approval of Minutes October 22 and December 30, 2015 Meetings – Pres. Gessner (Board Action) 5 min

3. Quarterly TFFR Investment Update and Investment Benchmarks Education – Dave Hunter (Information) 20 min

4. Asset Liability Study – Paul Erlendson and Julia Moriarty, Callan Associates (Board Action) 60 min

5. Actuarial Audit RFP Update – Fay Kopp (Information) 10 min

6. IRS Determination Letter Update – Fay Kopp, Jan Murtha (Information) 10 min

7. Administrative Rules - Fay Kopp (Board Action) 10 min

8. 2015 GASB 68 Report – Shelly Schumacher (Board Action) 10 min

9. 2017 Legislative Planning – Fay Kopp (Information) 30 min

10. Eligible Salary Discussion – Fay Kopp (Information) 15 min

11. Annual TFFR Ends and Statistics Report – Shelly Schumacher (Board Action) 15 min

12. Annual Retirement Trends Report – Shelly Schumacher (Board Action) 15 min

13. Quarterly Audit Services Update – Terra Miller Bowley (Information) 10 min

14. 2015 CAFR and PPCC Award – Fay Kopp (Information) 5 min

15. Consent Agenda – (Board Action) 5 min
    *Executive Session possible if Board discusses confidential information under NDCC 15-39.1-30.

16. Other Business
    Next Board Meeting: March 17, 2016

17. Adjournment

Any person who requires an auxiliary aid or service should contact the Retirement and Investment Office at 701-328-9885 at least three (3) days before the scheduled meeting.

NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT
MINUTES OF THE
OCTOBER 22, 2015, BOARD MEETING

BOARD MEMBERS PRESENT:	Mike Gessner, President Mike Burton, Trustee Kim Franz, Trustee Rob Lech, Trustee Mel Olson, Trustee Kelly Schmidt, State Treasurer
ABSENT:	Kirsten Baesler, State Superintendent
STAFF PRESENT:	David Hunter, ED/CIO Fay Kopp, Deputy ED/CRO Terra Miller Bowley, Audit Services Supervisor Darlene Roppel, Retirement Assistant Shelly Schumacher, Retirement Program Manager
OTHERS PRESENT:	Erica Cermak, NDRTA Janilyn Murtha, Attorney General's Office Kim Nicholl, Segal Nancy Peterson, NDU-Retired Ken Tupa, NDRTA

CALL TO ORDER:
Mr. Mike Gessner, President of the Teachers' Fund for Retirement (TFFR) Board of Trustees, called the board meeting to order at 1:00 p.m. on Thursday, October 22, 2015, in the Peace Garden Room at the State Capitol in Bismarck, ND.

THE FOLLOWING MEMBERS WERE PRESENT REPRESENTING A QUORUM: MR. BURTON, MRS. FRANZ, MR. GESSNER, MR. LECH, AND MR. OLSON.

Supt. Baesler was absent.

APPROVAL OF AGENDA:
The Board considered the meeting agenda.

MR. LECH MOVED AND MR. OLSON SECONDED TO APPROVE THE AGENDA AS PRESENTED.

AYES: MR. BURTON, MR. LECH, MRS. FRANZ, MR. OLSON, AND PRESIDENT GESSNER
NAYS: NONE
MOTION CARRIED.
ABSENT: SUPT. BAESLER AND TREASURER SCHMIDT

MINUTES:
The board considered the minutes of the TFFR board meeting held September 24, 2015.

MRS. FRANZ MOVED AND MR. LECH SECONDED TO APPROVE THE MINUTES OF THE TFFR BOARD MEETING HELD SEPTEMBER 24, 2015.

AYES: MR. LECH, MR. OLSON, MR. BURTON, MRS. FRANZ, AND PRESIDENT GESSNER
NAYS: NONE
MOTION CARRIED.
ABSENT: SUPT. BAESLER AND TREASURER SCHMIDT

Treasurer Schmidt arrived at 1:25 p.m.

2015 VALUATION REPORT:
Ms. Kim Nicholl, Senior Vice President, Segal Consulting, presented TFFR's Actuarial Valuation as of July 1, 2015. Copies of the report and presentation are on file at the Retirement and Investment Office (RIO).

The primary purposes of the actuarial valuation are to report the Fund's actuarial assets, calculate the Fund's liabilities, determine the actuarially determined contribution (ADC), determine the effective amortization period, provide information for annual financial statements, and identify emerging trends. Segal recently reviewed the TFFR funding policy and found it continues to be appropriate. Ms. Nicholl provided an overview of the valuation process, reviewed actuarial assumptions and methods; and presented the 2015 valuation highlights.

Certain actuarial assumptions were changed as a part of the five year Experience Study which was presented in April 2015. The plan's investment return assumption was lowered from 8.00% to 7.75%, mortality assumption tables were updated to the RP 2014 mortality tables with generational improvement, and other minor assumption changes were adopted. The assumption changes impacted the July 1, 2015 valuation results as follows: accrued liability increased by $171 million; funded ratio decreased by 3.2%; and the effective amortization period increased by 8 years.

The market value of assets (MVA) returned 3.5% for the one year ending June 30, 2015; 5.9% over 10 years, 7.1% over 20 years, and 8.2% over 30 years (Segal calculation). MVA increased from $2.09 billion on June 30, 2014, to $2.14 billion on June 30, 2015. The actuarial value of assets (AVA) increased from $1.94 billion to $2.13 billion. The unfunded actuarial accrued liability (UAAL) increased from $1.198 billion to $1.325 billion. The funded ratio decreased from 61.8% to 61.6%. The ADC increased from 11.57% of payroll to 13.04% of payroll. Based on the employer contribution rate of 12.75% for fiscal year (FY) 2016, the contribution deficiency is 0.29% of payroll. The effective amortization period increased from 24 years to 29 years.

Ms. Nicholl reviewed information on the newly adopted Governmental Accounting Standards Board (GASB) accounting standards. GASB 67 provides for accounting with respect to plans and was effective for TFFR as of June 30, 2014. GASB 68 provides for financial reporting by

employers and is effective for TFFR participating employers as of June 30, 2015. The net pension liability (NPL) is required to be reported in the Fund's financial statements and on each employer's balance sheet (their proportionate share of the collective pension amounts, based on their payroll, for all benefits provided by the Fund). The NPL for TFFR increased from $1.048 billion to $1.308 billion as of June 30, 2015 and the Plan Fiduciary Net Position declined from 66.6% to 62.1% on June 30, 2015. Ms. Nicholl also presented estimated funded ratio projections for 30 years based on FY16 investment return scenarios ranging from -24% to +24% and assuming 7.75% earnings each year thereafter. This includes statutory contribution rates of 11.75% for members and 12.75% for employers until the funded ratio reaches 100% when contribution rates will sunset back to 7.75% each. Funding levels are expected to reach 80-100% in 20-30 years, depending upon investment performance.

After board discussion and questions,

TREASURER SCHMIDT MOVED AND MR. OLSON SECONDED TO ACCEPT THE 2015 ACTUARIAL VALUATION REPORT.

AYES: TREASURER SCHMIDT, MRS. FRANZ, MR. OLSON, MR. BURTON, MR. LECH, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.
ABSENT: SUPT. BAESLER

ASSET LIABILITY STUDY:
Mrs. Kopp reviewed information on active member population growth to be used for liability projections in the asset liability study. Mrs. Kopp consulted Mr. Jerry Coleman, Department of Public Instruction (DPI), on projected student enrollment growth and how that might affect active member population growth. Due to increased residents' births, in migration statistics and the strong North Dakota economy, DPI predicts growth in student population could be about 2000-3000 students per year for the next three years. Callan will model two active population projections, one being 0% as the baseline projection reflecting a constant active population.

After board discussion,

MR. OLSON MOVED AND MR. LECH SECONDED TO USE 0% AND 2% ACTIVE MEMBER POPULATION GROWTH FOR THE NEXT FIVE YEARS FOR THE LIABILITY PROJECTIONS IN THE ASSET LIABILITY STUDY.

AYES: MRS. FRANZ, MR. BURTON, MR. LECH, MR. OLSON, TREASURER SCHMIDT, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.
ABSENT: SUPT. BAESLER

ACTUARIAL AUDIT:
Mrs. Kopp reviewed the reasons for an actuarial audit: enhances the credibility of the actuarial valuation process, increases public trust in how the pension plan is being governed, can lead to the remediation of errors that might otherwise go undiscovered, and it can provide recommendations for improving the actuarial valuation process. There are three levels of actuarial audits. TFFR has historically had the level one, full-scope audit conducted.

After discussion and questions,

TREASURER SCHMIDT MOVED AND MRS. FRANZ SECONDED TO CONDUCT A FULL SCOPE ACTUARIAL AUDIT, FOLLOW THE REQUEST FOR PROPOSAL (RFP)PROCESS, GIVE THE STAFF AUTHORITY TO REVIEW RFP'S AND BRING THE TOP TWO OR THREE PROPOSALS TO THE BOARD FOR INTERVIEW AND FINAL SELECTION OF THE REVIEWING ACTUARY.

AYES: MR. OLSON, MR. LECH, MRS. FRANZ, TREASURER SCHMIDT, MR. BURTON, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.
ABSENT: SUPT. BAESLER

LEGISLATIVE UPDATE:
Mrs. Kopp provided the board with the agenda for the first Legislative Employee Benefits Program Committee (LEBPC) meeting of the interim, to be held October 27, 2015. Mrs. Kopp will provide an overview of the TFFR plan, and Mr. Hunter will provide an overview of the State Investment Board (SIB) investment program. Mr. Matt Strom, Segal, will present the TFFR 2015 valuation report and funding projections.

ANNUAL TFFR PROGRAM AUDIT REPORT:
Ms. Miller Bowley, Audit Services Supervisor, presented the annual TFFR program audit activities report for the year ended June 30, 2015. Ms. Miller Bowley reported 24 school district audits were completed. Twenty-two were found to be in compliance or generally in compliance while two employers were found not in compliance. As of June 30, 2015, twenty-two employers have yet to be audited in the third audit cycle. A TFFR file maintenance audit and a benefits payment audit were also completed with no exceptions noted. The annual salary verification project was also completed with five member accounts being corrected as a result. Following the first TFFR benefit payment cost efficiency review, audit services found that retirement benefits are being paid by TFFR on a cost effective and timely basis.

Mrs. Kopp commended Ms. Miller Bowley and Mrs. Thorsen on the excellent job they have been doing.

MR. LECH MOVED AND MR. BURTON SECONDED TO ACCEPT THE 2015 TFFR PROGRAM AUDIT REPORT.

AYES: MR. BURTON, MRS. FRANZ, MR. OLSON, TREASURER SCHMIDT, MR. LECH, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.
ABSENT: SUPT. BAESLER

BOARD EDUCATION – INVESTMENT REPORTS:
Mr. Hunter provided an overview of how to review "Investment Performance Reports" for the TFFR pension plan. Preliminary monthly performance reports are available on the RIO Reference Library, and quarterly performance reports are available on the RIO website. Mr. Hunter reviewed the reports on the asset classes Global equities, Global fixed income, and Global real assets and how to interpret them. He also emphasized that given the long-term investment horizon of the TFFR pension plan, there should be a greater emphasis placed on 5-year returns over shorter periods.

The SIB meeting will be held Friday, October 23, 2015.

TRUSTEE EDUCATION:
Mr. Olson, Mrs. Franz, and Mr. Burton reported on National Council on Teacher Retirement (NCTR) conferences they attended in July and October 2015.

OTHER BUSINESS:
An updated board calendar and education plan was included in the board material.

The next regular board meeting will be held January 21, 2016, in the Peace Garden Room at the State Capitol.

ADJOURNMENT:
With no further business to come before the Board, President Gessner adjourned the meeting at 3:27 p.m.

Respectfully Submitted:

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Mr. Mike Gessner, President
Teachers' Fund for Retirement Board

_____
Darlene Roppel
Reporting Secretary

NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT
MINUTES OF THE
DECEMBER 30, 2015, SPECIAL BOARD MEETING

BOARD MEMBERS PRESENT:	Kirsten Baesler, State Superintendent Mike Burton, Trustee Kim Franz, Trustee Mike Gessner, President Rob Lech, Trustee Mel Olson, Trustee
ABSENT:	Kelly Schmidt, State Treasurer
STAFF PRESENT:	David Hunter, ED/CIO Fay Kopp, Deputy ED/CRO Darlene Roppel, Retirement Assistant Shelly Schumacher, Retirement Program Manager
OTHERS PRESENT:	Nick Archuleta, ND United Janilyn Murtha, Attorney General's Office

CALL TO ORDER:
Mr. Mike Gessner, President of the Teachers' Fund for Retirement (TFFR) Board of Trustees, called the special board meeting to order at 1:00 p.m. on Wednesday, December 30, 2015, in the conference room at the Retirement and Investment Office (RIO) in Bismarck, ND and via teleconference

THE FOLLOWING MEMBERS WERE PRESENT REPRESENTING A QUORUM: MRS. FRANZ AND MR. LECH (ON SITE), SUPT. BAESLER, MR. BURTON, MR. GESSNER, AND MR. OLSON (VIA TELECONFERENCE).

Treasurer Schmidt was absent.

APPROVAL OF AGENDA:
The Board considered the meeting agenda.

MR. LECH MOVED AND MR. OLSON SECONDED TO APPROVE THE AGENDA AS PRESENTED.

AYES: SUPT. BAESLER, MR. BURTON, MR. LECH, MRS. FRANZ, MR. OLSON, AND PRESIDENT GESSNER
NAYS: NONE
MOTION CARRIED.
ABSENT: TREASURER SCHMIDT

ACTUARIAL AUDIT RFP:
Mrs. Kopp reviewed the draft Request for Proposal (RFP) to solicit proposals for an independent actuarial consultant to conduct a full scope actuarial audit of the plan's current actuarial consultant, Segal Company. Ms. Murtha, Attorney General's Office, and the state procurement officers are being consulted in developing the RFP.

The schedule of events was reviewed. The RFP will be issued January 5, 2016, with proposals due February 16, 2016. The proposal evaluation committee consists of Mrs. Schumacher, Mrs. Kopp and Mr. Hunter. The top two or three proposals will be invited to attend the March 17, 2016, TFFR board meeting to make oral presentations. The contract is expected to begin in April 2016, with the results of the actuarial audit presented at the July 2016, TFFR board meeting.

The board agreed the evaluation criteria to be used by the evaluation committee would be 40% on vendor's experience and qualifications; 30% on understanding, methodology, and management plan; and 30% on cost.

There was discussion on Section 7.10 of the RFP-Disclosure of Proposal Contents and Compliance with ND Open Records Laws. Ms. Murtha reviewed options available under state statutes for the oral presentations and for disclosure of proposal information.

After discussion and questions,

MR. OLSON MOVED AND MRS. FRANZ SECONDED TO SEQUESTOR THE COMPETITORS DURING THE ORAL PRESENTATIONS WHICH WILL BE IN OPEN SESSION, AND TO DISCLOSE EXEMPT PROPOSAL INFORMATION AFTER THE ORAL PRESENTATIONS ARE MADE.

AYES: MR. OLSON, MR. LECH, MRS. FRANZ, SUPT. BAESLER, MR. BURTON, AND PRESIDENT GESSNER.
NAYS: NONE
MOTION CARRIED.
ABSENT: TREASURER SCHMIDT

ADJOURNMENT:
With no further business to come before the Board, President Gessner adjourned the meeting at 1:28 p.m.

Respectfully Submitted:

_____
Mr. Mike Gessner, President
Teachers' Fund for Retirement Board

_____
Darlene Roppel
Reporting Secretary

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **January 14, 2016**

SUBJ: **TFFR Investment Update and Investment Benchmarks Education**

Attached is the TFFR Investment Update for the quarter ending September 30, 2015 which Dave Hunter, SIB Chief Investment Officer, will review at the meeting. Also included in the presentation is material regarding investment benchmarks which was requested at the October 2015 meeting.

Dave's presentation will provide additional investment background information which will be helpful as the Board considers the recommendations included in the TFFR Asset Liability Study report.

No board action is requested at this time. This presentation is for informational purposes.

Attachment

TFFR Investment Update

For the Periods Ended September 30, 2015

January 14, 2016

Note: This update contains unaudited results for the current fiscal year, which are subject to change, but deemed to be materially accurate.

Dave Hunter, Executive Director/CIO

Darren Schulz, Deputy Chief Investment Officer

ND Retirement & Investment Office (RIO)

State Investment Board (SIB)

Executive Summary – September 30, 2015

Investment Performance –

- **For the fiscal year ended September 30, 2015, TFFR generated a net investment return of -0.5% versus a policy benchmark of -1.2%. Active investment management enhanced TFFR's return by approximately $14 million in the last year.** Modest returns in U.S. Equity (+1.2% actual versus -0.1% index) and U.S. Fixed Income (+2.3% actual versus +1.1% index) were offset by sharply negative results in International Equity (-8.6% actual versus -10.7% index) and International Debt (-8.4% actual versus -7.7% index). Global Real Assets marginally outperformed its relative benchmark (+9.1% actual versus +8.8% index) as impressive Real Estate results (+16% actual versus +13.5% index) were partially offset by weak Timber returns (+3.9% actual versus +9.3% index). Infrastructure (-1.2% actual versus -0.6% index) and Private Equity (-6.7%) also performed poorly.

- **Asset allocation is the primary driver of returns over the long-term.** TFFR generated a net return of 7.8% for the 5-years ended September 30, 2015, which exceeded the policy benchmark by over 0.78%. During the last 5-years, asset allocation and active management generated approximately **$635 million** (90%) and **$70 million**[1] (10%) of TFFR's overall investment income, respectively.

- **TFFR's investment returns have consistently ranked in the 1st or 2nd quartile of the Callan Public Fund Sponsor Database over the last 1-, 3-, and 5-year periods ended September 30, 2015.** These returns have been achieved using less risk than peers during the last 1- and 3-year periods.

Risk Update –

- In the "Last 5 Years", TFFR risk (as measured by actual standard deviation divided by the investment policy benchmark) has declined from over 115% down to 105% on a rolling 3- and 5-years basis.

Footnote 1: The market value of TFFR's assets approximated $1.8 billion for the five-years ended Sept.30, 2015 ($1.8 billion x 0.78% = $14 million x 5 years = $70 million).

TFFR Investment Ends – September 30, 2015

SIB clients should receive investment returns consistent with their written investment policies and market variables. This "End" is evaluated based on comparison of each client's (a) actual net rate of return, (b) standard deviation and (c) risk adjusted excess return, to the client's policy benchmark over 5-years.

	Quarter Ended 9/30/2015	1 Yr Ended 9/30/2015	3 Yrs Ended 9/30/2015	5 Yrs Ended 9/30/2015	Risk 5 Yrs Ended 9/30/2015	Risk Adj Excess Return 5 Yrs Ended 9/30/2015
TEACHERS' FUND FOR RETIREMENT (TFFR)						
Total Fund Return - Net	-4.98%	**-0.50%**	**7.63%**	**7.84%**	8.7%	**0.42%**
Policy Benchmark Return	-4.55%	-1.19%	6.56%	7.06%	8.3%	
Excess Return	-0.43%	**0.68%**	**1.06%**	**0.79%**	**105%**	

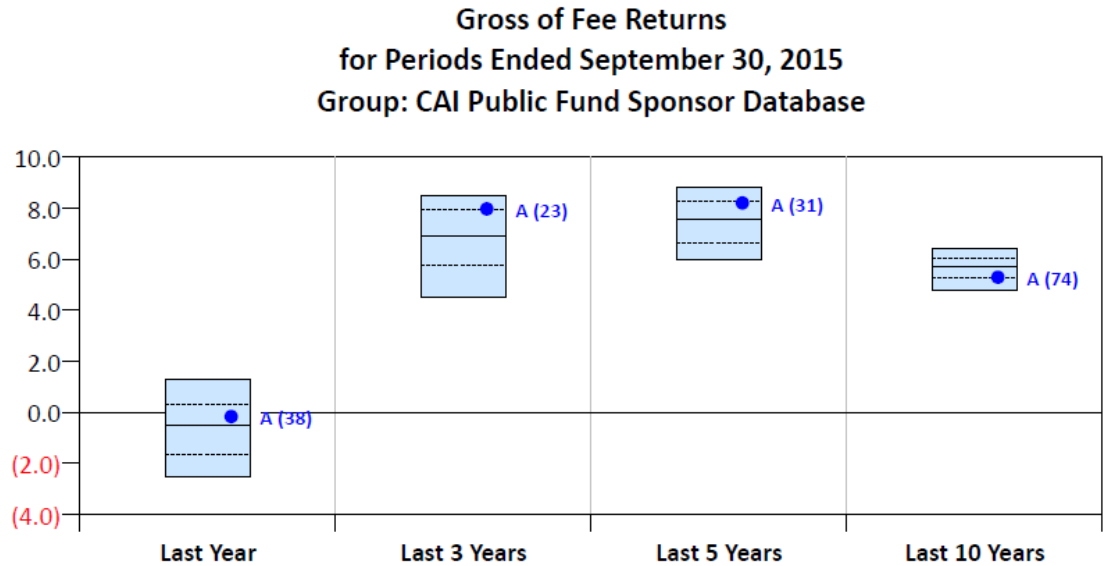
Net Return: TFFR's net investment rate of return for the 5-year period ended September 30, 2015 was **7.84%** versus a policy benchmark of **7.06%** resulting in an **Excess Return of 0.79% (or 79 bps)**.

Risk: TFFR's standard deviation for the 5-year period ended September 30, 2015 was 8.7% versus a policy benchmark of 8.3% resulting in a **portfolio risk ratio of 105%**. This is within TFFR's stated risk tolerance which indicates this ratio should **not exceed 115%**.

The Risk-Adjusted Excess Return of TFFR's portfolio (net of fees and expenses) was **0.42%** for the 5-year period ended September 30, 2015.

TFFR Return History – Unadjusted Peer Comparison

Source: Callan "Public Fund Sponsor Database" for U.S. public pension plans with $1 billion or more in assets under management.

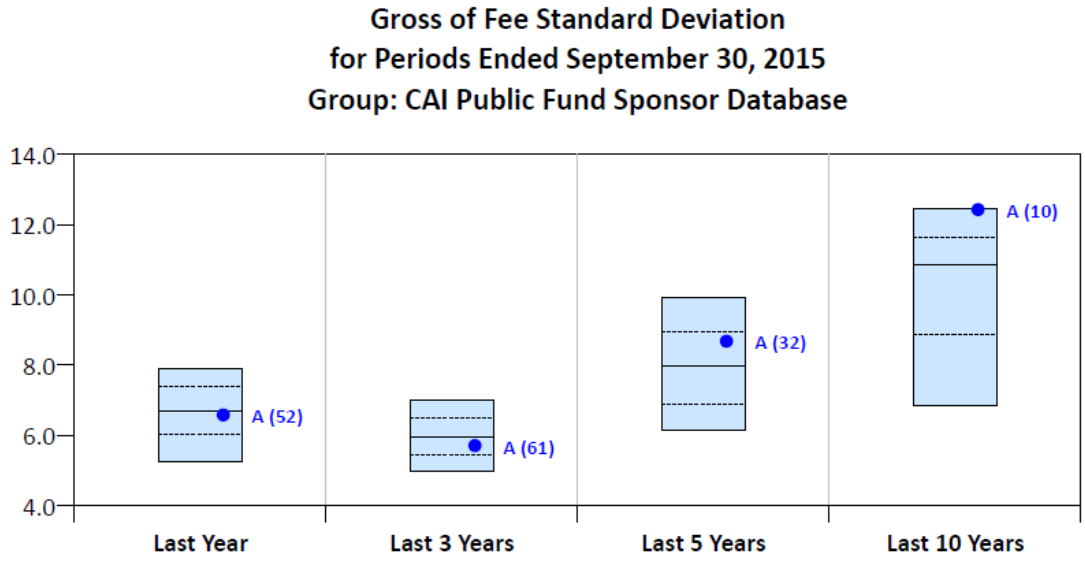


	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	1.3	8.5	8.8	6.4
25th Percentile	0.3	7.9	8.3	6.0
Median	(0.5)	6.9	7.6	5.7
75th Percentile	(1.6)	5.7	6.7	5.3
90th Percentile	(2.5)	4.5	6.0	4.8
Member Count	231	212	196	175
Total Fund-TFFR ● A	**(0.2)**	**8.0**	**8.2**	**5.3**

TFFR's returns have consistently exceeded other public pension plans during the last 5-years ranging from the 23rd to 38th percentile.

Risk History – Peer Comparison Last 1, 3, 5- and 10-Years

Standard Deviation is a commonly used risk metric used to monitor volatility.



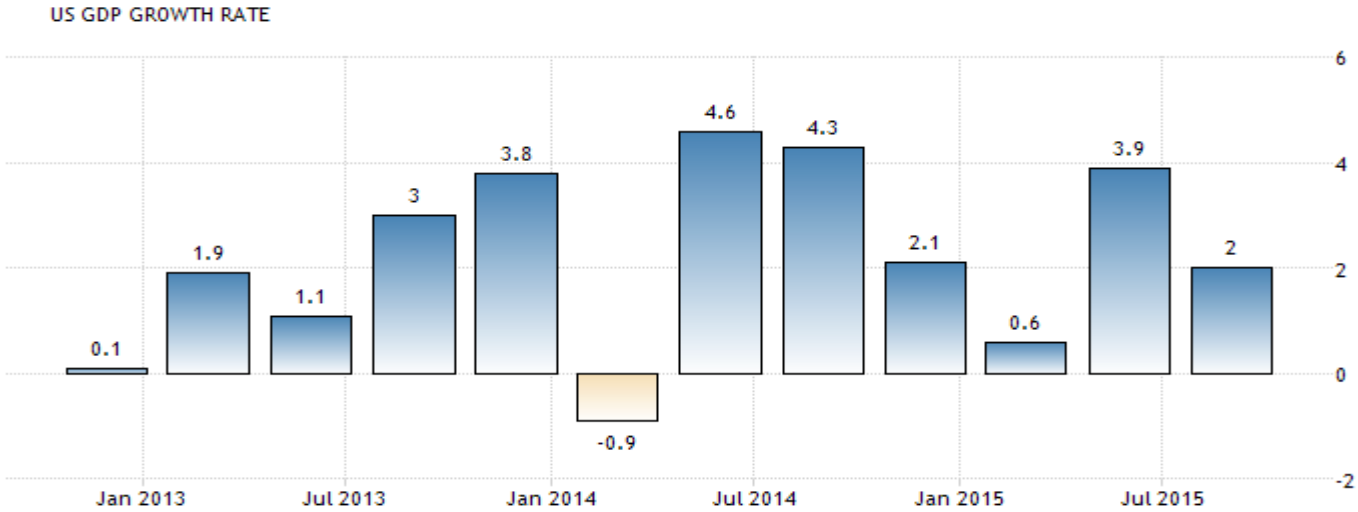
	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	7.9	7.0	9.9	12.5
25th Percentile	7.4	6.5	8.9	11.7
Median	6.7	5.9	8.0	10.9
75th Percentile	6.0	5.4	6.9	8.9
90th Percentile	5.3	5.0	6.1	6.8
Member Count	231	212	196	175
Total Fund-TFFR ● A	**6.6**	**5.7**	**8.7**	**12.4**

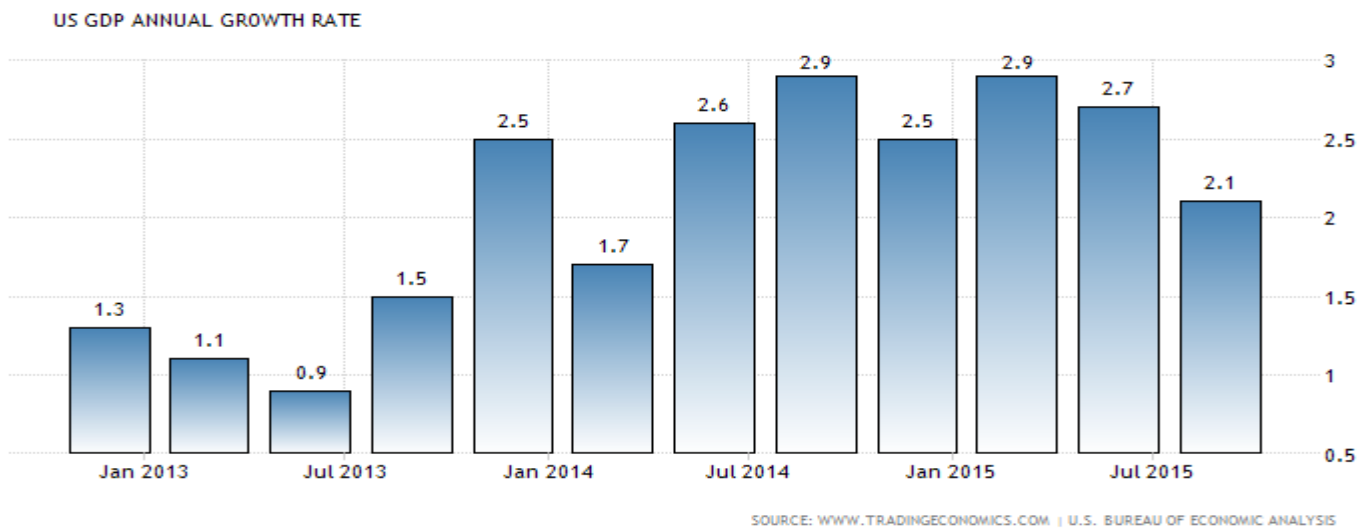
TFFR risk, as measured by standard deviation, has declined from the 10th percentile in the "Last 10 Years" to the 52nd percentile in the "Last Year".

Capital Markets Update

As of September 30, 2015

U.S Economy – GDP Growth Rates





Quarterly GDP Growth Rates (top chart) have been volatile as evidenced by low or negative growth rates in the 1st quarter of recent years largely attributed to poor weather conditions.

Annual GDP Growth Rates (bottom chart) minimize the impact of seasonal weather conditions and display a more consistent and moderate growth rate of over 2% in the past year.

Global GDP Growth Rate - History & Forecast

GDP Growth Rates

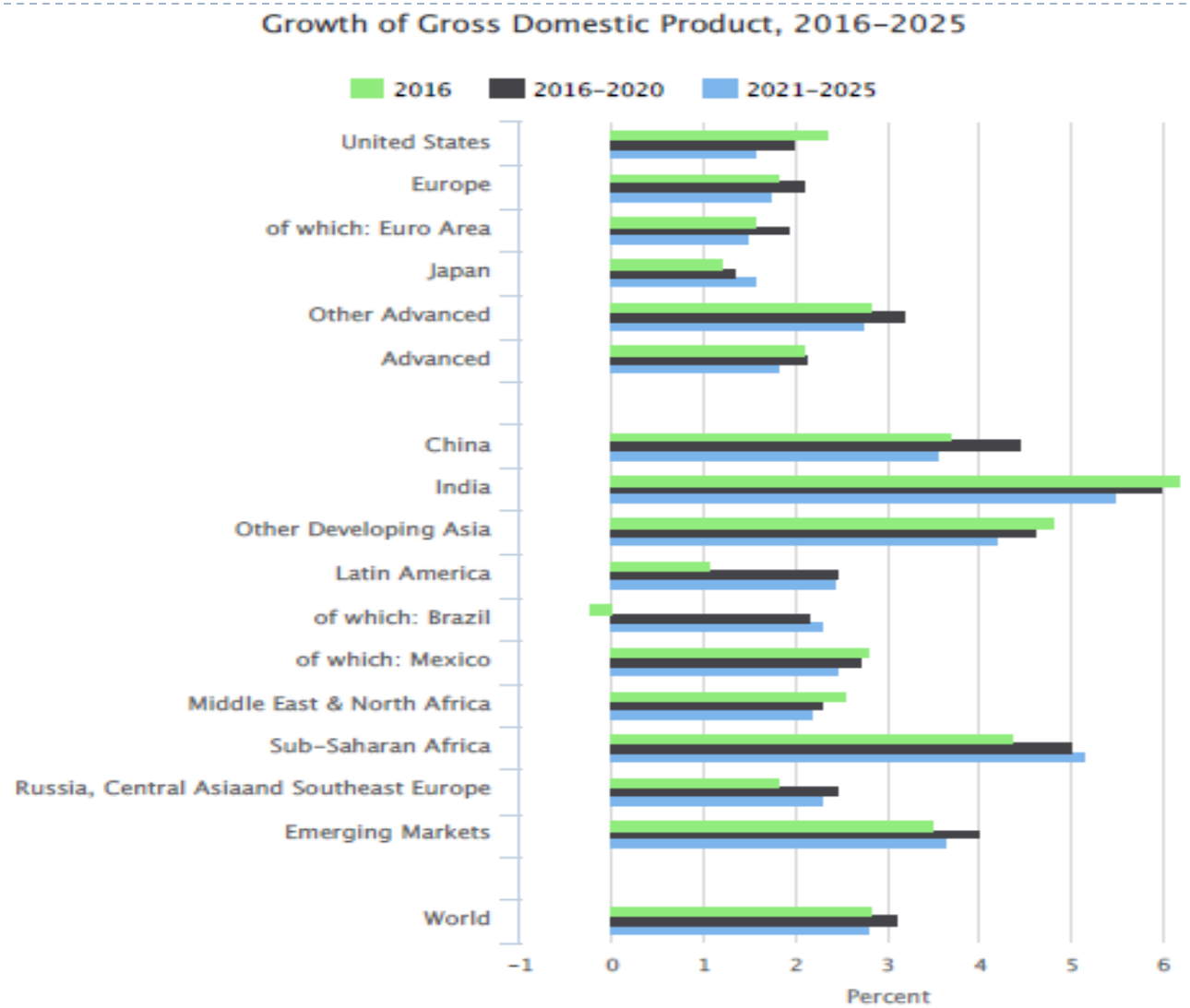
(% change)	Actual 2010-2014	Actual 2015	Forecast 2016	Projected 2016-2020	Trend 2021-2025
United States	2.1%	2.5%	2.4%	2.0%	1.6%
Europe	1.0%	1.7%	1.8%	2.1%	1.7%
of which: Euro Area	0.6%	1.4%	1.6%	1.9%	1.5%
Japan	1.5%	0.6%	1.2%	1.4%	1.6%
Other mature	3.5%	2.5%	2.8%	3.2%	2.7%
Mature Economies	**1.8%**	**2.0%**	**2.1%**	**2.1%**	**1.8%**
China	5.8%	3.7%	3.7%	4.5%	3.6%
India	7.0%	6.1%	6.2%	6.0%	5.5%
Other developing Asia	5.3%	4.7%	4.8%	4.6%	4.2%
Latin America	3.0%	-0.3%	1.1%	2.5%	2.4%
of which: Brazil	*2.8%*	*-2.2%*	*-0.2%*	*2.2%*	*2.3%*
of which: Mexico	*3.3%*	*2.5%*	*2.8%*	*2.7%*	*2.5%*
Middle East & North Africa	3.2%	3.2%	2.6%	2.3%	2.2%
Sub-Saharan Africa	5.4%	3.4%	4.4%	5.0%	5.2%
Russia, C.Asia, S.E. Europe	3.9%	-0.9%	1.8%	2.4%	2.3%
Emerging & Developing	**4.9%**	**2.9%**	**3.5%**	**4.0%**	**3.6%**
Global GDP Growth	**3.3%**	**2.5%**	**2.8%**	**3.1%**	**2.8%**

- Global GDP Growth Rates have declined from:
  - **3.3%** in 2010-to-2014 to
  - **2.5%** in 2015 but expected to reach
  - **2.8%** in 2016 and 2021 through 2025.
- Global GDP Growth in the Emerging Market and Developing Economies is expected to trend downward over the next decade largely due to China's growth rate slowing from:
  - 8.8% in 2010-to-2013 down to
  - **3.7%** in 2016 and 3.6% by 2021.

Key Take-Away: World GDP growth rates continue to show meaningfully positive trends albeit at slower rates than in the recent past.

Source: The Conference Board is a global, independent business membership and research association based in NYC.

Global GDP Growth Rate Forecast (2016 to 2025)



Source: The Conference Board is a global, independent business membership and research association based in NYC.

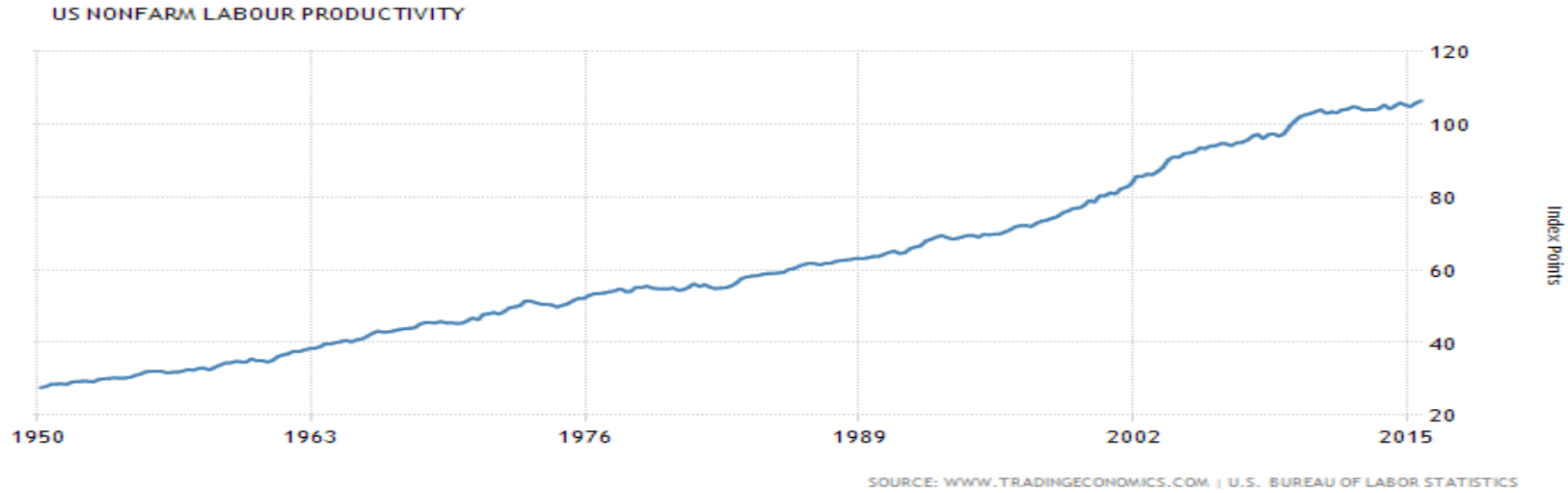
U.S Labor Market Conditions (2006 to 2015)

U.S. Labor Markets Continue to Improve: The U.S. Unemployment Rate has declined to 5% in October and November of 2015 after peaking at 10% in October of 2009.

U.S Non-Farm Labor Productivity Hits a New High

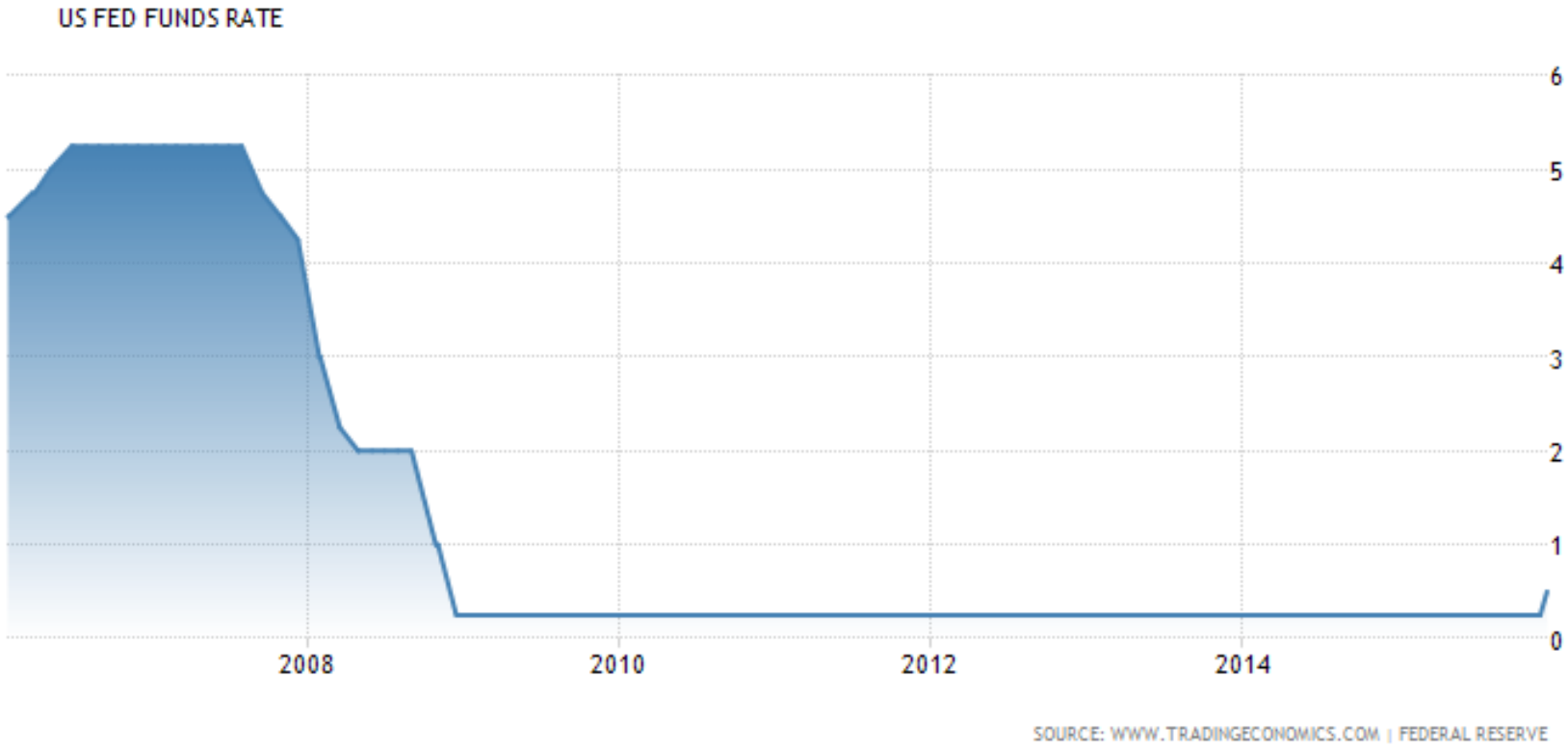
2006 to 2015

1950 to 2015



U.S Fed Funds Target Rate (2006 to 2016)

The Federal Reserve raised the Fed Funds Target Rate by 25 basis points to 0.50 percent, during its Federal Open Markets Committee meeting held on December 16th. While the Fed said it is "reasonably confident that inflation will rise, over the medium term, to its 2 percent objective", Fed Governors were also carefully to point that "economic conditions will evolve in a manner that will warrant only gradual increases in the federal funds rate". It was the first hike since June 2006 when Ben Bernanke increased the benchmark rate from 5 to 5.25 percent. From 1971 until 2015, Interest Rate in the United States averaged 5.93 percent, reaching an all time high of 20 percent in March of 1980 and a record low of 0.25 percent in December of 2008.



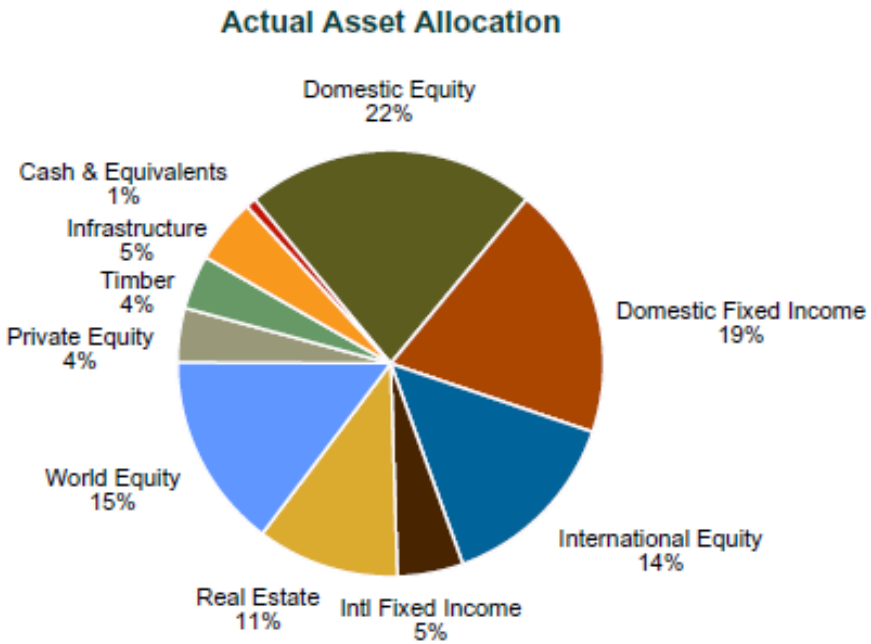
U.S Fed Funds Rate (1971 to 2016)

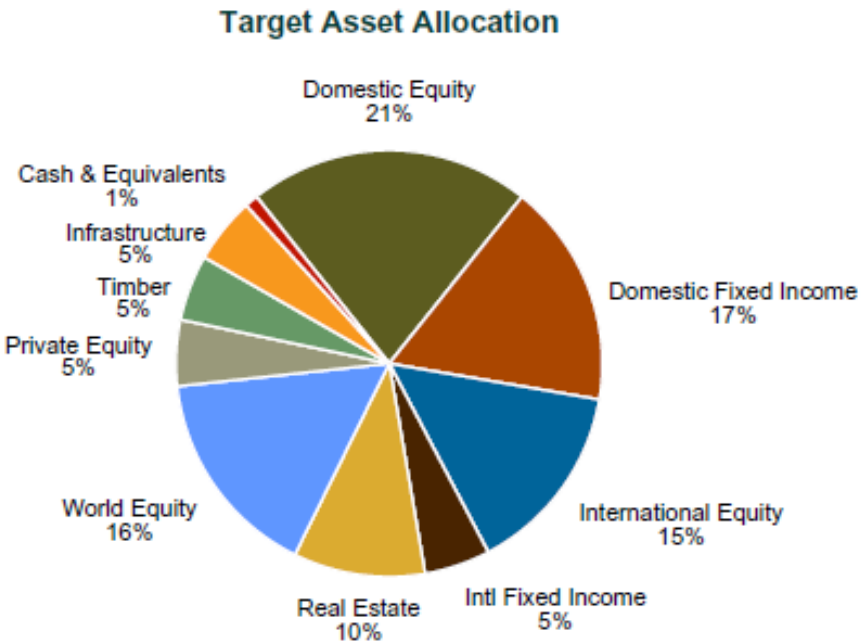
Background: The **federal funds rate** is the interest rate at which banks lend reserve balances to other banks overnight (on an uncollateralized basis). Banks with surplus balances lend to those in need of larger balances. Reserve balances are held at the Federal Reserve to maintain the banks' reserve requirements. **Changes in the federal funds rate trigger a chain of events that affect other short-term interest rates,** foreign exchange rates, long-term interest rates, the amount of money and credit, and, ultimately, a range of economic variables, including employment, output, and prices of goods and services. The Federal Reserve uses "monetary policy" to influence the availability and cost of money and credit to help promote national economic goals.

TFFR Investment Review

As of September 30, 2015

Actual Allocations are within 1% to 2% of Approved Targets





Asset Class	$000s Actual	Weight Actual	Target	Percent Difference	$000s Difference
Domestic Equity	439,882	22.1%	21.4%	0.7%	14,888
Domestic Fixed Income	380,495	19.2%	17.0%	2.2%	42,883
International Equity	283,276	14.3%	14.6%	(0.3%)	(6,673)
Intl Fixed Income	99,292	5.0%	5.0%	0.0%	(5)
Real Estate	214,638	10.8%	10.0%	0.8%	16,043
World Equity	293,016	14.8%	16.0%	(1.2%)	(24,737)
Private Equity	81,495	4.1%	5.0%	(0.9%)	(17,803)
Timber	81,277	4.1%	5.0%	(0.9%)	(18,020)
Infrastructure	97,306	4.9%	5.0%	(0.1%)	(1,991)
Cash & Equivalents	15,276	0.8%	1.0%	(0.2%)	(4,584)
Total	1,985,953	100.0%	100.0%		

TFFR - Actual vs. Target Returns – September 30, 2015

Actual Returns were disappointing last year but outperformed Target Returns

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	22%	21%	1.40%	(0.14%)	0.34%	0.02%	0.35%
Domestic Fixed Income	18%	17%	2.50%	1.07%	0.25%	0.03%	0.28%
Real Estate	10%	10%	16.78%	13.48%	0.29%	0.01%	0.30%
Infrastructure	4%	5%	(0.73%)	(0.64%)	(0.00%)	0.02%	0.01%
Timber	4%	5%	3.95%	9.26%	(0.21%)	(0.09%)	(0.30%)
International Equity	15%	15%	(8.44%)	(10.70%)	0.37%	(0.05%)	0.31%
International Fixed Incom	5%	5%	(7.97%)	(7.67%)	(0.02%)	(0.00%)	(0.02%)
Private Equity	4%	5%	(6.64%)	(6.64%)	0.00%	0.00%	0.00%
World Equity	16%	16%	(4.56%)	(5.09%)	0.09%	0.00%	0.09%
Cash & Equivalents	1%	1%	0.08%	0.02%	0.00%	(0.01%)	(0.01%)
Total			**(0.17%) =**	**(1.19%) +**	**1.10% +**	**(0.08%)**	**1.02%**

- **TFFR generated an "Actual (Callan Gross) Return" of -0.17% for the year ended Sep. 30, 2015.** Actual Returns of most asset classes exceeded their performance benchmark with notable exceptions for Timber, International Fixed Income, Infrastructure and Private Equity. Asset allocations were within 1% to 2% of approved targets without exception. Strong absolute returns in Real Estate (+16%) and modest returns in U.S. Fixed Income (+2.5%) and U.S. Equity (+1.4%) were materially offset by disappointing results in International Equity (-8.4%), International Fixed Income (-8%), Private Equity (-6.6%), World Equity (-4.6%) and Timber (+3.9%).

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World Index, 12.0% Barclays Aggregate Index, 11.8% MSCI EAFE Index, 10.0% NCREIF Total Index, 5.0% CPI-W, 5.0% Barclays HY Corp 2% Issue, 5.0% NDSIB TFFR - Private Equity, 5.0% Global Agg ex USD, 5.0% NCREIF Timberland Index, 4.8% Russell 2000 Index, 2.8% MSCI Emerging Mkts - Net and 1.0% 3-month Treasury Bill.

TFFR Five Year Return Attribution – September 30, 2015

Actual Returns materially exceeded Target Returns over the last 5-years

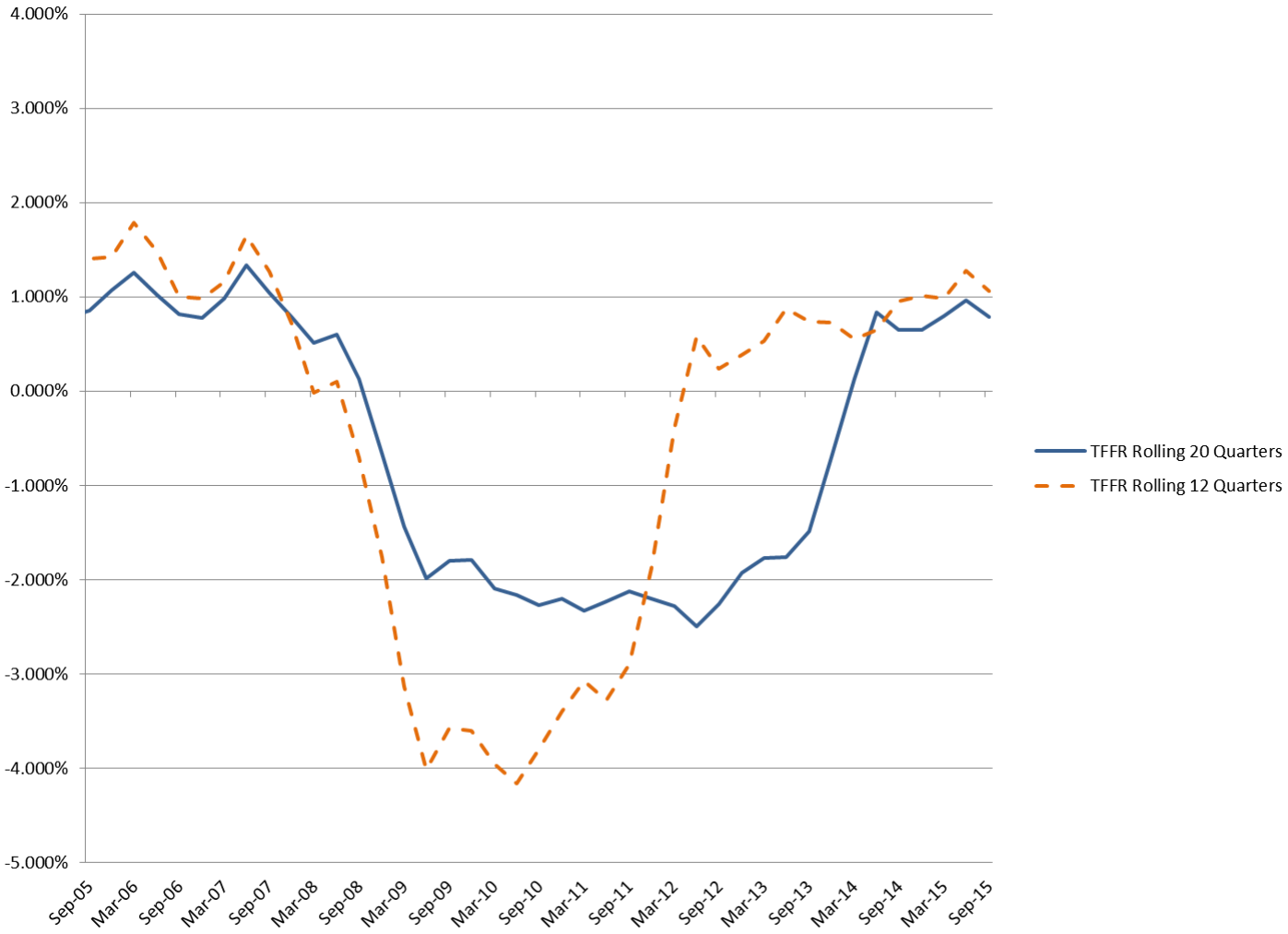
Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	27%	26%	13.62%	13.09%	0.06%	0.11%	0.17%
Domestic Fixed Income	18%	17%	5.88%	3.97%	0.33%	0.01%	0.34%
Real Estate	10%	10%	15.40%	12.55%	0.26%	0.04%	0.30%
Timber	4%	4%	-	-	(0.29%)	(0.01%)	(0.30%)
Infrastructure	3%	4%	-	-	0.17%	0.12%	0.29%
International Equity	18%	17%	4.11%	2.32%	0.33%	(0.02%)	0.31%
International Fixed Incom	5%	5%	1.25%	(0.85%)	0.12%	(0.01%)	0.10%
Private Equity	5%	5%	4.50%	4.50%	0.00%	(0.07%)	(0.07%)
World Equity	10%	10%	-	-	0.04%	(0.04%)	(0.01%)
Cash & Equivalents	1%	1%	0.08%	0.08%	0.00%	(0.01%)	(0.01%)
Total			**8.20% =**	**7.06% +**	**1.02% +**	**0.13%**	**1.14%**

- **TFFR generated an "Actual (Callan Gross) Return" of 8.2%** for the 5-years ended Sep. 30, 2015. Actual Returns of every Asset Class exceeded their performance benchmark excluding Timber and Private Equity. After adjusting Callan's gross "Actual Return" for investment management and performance fees, the net return for PERS Main Plan was 7.84% over the last five-years.

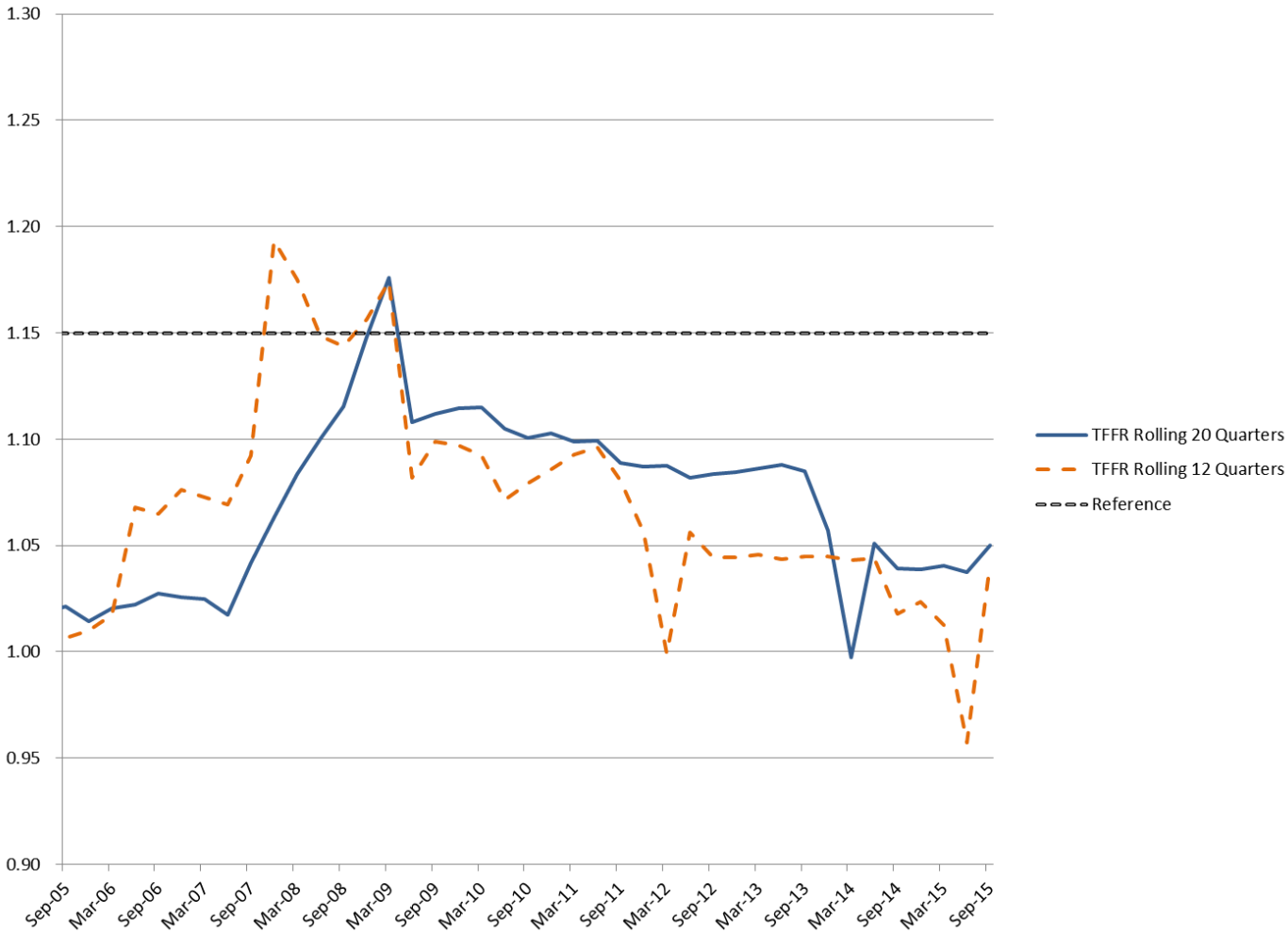
* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World Index, 12.0% Barclays Aggregate Index, 11.8% MSCI EAFE Index, 10.0% NCREIF Total Index, 5.0% CPI-W, 5.0% Barclays HY Corp 2% Issue, 5.0% NDSIB TFFR - Private Equity, 5.0% Global Agg ex USD, 5.0% NCREIF Timberland Index, 4.8% Russell 2000 Index, 2.8% MSCI Emerging Mkts - Net and 1.0% 3-month Treasury Bill.

Excess Return Relative to Policy Benchmark
10 Years Ended 9/30/2015



TFFR's excess return was approximately 0.79% for the 5-years ended September 30, 2015 ("TFFR Rolling 20 Quarters").

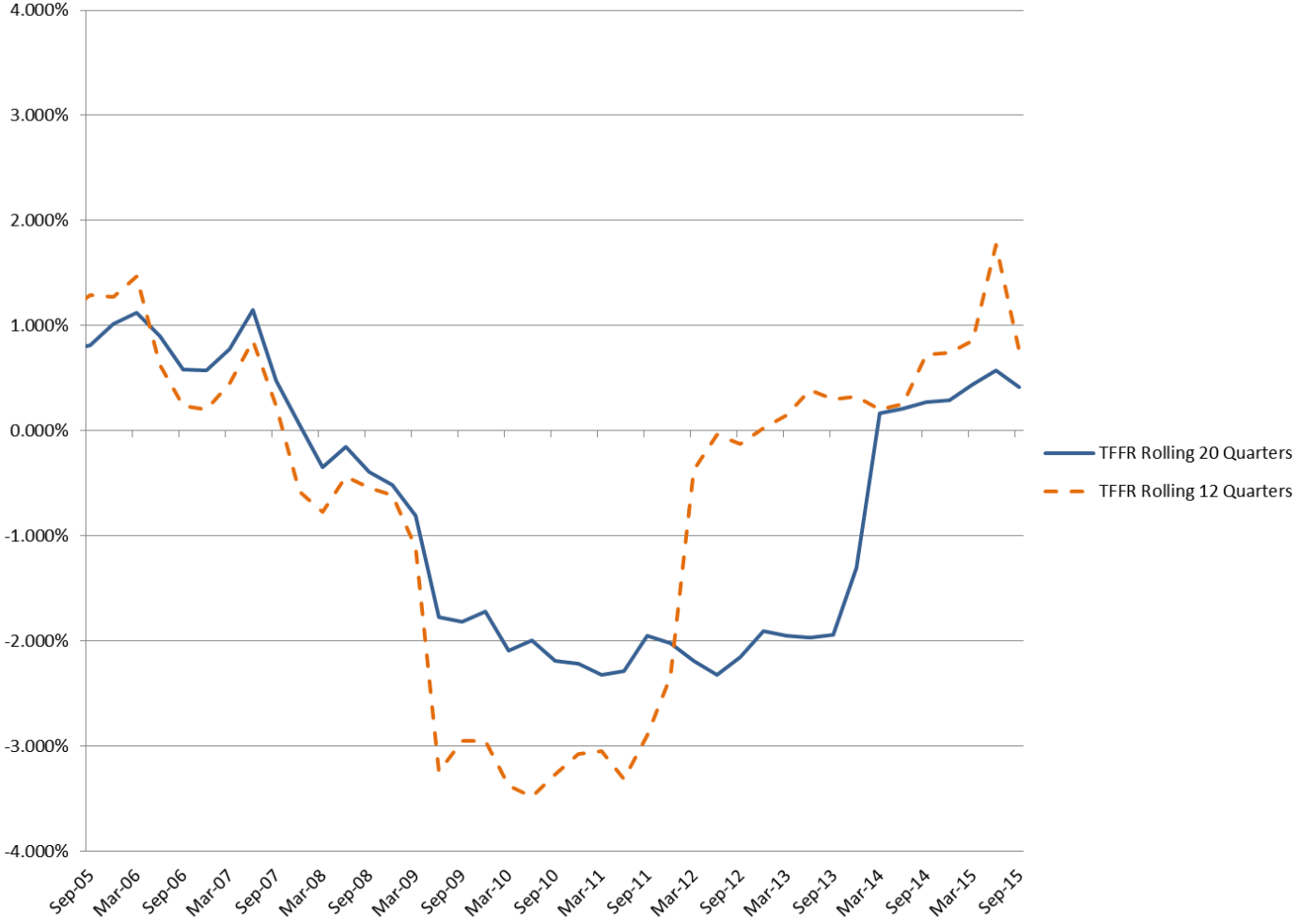
Relative Standard Deviation Relative to Policy Benchmark
10 Years Ended 9/30/2015



TFFR's standard deviation remains within investment guidelines of 1.15 (or 115% of the policy benchmark over the last 5 years).

TFFR's standard deviation for the 5-years ended September 30, 2015 was 8.7%, which was 105% of the policy benchmark of 8.3%.

Risk Adjusted Excess Return
10 Years Ended 9/30/2015



TFFR's risk adjusted excess return turned positive on a rolling 3-year basis in 2013 (dashed line) and on a rolling 5-year basis (solid line) in 2014.

Risk Adjusted Excess Return measures a portfolio's excess return adjusted by its risk relative to a benchmark portfolio. This metric is positive if returns are due to "smart" investment decisions or negative if driven by excess risk.

Investment Benchmarks

As of September 30, 2015

Investment Benchmark Overview

Benchmarks serve as a proxy against which investment manager performance is compared to determine whether the strategy added value (most commonly versus a passive index).

An Index is a defined portfolio of securities that replicate a market or a portion of the market. ***Benchmark indices in the public equity and debt markets are particularly useful since they are generally based on a well defined, investible pool of securities.***

Commonly used public equity benchmarks include: 1) **S&P 500** (or **Russell 1000**) for large market cap stocks ($5+ billion) in the U.S.; 2) **Russell 2000** for small market cap stocks ($100+ million to $5 billion) in the U.S.; and 3) **MSCI World Index** for broad global equities excluding emerging market equities (with 2,400+ firms in 46 countries covering about 85% of investible equity).

Commonly used public debt benchmarks include: 1) **Barclays (U.S.) Aggregate** (U.S. Treasuries, securitized, corporate and government related debt with an effective duration of 5-to-6 years and 70+% rated Aaa); 2) **Barclays (U.S.) Long Gov't./Credit** (non-securitized portion of Barclays Aggregate with an effective duration of 5-to-6 years and 60% rated Aaa); and 3) **Barclays High Yield** (US$, fixed rate corporate bonds rated Ba1 or lower with 3-to-4 years effective duration).

Private market benchmarks including those for real estate and timber include active management premiums since they reflect the reported returns of firms in the asset class. For real estate and timber, the National Council of Real Estate Investment Fiduciaries ("NCREIF") collects and produces performance measurement indices on a quarterly basis.

Note: The following three pages provide performance benchmark examples for our three largest equity strategies in the Pension Trust.

LSV Asset Management
Period Ended September 30, 2015

Investment Philosophy

The Global Value (ACWI) Equity strategy is managed using quantitative techniques to select individual securities in a risk-controlled, bottom-up approach. Value factors and security selection dominate sector/industry factors as explanators of performance.

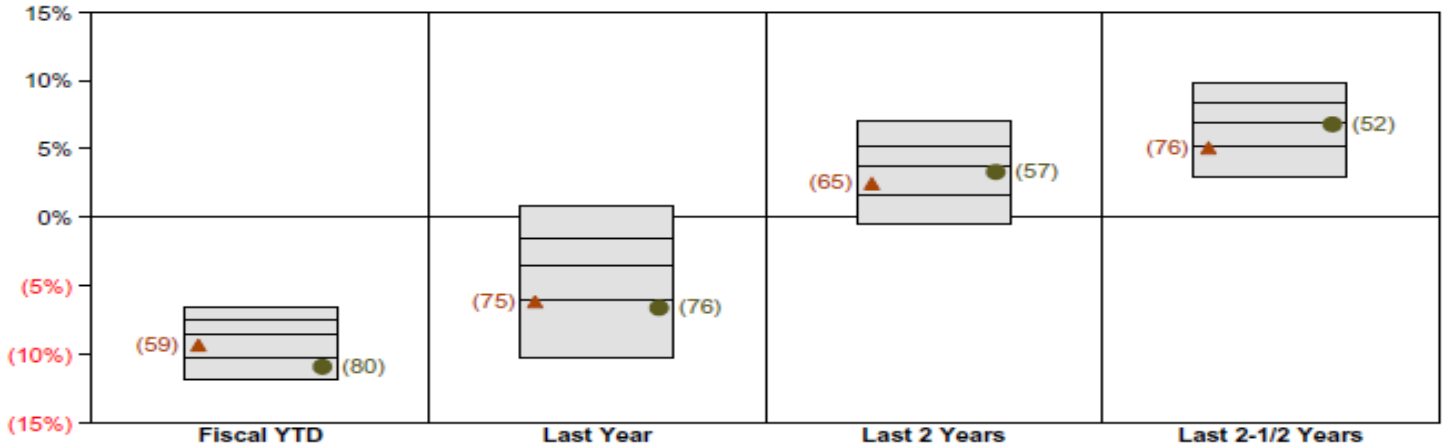
Quarterly Summary and Highlights

- LSV Asset Management's portfolio posted a (10.91)% return for the quarter placing it in the 80 percentile of the CAI Global Equity Broad Style group for the quarter and in the 76 percentile for the last year.
- LSV Asset Management's portfolio underperformed the MSCI ACWI Idx by 1.57% for the quarter and underperformed the MSCI ACWI Idx for the year by 0.45%.

Quarterly Asset Growth

Beginning Market Value	$431,058,260
Net New Investment	$-3,331,527
Investment Gains/(Losses)	$-46,707,376
Ending Market Value	$381,019,357

Performance vs CAI Global Equity Broad Style (Gross)



	Fiscal YTD	Last Year	Last 2 Years	Last 2-1/2 Years
10th Percentile	(6.60)	0.82	7.05	9.88
25th Percentile	(7.49)	(1.48)	5.15	8.41
Median	(8.57)	(3.51)	3.73	6.89
75th Percentile	(10.25)	(6.05)	1.66	5.15
90th Percentile	(11.88)	(10.30)	(0.50)	2.97
LSV Asset Management ●	(10.91)	(6.61)	3.31	6.79
MSCI ACWI Idx ▲	(9.34)	(6.16)	2.47	5.07

L.A. Capital
Period Ended September 30, 2015

Investment Philosophy

The LA Capital Structured portfolio is a large growth portfolio benchmarked to the Russell 1000 Growth Index. It is an active assignment meaning that it targets a 2% alpha and constrains its risk budget (tracking error) to 4% relative to the benchmark. LA Capital believes that investment results are driven by Investor Preferences and thus recognize that when preferences shift a different posture related to that factor is warranted.

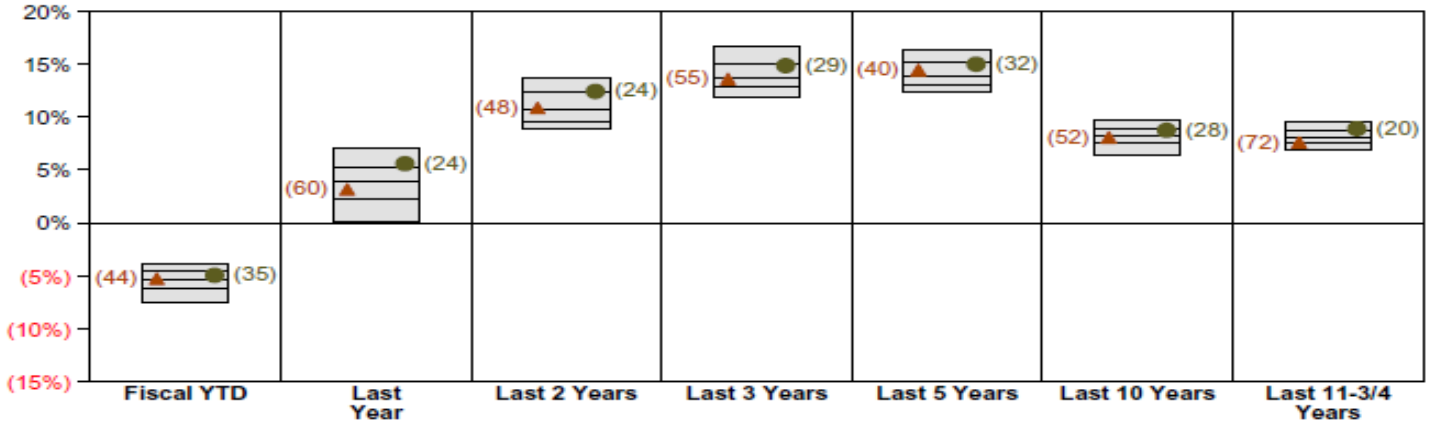
Quarterly Summary and Highlights

- L.A. Capital's portfolio posted a (4.96)% return for the quarter placing it in the 35 percentile of the CAI Large Cap Growth Style group for the quarter and in the 24 percentile for the last year.
- L.A. Capital's portfolio outperformed the Russell 1000 Growth Index by 0.33% for the quarter and outperformed the Russell 1000 Growth Index for the year by 2.42%.

Quarterly Asset Growth

Beginning Market Value	$316,440,921
Net New Investment	$-146,161
Investment Gains/(Losses)	$-15,700,608
Ending Market Value	$300,594,152

Performance vs CAI Large Cap Growth Style (Gross)



	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 11-3/4 Years
10th Percentile	(3.94)	7.15	13.64	16.63	16.38	9.72	9.58
25th Percentile	(4.54)	5.32	12.38	15.02	15.22	8.86	8.71
Median	(5.46)	3.94	10.67	13.76	13.91	8.17	8.08
75th Percentile	(6.16)	2.32	9.57	12.87	12.98	7.55	7.50
90th Percentile	(7.48)	0.10	8.81	11.91	12.30	6.42	6.93
L.A. Capital ●	(4.96)	5.60	12.43	14.87	15.01	8.76	8.89
Russell 1000 Growth Index ▲	(5.29)	3.17	10.87	13.61	14.47	8.09	7.60

EPOCH Investment
Period Ended September 30, 2015

Investment Philosophy

Epoch seeks to produce superior risk adjusted returns by building portfolios of businesses with outstanding risk/reward profiles without running a high degree of capital risk. They analyze businesses in the same manner private investors would in looking to purchase the entire company. The strategy only invests in businesses that are understood and where they have confidence in the financial statements. They seek businesses that generate "free cash flow" and securities that have unrecognized potential yet possess a combination of above average yield, above average free cash flow growth, and/or below average valuation. Global Choice is a "best ideas" portfolio at Epoch with every stock held in other strategies managed by the firm. **The EPOCH Blended Benchmark consists of the S&P 500 Index through 12/31/2011 and the MSCI World Index thereafter.**

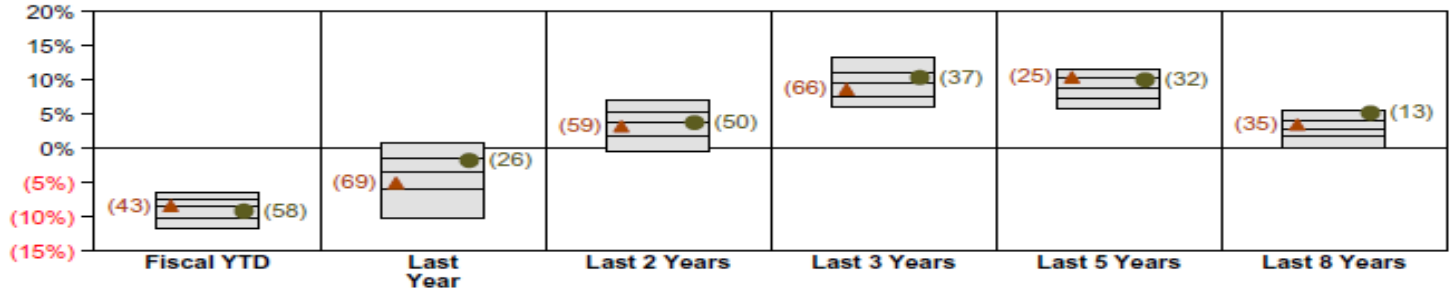
Quarterly Summary and Highlights

- EPOCH Investment's portfolio posted a (9.22)% return for the quarter placing it in the 58 percentile of the CAI Global Equity Broad Style group for the quarter and in the 26 percentile for the last year.
- EPOCH Investment's portfolio underperformed the EPOCH Blended Benchmark by 0.77% for the quarter and outperformed the EPOCH Blended Benchmark for the year by 3.27%.

Quarterly Asset Growth

Beginning Market Value	$329,591,814
Net New Investment	$-530,931
Investment Gains/(Losses)	$-30,329,923
Ending Market Value	$298,730,960

Performance vs CAI Global Equity Broad Style (Gross)



	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 8 Years
10th Percentile	(6.60)	0.82	7.05	13.19	11.54	5.44
25th Percentile	(7.49)	(1.48)	5.15	10.99	10.35	4.07
Median	(8.57)	(3.51)	3.73	9.59	8.87	2.63
75th Percentile	(10.25)	(6.05)	1.66	7.57	7.32	1.67
90th Percentile	(11.88)	(10.30)	(0.50)	5.91	5.73	(0.08)
EPOCH Investment ●	(9.22)	(1.82)	3.72	10.32	9.98	5.15
EPOCH Blended Benchmark ▲	(8.45)	(5.09)	3.19	8.58	10.35	3.42

TFFR – Overall Plan Investment Benchmarks

- **Asset allocation is the primary driver of long-term investment returns.** During the last 5-years, asset allocation and active management generated **$635 million** (90%) and **$70 million** (10%) of TFFR's income, respectively.

- **TFFR's current, broad target asset allocation is 57% Equity, 22% Fixed Income, 20% Real Assets and 1% cash.**

- **TFFR's Global Equity allocation of 57% is benchmarked as follows:**

U.S. Large Cap	**16.6%**	**Russell 1000 Index**
U.S. Small Cap	**4.8%**	**Russell 2000 Index**
Global Equity	**16.0%**	**MSCI World Index** (excludes emerging markets)
International	**11.8%**	**MSCI EAFE Index**[1] (excludes U.S., Canada and emerging markets)
Emerging Markets	**2.8%**	**MSCI Emerging Markets Index**
Private Equity	**5.0%**	**Actual**
	57.0%	**Global Equity**

- **TFFR's Global Fixed Income allocation of 22% is benchmarked as follows:**

U.S. Investment Grade	**12.0%**	**Barclays (US) Aggregate**
U.S. Non-Invest. Grade	**5.0%**	**Barclays (US) High Yield**
International Fixed	**5.0%**	**Barclays Global Aggregate** (ex US dollar)
	22.0%	**Global Fixed Income**

- **TFFR's Global Real Assets allocation of 20% is benchmarked as follows:**

Real estate	**10.0%**	**NCREIF Total Index**
Other - Timber	**5.0%**	**NCREIF Timber Index** (The policy range for Timber is 0% to 7%)
Other - Infrastructure	**5.0%**	**CPI-W**[2] (The policy range for Infrastructure is 0% to 10%)
	20.0%	**Global Real Assets**

1 **The MSCI EAFE Index** is broadly recognized as a leading benchmark for U.S. investors to measure international equity performance and includes large and mid-cap equities in **Europe, Australasia and the Far East** (while excluding the U.S. and Canada).

2 **CPI-W is the "Consumer Price Index for Urban Wage Earners and Clerical Workers".** The CPI-W traces how retail prices affect workers who are paid hourly or perform clerical work and gives more importance on everyday needs such as food, transportation and clothes. Housing, medical care and recreation are given less importance in the CPI-W.

TFFR Preliminary Investment Returns
July 1, 2015 to November 30, 2015

ND TEACHERS FUND FOR RETIREMENT INVESTMENT PERFORMANCE REPORT AS OF NOVEMBER 30, 2015	Current Fiscal YTD		Prior Year FY15	
	Gross [5]	Net	Gross [5]	Net
TOTAL FUND	**-1.23%**	**-1.42%**	**3.86%**	**3.52%**
POLICY TARGET BENCHMARK	*-0.85%*	*-0.85%*	*2.16%*	*2.16%*
TOTAL RELATIVE RETURN	**-0.38%**	**-0.57%**	**1.70%**	**1.36%**
GLOBAL EQUITIES	***-2.70%***	***-2.92%***	***3.51%***	***3.17%***
Benchmark	***-2.51%***	***-2.51%***	***1.55%***	***1.55%***
GLOBAL FIXED INCOME	***-0.97%***	***-1.08%***	***0.56%***	***0.30%***
Benchmark	***-0.23%***	***-0.23%***	***-2.22%***	***-2.22%***
GLOBAL REAL ASSETS	***2.71%***	***2.52%***	***9.51%***	***9.11%***
Benchmark	***2.71%***	***2.71%***	***8.78%***	***8.78%***
Total Cash Equivalents	**0.05%**	**0.05%**	**0.06%**	**0.06%**
90 Day T-Bill	***0.01%***	***0.01%***	***0.02%***	***0.02%***

NOTE: Current fiscal year data is unaudited and subject to change noting that private market returns are reported on a quarterly lag.

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF NOVEMBER 30, 2015

	November-15					October-15					September-15					Current Fiscal YTD		Prior Year FY15		3 Years Ended 6/30/2015		5 Years Ended 6/30/2015	
		Allocation		Month			Allocation		Month			Allocation		Quarter									
	Market Value	Actual	Policy	Gross (5)	Net	Market Value	Actual	Policy	Gross (5)	Net	Market Value	Actual	Policy	Gross (5)	Net	Gross (5)	Net	Gross (5)	Net	Gross (5)	Net	Gross (5)	Net
TOTAL FUND	**2,058,053,876**	**100.0%**	**100.0%**	**-0.21%**	**-0.22%**	**2,064,758,989**	**100.0%**	**100.0%**	**4.01%**	**3.98%**	**1,986,019,289**	**100.0%**	**100.0%**	**-4.84%**	**-4.98%**	**-1.23%**	**-1.42%**	**3.86%**	**3.52%**	**11.43%**	**11.09%**	**11.38%**	**11.01%**
POLICY TARGET BENCHMARK				*-0.45%*	*-0.45%*				*4.35%*	*4.35%*				*-4.55%*	*-4.55%*	*-0.85%*	*-0.85%*	*2.16%*	*2.16%*	*9.80%*	*9.80%*	*9.97%*	*9.97%*
ATTRIBUTION ANALYSIS																							
Asset Allocation				**0.00%**	**0.00%**				**0.00%**	**0.00%**				**-0.09%**	**-0.09%**	**-0.11%**	**-0.11%**	**-0.05%**	**-0.05%**	**0.08%**	**0.08%**	**0.05%**	**0.05%**
Manager Selection				**0.06%**	**0.05%**				**0.06%**	**0.05%**				**-0.21%**	**-0.37%**	**-0.27%**	**-0.46%**	**1.75%**	**1.41%**	**1.56%**	**1.21%**	**1.36%**	**0.99%**
TOTAL RELATIVE RETURN				0.24%	0.23%				-0.34%	-0.37%				-0.29%	-0.43%	-0.38%	-0.57%	1.70%	1.36%	1.64%	1.29%	1.41%	1.04%
GLOBAL EQUITIES	***1,193,770,166***	***58.0%***	***57.0%***	***-0.19%***	***-0.21%***	***1,193,437,257***	***57.8%***	***57.0%***	***6.62%***	***6.60%***	***1,097,668,560***	***55.3%***	***57.0%***	***-8.57%***	***-8.74%***	***-2.70%***	***-2.92%***	***3.51%***	***3.17%***	***14.76%***	***14.38%***		
Benchmark			***52.0%***	***-0.49%***	***-0.49%***			***52.0%***	***6.92%***	***6.92%***			***52.0%***	***-8.36%***	***-8.36%***	***-2.51%***	***-2.51%***	***1.55%***	***1.55%***	***13.53%***	***13.53%***		
Epoch (1)	146,455,488	7.1%	7.0%	-0.13%	-0.13%	146,643,649	7.1%	7.0%	8.10%	7.94%	128,772,115	6.5%	7.0%	-9.22%	-9.36%	-1.99%	-2.29%	8.58%	7.85%	15.77%	15.00%	14.20%	13.31%
LSV	184,580,254	9.0%	9.0%	-1.16%	-1.16%	186,751,805	9.0%	9.0%	7.42%	7.39%	164,243,668	8.3%	9.0%	-10.91%	-11.61%	-5.41%	-6.18%	1.94%	1.03%	N/A	N/A	N/A	N/A
Total Global Equities	**331,035,741**	**16.1%**	**16.0%**	**-0.71%**	**-0.71%**	**333,395,454**	**16.1%**	**16.0%**	**7.70%**	**7.62%**	**293,015,783**	**14.8%**	**16.0%**	**-10.15%**	**-10.64%**	**-3.92%**	**-4.51%**	**4.68%**	**3.84%**	**12.99%**	**12.57%**		
MSCI World				***-0.50%***	***-0.50%***				***7.92%***	***7.92%***				***-8.45%***	***-8.45%***	***-1.68%***	***-1.68%***	***1.43%***	***1.43%***	***14.27%***	***14.27%***		
Domestic - broad	***478,044,798***	***23.2%***	***21.5%***	***1.11%***	***1.09%***	***472,912,909***	***22.9%***	***21.5%***	***7.16%***	***7.16%***	***439,881,961***	***22.1%***	***21.5%***	***-7.15%***	***-7.21%***	***0.60%***	***0.51%***	***8.65%***	***8.47%***	***19.06%***	***18.77%***		
Benchmark				***0.99%***	***0.99%***				***7.54%***	***7.54%***				***-7.99%***	***-7.99%***	***-0.08%***	***-0.08%***	***7.26%***	***7.26%***	***17.81%***	***17.81%***		
Large Cap Domestic																							
LA Capital	142,793,849	6.9%	6.6%	0.91%	0.86%	141,578,223	6.9%	6.6%	7.14%	7.14%	131,644,819	6.6%	6.6%	-4.97%	-5.01%	2.75%	2.65%	12.76%	12.52%	19.03%	18.79%	19.06%	18.84%
Russell 1000 Growth				***0.28%***	***0.28%***				***8.61%***	***8.61%***				***-5.29%***	***-5.29%***	***3.15%***	***3.15%***	***10.56%***	***10.56%***	***17.99%***	***17.99%***	***18.59%***	***18.59%***
LA Capital	92,253,718	4.5%	3.3%	0.66%	0.63%	91,677,515	4.4%	3.3%	7.43%	7.43%	85,012,555	4.3%	3.3%	-5.26%	-5.29%	2.45%	2.39%	8.26%	8.12%	17.89%	17.73%	17.86%	17.64%
Russell 1000				***0.33%***	***0.33%***				***8.09%***	***8.09%***				***-6.83%***	***-6.83%***	***1.04%***	***1.04%***	***7.37%***	***7.37%***	***17.73%***	***17.73%***	***17.58%***	***17.58%***
Northern Trust	60,224,755	2.9%	3.3%	0.05%	0.05%	60,195,772	2.9%	3.3%	8.27%	8.27%	55,389,489	2.8%	3.3%	-6.50%	-6.50%	1.28%	1.28%	6.26%	5.89%	18.57%	18.03%	18.27%	17.86%
Clifton	79,734,191	3.9%	3.3%	0.39%	0.39%	79,423,591	3.8%	3.3%	8.46%	8.46%	72,953,298	3.7%	3.3%	-6.41%	-6.41%	1.91%	1.90%	7.43%	7.41%	17.27%	17.26%	N/A	N/A
S&P 500				***0.30%***	***0.30%***				***8.44%***	***8.44%***				***-6.44%***	***-6.44%***	***1.76%***	***1.76%***	***7.42%***	***7.42%***	***17.31%***	***17.31%***	***17.34%***	***17.34%***
Total Large Cap Domestic	**375,006,514**	**18.2%**	**16.6%**	**0.60%**	**0.57%**	**372,875,101**	**18.1%**	**16.6%**	**7.67%**	**7.67%**	**345,000,161**	**17.4%**	**16.6%**	**-5.60%**	**-5.63%**	**2.25%**	**2.19%**	**9.48%**	**9.30%**	**19.06%**	**18.85%**	**17.97%**	**17.69%**
Russell 1000 (2)				***0.33%***	***0.33%***				***8.09%***	***8.09%***				***-6.83%***	***-6.83%***	***1.04%***	***1.04%***	***7.37%***	***7.37%***	***17.73%***	***17.73%***	***17.57%***	***17.57%***
Small Cap Domestic																							
Callan (5)	50,322,284	2.4%	2.4%	2.62%	2.62%	49,037,374	2.4%	2.4%	4.99%	4.99%	46,649,166	2.3%	2.4%	-13.11%	-13.11%	-6.39%	-6.39%	3.98%	3.98%	18.49%	18.00%	17.77%	17.18%
Clifton	52,716,000	2.6%	2.4%	3.36%	3.36%	51,000,434	2.5%	2.4%	5.61%	5.61%	48,232,633	2.4%	2.4%	-11.70%	-12.03%	-3.61%	-3.98%	7.58%	7.17%	18.98%	18.44%	N/A	N/A
Total Small Cap Domestic	**103,038,283**	**5.0%**	**4.8%**	**3.00%**	**3.00%**	**100,037,808**	**4.8%**	**4.8%**	**5.30%**	**5.30%**	**94,881,800**	**4.8%**	**4.8%**	**-12.39%**	**-12.56%**	**-4.98%**	**-5.17%**	**5.77%**	**5.57%**	**18.85%**	**18.34%**	**18.02%**	**17.48%**
Russell 2000				***3.25%***	***3.25%***				***5.63%***	***5.63%***				***-11.92%***	***-11.92%***	***-3.93%***	***-3.93%***	***6.49%***	***6.49%***	***17.81%***	***17.81%***	***17.08%***	***17.08%***
International - broad	***302,115,296***	***14.7%***	***14.5%***	***-1.03%***	***-1.08%***	***305,407,606***	***14.8%***	***14.5%***	***7.00%***	***7.00%***	***283,275,783***	***14.3%***	***14.5%***	***-11.23%***	***-11.27%***	***-5.99%***	***-6.08%***	***-2.62%***	***-2.82%***	***12.35%***	***11.91%***		
Benchmark				***-2.00%***	***-2.00%***				***7.69%***	***7.69%***				***-11.68%***	***-11.68%***	***-6.80%***	***-6.80%***	***-4.34%***	***-4.34%***	***10.41%***	***10.41%***		
Developed International																							
Capital Group	58,849,870	2.9%	3.5%	-0.92%	-1.02%	59,455,913	2.9%	3.5%	7.74%	7.74%	55,120,535	2.8%	3.5%	-12.54%	-12.64%	-6.63%	-6.83%	-1.78%	-2.20%	13.07%	12.59%	9.84%	9.33%
MSCI EAFE (3)				***-1.56%***	***-1.56%***				***7.82%***	***7.82%***				***-10.23%***	***-10.23%***	***-4.72%***	***-4.72%***	***-4.22%***	***-4.22%***	***11.97%***	***11.97%***	***8.38%***	***8.38%***
NTGI	107,825,884	0.0%	5.9%	-1.58%	-1.58%	109,555,053	0.0%	5.9%	7.54%	7.54%	101,761,551	0.0%	5.9%	-10.53%	-10.54%	-5.30%	-5.31%	-4.98%	-5.01%	N/A	N/A	N/A	N/A
MSCI World Ex US				***-1.59%***	***-1.59%***				***7.52%***	***7.52%***				***-10.57%***	***-10.57%***	***-5.37%***	***-5.37%***	***-5.28%***	***-5.28%***				
DFA (5)	34,664,109	1.7%	1.2%	-0.77%	-0.77%	34,933,659	1.7%	1.2%	5.25%	5.25%	33,153,392	1.7%	1.2%	-9.22%	-9.22%	-5.19%	-5.19%	-3.27%	-3.27%	18.18%	17.71%	13.39%	12.81%
Wellington	42,954,418	2.1%	1.2%	2.20%	1.99%	42,116,508	2.0%	1.2%	6.18%	6.18%	39,621,941	2.0%	1.2%	-4.38%	-4.57%	3.76%	3.34%	0.53%	-0.31%	17.91%	16.99%	15.88%	14.97%
S&P/Citigroup BMI EPAC < $2BN				***-0.23%***	***-0.23%***				***5.53%***	***5.53%***				***-8.35%***	***-8.35%***	***-3.51%***	***-3.51%***	***1.14%***	***1.14%***	***14.70%***	***14.70%***	***11.08%***	***11.08%***
Total Developed International	**244,294,282**	**11.9%**	**11.8%**	**-0.66%**	**-0.72%**	**246,061,133**	**11.9%**	**11.8%**	**7.02%**	**7.02%**	**229,657,419**	**11.6%**	**11.8%**	**-9.84%**	**-9.90%**	**-4.14%**	**-4.26%**	**-3.10%**	**-3.34%**	**13.96%**	**13.52%**	**10.66%**	**10.22%**
MSCI EAFE (3)				***-1.56%***	***-1.56%***				***7.82%***	***7.82%***				***-10.23%***	***-10.23%***	***-4.72%***	***-4.72%***	***-4.22%***	***-4.22%***	***11.97%***	***11.97%***	***8.38%***	***8.38%***
Emerging Markets																							
Axiom	43,322,686	2.1%	2.1%	-2.74%	-2.74%	44,544,263	2.2%	2.1%	7.56%	7.56%	40,078,834	2.0%	2.1%	-17.22%	-17.22%	-13.40%	-13.40%	N/A	N/A	N/A	N/A	N/A	N/A
DFA (5)	14,498,328	0.7%	0.7%	-2.05%	-2.05%	14,802,209	0.7%	0.7%	5.53%	5.53%	13,539,530	0.7%	0.7%	-15.45%	-15.45%	-12.61%	-12.61%	-1.73%	-1.73%	7.76%	7.30%	6.78%	6.17%
Total Emerging Markets	**57,821,014**	**2.8%**	**2.8%**	**-2.57%**	**-2.57%**	**59,346,472**	**2.9%**	**2.8%**	**6.97%**	**6.97%**	**53,618,364**	**2.7%**	**2.8%**	**-16.82%**	**-16.82%**	**-13.31%**	**-13.31%**	**-0.86%**	**-0.88%**	**5.31%**	**4.89%**	**6.29%**	**5.75%**
MSCI Emerging Markets				***-3.90%***	***-3.90%***				***7.13%***	***7.13%***				***-17.90%***	***-17.90%***	***-15.47%***	***-15.47%***	***-5.13%***	***-5.13%***	***3.71%***	***3.71%***	***3.75%***	***3.75%***

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF NOVEMBER 30, 2015

	November-15					October-15					September-15					Current Fiscal YTD		Prior Year FY15		3 Years Ended 6/30/2015		5 Years Ended 6/30/2015	
		Allocation		Month			Allocation		Month			Allocation		Quarter									
	Market Value	Actual	Policy	Gross (5)	Net	Market Value	Actual	Policy	Gross (5)	Net	Market Value	Actual	Policy	Gross (5)	Net	Gross (5)	Net	Gross (5)	Net	Gross (5)	Net	Gross (5)	Net
Private Equity																							
Brinson 1998 Partnership Fund	56,057	0.0%		0.00%	0.00%	56,057	0.0%		0.00%	0.00%	56,057	0.0%		0.77%	0.77%	0.77%	0.77%	-0.68%	-0.68%	5.58%	5.58%	3.14%	3.14%
Brinson 1999 Partnership Fund	258,722	0.0%		0.00%	0.00%	258,722	0.0%		5.78%	5.78%	244,585	0.0%		0.00%	0.00%	5.78%	5.78%	-17.94%	-17.94%	1.82%	1.82%	5.53%	5.53%
Brinson 2000 Partnership Fund	672,751	0.0%		0.00%	0.00%	672,751	0.0%		2.21%	2.21%	658,210	0.0%		0.00%	0.00%	2.21%	2.21%	-10.71%	-10.71%	0.79%	0.79%	6.58%	6.58%
Brinson 2001 Partnership Fund	909,654	0.0%		0.00%	0.00%	909,654	0.0%		0.00%	0.00%	909,654	0.0%		-3.82%	-3.82%	-3.82%	-3.82%	-0.25%	-0.25%	10.23%	10.23%	12.28%	12.28%
Brinson 2002 Partnership Fund	400,291	0.0%		0.00%	0.00%	400,291	0.0%		-0.35%	-0.35%	401,680	0.0%		0.00%	0.00%	-0.35%	-0.35%	-19.50%	-19.50%	0.74%	0.74%	9.23%	9.23%
Brinson 2003 Partnership Fund	211,174	0.0%		0.00%	0.00%	211,174	0.0%		1.74%	1.74%	207,554	0.0%		0.00%	0.00%	1.74%	1.74%	13.43%	13.43%	16.55%	16.55%	13.77%	13.77%
Total Brinson Partnership Funds	2,508,649	0.1%		0.00%	0.00%	2,508,649	0.1%		1.25%	1.25%	2,477,741	0.1%		-1.42%	-1.42%	-0.19%	-0.19%	-7.11%	-7.11%	5.43%	5.43%	9.40%	9.40%
Brinson 1999 Non-US Partnership Fund	187,104	0.0%		0.00%	0.00%	187,104	0.0%		14.90%	14.90%	162,843	0.0%		0.00%	0.00%	14.90%	14.90%	-13.15%	-13.15%	5.41%	5.41%	13.75%	13.75%
Brinson 2000 Non-US Partnership Fund	345,143	0.0%		0.00%	0.00%	345,143	0.0%		-2.51%	-2.51%	354,015	0.0%		0.00%	0.00%	-2.51%	-2.51%	-4.91%	-4.91%	-0.39%	-0.39%	5.62%	5.62%
Brinson 2001 Non-US Partnership Fund	175,476	0.0%		0.00%	0.00%	175,476	0.0%		0.00%	0.00%	175,476	0.0%		48.10%	48.10%	48.10%	48.10%	16.96%	16.96%	19.22%	19.22%	11.76%	11.76%
Brinson 2002 Non-US Partnership Fund	449,634	0.0%		0.00%	0.00%	449,634	0.0%		-0.54%	-0.54%	452,094	0.0%		-0.23%	-0.23%	-0.77%	-0.77%	-7.15%	-7.15%	2.03%	2.03%	8.69%	8.69%
Brinson 2003 Non-US Partnership Fund	390,395	0.0%		0.00%	0.00%	390,395	0.0%		11.91%	11.91%	348,843	0.0%		0.00%	0.00%	11.91%	11.91%	-2.02%	-2.02%	15.53%	15.53%	15.20%	15.20%
Brinson 2004 Non-US Partnership Fund	297,954	0.0%		0.00%	0.00%	297,954	0.0%		-0.01%	-0.01%	297,984	0.0%		0.00%	0.00%	-0.01%	-0.01%	-6.29%	-6.29%	11.90%	11.90%	11.38%	11.38%
Total Brinson Non-US Partnership Fund	1,845,706	0.1%		0.00%	0.00%	1,845,706	0.1%		3.04%	3.04%	1,791,254	0.1%		3.12%	3.12%	6.25%	6.25%	-4.47%	-4.47%	7.77%	7.77%	10.67%	10.67%
Adams Street 2008 Non-US Partnership Fd	3,410,981	0.2%		0.00%	0.00%	3,534,359	0.2%		9.04%	9.04%	3,241,442	0.2%		0.00%	0.00%	9.04%	9.04%	7.59%	7.59%	12.28%	12.28%	10.86%	10.86%
Brinson BVCF IV	1,735,158	0.1%		-1.56%	-1.56%	1,762,714	0.1%		0.00%	0.00%	1,762,714	0.1%		0.00%	0.00%	-1.56%	-1.56%	42.11%	42.11%	30.67%	30.67%	59.66%	59.66%
Adams Street Direct Co-investment Fund	4,849,753	0.2%		0.00%	0.00%	4,849,753	0.2%		6.06%	6.06%	4,572,826	0.2%		1.22%	1.14%	7.35%	7.26%	22.50%	22.23%	17.56%	17.24%	16.40%	16.21%
Adams Street 2010 Direct Fund	627,198	0.0%		0.00%	0.00%	640,602	0.0%		0.00%	0.00%	683,098	0.0%		4.25%	4.25%	4.25%	4.25%	4.61%	4.61%	13.41%	13.41%	10.50%	10.50%
Adams Street 2010 Non-US Emerging Mkts	549,105	0.0%		0.00%	0.00%	549,105	0.0%		7.90%	7.90%	508,910	0.0%		0.00%	0.00%	7.90%	7.90%	21.80%	21.80%	6.32%	6.32%	N/A	N/A
Adams Street 2010 Non-US Developed Mkts	1,119,602	0.1%		0.00%	0.00%	1,150,931	0.1%		6.96%	6.96%	1,076,088	0.1%		0.00%	0.00%	6.96%	6.96%	-2.43%	-2.43%	7.30%	7.30%	2.57%	2.57%
Adams Street 2010 Partnership Fund	2,461,877	0.1%		0.00%	0.00%	2,461,877	0.1%		4.24%	4.24%	2,361,805	0.1%		0.00%	0.00%	4.24%	4.24%	18.37%	18.37%	15.16%	15.16%	16.38%	16.38%
Total Adams Street 2010 Funds	4,757,782	0.2%		0.00%	0.00%	4,802,515	0.2%		4.65%	4.65%	4,629,902	0.2%		0.68%	0.68%	5.36%	5.36%	10.63%	10.63%	12.38%	12.38%	11.70%	11.70%
Adams Street 2015 Global Fund	372,997	0.0%		N/A	N/A	372,997	0.0%		N/A	N/A	-	0.0%		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Matlin Patterson Global Opportunities	5,582	0.0%		0.00%	0.00%	5,582	0.0%		0.00%	0.00%	5,582	0.0%		0.00%	0.00%	0.00%	0.00%	1.12%	1.12%	6.13%	6.13%	-0.41%	-0.41%
Matlin Patterson Global Opportunities II	743,424	0.0%		6.51%	6.51%	697,972	0.0%		0.00%	0.00%	697,972	0.0%		0.00%	0.00%	6.51%	6.51%	19.60%	19.60%	-3.45%	-3.45%	-36.19%	-36.19%
Matlin Patterson Global Opportunities III	12,409,412	0.6%		-4.67%	-4.67%	13,017,139	0.6%		0.00%	0.00%	13,017,139	0.7%		-0.40%	-0.40%	-5.05%	-5.05%	-2.43%	-2.43%	8.43%	8.43%	23.76%	23.76%
InvestAmerica (Lewis and Clark Fund)	1,254,599	0.1%		0.00%	0.00%	1,254,599	0.1%		0.00%	0.00%	1,254,599	0.1%		0.00%	0.00%	0.00%	0.00%	-32.09%	-32.09%	-13.56%	-13.56%	-5.81%	-5.81%
L&C II	4,345,137	0.2%		0.00%	0.00%	4,345,137	0.2%		0.00%	0.00%	4,345,137	0.2%		0.00%	0.00%	0.00%	0.00%	-14.35%	-14.35%	-8.65%	N/A	-7.39%	N/A
Hearthstone MSII	0	0.0%		0.00%	0.00%	0	0.0%		0.00%	0.00%	0	0.0%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Hearthstone MSIII	68,216	0.0%		0.00%	0.00%	69,787	0.0%		0.00%	0.00%	69,787	0.0%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	27.65%	27.65%
Corsair III	6,306,837	0.3%		38.19%	38.19%	4,574,787	0.2%		0.00%	0.00%	4,574,787	0.2%		-0.42%	-0.42%	37.60%	37.60%	-8.84%	-8.84%	-6.62%	-6.62%	-2.80%	-3.01%
Corsair III - ND Investors LLC	5,100,374	0.2%		0.00%	0.00%	5,100,374	0.2%		-0.23%	-0.23%	5,100,374	0.3%		-0.22%	-0.22%	-0.45%	-0.45%	-5.27%	-5.27%	0.45%	0.45%	1.21%	1.16%
Corsair IV	10,865,441	0.5%		-3.16%	-3.16%	7,709,329	0.4%		-1.15%	-1.15%	7,717,101	0.4%		-0.65%	-0.65%	-4.90%	-4.90%	29.73%	29.73%	17.74%	17.74%	5.16%	5.04%
Capital International (CIPEF V)	5,068,301	0.2%		-25.18%	-25.18%	6,806,427	0.3%		-0.24%	-0.24%	7,180,561	0.4%		-0.28%	-0.28%	-25.57%	-25.57%	-13.33%	-13.33%	-4.79%	-4.79%	3.06%	3.06%
Capital International (CIPEF VI)	7,315,517	0.4%		-8.30%	-8.30%	7,977,432	0.4%		0.00%	0.00%	6,996,408	0.4%		-1.10%	-1.10%	-9.31%	-9.31%	-21.71%	-21.71%	-16.95%	-16.95%	N/A	N/A
EIG (formerly TCW)	6,509,660	0.3%		1.11%	1.11%	6,781,364	0.3%		-19.89%	-19.89%	8,465,223	0.4%		0.64%	0.64%	-18.48%	-18.48%	-23.62%	-23.62%	-10.04%	-10.04%	-2.51%	-2.51%
Quantum Resources	21,465	0.0%		-91.25%	-91.25%	245,386	0.0%		0.00%	0.00%	245,386	0.0%		53.88%	53.88%	-86.54%	-86.54%	-42.83%	-42.83%	-13.53%	-13.53%	4.62%	4.62%
Quantum Energy Partners	3,079,341	0.1%		-10.98%	-10.98%	3,459,281	0.2%		-0.66%	-0.66%	3,349,097	0.2%		0.00%	0.00%	-11.57%	-11.57%	-19.31%	-19.31%	7.92%	7.92%	14.64%	14.64%
Total Private Equity (5)	**82,574,332**	**4.0%**	**5.0%**	**-2.46%**	**-2.46%**	**81,721,288**	**4.0%**	**5.0%**	**-1.17%**	**-1.17%**	**81,495,033**	**4.1%**	**5.0%**	**0.18%**	**0.18%**	**-3.43%**	**-3.43%**	**-5.37%**	**-5.38%**	**1.66%**	**1.64%**	**4.90%**	**4.89%**
GLOBAL FIXED INCOME	***452,031,498***	***22.0%***	***22.0%***	***-0.73%***	***-0.74%***	***455,434,338***	***22.1%***	***22.0%***	***0.83%***	***0.79%***	***479,779,965***	***24.2%***	***22.0%***	***-1.07%***	***-1.13%***	***-0.97%***	***-1.08%***	***0.56%***	***0.30%***	***4.80%***	***4.56%***		
Benchmark				***-1.28%***	***-1.28%***				***1.36%***	***1.36%***				***-0.30%***	***-0.30%***	***-0.23%***	***-0.23%***	***-2.22%***	***-2.22%***	***1.89%***	***1.89%***		
Domestic Fixed Income	***353,606,039***	***17.2%***	***17.0%***	***-0.41%***	***-0.41%***	***355,130,643***	***17.2%***	***17.0%***	***0.77%***	***0.74%***	***380,487,722***	***19.2%***	***17.0%***	***-0.77%***	***-0.83%***	***-0.42%***	***-0.51%***	***3.39%***	***3.16%***	***6.26%***	***6.05%***		
Benchmark				***-0.84%***	***-0.84%***				***0.82%***	***0.82%***				***-0.58%***	***-0.58%***	***-0.60%***	***-0.60%***	***1.21%***	***1.21%***	***3.28%***	***3.28%***		
Investment Grade Fixed Income																							
PIMCO (DiSCO II) (5)	35,468,134	1.7%	1.7%	0.95%	0.95%	35,134,441	1.7%	1.7%	0.00%	0.00%	35,546,002	1.8%	1.8%	0.39%	0.39%	1.34%	1.34%	4.32%	4.32%	15.85%	15.85%	N/A	N/A
BC Aggregate				***-0.26%***	***-0.26%***				***0.02%***	***0.02%***				***1.23%***	***1.23%***	***0.98%***	***0.98%***	***1.85%***	***1.85%***	***1.82%***	***1.82%***		
State Street	25,174,523	1.2%	1.2%	-0.82%	-0.82%	25,381,293	1.2%	1.2%	-0.55%	-0.55%	37,447,663	1.9%	1.2%	5.07%	5.07%	3.65%	3.64%	6.31%	6.28%	N/A	N/A	N/A	N/A
BC Long Treasuries				***-0.82%***	***-0.82%***				***-0.55%***	***-0.55%***				***5.08%***	***5.08%***	***3.65%***	***3.65%***	***6.32%***	***6.32%***				
PIMCO Unconstrained	31,697,088	1.5%	1.6%	0.39%	0.39%	31,573,662	1.5%	1.7%	0.97%	0.97%	37,042,749	1.9%	1.6%	-3.12%	-3.17%	-1.80%	-1.85%	1.34%	0.93%	N/A	N/A	N/A	N/A
3m LIBOR				***0.03%***	***0.03%***				***0.03%***	***0.03%***				***0.08%***	***0.08%***	***0.13%***	***0.13%***	***0.26%***	***0.26%***				

ND TEACHERS FUND FOR RETIREMENT
INVESTMENT PERFORMANCE REPORT AS OF NOVEMBER 30, 2015

	November-15					October-15					September-15					Current Fiscal YTD		Prior Year FY15		3 Years Ended 6/30/2015		5 Years Ended 6/30/2015	
		Allocation		Month			Allocation		Month			Allocation		Quarter									
	Market Value	Actual	Policy	Gross (5)	Net	Market Value	Actual	Policy	Gross (5)	Net	Market Value	Actual	Policy	Gross (5)	Net	Gross (5)	Net	Gross (5)	Net	Gross (5)	Net	Gross (5)	Net
Declaration (Total Return) (5)	33,924,904	1.6%	1.4%	0.21%	0.21%	33,852,809	1.6%	1.4%	-0.27%	-0.27%	34,342,784	1.7%	1.4%	0.89%	0.89%	0.83%	0.83%	3.63%	3.63%	6.04%	6.04%	N/A	N/A
3m LIBOR				***0.03%***	***0.03%***				***0.03%***	***0.03%***				***0.08%***	***0.08%***	***0.13%***	***0.13%***	***0.26%***	***0.26%***	***0.28%***	***0.28%***		
JP Morgan	50,066,904	2.4%	2.4%	-0.09%	-0.09%	50,111,014	2.4%	2.4%	-0.21%	-0.21%	50,805,069	2.6%	2.4%	1.48%	1.38%	1.18%	1.07%	N/A	N/A	N/A	N/A	N/A	N/A
PIMCO	72,263,351	3.5%	3.6%	-0.13%	-0.13%	72,357,824	3.5%	3.6%	0.12%	0.12%	73,116,879	3.7%	3.6%	1.28%	1.24%	1.27%	1.23%	2.33%	2.15%	1.96%	1.79%	N/A	N/A
BC Mortgage Backed Securities Index				***-0.14%***	***-0.14%***				***0.07%***	***0.07%***				***1.30%***	***1.30%***	***1.23%***	***1.23%***	***2.28%***	***2.28%***	***1.92%***	***1.92%***		
Total Investment Grade Fixed Income	**248,594,905**	**12.1%**	**12.0%**	**0.07%**	**0.07%**	**248,411,044**	**12.0%**	**12.0%**	**0.05%**	**0.05%**	**268,301,146**	**13.5%**	**12.0%**	**1.03%**	**0.99%**	**1.15%**	**1.12%**	**3.65%**	**3.51%**	**4.80%**	**4.70%**	**5.37%**	**5.20%**
BC Aggregate				***-0.26%***	***-0.26%***				***0.02%***	***0.02%***				***1.23%***	***1.23%***	***0.98%***	***0.98%***	***1.85%***	***1.85%***	***1.82%***	***1.82%***	***3.35%***	***3.35%***
Below Investment Grade Fixed Income																							
Loomis Sayles	87,535,605	4.3%	4.2%	-1.86%	-1.86%	89,189,861	4.3%	4.2%	2.64%	2.51%	94,708,561	4.8%	4.1%	-5.48%	-5.60%	-4.79%	-5.02%	1.33%	0.83%	8.97%	8.46%	9.68%	9.17%
PIMCO (BRAVO II) (5)	15,743,217	0.8%	0.8%	0.00%	0.00%	15,743,217	0.8%	0.8%	1.62%	1.62%	15,571,369	0.8%	0.8%	0.00%	0.00%	1.62%	1.62%	10.36%	10.36%	N/A	N/A	N/A	N/A
Goldman Sachs 2006 Fund (5)	563,533	0.0%	0.0%	0.00%	0.00%	617,742	0.0%	0.0%	0.00%	0.00%	620,889	0.0%	0.0%	-0.60%	-0.60%	-0.60%	-0.60%	25.65%	25.65%	23.19%	23.19%	14.06%	14.06%
Goldman Sachs Fund V (5)	1,168,778	0.1%	0.1%	0.00%	0.00%	1,168,778	0.1%	0.1%	0.00%	0.00%	1,285,757	0.1%	0.1%	-2.06%	-2.06%	-2.06%	-2.06%	14.43%	14.43%	13.82%	13.82%	14.45%	14.45%
Total Below Investment Grade Fixed Income	**105,011,134**	**5.1%**	**5.0%**	**-1.55%**	**-1.55%**	**106,719,599**	**5.2%**	**5.0%**	**2.47%**	**2.36%**	**112,186,576**	**5.6%**	**5.0%**	**-4.70%**	**-4.80%**	**-3.86%**	**-4.06%**	**2.53%**	**2.09%**	**9.92%**	**9.45%**	**10.18%**	**9.76%**
BC High Yield 2% Issuer Constrained Index				***-2.21%***	***-2.21%***				***2.74%***	***2.74%***				***-4.83%***	***-4.83%***	***-4.38%***	***-4.38%***	***-0.39%***	***-0.39%***	***6.81%***	***6.81%***	***8.58%***	***8.58%***
International Fixed Income	**98,425,459**	**4.8%**	**5.0%**	**-1.84%**	**-1.87%**	**100,303,696**	**4.9%**	**5.0%**	**1.02%**	**0.97%**	**99,292,243**	**5.0%**	**5.0%**	**-2.19%**	**-2.27%**	***-3.00%***	***-3.18%***	***-9.37%***	***-9.73%***	***-0.26%***	***-0.61%***		
Benchmark				***-2.78%***	***-2.78%***				***3.21%***	***3.21%***				***0.64%***	***0.64%***	***0.99%***	***0.99%***	***-13.19%***	***-13.19%***	***-2.83%***	***-2.83%***		
Developed Investment Grade Int'l FI																							
UBS Global (Brinson)	43,031,465	2.1%	2.5%	-2.56%	-2.64%	44,198,452	2.1%	2.5%	0.21%	0.21%	44,082,154	2.2%	2.5%	0.47%	0.39%	-1.89%	-2.06%	-13.46%	-13.82%	-3.22%	-3.52%	0.89%	0.59%
BC Global Aggregate ex-US (4)				***-2.78%***	***-2.78%***				***3.21%***	***3.21%***				***0.64%***	***0.64%***	***0.99%***	***0.99%***	***-13.19%***	***-13.19%***	***-2.83%***	***-2.83%***	***1.02%***	***1.02%***
Brandywine	55,393,995	2.7%	2.5%	-1.27%	-1.27%	56,105,244	2.7%	2.5%	1.67%	1.57%	55,210,089	2.8%	2.5%	-4.21%	-4.30%	-3.85%	-4.03%	-5.38%	-5.74%	2.62%	2.22%	6.47%	6.06%
BC Global Aggregate (ex-US)				***-1.66%***	***-1.66%***				***0.21%***	***0.21%***				***0.85%***	***0.85%***	***-0.61%***	***-0.61%***	***-7.10%***	***-7.10%***	***-0.81%***	***-0.81%***	***2.07%***	***2.07%***
Total Developed Investment Grade Int'l FI	**98,425,459**	**4.8%**	**5.0%**	**-1.84%**	**-1.87%**	**100,303,696**	**4.9%**	**5.0%**	**1.02%**	**0.97%**	**99,292,243**	**5.0%**	**5.0%**	**-2.19%**	**-2.27%**	**-3.00%**	**-3.18%**	**-9.37%**	**-9.73%**	**-0.26%**	**-0.61%**	**3.75%**	**3.39%**
BC Global Aggregate ex-US				***-2.78%***	***-2.78%***				***3.21%***	***3.21%***				***0.64%***	***0.64%***	***0.99%***	***0.99%***	***-13.19%***	***-13.19%***	***-2.83%***	***-2.83%***	***1.02%***	***1.02%***
GLOBAL REAL ASSETS	***391,036,188***	***19.0%***	***20.0%***	***0.32%***	***0.32%***	***400,276,685***	***19.4%***	***20.0%***	***0.65%***	***0.61%***	***393,295,155***	***19.8%***	***20.0%***	***1.72%***	***1.57%***	***2.71%***	***2.52%***	***9.51%***	***9.11%***	***9.73%***	***9.33%***		
Benchmark				***0.54%***	***0.54%***				***0.54%***	***0.54%***				***1.61%***	***1.61%***	***2.71%***	***2.71%***	***8.78%***	***8.78%***	***8.47%***	***8.47%***		
Global Real Estate																							
INVESCO - Core	93,961,571			0.00%	0.00%	93,961,571			0.00%	0.00%	86,623,568			2.96%	2.88%	2.96%	2.88%	16.38%	15.97%	13.53%	13.07%	14.95%	14.50%
INVESCO - Fund II (5)	4,127,821			0.00%	0.00%	5,031,994			6.49%	6.49%	4,816,040			0.00%	0.00%	6.49%	6.49%	6.23%	6.23%	14.50%	14.50%	24.83%	24.83%
INVESCO - Fund III (5)	14,822,829			0.00%	0.00%	14,822,829			2.11%	2.11%	14,794,492			0.00%	0.00%	2.11%	2.11%	18.70%	18.70%	17.92%	17.92%	N/A	N/A
INVESCO - Fund IV (6)	10,151,723			0.00%	0.00%	10,151,723			-1.99%	-1.99%	10,556,441			0.07%	0.07%	-1.92%	-1.92%	N/A	N/A	N/A	N/A	N/A	N/A
INVESCO - Asia Real Estate Fund (5)	3,414,408			37.69%	37.69%	2,479,699			0.00%	0.00%	2,527,266			-0.47%	-0.47%	37.05%	37.05%	16.19%	16.19%	8.12%	8.12%	3.24%	3.24%
INVESCO - Asia Real Estate Fund III (6)	3,852,689			0.00%	0.00%	-			N/A	N/A	-			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J.P. Morgan Strategic & Special Funds	79,700,407			1.51%	1.51%	78,518,665			0.73%	0.73%	79,445,809			3.82%	3.34%	6.15%	5.66%	14.71%	13.64%	14.81%	13.78%	15.68%	14.67%
J.P. Morgan Alternative Property Fund	160,262			0.00%	0.00%	160,262			0.00%	0.00%	163,336			0.00%	0.00%	0.00%	0.00%	-33.28%	-33.28%	-7.13%	-7.16%	1.49%	1.30%
J.P. Morgan Greater Europe Fund (5)	10,429,067			-4.39%	-4.39%	10,907,986			-1.04%	-1.04%	11,233,973			0.26%	0.26%	-5.14%	-5.14%	16.90%	16.90%	0.01%	0.01%	N/A	N/A
J.P. Morgan Greater China Property Fund (5)	4,434,184			-0.69%	-0.69%	4,464,875			0.00%	0.00%	4,550,524			0.08%	0.08%	-0.61%	-0.61%	16.74%	16.74%	23.88%	23.88%	16.34%	16.34%
Total Global Real Estate	**225,054,961**	**10.9%**	**10.0%**	**0.70%**	**0.70%**	**220,499,605**	**10.7%**	**10.0%**	**0.39%**	**0.39%**	**214,711,448**	**10.8%**	**10.0%**	**2.54%**	**2.34%**	**3.66%**	**3.45%**	**15.79%**	**15.25%**	**14.51%**	**13.99%**	**16.05%**	**15.52%**
NCREIF TOTAL INDEX				***1.02%***	***1.02%***				***1.02%***	***1.02%***				***3.09%***	***3.09%***	***5.20%***	***5.20%***	***12.98%***	***12.98%***	***11.63%***	***11.63%***	***12.72%***	***12.72%***
Timber																							
TIR - Teredo	14,928,805	0.7%		0.00%	0.00%	28,123,839	1.4%		2.14%	2.14%	27,899,514	1.4%		0.00%	0.00%	2.14%	2.14%	15.52%	15.52%	9.18%	9.18%	6.18%	6.18%
TIR - Springbank	54,230,249	2.6%		0.17%	0.17%	54,230,247	2.6%		1.77%	1.77%	53,377,730	2.7%		0.02%	0.02%	1.97%	1.97%	-1.98%	-1.98%	-1.41%	-1.41%	-2.17%	-2.17%
Total Timber (5)	**69,159,053**	**3.4%**	**5.0%**	**0.12%**	**0.12%**	**82,354,086**	**4.0%**	**5.0%**	**1.90%**	**1.90%**	**81,277,245**	**4.1%**	**5.0%**	**0.01%**	**0.01%**	**2.03%**	**2.03%**	**3.95%**	**3.95%**	**2.37%**	**2.37%**		
NCREIF Timberland Index				***0.26%***	***0.26%***				***0.26%***	***0.26%***				***0.77%***	***0.77%***	***1.28%***	***1.28%***	***10.02%***	***10.02%***	***9.77%***	***9.77%***	***6.10%***	***6.10%***
Infrastructure																							
JP Morgan (Asian) (5)	13,159,751	0.6%		-5.05%	-5.05%	13,860,194	0.7%		0.00%	0.00%	13,860,194	0.7%		-0.58%	-0.58%	-5.61%	-5.61%	-2.58%	-2.58%	7.80%	7.80%	4.26%	4.26%
JP Morgan (IIF)	63,396,255	3.1%		0.00%	0.00%	63,396,255	3.1%		0.36%	0.08%	63,344,719	3.2%		2.27%	2.07%	2.63%	2.15%	1.06%	0.23%	7.08%	6.12%	6.59%	5.44%
Grosvenor (formerly Credit Suisse) (5)	17,422,241	0.8%		-0.49%	-0.49%	18,127,065	0.9%		0.00%	0.00%	18,127,065	0.9%		-0.18%	-0.18%	-0.67%	-0.67%	5.37%	5.37%	9.19%	9.19%	N/A	N/A
Grosvenor CIS II (6)	2,843,927	0.1%		16.26%	16.26%	2,039,481	0.1%		-1.01%	-1.01%	1,974,484	0.1%		-2.94%	-2.94%	11.71%	11.71%	N/A	N/A	N/A	N/A		
Total Infrastructure	**96,822,174**	**4.7%**	**5.0%**	**-0.44%**	**-0.44%**	**97,422,994**	**4.7%**	**5.0%**	**0.21%**	**0.03%**	**97,306,462**	**4.9%**	**5.0%**	**1.33%**	**1.20%**	**1.10%**	**0.78%**	**1.23%**	**0.72%**	**7.58%**	**6.95%**		
CPI				***-0.12%***	***-0.12%***				***-0.12%***	***-0.12%***				***-0.49%***	***-0.49%***	***-0.74%***	***-0.74%***	***-0.38%***	***-0.38%***	***1.13%***	***1.13%***		
Cash Equivalents																							
Northern Trust STIF	21,216,024			0.01%	0.01%	15,610,708			0.01%	0.01%	15,275,609			0.03%	0.03%	0.05%	0.05%	0.06%	0.06%	0.07%	0.07%	0.09%	0.09%
Total Cash Equivalents	**21,216,024**	**1.0%**	**1.0%**	**0.01%**	**0.01%**	**15,610,708**	**0.8%**	**1.0%**	**0.01%**	**0.01%**	**15,275,609**	**0.8%**	**1.0%**	**0.03%**	**0.03%**	**0.05%**	**0.05%**	**0.06%**	**0.06%**	**0.07%**	**0.07%**	**0.10%**	**0.10%**
90 Day T-Bill				***0.01%***	***0.01%***				***-0.01%***	***-0.01%***				***0.01%***	***0.01%***	***0.01%***	***0.01%***	***0.02%***	***0.02%***	***0.06%***	***0.06%***	***0.08%***	***0.08%***

NOTE: Monthly returns and market values are preliminary and subject to change.
New asset class structure began October 1, 2011. Composite returns for new composites not available prior to that date.
Portfolios moved between asset classes will show historical returns in new position.
(1) Epoch was included in the Large Cap Domestic Equity composite through 12/31/11.
(2) Prior to January 1, 2012, the benchmark was S&P 500.
(3) This benchmark was changed to the MSCI EAFE (unhedged) as of April 1, 2011.
(4) Prior to December 1, 2009, the benchmark was the Citigroup World Gov't Bond Index ex-US
(5) All limited partnership-type (and mutual funds as of 7/1/14) investment returns will only be reported net of fees, which is standard practice by the investment consultant.

NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
OCTOBER 23, 2015, BOARD MEETING

MEMBERS PRESENT:
Drew Wrigley, Lt. Governor, Chair
Mike Sandal, Vice Chair
Lance Gaebe, Land Commissioner
Mike Gessner, TFFR Board
Adam Hamm, Insurance Commissioner
Rob Lech, TFFR Board
Mel Olson, TFFR Board
Kelly Schmidt, State Treasurer
Yvonne Smith, PERS Board
Cindy Ternes, WSI designee
Tom Trenbeath, PERS Board

STAFF PRESENT:
Connie Flanagan, Fiscal & Invt Op Mgr
Bonnie Heit, Assist to the SIB
David Hunter, ED/CIO
Terra Miller Bowley, Supvr Audit Services
Darren Schulz, Dep CIO
Susan Walcker, Invt Acct

GUESTS PRESENT:
Tony Crescenzi, PIMCO
Jeff Engleson, Land Dept.
Levi Erdmann, Land Dept.
Stephanie King, PIMCO
Jan Murtha, Attorney General's Office
Dave Thompson, Prairie Public
Yinyin Wu, PIMCO

CALL TO ORDER:

Lt. Governor Wrigley called the State Investment Board (SIB) meeting to order at 8:30 a.m. on Friday, October 23, 2015, at the State Capitol, Peace Garden Room, Bismarck, ND.

AGENDA:

IT WAS MOVED BY MR. SANDAL AND SECONDED BY MS. TERNES AND CARRIED ON A VOICE VOTE TO ACCEPT THE AGENDA FOR THE OCTOBER 23, 2015, MEETING AS DISTRIBUTED.

AYES: TREASURER SCHMIDT, MR. GESSNER, COMMISSIONER HAMM, MS. TERNES, MS. SMITH, MR. LECH, MR. SANDAL, MR. TRENBEATH, MR. OLSON, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED
ABSENT: COMMISSIONER GAEBE

MINUTES:

IT WAS MOVED BY MR. TRENBEATH AND SECONDED BY MR. OLSON AND CARRIED ON A VOICE VOTE TO APPROVE THE SEPTEMBER 25, 2015, MINUTES AS DISTRIBUTED.

AYES: MS. SMITH, MR. SANDAL, MR. OLSON, MR. GESSNER, MR. LECH, MR. TRENBEATH, MS. TERNES, COMMISSIONER HAMM, TREASURER SCHMIDT, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

ABSENT: COMMISSIONER GAEBE

INVESTMENTS:

PIMCO – Mr. Crescenzi highlighted PIMCO's economic, market, and cyclical outlooks.

Board Education – Mr. Hunter provided an overview on how to review SIB clients' monthly/quarterly investment performance reports, which are on the Retirement and Investment Office's website.

The board requested a hyperlink be added to the reports, which would provide information on a manager's specific strategy.

Mr. Hunter also reviewed educational opportunities the SIB trustees and RIO personnel have attended in the past as a reference to the current trustees of the board.

Mr. Hunter also re-distributed "A Primer for Investment Trustees" and will be highlighting key takeaways from each section over the next several board meetings.

Litigation Updates – Ms. Flanagan informed the board the SIB's external counsel, K&L Gates, has been notified that the receiver in the WG Trading fraud case has filed a motion and supporting papers to request authorization to make a third distribution of receivership assets to investors. The distribution would include a total of $5,944,067.48 related to the SIB's investment with Westridge/WG Trading and increases the total recovery from the receivership assets to $73,012,495.33 or approximately 97% of the original cost basis of the investment.

The Board recessed at 10:00 a.m. and reconvened at 10:17 a.m.

At the July 24, 2015, meeting Ms. Murtha reviewed a lawsuit, which was filed by unsecured creditors against the holders of a General Motors (GM) term loan that was repaid after GM filed for bankruptcy in 2009. The SIB's Pension Trust was a holder of the GM term loan via a Wells Capital Management (WCM) investment. The lawsuit claims that the holders of the GM term loan should not have been fully repaid and are seeking repayment of certain amounts paid to such holders. The SIB's repayment portion was $700,000.

Ms. Murtha reviewed several firms, which the board could consider for external counsel. After discussion,

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MS. SMITH AND CARRIED BY A ROLL CALL VOTE TO GRANT AUTHORITY TO THE ATTORNEY GENERAL'S OFFICE TO OVERSEE THE GENERAL MOTORS BANKRUPTCY CASE ON BEHALF OF THE SIB. SECONDLY, TO RETAIN EXTERNAL COUNSEL WHO WOULD BEST REPRESENT THE FINANCIAL INTERESTS AND OPPORTUNITIES TO MINIMIZE ANY LOSSES ON BEHALF OF THE SIB.

AYES: MR. TRENBEATH, TREASURER SCHMIDT, MR. OLSON, COMMISSIONER GAEBE, MR. LECH, MR. SANDAL, COMMISSIONER HAMM, MR. GESSNER, MS. SMITH, MS. TERNES, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

Litigation Monitoring – Mr. Hunter reviewed a Securities Monitoring and Litigation Policy, which will be inserted into Section E, Investments, of the Governance Manual. After the SIB completed a review of their Governance Manual during the past fiscal year, RIO personnel and Ms. Murtha determined that additional clarification on "securities monitoring and litigation" practices followed by RIO and the SIB could be enhanced.

The policy will be on the November 20, 2015, agenda for a second reading.

GOVERNANCE:

Client Survey – The Audit Division surveyed each of the SIB clients on services received from the SIB and RIO personnel for the period of July 1, 2014, through June 30, 2015. Survey responses were received from all of the clients with the exception of one. Overall, SIB clients assigned a 3.7 rating based on a 4.0 scale.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. SMITH AND CARRIED BY A VOICE VOTE TO ACCEPT THE CLIENT SURVEY REPORT.

AYES: COMMISSIONER GAEBE, TREASURER SCHMIDT, MR. SANDAL, COMMISSIONER HAMM, MR. OLSON, MS. TERNES, MR. GESSNER, MR. TRENBEATH, MR. LECH, MS. SMITH, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

Audit Committee – Ms. Miller Bowley reviewed the Audit Committees activities for the period of July 1, 2014 – June 30, 2015. Members of the Audit Committee are Ms. Rebecca Dorwart, Chair, Ms. Karol Riedman, Health Dept., Mr. Gessner, Vice Chair/SIB Liaison representing the Teachers' Fund for Retirement (TFFR), Mr. Sandal, representing the Public Employees Retirement System (PERS), and Ms. Ternes, designee from Workforce Safety & Insurance representing elected and appointed officials.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MR. LECH AND CARRIED BY A VOICE VOTE TO ACCEPT THE AUDIT COMMITTEE REPORT.

AYES: MR. GESSNER, COMMISSIONER GAEBE, MS. SMITH, MS. TERNES, TREASURER SCHMIDT, MR. LECH, COMMISSIONER HAMM, MR. OLSON, MR. TRENBEATH, MR. SANDAL, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

Ms. Ternes commented as a member of the Audit Committee her comfort level has changed. With the change in leadership in the Internal Audit Division, employer audits are being completed in a timely manner. Across the board, everything is so much more professional and complete. She thanked Ms. Miller Bowley for her excellent leadership.

RIO/Policy Ends – Mr. Hunter reviewed annual evaluation results of RIO vs policy "Ends." Mr. Hunter stated the SIB and RIO are achieving its stated goals and mission based on SIB and TFFR client survey results and noting that every SIB client with a three-year track is generating positive excess returns for the 3 and 5 year periods ended June 30, 2015, while adhering to prescribed risk metrics.

IT WAS MOVED BY MR. TRENBEATH AND SECONDED BY MR. SANDAL AND CARRIED BY A VOICE VOTE TO ACCEPT THE ANNUAL EVALUATION OF RIO VS GOVERNANCE POLICY ENDS.

AYES: MR. OLSON, MR. TRENBEATH, COMMISSIONER GAEBE, MR. GESSNER, COMMISSIONER HAMM, MS. SMITH, MR. SANDAL, TREASURER SCHMIDT, MS. TERNES, MR. LECH, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

MONITORING REPORTS:

Per Governance Policy, Board/Staff Relationship/Monitoring Executive Performance C-4, the following monitoring reports for the quarter ending September 30, 2015, were provided to the SIB for their consideration: Budget/Financial Conditions, Executive Limitations/Staff Relations, Investment Program, and Retirement Program.

An updated Watch List for the same period was also provided.

IT WAS MOVED BY MR. SANDAL AND SECONDED BY MS. SMITH AND CARRIED BY A VOICE VOTE TO ACCEPT THE SEPTEMBER 30, 2015, QUARTERLY MONITORING REPORTS.

AYES: MS. TERNES, MR. OLSON, COMMISSIONER HAMM, TREASURER SCHMIDT, COMMISSIONER GAEBE, MR. TRENBEATH, MR. LECH, MR. SANDAL, MS. SMITH, MR. GESSNER, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

OTHER:

The next meeting of the SIB Audit Committee is scheduled for November 19, 2015, at 3:00 p.m. in the Peace Garden Room. The Audit Committee will be hearing the results of RIO's financial audit as of June 30, 2015, by CliftonLarsonAllen.

The next meeting of the SIB is scheduled for November 20, 2015, at 8:30 a.m. in the Peace Garden Room.

ADJOURNMENT:

With no further business to come before the SIB, Lt. Governor Wrigley adjourned the meeting at 11:16 a.m.

_____
Lt. Governor Wrigley, Chair
State Investment Board

_____
Bonnie Heit
Assistant to the Board

NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
NOVEMBER 20, 2015, BOARD MEETING

MEMBERS PRESENT:
Drew Wrigley, Lt. Governor, Chair
Mike Sandal, Vice Chair
Lance Gaebe, Land Commissioner
Mike Gessner, TFFR Board
Adam Hamm, Insurance Commissioner
Rob Lech, TFFR Board
Mel Olson, TFFR Board
Kelly Schmidt, State Treasurer
Yvonne Smith, PERS Board
Cindy Ternes, WSI designee
Tom Trenbeath, PERS Board

STAFF PRESENT:
Eric Chin, Investment Analyst
Connie Flanagan, Fiscal & Invt Op Mgr
Bonnie Heit, Assist to the SIB
David Hunter, ED/CIO
Fay Kopp, Dep ED/CRO
Terra Miller Bowley, Supvr Audit Services
Cody Schmidt, Compliance Officer
Darren Schulz, Dep CIO
Susan Walcker, Invt Acct

GUESTS PRESENT:
Alex Browning, Callan Associates
Levi Erdmann, Land Dept.
Paul Erlendson, Callan Associates
Jan Murtha, Attorney General's Office

CALL TO ORDER:

Lt. Governor Wrigley called the State Investment Board (SIB) meeting to order at 8:30 a.m. on Friday, November 20, 2015, at the State Capitol, Peace Garden Room, Bismarck, ND.

AGENDA:

IT WAS MOVED BY MR. LECH AND SECONDED BY MS. SMITH AND CARRIED ON A VOICE VOTE TO ACCEPT THE AGENDA FOR THE NOVEMBER 20, 2015, MEETING AS DISTRIBUTED.

AYES: TREASURER SCHMIDT, MR. GESSNER, COMMISSIONER HAMM, MS. TERNES, COMMISSIONER GAEBE, MS. SMITH, MR. LECH, MR. SANDAL, MR. TRENBEATH, MR. OLSON, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

MINUTES:

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MR. OLSON AND CARRIED ON A VOICE VOTE TO ACCEPT THE OCTOBER 23, 2015, MINUTES AS DISTRIBUTED.

AYES: MS. SMITH, MR. SANDAL, MR. OLSON, MR. GESSNER, MR. LECH, MR. TRENBEATH, MS. TERNES, COMMISSIONER HAMM, COMMISSIONER GAEBE, TREASURER SCHMIDT, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

INVESTMENTS:

Assets/Performance Overview – Mr. Hunter updated the SIB on the status of the portfolios they manage on behalf of their clients as of September 30, 2015. Assets under management grew by approximately 8.6 percent or $828 million in the last year. Assets exceeded $10.4 billion based on unaudited valuations as of September 30, 2015. The Pension Trust posted a net return of -0.52 percent with losses of $24 million. The Insurance Trust generated a net return of 1.98 percent with gains of $48 million. The Legacy Fund's net return was 0.52 percent and assets increased by 32 percent or $812 million.

Every Pension Trust client generated positive excess returns for the 1, 3, and 5 year periods ended September 30, 2015. Every Pension Trust client also generated positive risk adjusted excess return for the 5-years ended September 30, 2015, with the exception of the Grand Forks Park District portfolio. The Grand Forks Park District portfolio generated a net return of over 8 percent along with 0.51 percent of excess return in the last five years.

Every Non-Pension Trust client generated positive excess returns for the 3 and 5-year periods ended September 30, 2015, if applicable. During the past year, five Non-Pension Trust clients experienced negative excess returns due to fixed income and diversified real asset results.

Epoch – Representatives provided a capital markets update and reviewed the Global Equity mandate of approximately $300 million the firm manages on behalf of the SIB.

GM Bankruptcy – At the October 23, 2015, SIB meeting, the SIB authorized the Attorney General's office and RIO to pursue appointment of external counsel, on behalf of the SIB. Ms. Murtha stated RIO has retained Kasowitz Benson Torres & Friedman. Ms. Murtha stated the fees would be prorated amongst the participants. Ms. Murtha also stated a Motion to Dismiss was filed due to inadequate notice. Ms. Murtha also discussed the potential of legal action against JP Morgan Chase, related to the Term Loan litigation, and advised the SIB to expand representation by external counsel to include analysis of any potential action.

IT WAS MOVED BY COMMISSIONER GAEBE AND SECONDED BY MS. TERNES TO EXPAND THE SCOPE OF EXTERNAL COUNSEL, KASOWITZ BENSON TORRES & FRIEDMAN LLP, TO INCLUDE OVERSITE OF ANY LEGAL ACTION AGAINST JP MORGAN CHASE.

AYES: MR. TRENBEATH, TREASURER SCHMIDT, MR. OLSON, COMMISSIONER GAEBE, MR. LECH, MR. SANDAL, COMMISSIONER HAMM, MR. GESSNER, MS. SMITH, MS. TERNES, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

Securities Monitoring/Litigation Policy – Mr. Hunter reviewed a second reading of a proposed policy for Securities Monitoring and Litigation. The policy will formally document securities monitoring and litigation policies and procedures followed by the SIB and will more clearly define future roles and responsibilities of the Retirement and Investment Office (RIO) and the SIB.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MS. TERNES TO ACCEPT THE SECURITIES MONITORING AND LITIGATION POLICY.

AYES: COMMISSIONER GAEBE, TREASURER SCHMIDT, MR. SANDAL, COMMISSIONER HAMM, MR. OLSON, MS. TERNES, MR. GESSNER, MR. TRENBEATH, MR. LECH, MS. SMITH, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

The Board recessed at 10:22 a.m. and reconvened at 10:37 a.m.

International Equity – RIO personnel recommended the SIB engage Callan to assist RIO in conducting a search to potentially replace the Capital Group International Equity mandate. The recommendation is the result of changes to the portfolio management team, which were reviewed at the SIB August 28, 2015, meeting, and numerous requests, by RIO personnel and Callan Associates, for individual portfolio manager performance given the multi-manager approach and the need to appraise the effect of the personnel changes, which Capital Group has been unwilling to release.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. SANDAL TO AUTHORIZE CALLAN ASSOCIATES TO BEGIN THE SEARCH FOR AN ENTITY TO POTENTIALLY REPLACE THE CAPITAL GROUP INTERNATIONAL EQUITY STRATEGY IN THE PENSION, INSURANCE, AND LEGACY FUND PORTFOLIOS.

AYES: MR. GESSNER, COMMISSIONER GAEBE, MS. SMITH, MS. TERNES, TREASURER SCHMIDT, MR. LECH, COMMISSIONER HAMM, MR. OLSON, MR. TRENBEATH, MR. SANDAL, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

Fiduciary Duty – Mr. Hunter reviewed Section 2, Investment Policy, and Section 3, The Fund’s Mission, of “A Primer for Investment Trustees” to expand awareness of the important role played by the SIB members in acting as trustees.

PERS Group Insurance – RIO personnel presented a revised asset allocation policy for the Public Employees Retirement System (PERS) Group Insurance Fund for the board’s consideration. The revised asset allocation reflects 95% (not to exceed $36 million) in short term fixed income vs 100% in cash equivalents in order to generate incremental income without taking on undue risk.

IT WAS MOVED BY MR. LECH AND SECONDED BY MR. SANDAL TO ACCEPT THE REVISED ASSET ALLOCATION FOR THE PERS GROUP INSURANCE ACCOUNT.

AYES: MR. OLSON, MR. TRENBEATH, COMMISSIONER GAEBE, MR. GESSNER, COMMISSIONER HAMM, MS. SMITH, MR. SANDAL, TREASURER SCHMIDT, MS. TERNES, MR. LECH, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

GOVERNANCE:

Audit Committee – Ms. Miller Bowley reviewed activities of the SIB Audit Committee as of their November 19, 2015, meeting. The Audit Committee received the June 30, 2015, financial audit results of the Retirement and Investment Office (RIO). An update on internal audit activities for the first quarter of 2015-16 was given. Ms. Miller Bowley also stated the Audit Committee is reviewing and revising their charter.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. OLSON AND CARRIED BY A VOICE VOTE TO ACCEPT THE AUDIT COMMITTEE REPORT.

AYES: COMMISSIONER HAMM, MS. TERNES, COMMISSIONER GAEBE, MR. GESSNER, MS. SMITH, MR. TRENBEATH, MR. SANDAL, MR. LECH, MR. OLSON, TREASURER SCHMIDT, AND LT. GOVERNOR WRIGLEY

Financial Audit Report – Mr. Hunter stated CliftonLarsonAllen has released their June 30, 2015, financial audit of RIO. The firm has issued an unmodified "clean" opinion that the financial statements are presented fairly, in all material respects, and in conformity with U.S. Generally Accepted Accounting Principles (GAAP).

IT WAS MOVED BY COMMISSIONER GAEBE AND SECONDED BY MR. OLSON AND CARRIED BY A VOICE VOTE TO ACCEPT THE CLIFTONLARSONALLEN JUNE 30, 2015, FINANCIAL AUDIT REPORT FOR THE RETIREMENT AND INVESTMENT OFFICE.

AYES: MR. GESSNER, COMMISSIONER GAEBE, MS. SMITH, TREASURER SCHMIDT, MR. LECH, COMMISSIONER HAMM, MR. OLSON, MR. TRENBEATH, MR. SANDAL, MS. TERNES, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED

Employee Benefits Programs Committee – Mr. Hunter stated he met with the Employee Benefits Programs Committee (EBPC) on October 27, 2015, and also followed up with requests for additional information on November 3, 2015. Mr. Hunter had provided an overview of the state's investment program and current investment climate. The SIB was provided a copy of the presentation and additional information requested by the EBPC.

MONITORING:

Callan Associates – Representatives reviewed investment performance of the Pension Trust, Insurance Trust, and Legacy Fund for the period ending September 30, 2015. Representatives stated because of disciplined rebalancing of the portfolios by RIO personnel, the actual asset allocations are close to their target asset allocations with risk factors close to zero.

The following managers remain on the "Watch List": PIMCO Mortgage Backed Securities, PIMCO Unconstrained, UBS Global Fixed Income, and Capital Group International Equity.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. SMITH AND CARRIED BY A VOICE VOTE TO ACCEPT CALLAN'S PORTFOLIO PERFORMANCE REVIEW REPORTS FOR THE PENSION, INSURANCE, AND LEGACY FUNDS.

AYES: MR. OLSON, MR. GESSNER, MR. SANDAL, MS. SMITH, MR. TRENBEATH, MS. TERNES, COMMISSIONER HAMM, COMMISSIONER GAEBE, TREASURER SCHMIDT, AND LT. GOVERNOR WRIGLEY
NAYS: NONE
MOTION CARRIED
ABSENT: MR. LECH

OTHER:

The next meeting of the SIB is scheduled for January 22, 2016, at 8:30 a.m. in the Peace Garden Room.

The next meeting of the SIB Audit Committee is scheduled for February 25, 2016, at 3:00 p.m. in the Peace Garden Room.

ADJOURNMENT:

With no further business to come before the SIB, Lt. Governor Wrigley adjourned the meeting at 11:52 a.m.

_____
Lt. Governor Wrigley, Chair
State Investment Board

_____
Bonnie Heit
Assistant to the Board

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **January 14, 2016**

SUBJ: **Asset Liability Study**

Attached is the report of the TFFR Asset Liability Study conducted by Callan Associates. Paul Erlendson and Julia Moriarty from Callan will present the findings to the Board. Dave Hunter, SIB Chief Investment Officer, will also provide comments. At the conclusion of the presentation and related discussion, the Board may decide to:

1) Request additional information from Callan, Dave, and/or Fay;
2) Approve revised asset allocation;
3) Make no change to current asset allocation;
4) Table decision until March meeting.

IF the Board decides to make any changes to the fund's asset allocation, TFFR's Investment Policy Statement will need to be updated. Therefore, we have also included the current TFFR Investment Policy Statement with **draft** changes noted: 1) Revised 7.75% investment return assumption (Section 1); 2) Revised asset allocation recommended by Callan and RIO (Section 6**).** After the investment policy statement is approved by the TFFR Board, it will then need to be forwarded to the State Investment Board for acceptance and implementation.

Board Action Requested: Request additional information, approve revised asset allocation, reaffirm current asset allocation, OR table decision until later date. If new asset allocation is approved by TFFR Board, approve applicable changes to investment policy statement and submission to SIB.

Attachments

TFFR Asset Liability Study - Callan
TFFR Investment Policy Statement

Callan

January 21, 2016

North Dakota Teachers' Fund for Retirement

Asset Allocation and Liability Study

Paul Erlendson
Senior Vice President

Julia Moriarty, CFA
Senior Vice President

Agenda

- Goal of the study
- Callan's asset-liability process
- Capital market expectations
- Develop asset mix alternatives
- Build actuarial liability model
- Deterministic projections
- Simulate financial condition (stochastic projections)
- Making a decision
- Asset allocation recommendation
- Appendix

Goal of the Study

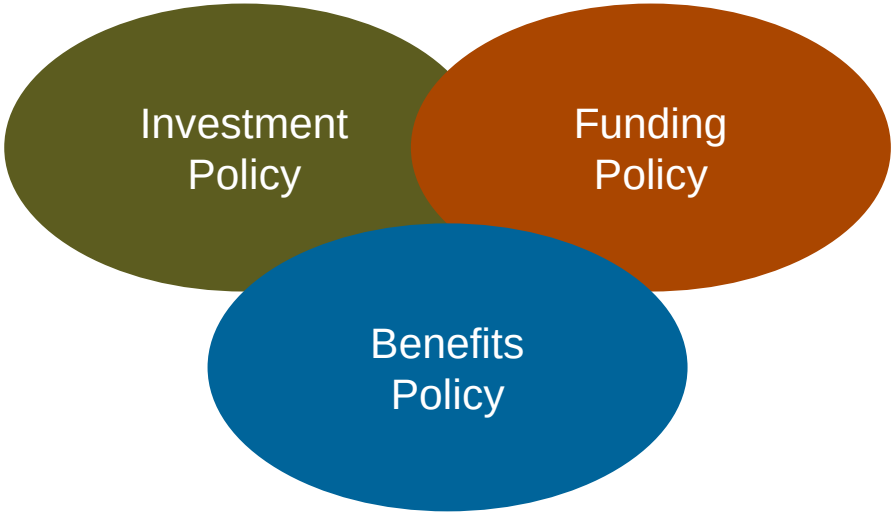
- The goal of this asset-liability study is to identify an appropriate long-term strategic asset allocation policy for the Teachers' Fund for Retirement (TFFR).
- An appropriate asset allocation will depend on the Plan Sponsor's investment objectives.
  - Minimize costs over the long run (long-term goal).
    - *How much return generation (from beta and alpha) is necessary to lower costs and/or improve funded status?*
  - Minimize funded status volatility (short-term goal).
    - *How much risk reduction is necessary to reduce funded status volatility?*
- The appropriate asset allocation should strike a balance between sustainable funded status volatility and minimization of costs over the long run.
- The appropriate asset allocation will vary by each Plan Sponsor's unique circumstances, preferences, and priorities.
  - No "one-size-fits-all" solution exists.

Where Does Asset Allocation Fit In?

We evaluate the interaction of the three key policies that govern TFFR with the goal of establishing the best investment policy.

Investment Policy

- How will the assets supporting the benefits be invested?
- What risk and return objectives?
- How to manage cash flows?



Funding Policy

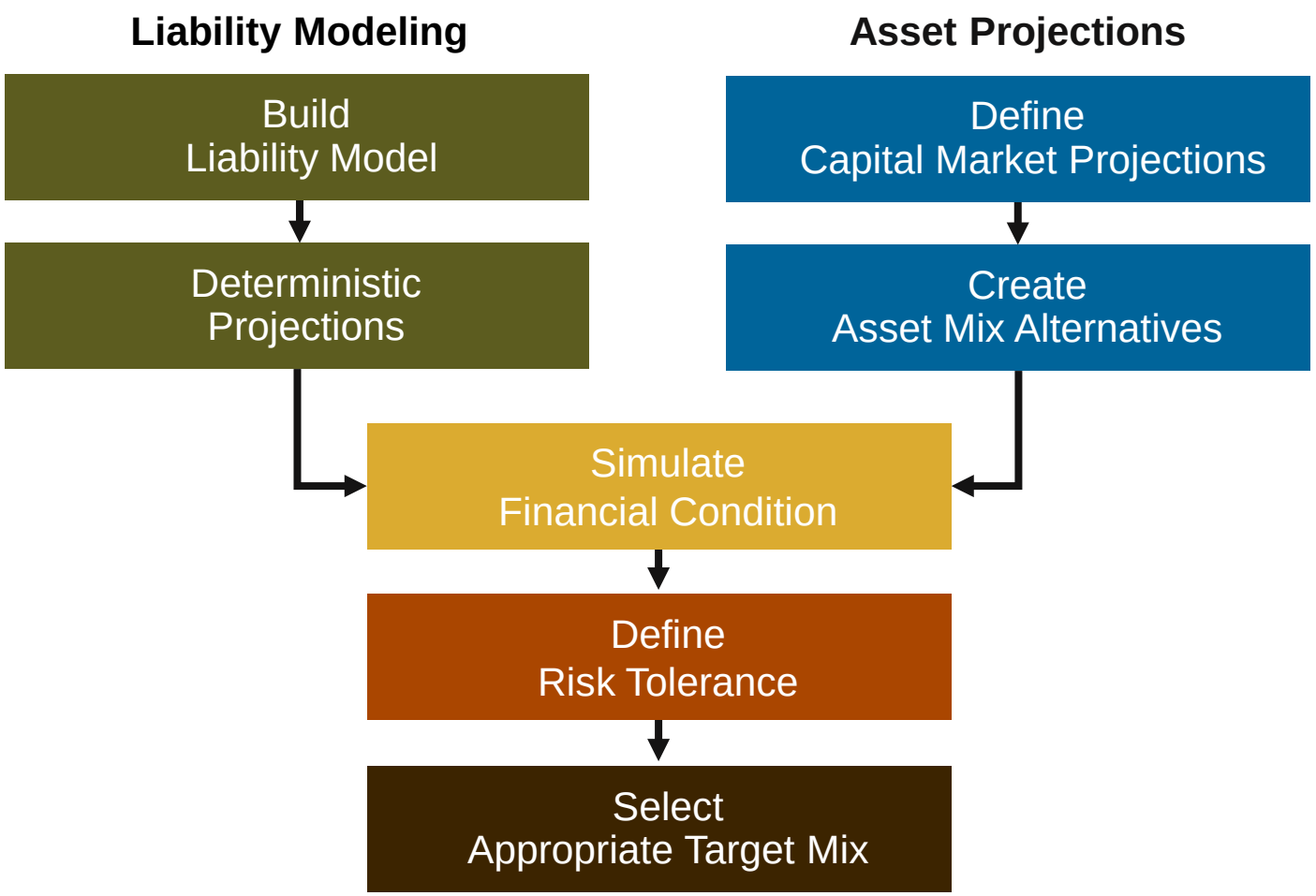
- How will the benefits be paid for (funded)?
- What actuarial assumptions?
- How are unfunded liabilities amortized/recognized?
- What are expected inflows (contributions)?

Benefits Policy

- What type/kind of benefits?
- What level of benefit?
- When and to whom are they payable?

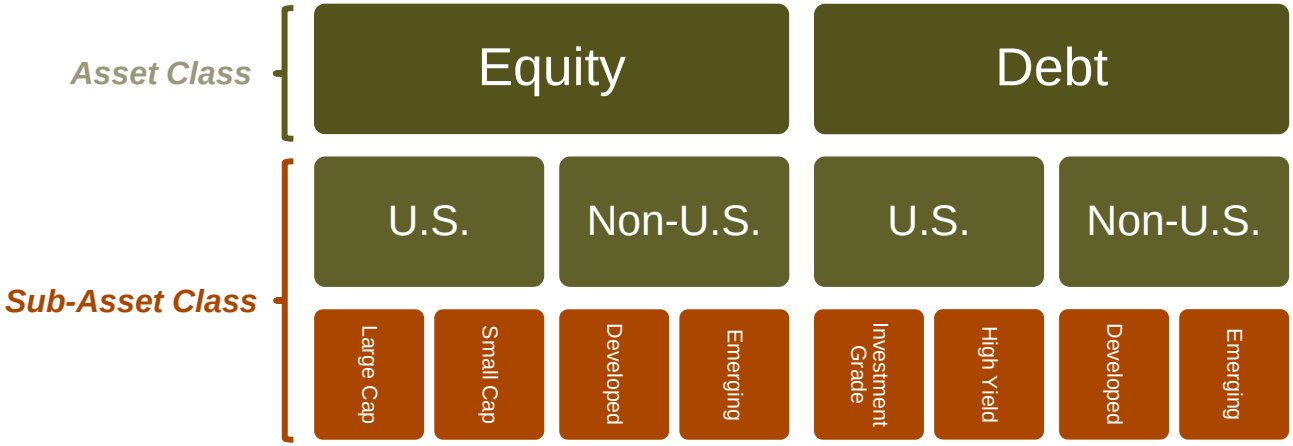
Asset Allocation and Liability Process

- Liabilities and assets are evaluated and tested separately, then integrated into a single model.



The Focus is on Broad Asset Classes

- Breakdowns between investment styles within asset classes (growth vs. value, large cap vs. small cap) are best addressed in a manager structure analysis.
  - Asset allocation assumes a net-of-fee investment in the relevant index fund (passive management).
  - Manager structure reflects the investor's decision about the use of active and/or passive management within an asset class; the number of different mandates within the asset class; the styles within the asset class; and whether or not to implement "tilts" that differ from the asset class benchmark (i.e.– the asset class's index).
- Primary asset classes and important sub-asset classes include:
  - U.S. stocks
  - U.S. bonds
  - Non-U.S. stocks
  - Non-U.S. bonds
  - Alternative investments
    - *Real estate*
    - *Private equity*
    - *Absolute return*
  - Cash



How are Capital Market Projections Constructed?

- An annual internal process at Callan to update 10-year projections.
  - Evaluate current environment and economic outlook.
  - Examine relations between economy and historical asset class performance.
  - Create 10-year risk, return, and correlation projections.
  - Test projections for reasonable results.
  - Typically released in January each year
- Projections cover most broad asset classes and inflation:
  - Broad domestic equity
    - *Large cap*
    - *Small cap*
  - International equity
    - *Developed markets*
    - *Emerging markets*
  - Domestic fixed income
  - International fixed income
  - Real estate
  - Alternative investments
  - Cash
  - Inflation
- Incorporates both advanced quantitative modeling as well as qualitative feedback and expertise contributed by Callan consulting professionals.

2015 versus 2016 Capital Market Expectations

- Callan's 2015 capital market expectations are employed in the asset-liability study given the timeframe for the analysis.
- We are not expecting significant changes to our expectations in 2016, at least none that would likely make a material difference in the results of the study given they are 10-year forecasts.
- We will run the return and risk numbers using 2016 projections to assess the difference versus 2015 and discuss the likely impact on the study.

2015 Capital Market Expectations

- Bond returns raised to 3.0%.
  - We expect interest rates to rise, especially if the economy continues to expand and the Fed executes on its stated unemployment-rate-linked monetary policy. Bonds will suffer capital loss before higher yields kick in. We expect cash yields to move toward 3.0% and 10-year Treasury yields to reach 5% over the ten-year projection – a reversion to mean.
  - Project an upward sloping yield curve, but a very slim risk premium for bonds over cash (1.0%).
- Domestic equity held at 7.60%, non-U.S. equity at 7.80%.
  - US markets enjoyed robust returns, but the US economic outlook is now stronger and fundamentals remain reasonable.
  - Building equity returns from long-term fundamentals, we can build an expectation to just shy of 8%:
    - *2.5-3.0% real GDP growth, which means 5-6% nominal earnings growth*
    - *2.5 % dividend yield*
    - *Expect something more from return on free cash flow, besides dividends (The "buyback yield" has been exceptional, one good use of all that cash), perhaps 50-100 bps*
    - *Small premium for non-US over domestic, largely due to emerging markets*
- Real estate return reduced slightly to 6.15% from 6.2%.
  - Reflects downward pressure on income returns at 4-5% with increased competition for investment.
  - Asset class increasingly eyed by those hungering for yield.
- Hedge fund return held at 5.1%.
  - Expectations of T-bill plus 3% suggests a return in the neighborhood of 5%.

2015 Capital Market Expectations: Return and Risk

Summary of Callan's Long-Term Capital Market Projections (2015-2024)

- Most capital market expectations represent passive exposure (beta only); however, return expectations for private market investments such as real estate and private equity reflect active management premiums.
- Return expectations are net of fees.
- Shaded rows represent current asset classes.

Summary of Callan's Long-Term Capital Market Projections (2015 - 2024)

Asset Class	Index	Projected Return*	Projected Risk
Equities			
Broad Domestic Equity	Russell 3000	7.60%	19.00%
Large Cap	S&P 500	7.50%	18.30%
Small/Mid Cap	Russell 2500	7.85%	22.95%
International Equity	MSCI World ex USA	7.50%	20.20%
Emerging Markets Equity	MSCI Emerging Markets	7.90%	27.95%
Global ex-US Equity	MSCI ACWI ex USA	7.80%	21.45%
Fixed Income			
Short Duration	Barclays 1-3 Yr G/C	2.40%	2.25%
Domestic Fixed	Barclays Aggregate	3.00%	3.75%
Long Duration	Barclays Long G/C	3.20%	11.40%
TIPS	Barclays TIPS	3.00%	5.30%
High Yield	Barclays High Yield	5.00%	11.10%
Non-US Fixed	Barclays Global Aggregate ex-USD	2.30%	9.40%
Emerging Market Debt	EMBI Global Diversified	4.70%	10.00%
Other			
Private Equity	TR Post Venture Capital	8.50%	33.05%
Hedge Funds	Callan Hedge FoF Database	5.25%	9.30%
Real Estate	Callan Real Estate Database	6.15%	16.50%
Timberland	NCREIF Timberland	6.30%	17.50%
Infrastructure	S&P Global Infr/JPM Infr	6.65%	19.00%
Real Assets (Private)	60 Real Est, 15 Timber, 25 Infrastr	6.60%	15.60%
Commodities	Bloomberg Commodity	2.75%	18.50%
Cash Equivalents	90-Day T-Bill	2.25%	0.90%
Inflation	CPI-U	2.25%	1.50%

** Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).*

2015 Capital Market Expectations: Correlation

Key to Constructing Efficient Portfolios

2015 Correlation Matrix

	Broad	Lg Cap	Sm/Mid	Int'l Eq	Emerge	GlobxUS	Dom Fix	TIPS	Hi Yield	NUS Fix	EMD	Pvt Eq	Hedge Fd	Real Est	Timber	Infrastr	Real Asts	Comm	Cash Eq
Broad Domestic Equity	1.000																		
Large Cap	0.997	1.000																	
Small/Mid Cap	0.965	0.940	1.000																
International Equity	0.852	0.850	0.820	1.000															
Emerging Markets Equity	0.861	0.855	0.840	0.860	1.000														
Global ex-US Equity	0.882	0.879	0.853	0.986	0.933	1.000													
Domestic Fixed	-0.107	-0.100	-0.125	-0.100	-0.145	-0.118	1.000												
TIPS	-0.050	-0.045	-0.065	-0.045	-0.060	-0.051	0.580	1.000											
High Yield	0.605	0.605	0.575	0.570	0.565	0.586	0.040	0.030	1.000										
Non-US Fixed	0.014	0.050	-0.100	0.060	-0.090	0.013	0.510	0.340	0.120	1.000									
Emerging Market Debt	0.587	0.590	0.550	0.530	0.550	0.553	0.030	0.170	0.390	0.010	1.000								
Private Equity	0.943	0.940	0.910	0.900	0.895	0.927	-0.180	-0.090	0.610	-0.060	0.560	1.000							
Hedge Funds	0.764	0.760	0.740	0.700	0.725	0.730	0.095	0.070	0.540	-0.080	0.510	0.735	1.000						
Real Estate	0.764	0.760	0.740	0.670	0.660	0.688	-0.020	0.005	0.540	-0.050	0.450	0.715	0.585	1.000					
Timberland	0.584	0.580	0.570	0.520	0.510	0.533	-0.020	0.000	0.430	-0.040	0.400	0.570	0.460	0.800	1.000				
Infrastructure	0.781	0.780	0.750	0.690	0.680	0.709	-0.020	0.010	0.580	0.060	0.590	0.760	0.620	0.650	0.500	1.000			
Real Assets (60 Real Est, 15 Timb, 25 Infr)	0.822	0.819	0.795	0.724	0.713	0.743	-0.022	0.006	0.593	-0.020	0.533	0.782	0.638	0.969	0.829	0.802	1.000		
Commodities	0.162	0.160	0.160	0.160	0.170	0.168	-0.120	0.100	0.100	0.050	0.190	0.180	0.210	0.200	0.180	0.240	0.231	1.000	
Cash Equivalents	-0.042	-0.030	-0.080	-0.010	-0.100	-0.040	0.100	0.070	-0.110	-0.090	-0.070	0.000	-0.070	-0.060	-0.050	-0.080	-0.071	0.070	1.000

- Relationships between asset classes are as important, or more important, than the level of individual asset class assumptions.
- These relationships will have a large impact on the generation of efficient asset mixes using mean-variance optimization.
- Correlations are what define the diversification benefit – or lack thereof – of asset combinations.

Asset Mix Alternatives

Mean-Variance Optimization

		Optimal Mixes				
Asset Class	**Target**	**Mix 1**	**Mix 2**	**Mix 3**	**Mix 4**	**Mix 5**
US Broad Equity	29%	22%	25%	27%	29%	32%
Global ex-US Equity	23%	18%	20%	22%	24%	26%
Domestic Fixed	12%	34%	28%	22%	15%	8%
High Yield	5%	4%	4%	4%	4%	4%
Non-US Fixed	5%	0%	0%	0%	0%	0%
Private Equity	5%	6%	6%	7%	8%	8%
Real Assets*	0%	15%	16%	17%	19%	21%
Real Estate	10%	0%	0%	0%	0%	0%
Timberland	5%	0%	0%	0%	0%	0%
Infrastructure	5%	0%	0%	0%	0%	0%
Cash Equivalents	1%	1%	1%	1%	1%	1%
Totals	100%	100%	100%	100%	100%	100%
Expected Return	7.1%	6.5%	6.7%	7.0%	7.3%	7.5%
Standard Deviation	14.7%	11.9%	13.0%	14.3%	15.6%	16.9%
Public Equity	52%	40%	45%	49%	53%	58%
Fixed Income + Cash	23%	39%	33%	27%	20%	13%
Alternatives	25%	21%	22%	24%	27%	29%

*Real Assets = 60% Real Estate + 15% Timberland + 25% Infrastructure

Asset Mix Alternatives

Mean-Variance Optimization

- While the Fund's expected return over the next 10 years falls short of the 7.75% return assumption, there are a few key items not factored into the 7.1% projection.
  - Callan's public market return projections do not incorporate active management premiums.
    - *Active management premiums accrue when investment firms selected by the State Investment Board outperform their passive benchmarks. It is important to note, though, that investment firms will at times underperform their passive benchmarks. The Plan's returns have benefitted from active management by approximately 50 basis points over the past five years.*
  - Callan's 10-year numbers are below longer-term expectations due to the current economic environment and the forecast for the next several years.
    - *Callan's 10-year return projections are approximately 50 to 200 basis points below longer-term (30+ years) expectations depending on the asset class.*
  - The actuary assumes 2.75% price inflation versus Callan's 2.25% assumption which means the liability return is closer to 7.4% rather than 7.75%.
    - *The 7.75% return is not reduced by a full 50 basis points since retirees do not receive an automatic COLA (100% CPI) every year.*
  - The Plan still has a reasonable chance of achieving a 7.75% return over 10 years (46% probability).
- In general, the efficient mixes suggest greater allocations to private equity and fixed income in lieu of real assets.
- Finally, Callan's 2015 capital market assumptions result in the model not "liking" non-US fixed income from a pure beta standpoint. Models are a tool, not a substitute for informed human judgement. To that end, we believe that the historical "alpha" available through implementation makes a compelling case to override the simple "beta" assessment embedded in our optimization model.

Build Actuarial Liability Model

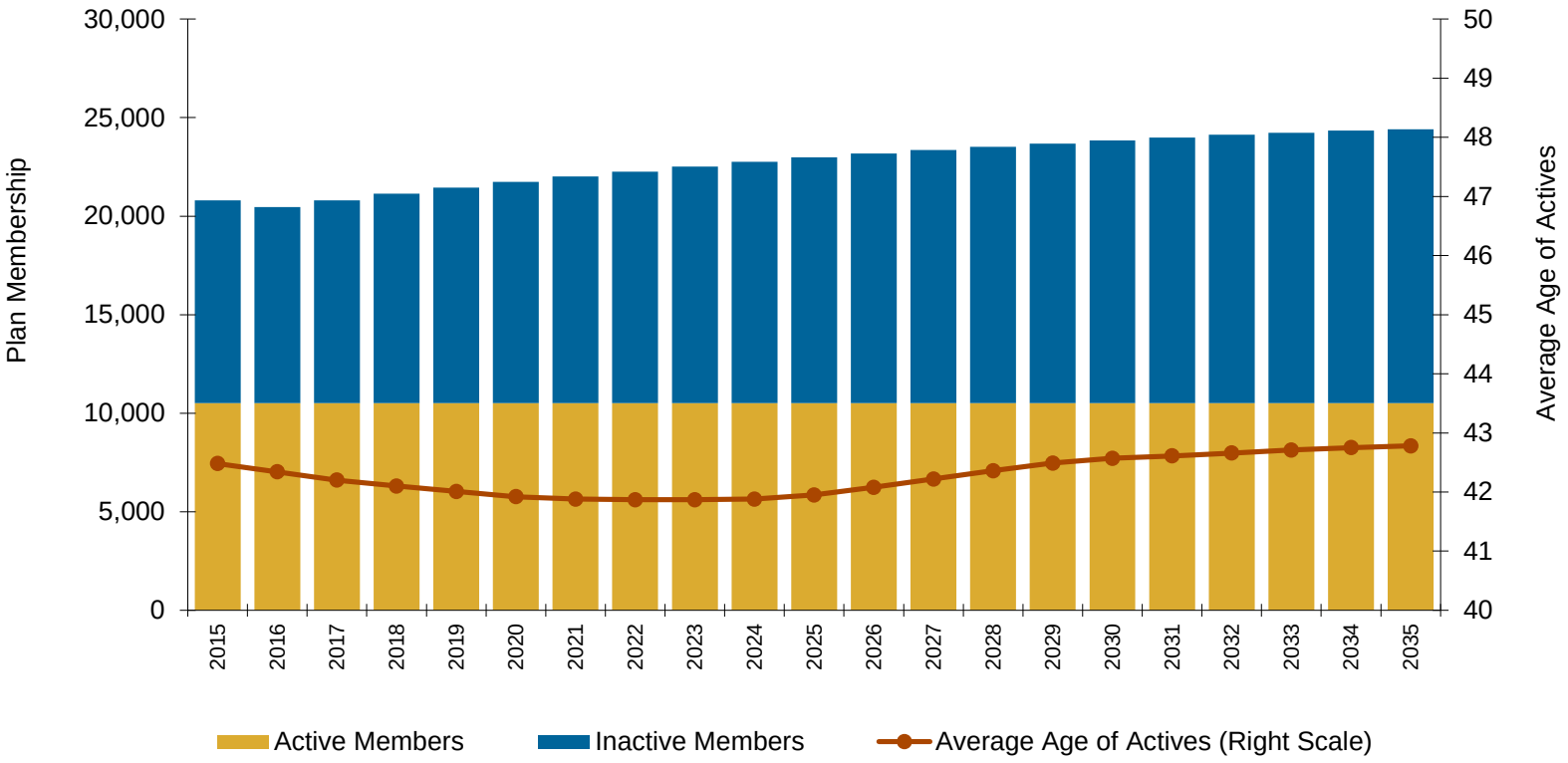
- For purposes of asset-liability modeling, Callan built an actuarial liability model which initially matches actuarial liabilities within 5%.
  - Results are then scaled to match the actuarial report exactly.
- Liability model is based on the July 1, 2015 actuarial valuation report provided by Segal Consulting.
  - Member and employer contribution rates of 11.75% and 12.75%, respectively.
  - Contribution rates revert to 7.75% when the Plan becomes 100% funded on an actuarial basis.

July 1, 2015 Financial Position	
Actuarial Accrued Liability	$3,450 Million
Market Value of Assets	$2,142 Million
Actuarial Value of Assets	$2,125 Million
Funded Status (MVA/AL)	62.1%
Funded Status (AVA/AL)	61.6%

Key Assumptions	Actuarial	Callan
Investment Return	7.75%	7.1%
Price Inflation	2.75%	2.25%
Salary Growth	4.25% + Promotion	3.75% + Promotion

Plan Membership

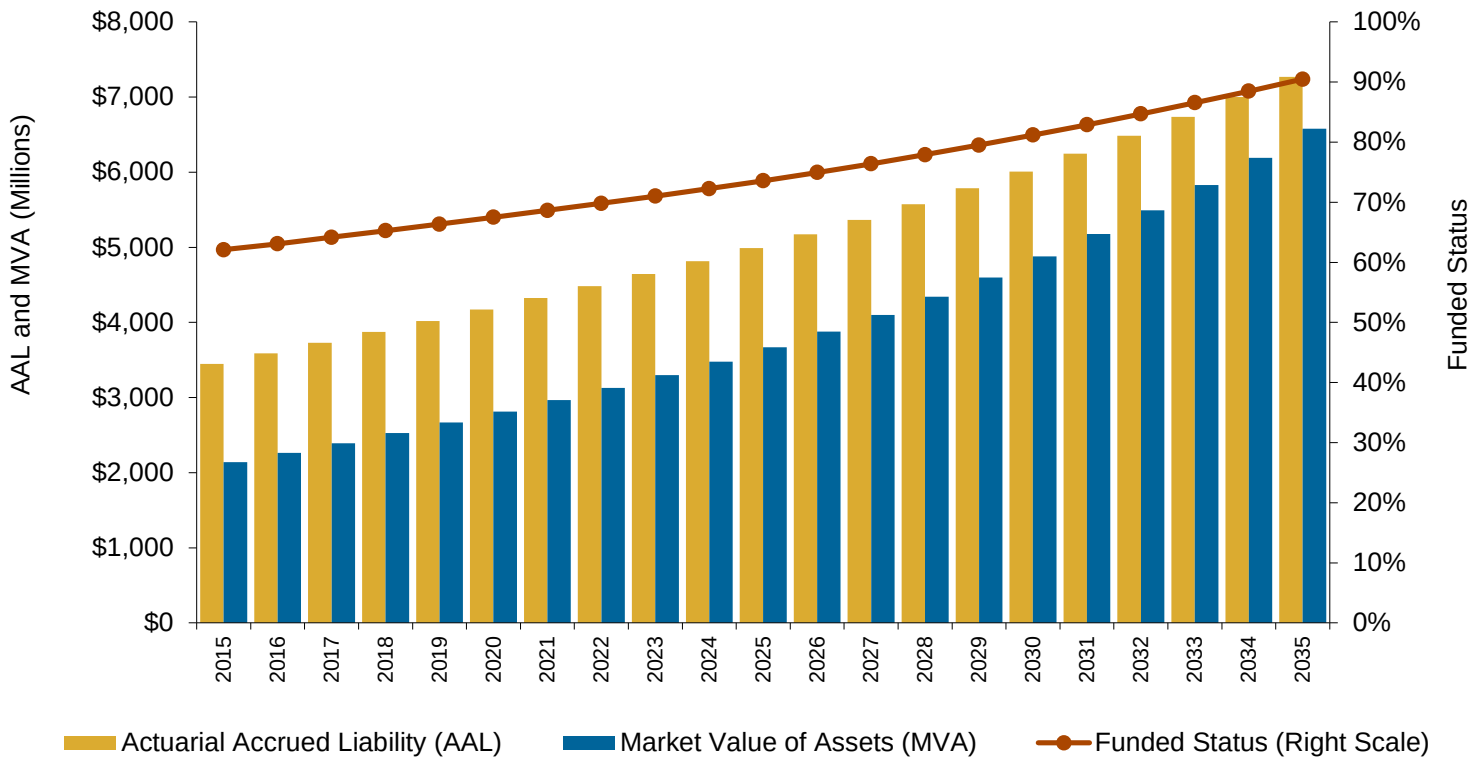
20 Year Projection (2015 to 2035)



- The number of active members is held constant at 10,514 (0% workforce growth).
  - Future new hires replace exits due to retirement, death, disability, and withdrawal.
- Average age of active members remains fairly steady, hovering in the 42-43 year range.

Liabilities, Assets and Funded Status

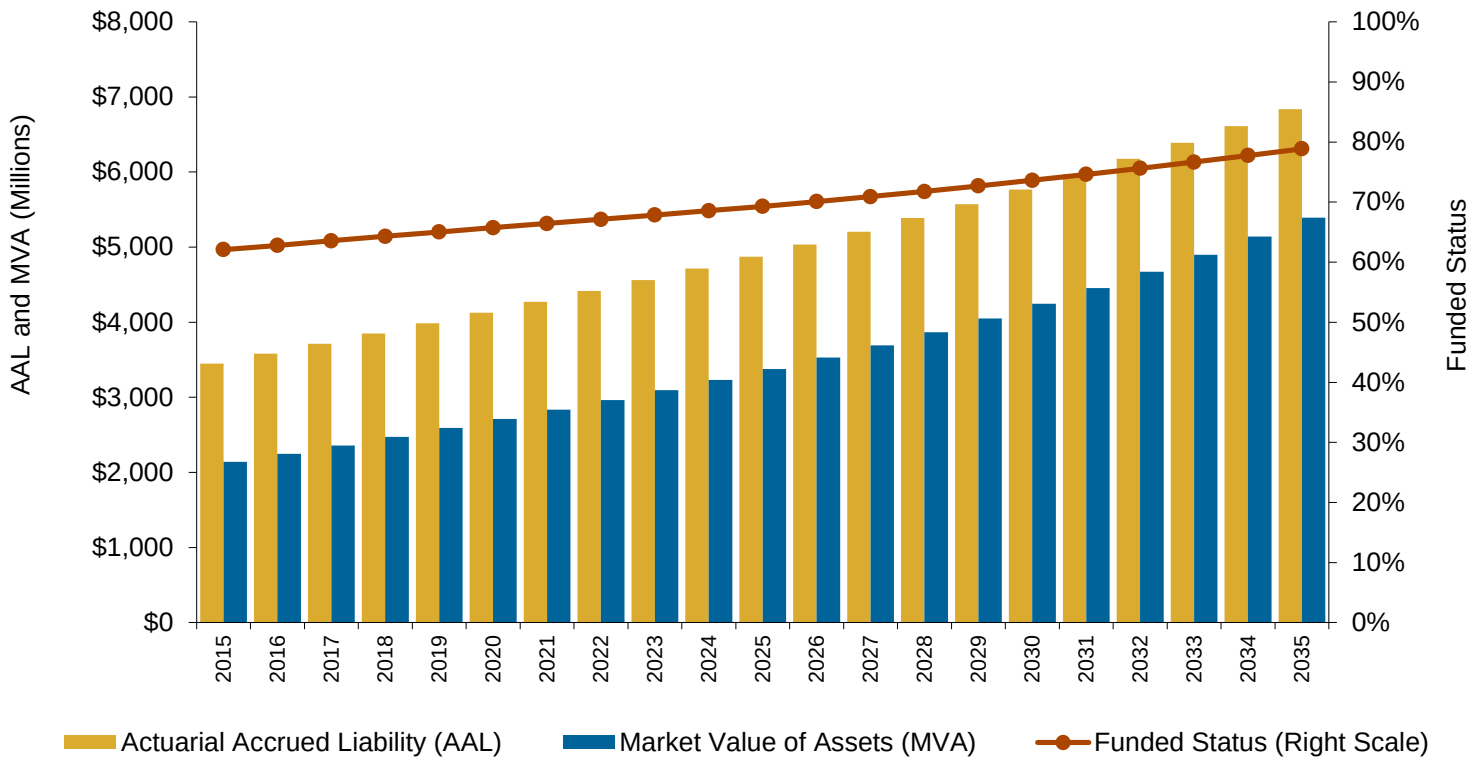
20 Year Projection (2015 to 2035): Actuarial Assumptions



- The above graph represents the baseline projection for the current target mix and current funding policy using actuarial assumptions.
  - Current target mix is assumed to return 7.75% each year with price inflation of 2.75%.
  - Assumed salary growth of 4.25% + promotion each year.
- Funded status is expected to rise to 90% by 2035 under a combined contribution rate of 24.5%.

Liabilities, Assets and Funded Status

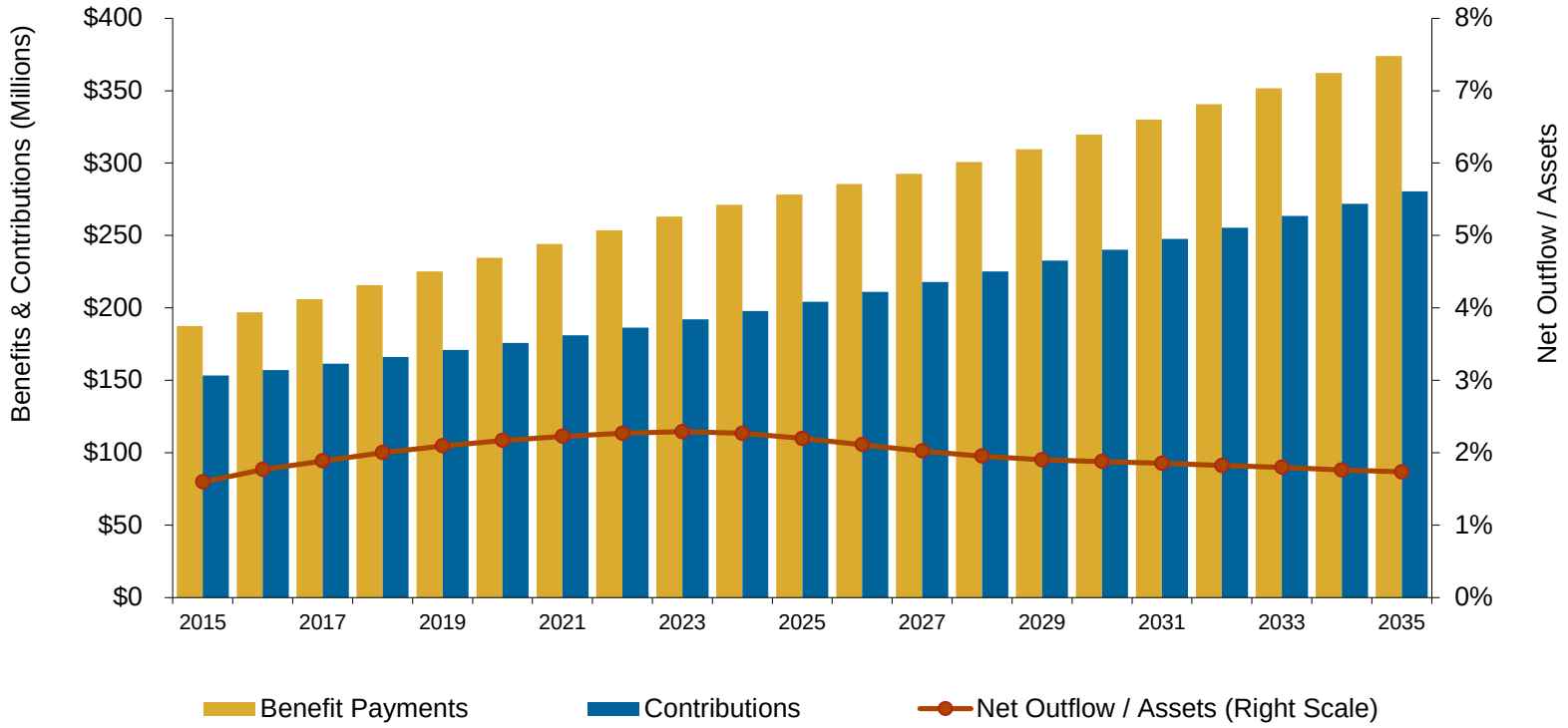
20 Year Projection (2015 to 2035): Callan Assumptions



- The above graph represents Callan's baseline projection for the current target mix and current funding policy.
  - Current target mix is assumed to return 7.1% each year with price inflation of 2.25%.
  - Assumed salary growth of 3.75% + promotion each year.
- Funded status is expected to rise to 79% by 2035 under a combined contribution rate of 24.5%.

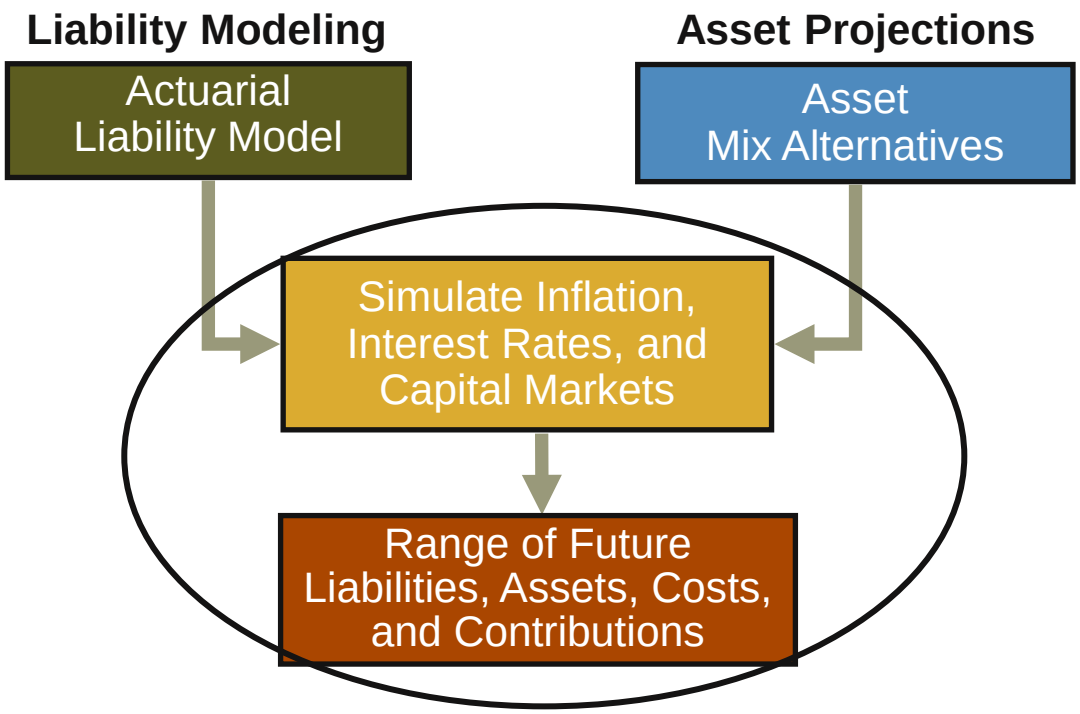
Liquidity Needs

20 Year Projection (2015 to 2035)



- Net Outflow = Benefit Payments – Employer Contributions – Employee Contributions
- Net outflow as a percentage of assets under 5% should be manageable as long as TFFR adheres to the current funding policy.
- Liquidity needs peak at 2.3% of assets in the early 2020's before declining over the remainder of the projection period due in large part to a combined contribution rate of 24.5%.

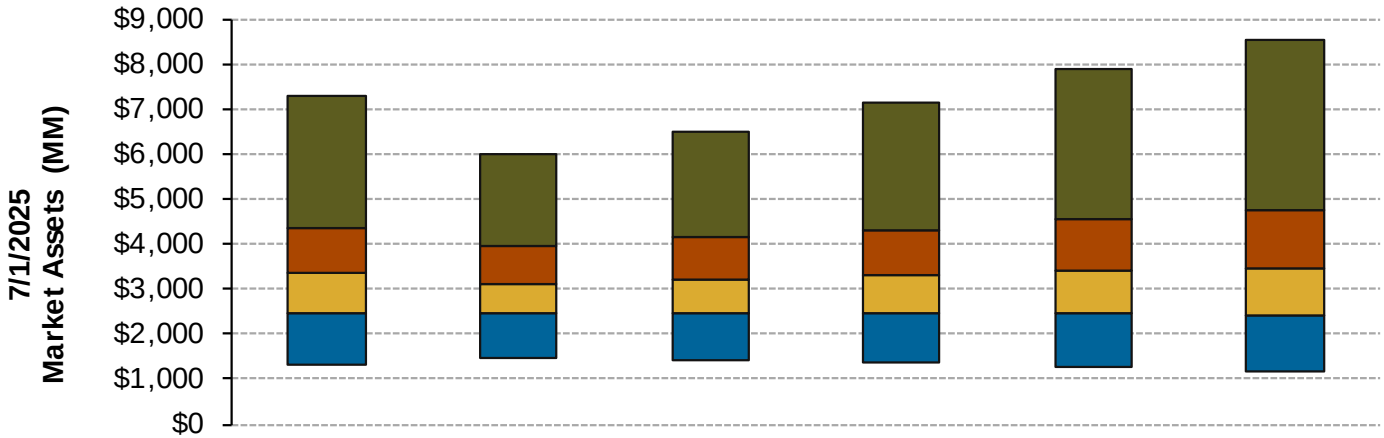
Simulate Financial Condition



- Generate 2,000 simulations per year, per asset mix to capture a broad range of possible future economic scenarios and their impact on the Fund.
- Focus on the 10-year planning horizon (July 1, 2015 – July 1, 2025).

Market Value of Assets

Projection Date: July 1, 2025

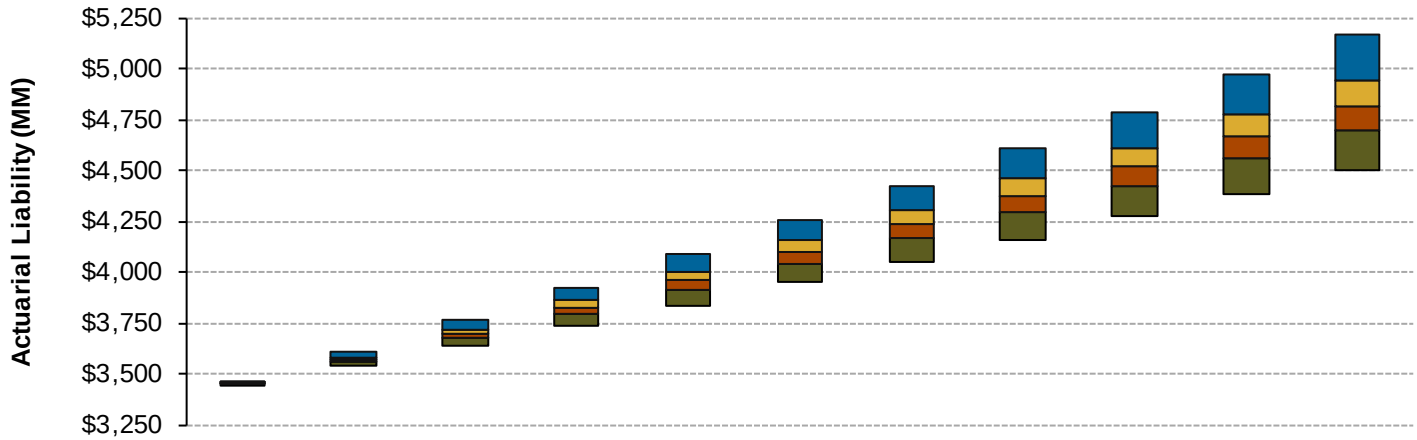


Percentile	Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
2.5th	$7,265	$5,982	$6,504	$7,137	$7,866	$8,517
25th	$4,361	$3,938	$4,131	$4,322	$4,537	$4,745
50th	$3,334	$3,127	$3,216	$3,299	$3,388	$3,472
75th	$2,446	$2,441	$2,452	$2,451	$2,441	$2,429
97.5th	$1,322	$1,486	$1,417	$1,348	$1,263	$1,186
Range	$5,942	$4,495	$5,086	$5,789	$6,604	$7,331

- Moving from left to right (Mix 1 to Mix 5), the range of results widens as one takes on more risk (greater equity exposure).
- More aggressive mixes have larger expected values (50th percentile) but lower worse-case (97.5th percentile) outcomes.
  - The 50th percentile is the expected case – half of the outcomes are higher and half lower.
  - The 97.5th percentile is a worse case scenario – a 2.5% probability that assets will be the value shown or lower. This represents a two standard deviation event.

Actuarial Liability Growth Projection

July 1, 2015 to July 1, 2025

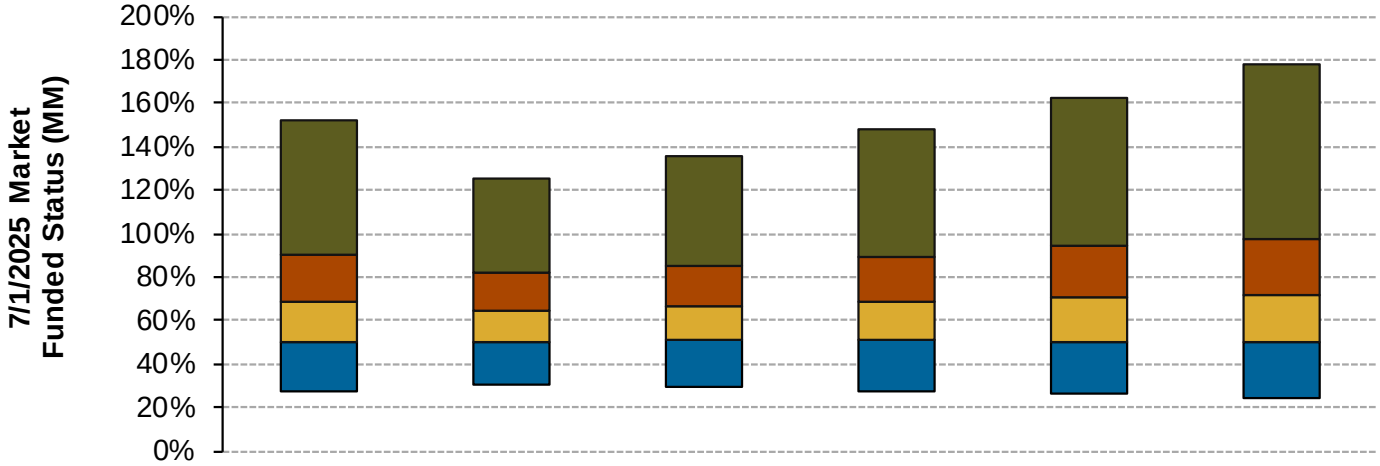


Percentile	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
97.5th	$3,450	$3,604	$3,763	$3,926	$4,088	$4,256	$4,424	$4,605	$4,781	$4,968	$5,166
75th	3,450	3,582	3,718	3,860	4,003	4,152	4,303	4,456	4,611	4,772	4,937
50th	3,450	3,572	3,698	3,827	3,960	4,095	4,232	4,371	4,516	4,663	4,813
25th	3,450	3,561	3,675	3,793	3,915	4,043	4,167	4,294	4,424	4,562	4,696
2.5th	3,450	3,539	3,636	3,736	3,836	3,947	4,051	4,162	4,271	4,381	4,496
Range	0	65	127	190	252	309	373	443	511	587	670

- Plan liabilities are increasing at a steady pace which is typical for an open plan.
  - The actuary assumes 2.75% price inflation versus Callan's 2.25% assumption which means the liability return is closer to 7.4% rather than 7.75%.
    - *The 7.75% return is not reduced by a full 50 basis points as retirees do not receive an automatic COLA (100% CPI) every year.*
- The Plan's liabilities are fairly sensitive to changes in inflation and the resulting impact on salaries.

Funded Status

Projection Date: July 1, 2025

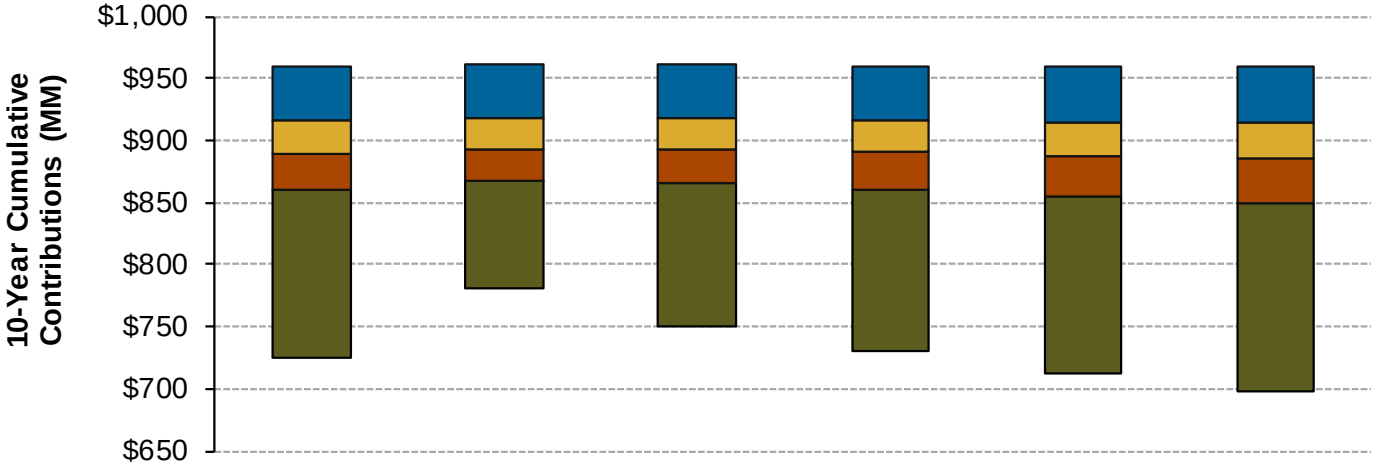


Percentile	Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
2.5th	152%	126%	136%	148%	163%	178%
25th	90%	81%	85%	89%	94%	98%
50th	69%	65%	66%	68%	70%	72%
75th	51%	50%	51%	51%	51%	50%
97.5th	28%	31%	29%	28%	26%	24%

- Funded Status = Market Value of Assets / Accrued Liability
  - 7/1/2015 funded status = 62.1% ($2,142 / $3,450)
- While the Plan's funded status is expected (50th percentile) to gradually improve under the current funding policy, none of the mixes are expected to be fully funded in ten years.
- More aggressive mixes are expected to have a higher funded status at the end of 10 years but will have a lower funded status in a worse-case scenario (97.5th percentile).

Cumulative Employer Contributions

2015 to 2024



Percentile	Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
97.5th	$960	$962	$961	$960	$960	$960
75th	$915	$918	$917	$916	$915	$914
50th	$890	$893	$892	$890	$888	$885
25th	$859	$868	$865	$861	$855	$849
2.5th	$725	$780	$750	$729	$712	$697
Range	$235	$182	$211	$231	$248	$263

- Contribution variability across the asset mixes is muted due to the statutory percentage of pay policy (12.75% until the Plan is fully funded on an actuarial basis and the contribution rate reverts to 7.75%).
  - Investment gains/losses are mostly absorbed into the unfunded liability (funded status).
- Contribution volatility (from best- to worse-case) within an asset mix stems from simulated inflation which impacts salaries and in the better-case scenarios the reflection of a move to a 7.75% contribution rate.

Employer Contribution Rate Probabilities

2015 to 2024

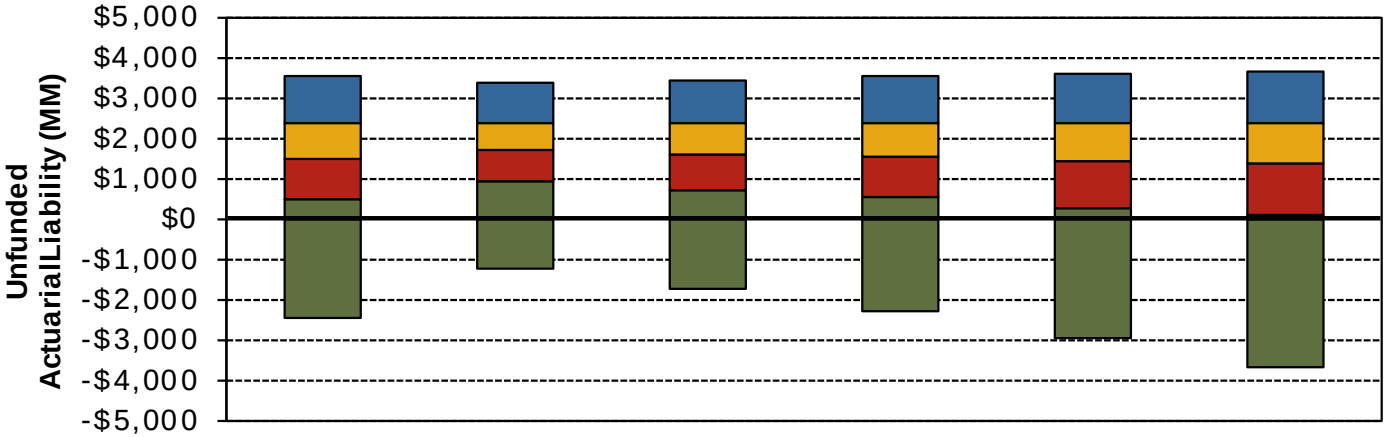
Probability Employer Contribution Rate = 7.75%

Asset Mix	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Target	0%	0%	0%	0%	0%	2%	5%	8%	11%	15%
Mix 1	0%	0%	0%	0%	0%	0%	1%	3%	5%	7%
Mix 2	0%	0%	0%	0%	0%	1%	3%	5%	8%	10%
Mix 3	0%	0%	0%	0%	0%	2%	5%	8%	10%	14%
Mix 4	0%	0%	0%	0%	1%	3%	7%	10%	14%	17%
Mix 5	0%	0%	0%	0%	1%	5%	9%	13%	17%	20%

- The current contribution policy sets employer and employee rates at 12.75% and 11.75%, respectively.
- The rates will remain in effect until the Fund is 100% funded on an actuarial basis at which point both rates will revert to 7.75%.
- The table above shows the probability of rates reverting to 7.75% over the next 10 years for the target and efficient asset mixes.
- If the funded status falls substantially, contribution rates above those reflected in this study are possible.

Unfunded Actuarial Liability

Projection Date: July 1, 2025

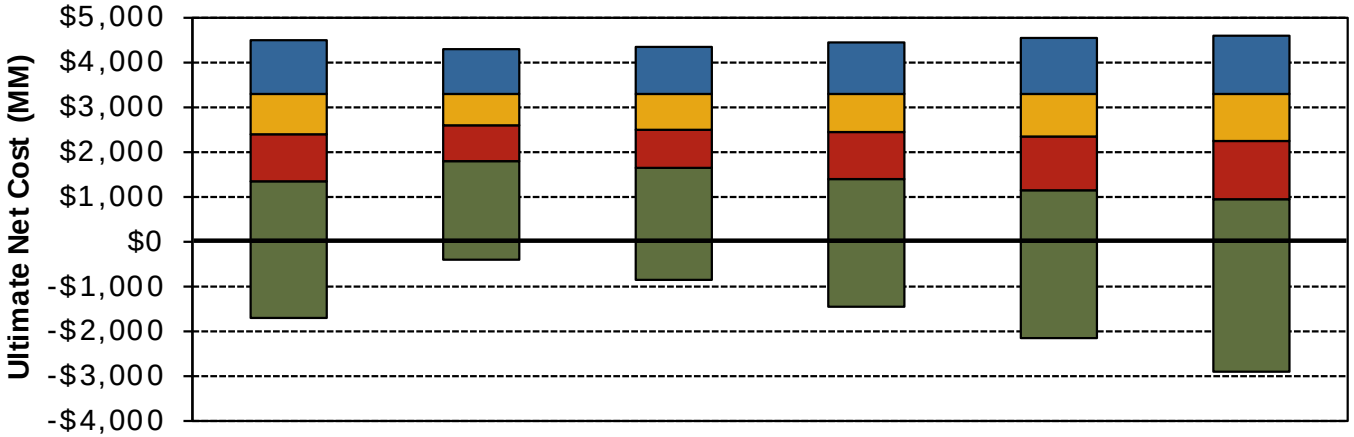


Percentile	Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
97.5th	$3,552	$3,355	$3,424	$3,514	$3,599	$3,672
75th	$2,396	$2,390	$2,389	$2,385	$2,391	$2,393
50th	$1,507	$1,698	$1,618	$1,534	$1,434	$1,348
25th	$464	$911	$722	$517	$286	$103
2.5th	-$2,448	-$1,240	-$1,730	-$2,279	-$2,949	-$3,674
Range	$6,000	$4,595	$5,154	$5,793	$6,548	$7,346

- Unfunded Actuarial Liability = Actuarial Liability - Market Value of Assets
  - The unfunded liability is being amortized over a closed 30-year period that began July 1, 2013.
- The 7/1/2015 actuarial unfunded liability of $1,308 million is expected to rise between $40 million and $390 million over the next 10 years depending on the asset mix employed.
  - The funded status, however, is expected to improve as assets are expected to grow at a faster pace than liabilities over the 10-year period.
- More aggressive asset mixes result in a lower unfunded liability in the expected case but result in a greater unfunded liability in worse-case scenarios.

Ultimate Net Cost

Projection Date: July 1, 2025



Percentile	Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
97.5th	$4,471	$4,267	$4,348	$4,421	$4,522	$4,593
75th	$3,287	$3,293	$3,286	$3,283	$3,285	$3,282
50th	$2,388	$2,584	$2,505	$2,427	$2,332	$2,249
25th	$1,355	$1,803	$1,626	$1,407	$1,156	$949
2.5th	-$1,698	-$391	-$847	-$1,466	-$2,163	-$2,917
Range	$6,169	$4,658	$5,195	$5,886	$6,685	$7,510

- Ultimate Net Cost (UNC) = 10-Year Cumulative Contributions + 7/1/2025 Unfunded Actuarial Liability
- UNC is a more complete measure of the cost to the Plan since it captures what is expected to be paid over 10 years plus what is owed at the end of the 10-year period.
  - Negative numbers indicate the Plan is in a surplus position at 7/1/2025.
- More aggressive mixes lower UNC in the expected case but result in greater UNC in a worse-case scenario.

Making a Decision

Factor	Description
Return Objective	• Meet or exceed a liability return of approximately 7.4% over the next 10 years (7.75% over the next 30 years)
Time Horizon	• Indefinite (plan is open)
Liquidity Needs	• Liquidity needs are low under the current funding policy which allows for a meaningful allocation to illiquid investments
Actuarial Methodology	• Fixed contribution rate contingent on funded status • Assets are smoothed over 5 years • 30 year closed amortization of the unfunded liability
Contribution Risk	• Contribution variability across asset mixes is muted due to the statutory contribution policy
Risk Tolerance	• Risk tolerance is the ability and willingness to take risk • What is comfort level in taking more risk? • Consider worse-case funded status and/or worse-case deficit at the end of 10 years
Liability Growth	• Liabilities are growing • At 2.25% inflation, liability return is approximately 7.4% (At 2.75% inflation, liability return is 7.75%)
Funded Status*	• Plan is underfunded but funded status is expected to gradually improve going forward • 7/1/2015 funded status (MVA) = 62%

** Many plan sponsors select a more aggressive asset allocation to assist with closing a plan deficit over the long run. However, a more aggressive asset allocation can make the financial situation worse, if investment performance is below average.*

Asset Allocation Recommendation

Asset Class	Target	Change from Target	Mix 3	Change from Target	Mix 3A	Change from Target	Mix 3B
US Broad Equity	29%	-2%	27%	-1%	28%	0%	29%
Global ex-US Equity	23%	-1%	22%	0%	23%	0%	23%
Domestic Fixed	12%	10%	22%	7%	19%	4%	16%
High Yield	5%	-1%	4%	-1%	4%	-1%	4%
Non-US Fixed	5%	-5%	0%	-5%	0%	-2%	3%
Private Equity	5%	2%	7%	2%	7%	1%	6%
Real Estate	10%	0%	10%	1%	11%	0%	10%
Timberland	5%	-2%	3%	-2%	3%	-2%	3%
Infrastructure	5%	-1%	4%	-1%	4%	0%	5%
Cash Equivalents	1%	0%	1%	0%	1%	0%	1%
Totals	100%	0%	100%	0%	100%	0%	100%
Expected Return	7.1%	-0.1%	7.0%	0.0%	7.1%	0.0%	7.1%
Standard Deviation	14.7%	-0.4%	14.3%	0.1%	14.8%	0.0%	14.7%
Public Equity	52%	-3%	49%	-1%	51%	0%	52%
Fixed Income + Cash	23%	4%	27%	1%	24%	1%	24%
Alternatives	25%	-1%	24%	0%	25%	-1%	24%

Note: Real Assets allocation broken out into the component pieces (Real Estate, Timberland and Infrastructure) for ease of comparison.

Asset Allocation Recommendation

- The table to the right views the current target and proposed mixes through the asset allocation framework employed by TFFR.
- Relative to the current target:
  - Mix 3 increases fixed income at the expense of equity and real assets;
  - Mixes 3A and 3B increase equity and fixed income at the expense of real assets.

Asset Class	Target	Mix 3	Mix 3A	Mix 3B
Global Equity	57%	56%	58%	58%
Public	52%	49%	51%	52%
Private	5%	7%	7%	6%
Global Fixed Income	22%	26%	23%	23%
Investment Grade	17%	22%	19%	19%
Non-Investment Grade	5%	4%	4%	4%
Global Real Assets	20%	17%	18%	18%
Real Estate	10%	10%	11%	10%
Other	10%	7%	7%	8%
Global Alternatives	0%	0%	0%	0%
Cash Equivalents	1%	1%	1%	1%
Totals	100%	100%	100%	100%
Expected Return	7.1%	7.0%	7.1%	7.1%
Standard Deviation	14.7%	14.3%	14.8%	14.7%

Asset Allocation Recommendation

- Many factors support an asset allocation with a risk posture similar to the current target, including:
  - Pursuit of a 7.4% liability return;
  - Long time horizon; and
  - Actuarial methodology (static contribution rate and asset smoothing).
- It may be tempting to move to an asset allocation policy that has a higher expected return in order to close the Plan deficit and offset future benefit accruals. However, a more aggressive asset allocation policy also increases the risk of “bad investment outcomes” which in turn could result in deterioration of TFFR’s funded status and the need for higher contribution rates.
- The statutory contribution policy combined with the current target’s risk level leads us to recommend maintaining the current risk posture (Mix 3A) or moving to a slightly less aggressive asset allocation (Mix 3).
  - Mix 3B, a Retirement and Investment Office (RIO) recommendation, offers a practical and implementable solution. Mix 3B resulted from discussions between RIO staff and Callan.

Asset Allocation Recommendation

- Finally, while TFFR's expected return over the next 10 years falls short of the 7.75% return assumption, there are mitigating factors that offset Mix 3's projected 7.1% return.
  - Callan's public market return projections are based on passive (i.e., index fund) implementation and do not incorporate active management premiums
  - Callan's 10-year projections are cyclically lower than our longer-term (i.e., greater than 10 years) expectations.
  - The actuary assumes 2.75% price inflation versus Callan's 2.25% assumption. The implication of our lower inflation expectation, all things being equal, is that the corresponding liability return is closer to 7.4% than 7.75%.
  - TFFR has a 46% probability of achieving a 7.75% return over the next 10 years.

Appendix

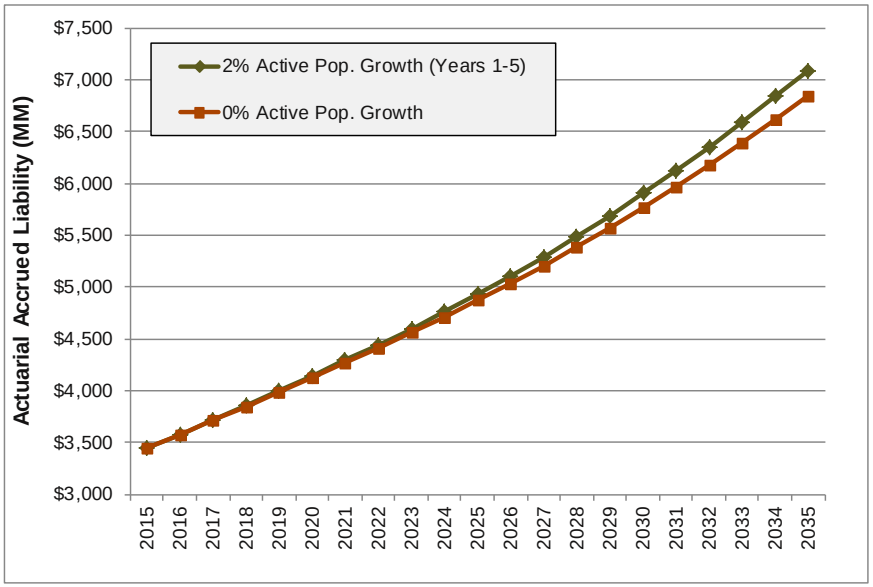
Active Population Projection

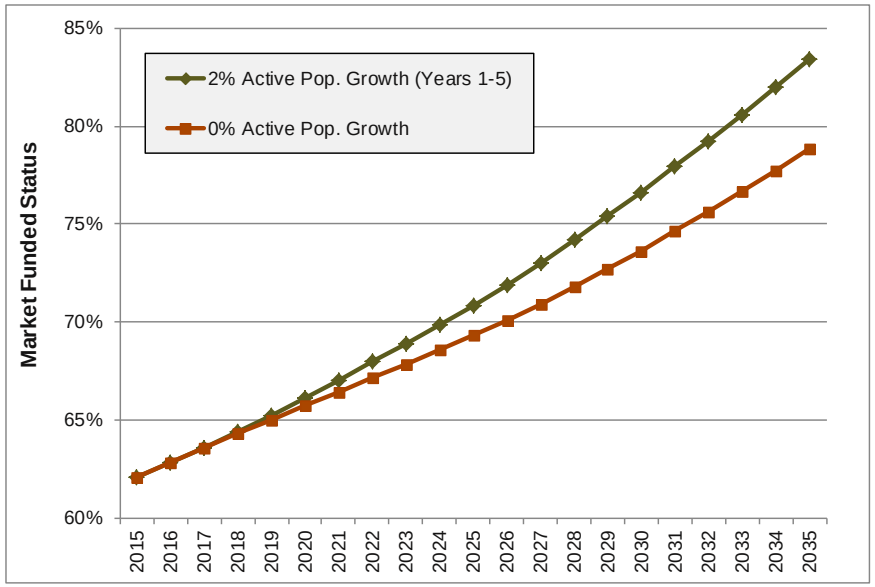
Active Population Projection

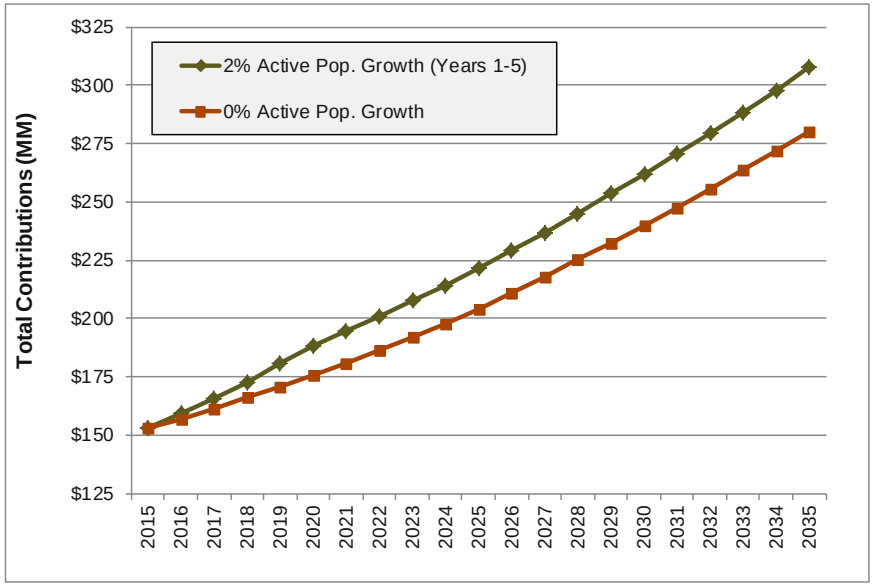
- The actuarial assumption employed in the valuation report is that the plan's active population remains constant (i.e., 0% growth).
- However, there is an expectation that the active member population may grow as the need for additional teachers and schools rises to meet a growing student population.
- Callan modeled a 2% increase in the active population from 2015 to 2020 to reflect this expectation.
  - Active population rises from 10,514 in 2015 to 11,608 by 2020, an increase of 1,094 members.
- The charts on the following page highlight the impact of an increase in the active population on liabilities, funded status and contributions.

Active Population Projection

Liabilities, Funded Status and Total (Employer + Employee) Contributions







- It is not surprising that an increase in the active population leads to an increase in the liability.
- What may be somewhat surprising though, is that an increased active population results in an improvement in the funded status.
- The funded status improvement is largely due to the increased contributions which flow into the Fund as a result of the additional active members.

Disclaimers

This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation.

This report may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact.

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The statements made herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties such that actual results may differ materially from these statements. There is no obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise. Undue reliance should not be placed on forward-looking statements.

TFFR Investment Policy Statement

Proposed Revisions

January 14, 2016

Dave Hunter, Executive Director/CIO

Darren Schulz, Deputy Chief Investment Officer

ND Retirement & Investment Office (RIO)

State Investment Board (SIB)

TFFR Investment Policy Statement
Summary of Recommended Revisions

- RIO recommends relatively minor revisions to TFFR's existing investment policy statement noting the vast majority of the changes are conforming in nature:

  1. Reducing the actuarial rate of return on assets to 7.75% from 8.00%; and
  2. Adopting the asset class terminology used in Callan's "Asset Liability Study".

  As example, Global Equity allocations are segmented into Public and Private, while Global Fixed Income allocations are segmented into Investment Grade and Non-Investment Grade.

Asset Class	Target	Mix 3	Mix 3A	Mix 3B
Global Equity	57%	56%	58%	58%
Public	52%	49%	51%	52%
Private	5%	7%	7%	6%
Global Fixed Income	22%	26%	23%	23%
Investment Grade	17%	22%	19%	19%
Non-Investment Grade	5%	4%	4%	4%
Global Real Assets	20%	17%	18%	18%
Real Estate	10%	10%	11%	10%
Other	10%	7%	7%	8%
Global Alternatives	0%	0%	0%	0%
Cash Equivalents	1%	1%	1%	1%
Totals	100%	100%	100%	100%

NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT

INVESTMENT POLICY STATEMENT

Note: A redline version of proposed changes are shown on pages 9-to-14.

1. PLAN CHARACTERISTICS AND FUND CONSTRAINTS.

The North Dakota Teachers' Fund for Retirement (TFFR) is a pension benefit plan that was established in 1913 to provide retirement income to all public school and certain state teachers and administrators in the state of North Dakota. The plan is administered by a seven member Board of Trustees comprised of five active and retired members of the fund appointed by the Governor of North Dakota, and two elected officials - the State Treasurer and the State Superintendent of Public Instruction.

The plan is a multi-employer defined benefit public pension plan that provides retirement, disability, and death benefits in accordance with Chapter 15-39.1 of the North Dakota Century Code (NDCC). Monthly retirement benefits are based on the formula: Number of Years of Service X 2.0% X Final Average Salary. Adjustments to the basic formula are made depending on the retirement option selected.

Funding is provided by monthly employee and employer contributions scheduled to increase as follows:

	7/1/11	7/1/12	7/1/14
Employee	7.75%	9.75%	11.75%
Employer	8.75%	10.75%	12.75%

Employee and employer contributions will be reduced to 7.75% each when TFFR reaches 90% funded level on an actuarial value basis.

The TFFR Board has an actuarial valuation performed annually, and an Experience Study and Asset Liability Study performed every five years. The actuarial assumed rate of return on assets was reduced to 7.75% from 8.0% as of July 1, 2015. Key plan and financial statistics are recorded in the most recent valuation report on file at the North Dakota Retirement and Investment Office (RIO).

2. FUND GOALS

The Plan benefits are financed through both statutory employer and employee contributions and the investment earnings on assets held in the Fund. The TFFR Board recognizes that a sound investment program is essential to meet the pension obligations.

As a result, the Fund goals are to:

- Improve the Plan's funding status to protect and sustain current and future benefits.
- Minimize the employee and employer contributions needed to fund the Plan over the long term.

- Avoid substantial volatility in required contribution rates and fluctuations in the Plan's funding status.
- Accumulate a funding surplus to provide increases in retiree annuity payments to preserve the purchasing power of their retirement benefit.

The Board acknowledges the material impact that funding the pension plan has on the State/School District's financial performance. These goals affect the Fund's investment strategies and often represent conflicting goals. For example, minimizing the long-term funding costs implies a less conservative investment program, whereas dampening the volatility of contributions and avoiding large swings in the funding status implies a more conservative investment program. The Board places greater emphasis on the strategy of improving the funding status and reducing the contributions that must be made to the Fund, as it is most consistent with the long-term goal of conserving money to apply to other important state/local projects.

3. RESPONSIBILITIES AND DISCRETION OF THE STATE INVESTMENT BOARD (SIB).

The TFFR Board is charged by law under NDCC 21-10-02.1 with the responsibility of establishing policies on investment goals and asset allocation of the Fund. The SIB is charged with implementing these policies and investing the assets of the Fund in the manner provided in NDCC 21-10-07, the prudent investor rule. Under this rule, the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. The Fund must be invested exclusively for the benefit of the members and their beneficiaries in accordance with this investment policy.

Management responsibility for the investment program not assigned to the SIB in Chapter 21-10 of the North Dakota Century Code (NDCC) is hereby delegated to the SIB, who must establish written policies for the operation of the investment program, consistent with this investment policy.

The SIB may delegate investment responsibility to professional money managers. Where a money manager has been retained, the SIB's role in determining investment strategy and security selection is supervisory, not advisory.

At the discretion of the SIB, the Fund's assets may be pooled with other funds. In pooling funds, the SIB may establish whatever asset class pools it deems necessary with specific quality, diversification, restrictions, and performance objectives appropriate to the prudent investor rule and the objectives of the funds participating in the pools.

The SIB is responsible for establishing criteria, procedures, and making decisions with respect to hiring, keeping, and terminating money managers. SIB investment responsibility also includes selecting performance measurement services, consultants, report formats, and frequency of meetings with managers.

The SIB will implement changes to this policy as promptly as is prudent.

4. RISK TOLERANCE

The Board is unwilling to undertake investment strategies that might jeopardize the ability of the Fund to finance the pension benefits promised to plan participants. However, funding the pension promise in an economical manner is critical to the State/School Districts ability to continue to provide pension benefits to plan participants. Thus, the Board actively seeks to lower the cost of funding the Plan's pension obligations by taking on risk for which it expects to be compensated over the long term. The Board understands that a prudent investment approach to risk taking can result in periods of under-performance for the Fund in which the funding status may decline. These periods, in turn, can lead to higher required contribution rates. Nevertheless, the Board believes that such an approach, prudently implemented, best serves the long-run interests of the State/School District and, therefore, of plan participants.

5. INVESTMENT OBJECTIVES

The Board's investment objectives are expressed in terms of reward and risk expectations relative to investable, passive benchmarks. The Fund's policy benchmark is comprised of policy mix weights of appropriate asset class benchmarks as set by the SIB.

1. The fund's rate of return, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.
2. The fund's risk, measured by the standard deviation of net returns, should not exceed 115% of the policy benchmark over a minimum evaluation period of five years.
3. The risk-adjusted performance of the fund, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.

6. POLICY ASSET MIX

Benefit payments are projected to occur over a long period of time. This allows TFFR to adopt a long-term investment horizon and asset allocation policy for the management of fund assets. Asset allocation policy is critical because it defines the basic risk and return characteristics of the investment portfolio. Asset allocation targets are established using an asset-liability analysis designed to assist the Board in determining an acceptable volatility target for the fund and an optimal asset allocation policy mix. This asset-liability analysis considers both sides of the plan balance sheet, utilizing both quantitative and qualitative inputs, in order to estimate the potential impact of various asset class mixes on key measures of total plan risk, including the resulting estimated impact of funded status and contribution rates. After consideration of all the inputs and a discussion of its own collective risk tolerance, the Board approves the appropriate policy asset mix for the Fund.

Asset Class	Policy Target (%)	Rebalancing Range (%)
Global Equity	58	46-65
Public Equity	52	44-60
U.S.	29	23-35
Global ex-US	23	18-28
Private Equity	6	4-8
Global Fixed Income	23	16-30
Investment Grade	19	14-24
Non-Investment Grade	4	2-6
Global Real Assets	18	12-24
Global Real Estate	10	5-15
Other	8	0-12
Infrastructure		0-10
Timber		0-5
Commodities		0-5
Inflation Linked-Bonds		0-10
Other Inflation Sensitive Strategies		0-5
Global Alternatives		0-10
Cash	1	0-2

Note: A redline version of proposed changes are shown on pages 9-to-14.

While the Board recognizes fluctuations in market values will lead to short-term deviations from policy targets, the Board does not intend to engage in tactical asset allocation. Allocations to Global Alternatives will result in pro-rata reduction in the policy targets.

7. RESTRICTIONS

While the SIB is responsible for establishing specific quality, diversification, restrictions, and performance objectives for the investment vehicles in which the Fund's assets will be invested, it is understood that:

a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation.
b. Derivatives use will be monitored to ensure that undue risks are not taken by the money managers.
c. No transaction shall be made which threatens the tax exempt status of the Fund.
d. All assets will be held in custody by the SIB's master custodian or such other custodians as are acceptable to the SIB.
e. No unhedged short sales or speculative margin purchases shall be made.

f. Social investing is prohibited unless it meets the Exclusive Benefit Rule and it can be substantiated that the investment must provide an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.

For the purpose of this document, Social Investing is defined as "The investment or commitment of public pension fund money for the purpose of obtaining an effect other than a maximized return to the intended beneficiaries."

g. Economically targeted investing is prohibited unless the investment meets the Exclusive Benefit Rule.

For the purpose of this document economically targeted investment is defined as an investment designed to produce a competitive rate of return commensurate with risk involved, as well as to create collateral economic benefits for a targeted geographic area, group of people, or sector of the economy.

Also, for the purpose of this document, the Exclusive Benefit Rule is met if the following four conditions are satisfied:

(1) The cost does not exceed the fair market value at the time of investment.
(2) The investment provides the Fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.
(3) Sufficient liquidity is maintained in the Fund to permit distributions in accordance with the terms of the plan.
(4) The safeguards and diversity that a prudent investor would adhere to are present.

Where investment characteristics, including yield, risk, and liquidity are equivalent, the Board's policy favors investments which will have a positive impact on the economy of North Dakota.

8. INTERNAL CONTROLS

A system of internal controls must be in place by the SIB to prevent losses of public funds arising from fraud or employee error. Such controls deemed most important are the separation of responsibilities for investment purchases from the recording of investment activity, custodial safekeeping, written confirmation of investment transactions, and established criteria for broker relationships. The annual financial audit must include a comprehensive review of the portfolio, accounting procedures for security transactions and compliance with the investment policy.

9. EVALUATION AND REVIEW.

Investment management of the Fund will be evaluated against the Fund's investment objectives. Emphasis will be placed on five year results. Evaluation should include an assessment of the continued feasibility of achieving the investment objectives and the appropriateness of the Investment Policy Statement for achieving those objectives.

Performance reports will be provided to the TFFR Board periodically, but not less than annually. Such reports will include asset returns and allocation data as well as information regarding all significant and/or material matters and changes pertaining to the investment of the Fund, including, but not limited to:

1. A list of the advisory services managing investments for the board.
2. A list of investments at market value, compared to previous reporting period, of each fund managed by each advisory service.
3. Earnings, percentage earned, and change in market value of each fund's investments.
4. Comparison of the performance of each fund managed by each advisory service to other funds under the board's control and to generally accepted market indicators.
5. All material legal or legislative proceedings affecting the SIB.
6. Compliance with this investment policy statement.

TFFR Board Adopted: May 25, 1995
Amended: November 30, 1995; August 21, 1997; July 15, 1999; July 27, 2000; September 18, 2003; July 14, 2005; September 21, 2006; September 20, 2007; October 27, 2011.

Approved by SIB:

ND Teachers' Fund for Retirement	ND State Investment Board
Date_____	Date_____
_____	_____
Fay Kopp Chief Retirement Officer	David J. Hunter Chief Investment Officer

Note:
The following six slides are a redline version of the proposed revisions to the TFFR Investment Policy Statement.

NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT

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Asset Class	Policy Target(%)	Rebalancing Range(%)
Global Equity	5~~7~~8	46-65
Domestic Equity	31	25-35
Large	24	20-28
Small	7	4-10
International Equity	21	15-25
Developed	17	13-23
Emerging	4	2-5
Public Equity	52	44-60
U.S.	29	23-35
Global ex-US	23	18-28
Private Equity	5~~6~~	4-8
Global Fixed Income	23~~22~~	16-30~~26~~
Investment Grade	19	14-24
Non-Investment Grade	4	2-6
Domestic Fixed	17	13-21
Investment Grade	12	10-18
Non-Investment Grade	5	3-7
International Fixed	6	3-7
Developed	5	3-7
Emerging		0-3
Global Real Assets	18~~20~~	12-24~~8~~
Global Real Estate	10	5-15
Other	10~~8~~	0-12~~5~~
Infrastructure		0-10
Timber		0-5~~7~~
Commodities		0-5
Inflation Linked-Bonds		0-10
Other Inflation Sensitive Strategies		0-5
Global Alternatives		0-10
Cash	1	0-2

While the Board recognizes fluctuations in market values will lead to short-term deviations from policy targets, the Board does not intend to engage in tactical asset allocation. Allocations to Global Alternatives will result in pro-rata reduction in the policy targets.

7. RESTRICTIONS

While the SIB is responsible for establishing specific quality, diversification, restrictions, and performance objectives for the investment vehicles in which the Fund's assets will be invested, it is understood that:

a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation.
b. Derivatives use will be monitored to ensure that undue risks are not taken by the money managers.

c. No transaction shall be made which threatens the tax exempt status of the Fund.
d. All assets will be held in custody by the SIB's master custodian or such other custodians as are acceptable to the SIB.
e. No unhedged short sales or speculative margin purchases shall be made.

f. Social investing is prohibited unless it meets the Exclusive Benefit Rule and it can be substantiated that the investment must provide an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.

For the purpose of this document, Social investing is defined as "The investment or commitment of public pension fund money for the purpose of obtaining an effect other than a maximized return to the intended beneficiaries."

g. Economically targeted investing is prohibited unless the investment meets the Exclusive Benefit Rule.

For the purpose of this document economically targeted investment is defined as an investment designed to produce a competitive rate of return commensurate with risk involved, as well as to create collateral economic benefits for a targeted geographic area, group of people, or sector of the economy.

Also, for the purpose of this document, the Exclusive Benefit Rule is met if the following four conditions are satisfied:

(1) The cost does not exceed the fair market value at the time of investment.
(2) The investment provides the Fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.
(3) Sufficient liquidity is maintained in the Fund to permit distributions in accordance with the terms of the plan.
(4) The safeguards and diversity that a prudent investor would adhere to are present.

Where investment characteristics, including yield, risk, and liquidity are equivalent, the Board's policy favors investments which will have a positive impact on the economy of North Dakota.

8. INTERNAL CONTROLS

A system of internal controls must be in place by the SIB to prevent losses of public funds arising from fraud or employee error. Such controls deemed most important are the separation of responsibilities for investment purchases from the recording of investment activity, custodial safekeeping, written confirmation of investment transactions, and established criteria for broker relationships. The annual financial audit must include a comprehensive review of the portfolio, accounting procedures for security transactions and compliance with the investment policy.

9. EVALUATION AND REVIEW.

Investment management of the Fund will be evaluated against the Fund's investment objectives. Emphasis will be placed on five year results. Evaluation should include an assessment of the continued feasibility of achieving the investment objectives and the appropriateness of the Investment Policy Statement for achieving those objectives.

Performance reports will be provided to the TFFR Board periodically, but not less than annually. Such reports will include asset returns and allocation data as well as information regarding all significant and/or material matters and changes pertaining to the investment of the Fund, including, but not limited to:

1. A list of the advisory services managing investments for the board.
2. A list of investments at market value, compared to previous reporting period, of each fund managed by each advisory service.
3. Earnings, percentage earned, and change in market value of each fund's investments.
4. Comparison of the performance of each fund managed by each advisory service to other funds under the board's control and to generally accepted market indicators.
5. All material legal or legislative proceedings affecting the SIB.
6. Compliance with this investment policy statement.

TFFR Board Adopted: May 25, 1995
Amended: November 30, 1995; August 21, 1997; July 15, 1999; July 27, 2000; September 18, 2003; July 14, 2005; September 21, 2006; September 20, 2007; October 27, 2011.

Approved by SIB: ~~November 18, 2011~~

ND Teachers' Fund for Retirement

Date_____

_____
Fay Kopp
Chief Retirement Officer

ND State Investment Board

Date_____

_____
David J.Hunter ~~John W. Geisdinger, CFA~~
Chief Investment Officer

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **January 14, 2016**

SUBJ: **Actuarial Audit RFP Update**

Attached is the TFFR Actuarial Audit RFP which was made available on the State Procurement website, NDRIO website, and sent to various benefits and actuarial consultants on January 5, 2016. The estimated schedule is as follows:

Actuarial Audit RFP Schedule

- **RFP Issued: January 5, 2016**
- Deadline for receipt of questions and objections related to the RFP: 2 pm CST, January 15, 2016
- Responses to questions / RFP amendments (if required): January 26, 2016
- Deadline for receipt of Proposals: 2 pm CST, February 16, 2016
- Proposal Evaluation Committee evaluation completed approximately: February 29, 2016
- Offerors whose proposals receive the highest scores and are determined to be reasonably susceptible for award will be notified of oral presentation approximately: March 1, 2016.
- **Oral presentations by finalists at TFFR Board meeting: March 17, 2016**
- State issues Notice of Intent to Award Contract approximately: March 21, 2016
- State issues Contract approximately: March 29, 2016
- Contract start approximately: April 1, 2016

No Board action is requested at this time. This update is for informational purposes.

Attachment

North Dakota
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Office of Management and Budget
State Procurement Online
ONLINE SERVICES

Main Menu

View Solicitation

Solicitation

Number:	190-16-01
Type:	Request For Proposal
Issuing Agency:	Retirement & Investment Office
Division:	ND Teachers' Fund for Retirement
Title:	Actuarial Audit Services
Short Description:	NDTFFR seeks to hire an actuarial consulting firm to perform an independent actuarial audit and evaluation of actuarial services provided to NDTFFR by its current actuarial consultant
Issued:	01/05/2016
Status:	Pending Response
Closes:	02/16/2016 02:00 PM CT
Questions Due:	01/15/2016 02:00 PM CT

Attachments

Title	Size	Action
Actuarial Audit Services RFP	405 kb	View

*Any questions regarding this solicitation should be referred to the procurement officer (including problems opening attachments.)

Agency Information

Procurement Officer: Fay Kopp
Address: 1930 Burnt Boat Drive
Bismarck ND 58507-
Telephone: 701-328-9895
Fax: 701-328-9897
TTY: 711

Email: fkopp@nd.gov

We use Secure Sockets Layer (SSL) encryption technology to ensure your information is secure and protected.

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STATE OF NORTH DAKOTA

ND Teachers' Fund for Retirement -
ND Retirement and Investment Office
1930 Burnt Boat Drive
P.O. Box 7100
Bismarck, ND 58507

www.nd.gov/rio/tffr

Request For Proposal (RFP)

RFP Title: Actuarial Audit Services

RFP Number: 190-16-01

Date of Issue: January 5, 2016

Purpose of RFP: The ND Teachers' Fund for Retirement seeks to hire an actuarial consulting firm to perform an independent actuarial audit and evaluation of actuarial services provided to NDTFFR by its current actuarial consultant, Segal Consulting.

Offerors are not required to return this form.

Procurement Officer: Fay Kopp
701-328-9895; fkopp@nd.gov

TABLE OF CONTENTS

SECTION ONE
Introduction and Instructions

1.01 Purpose of the RFP
1.02 Contact Person, Telephone, Fax Numbers and E-mail
1.03 RFP Schedule
1.04 Return Mailing Address and Deadline for Receipt of Proposals
1.05 Assistance to Offerors with a Disability
1.06 Deadline for Receipt of Questions and Objections
1.07 Approved Vendor Registration Requirements
1.08 Pre-proposal Conference
1.09 Amendments to the RFP
1.10 News Releases
1.11 Notice Provided
1.12 Letter of Interest

SECTION TWO
Background Information

2.01 Background Information

SECTION THREE
Scope and Schedule

3.01 Scope of Work
3.02 Location of Work
3.03 Qualifications and Prior Experience
3.04 Contract Schedule and Deliverables

SECTION FOUR
General Contract Information

4.01 Contract Term, Extension and Renewal Options
4.02 Contract Type
4.03 Standard Contract Provisions
4.04 Proposal as a Part of the Contract
4.05 Additional Terms and Conditions
4.06 Supplemental Terms and Conditions
4.07 Contract Approval
4.08 Contract Changes – Unanticipated Amendments
4.09 Indemnification and Insurance Requirements
4.10 Taxes and Taxpayer Tax Identification
4.11 Proposed Payment Procedures
4.12 Contract Funding
4.13 Payment Terms
4.14 Contract Personnel
4.15 Right to Inspect Place of Business
4.16 Inspection & Modification - Reimbursement for Unacceptable Deliverables
4.17 Termination for Default
4.18 Open Records Laws - Confidentiality
4.19 Work Product, Equipment, and Material
4.20 Independent Entity
4.21 Assignment
4.22 Disputes - Applicable Law and Venue

SECTION FIVE
Evaluation Criteria and Contractor Selection

5.01 Understanding of the Project
5.02 Methodology Used for the Project
5.03 Management Plan for the Project
5.04 Experience and Qualifications
5.05 Contract Cost
5.06 Oral Presentations
5.07 Selection

SECTION SIX
Proposal Format and Content

6.01 Proposal Format and Content
6.02 Introduction
6.03 Understanding of the Project
6.04 Methodology Used for the Project
6.05 Management Plan for the Project
6.06 Experience and Qualifications
6.07 Cost Proposal
6.08 Required Enclosures

SECTION SEVEN
Standard Proposal Information

7.01 Authorized Signature
7.02 State Not Responsible for Preparation Costs
7.03 Conflict of Interest
7.04 Offeror's Certification
7.05 Offer Held Firm
7.06 Amendments to Proposals and Withdrawal of Proposals
7.07 Alternate Proposals
7.08 Subcontractors
7.09 Joint Ventures
7.10 Disclosure of Proposal Contents and Compliance with North Dakota Open Records Laws
7.11 Evaluation of Proposals
7.12 Right of Rejection
7.13 Clarification of Offers
7.14 Contract Negotiation
7.15 Failure to Negotiate
7.16 Notice of Intent to Award – Offeror Notification of Selection
7.17 Protest and Appeal

SECTION EIGHT
Attachments

8.01 Attachments

1. Proposal Evaluation Form
2. Service Contract Form
3. Indemnification and Insurance Requirements Appendix
4. Cost Proposal Format
5. Offeror Checklist

*S*ECTION ONE
INTRODUCTION AND INSTRUCTIONS

1.01
Purpose of the RFP

The ND Retirement and Investment Office (NDRIO), on behalf of the ND Teachers' Fund for Retirement (NDTFFR), hereafter known as "purchasing agency" is soliciting proposals for an actuarial consulting firm to perform an independent actuarial audit and evaluation of actuarial services provided to NDTFFR by its current actuarial consultant, Segal Consulting. The auditing actuarial consultant will be required to conduct a full scope actuarial audit by replicating the 2015 actuarial valuation, and examining the methods and assumptions in the 2015 actuarial experience study. The auditing actuary must express an opinion regarding the reasonableness and/or accuracy of valuation results, actuarial assumptions, and actuarial methods in accordance with generally recognized and accepted actuarial principles and practices.

1.02
Contact Person, Telephone, Fax, E-mail

The procurement officer is the point of contact for this RFP. All vendor communications regarding this RFP must be directed to the procurement officer. Unauthorized contact regarding the RFP with other State employees of the purchasing agency may result in the vendor being disqualified, and the vendor may also be suspended or disbarred from the state bidders list.

PROCUREMENT OFFICER: Fay Kopp, Chief Retirement Officer – Deputy Executive Director
PHONE: 701-328-9895; FAX: 701-328-9897; TTY Users call: 7-1-1
E-MAIL: fkopp@nd.gov

1.03
RFP Schedule

This schedule of events represents the State's best estimate of the schedule that will be followed for this RFP. If a component of this schedule, such as the deadline for receipt of proposals, is delayed, the rest of the schedule will be shifted by the same number of days. The approximate RFP schedule is as follows:

- RFP Issued: January 5, 2016
- Deadline for receipt of questions and objections related to the RFP: 2 pm CST, January 15, 2016
- Responses to questions / RFP amendments (if required): January 26, 2016
- Deadline for receipt of Proposals: 2 pm CST, February 16, 2016
- Proposal Evaluation Committee evaluation completed approximately: February 29, 2016
- Offerors whose proposals receive the highest scores and are determined to be reasonably susceptible for award will be notified of oral presentation approximately: March 1, 2016.
- Oral presentations by finalists at TFFR Board meeting: March 17, 2016
- State issues Notice of Intent to Award Contract approximately: March 21, 2016
- State issues Contract approximately: March 29, 2016
- Contract start approximately: April 1, 2016

1.04
Return Mailing Address and Deadline for Receipt of Proposals

Offerors must submit five (5) bound copies of its proposal in a sealed envelope or package. Offerors must also submit one (1) electronic copy of their proposal on a CD. Cost proposals must be submitted in a separate sealed envelope or package, clearly labeled "cost proposal."

Envelopes or packages containing proposals must be clearly addressed as described below to ensure proper delivery and to avoid being opened by the State before the deadline for receipt. Envelopes or packages must be addressed as follows:

Fay Kopp, Chief Retirement Officer – Deputy Executive Director
ND Teachers' Fund for Retirement – ND Retirement and Investment Office
Request for Proposal: Actuarial Audit Services
RFP Number: 190-16-01
1930 Burnt Boat Drive, P.O. Box 7100
Bismarck, ND 58507-7100

Proposals must be received by the purchasing agency at the location specified no later than 2:00 p.m. Central Time, on February 16, 2016. Proposals will not be publicly read at the opening.

Proposals may not be delivered orally, by facsimile transmission, by other telecommunication or electronic means. Offerors may fax or electronically transmit signed proposals to a third party who must deliver the proposal to the location indicated above by the date and time designated as the deadline for receipt of proposals.

Offerors assume the risk of the method of dispatch chosen. The State of North Dakota ("State") assumes no responsibility for delays caused by any delivery service. Postmarking by the due date will not substitute for actual proposal receipt by the State. An offeror's failure to submit its proposal prior to the deadline will cause the proposal to be rejected. Late proposals or amendments will not be opened or accepted for evaluation.

1.05
Assistance to Offerors with a Disability

Offerors with a disability that need an accommodation should contact the procurement officer prior to the deadline for receipt of proposals so that reasonable accommodation can be made.

1.06
Deadline for Receipt of Questions and Objections

Offerors must carefully review this solicitation, the contract, risk management provisions, and all attachments for defects, questionable, or objectionable material. All questions must be in writing and directed to the purchasing agency, addressed to the procurement officer, and cite the subject RFP number. The procurement officer must receive these written requests by the deadline specified in the RFP Schedule of Events to allow issuance of any necessary amendments.

This will also help prevent the opening of a defective solicitation and exposure of offeror's proposals upon which an award could not be made. Protests based on the content of the solicitation will be disallowed if these faults have not been brought to the attention of the procurement officer, in writing, before the time indicated in the Schedule of Events.

If the question may be answered by directing the questioner to a specific section of the RFP, then the procurement officer may answer the question over the telephone. Other questions may be more complex and may require a written amendment to the RFP. The procurement officer will make this determination. Oral communications is considered unofficial and non-binding on the State. The offeror must confirm telephone conversations in writing.

1.07
Approved Vendor Registration Requirements

Vendors Must Be Approved Before Contract Award

Proposals will be accepted from vendors that are not currently approved vendors on the State's bidders list; however, the successful offeror will be required to become approved prior to award.

To become an approved vendor, offerors must: 1) be registered with the North Dakota Secretary of State (fees apply), and 2) submit a completed Bidders List Application to the North Dakota Vendor Registry Office. Prospective offerors may access the Procurement Vendor Database on-line to verify whether their firm is currently on the bidders list. The bidders list that will be used for this solicitation is commodity code 918-40.

The Procurement Vendor Database, registration instructions and forms are available on-line at: **http://www.nd.gov/spo/vendor/registry/**. Contact the Vendor Registry Office at 701-328-2683 or infospo@nd.gov for assistance.

The successful offeror must register and become approved within 30 calendar days from the date of the Notice of Intent to Award. If an offeror fails to become approved by the time specified by the Procurement Officer, its proposal will be determined to be non-responsive, and its proposal will be rejected.

1.08
Pre-proposal Conference

No pre-proposal conference will be held for this RFP. Offerors are advised to carefully review the RFP and all attachments and submit all questions to the procurement officer by the deadline indicated for submission of questions in the schedule of events.

1.09
Amendments to the RFP

If an amendment to this RFP is issued, it will be provided to all offerors who were notified of the RFP and to those that have requested a copy from the procurement officer. Amendments will also be posted on the State Procurement Website at www.nd.gov/spo and NDTFFR website at www.nd.gov/rio/TFFR/RFP.

1.10
News Releases

News releases related to this RFP will not be made without prior approval of the procurement officer or project manager designated by the State.

1.11
Notice Provided

The Request for Proposal and any amendments to the RFP will be posted on the State Procurement Website at www.nd.gov/spo and NDTFFR website at www.nd.gov/rio/TFFR/RFP.

1.12
Letter of Interest

Vendors interested in receiving any notices related to this RFP are invited to contact the procurement officer with the name of their firm, contact person, mailing address, telephone number, fax number, and e-mail address. The sole purpose of the letter of interest is to provide the purchasing agency with a contact person to receive any notices related to the RFP. Submission of a letter of interest is not a requirement for submitting a proposal.

SECTION TWO

BACKGROUND INFORMATION

2.01
Background Information

The North Dakota Teachers' Fund for Retirement (NDTFFR) is a qualified governmental defined benefit pension plan covering North Dakota public school teachers and administrators and certain other teachers who meet statutory membership requirements. NDTFFR provides retirement, disability, and survivor benefits under North Dakota Century Code (NDCC) Chapter 15-39.1.

The NDTFFR Board of Trustees is responsible for managing the retirement program. The Board consists of the state treasurer, state superintendent of public instruction, and five members appointed by the Governor for five-year terms. The appointed members include one active school administrator, two active teachers, and two retired members.

Under North Dakota law, the NDTFFR Board is required to arrange for actuarial valuations of the Fund, establish the Fund's investment policy, and determine appropriate service levels for members. The ND State Investment Board (ND SIB) is responsible for setting the policies and procedures guiding the investment of ND TFFR assets. The NDTFFR and NDSIB programs are administered by the ND Retirement and Investment Office (NDRIO).

As of the July 1, 2015 valuation report, ND TFFR had 10,514 active members, 2,267 inactive members, and 8,025 retirees and beneficiaries. The plan's funded level was 61.6%.

Additional information about the NDTFFR program can be found here:

North Dakota Century Code (NDCC) Chapter 15-39.1 contains NDTFFR plan provisions.
http://www.legis.nd.gov/cencode/t15c39-1.pdf?20151104100514

NDTFFR website contains general information about NDTFFR plan.
http://www.nd.gov/rio/TFFR/default.htm

2015 Annual Valuation Report and Funding Projections
http://www.nd.gov/rio/TFFR/Publications/Actuarial%20Valuation/2015%20Valuation%20Report%20Segal.pdf
http://www.nd.gov/rio/TFFR/Publications/Actuarial%20Valuation/Segal%20Val%20results%20presentation_2015.pdf

2015 Actuarial Experience Study
http://www.nd.gov/rio/TFFR/Publications/Experience%20Study/ExperienceStudyReport_2015.pdf

2015 Comprehensive Annual Financial Report
http://www.nd.gov/rio/SIB/Publications/CAFR/2015AnnualReport.pdf

SECTION THREE
SCOPE OF WORK

3.01
Scope of Work

The ND Retirement and Investment Office (NDRIO), on behalf of the ND Teachers' Fund for Retirement (NDTFFR), hereafter known as "purchasing agency" is soliciting proposals for an actuarial consulting firm to perform an independent actuarial audit and evaluation of actuarial services provided to NDTFFR by its current actuarial consultant, Segal Consulting. The auditing actuarial consultant will be required to conduct a Level 1 full scope actuarial audit by replicating the 2015 actuarial valuation. The auditing actuary must also examine the current actuary's methods and assumptions in the 2015 actuarial experience study. The auditing actuary must express an opinion regarding the reasonableness and/or accuracy of valuation results, actuarial assumptions, and actuarial methods in accordance with generally recognized and accepted actuarial principles and practices.

The full scope actuarial audit should include:

1) Replication and evaluation of the 2015 actuarial valuation results, including a review of the data used, the degree to which data is sufficient to support the conclusions of the investigation, and a review of the accuracy of the actuarial calculations. Reconciliation and explanation of significant discrepancies between the auditing actuary and current actuary is required for valuation results (including a determination of actuarial accrued liability, normal cost, actuarial required contribution rate, funded ratio, etc.)

2) Evaluation of the appropriateness and accuracy of actuarial assumptions and methods recommended in the 2015 experience study, and used in the 2015 valuation report.

3) Assessment of the actuarial information for required reporting under Governmental Accounting Standards Board (GASB).

4) Assessment of the reasonableness of funding projections under alternative investment return scenarios.

5) Determination of whether the actuary's reports are accurate and comprehensive.

The actuarial audit should culminate in a report that:

1) Provides an evaluation and expresses an opinion regarding the reasonableness and accuracy of the valuation results, actuarial assumptions, actuarial methods, funding projections, and GASB information in accordance with generally recognized and accepted actuarial principles and practices.

2) Includes any recommendations regarding reasonable alternatives to the actuarial assumptions or methods.

3) Provides any recommendations to improve the quality and understanding of the actuarial valuation reports.

4) Is provided in draft form to NDRIO for review and comment by NDRIO staff and Segal Consultants, prior to the issuance of the final report.

5) Is provided in final form to NDRIO in advance of July 2016 board meeting.

6) Is presented to NDTFFR Board at its July 2016 board meeting. 15 paper copies and one electronic copy of the final report must be provided in advance of the meeting.

7) Is summarized in a letter to be included in NDTFFR's FY 2016 Comprehensive Annual Financial Report.

3.02
Location of Work

The work is to be performed, completed, and managed at the Contractor's place of business except for periodic board, staff, or legislative meetings at the request of the State.

3.03
Qualifications and Prior Experience

In order for offers to be considered responsive, offerors must meet the minimum qualifications and prior experience requirements. An offeror's failure to meet these minimum requirements will cause its proposal to be considered non-responsive and its proposal will be rejected. The minimum qualifications and prior experience are:

Actuarial Firm:

1) Must have a minimum of five (5) years of experience as a professional actuarial services firm that provides actuarial valuations, experience studies, actuarial audits, and pension consulting services to U.S multiple-employer public employee retirement plans.

2) Must have a minimum of five (5) public pension clients who engaged the firm for such services as conducting actuarial valuations, experience studies, actuarial audits, and other pension consulting services. At least three (3) of these clients must be listed as references.

Primary or Lead Actuary:

1) Must be a Fellow of the Society of Actuaries and an Enrolled Actuary.

2) Must have a minimum of five (5) years of experience as an actuary providing actuarial valuations, experience studies, actuarial audits, and pension consulting services for U.S. multiple-employer public employee retirement plans.

At the time specified by the deadline for submission of proposals, the offeror must have and keep current any professional licenses and permits required by federal, state, and local laws for performance of this contract. Offerors that do not possess required licenses at the time proposals are due will be determined non-responsive.

3.04
Contract Schedule and Deliverables

This schedule of events represents the State's best estimate of the contract schedule that will be followed. The contractor will be required to provide the following deliverables according to the estimated contract schedule below.

- Contract Start Date: April 1, 2016 TBD
- Kickoff Conference: April 2016 TBD
- Status Update: May 2016 TBD
- Draft Audit Report Due: June 23, 2016
- Final Audit Report Due: July 12, 2016
- Final audit report presented at NDTFFR Board meeting tentatively scheduled: July 21, 2016

SECTION FOUR
GENERAL CONTRACT INFORMATION

4.01
Contract Term, Extension and Renewal Options

The State intends to enter into a contract with an effective date beginning April 1, 2016 and ending July 30, 2016, or when actuarial audit is completed and report is presented to TFFR Board. The State reserves the right to extend the contract period for an additional period of time beyond the normal expiration date of the contract upon mutual written agreement by both parties.

4.02
Contract Type

This contract is a firm fixed price contract.

4.03
Standard Contract Provisions

The successful offeror will be required to sign and submit the contract attached to this RFP (Attachment 2). The contractor must comply with the contract provisions set out in this attachment. Any objections to the contract provisions must be set out in the offeror's proposal. No alteration of these provisions will be permitted without prior written approval from the purchasing agency.

Offerors are instructed to contact the procurement officer in writing by the deadline set for questions with any concerns regarding the contract provisions.

4.04
Proposal as a Part of the Contract

Part or all of this RFP and the successful proposal may be incorporated into the contract.

4.05
Additional Terms and Conditions

The State reserves the right to add, delete, or modify terms and conditions during contract negotiations. These terms and conditions will be within the scope of the RFP and will not affect the proposal evaluations.

4.06
Supplemental Terms and Conditions

Proposals including supplemental terms and conditions will be accepted, but supplemental conditions that conflict with those contained in this RFP or that diminish the State's right's under any contract resulting from the RFP will be considered null and void. The State is not responsible for identifying conflicting supplemental terms and conditions before issuing a contract award. After award of contract:

(a) if conflict arises between a supplemental term or condition included in the proposal and a term or condition of the RFP, the term or condition of the RFP will prevail; and
(b) if the State's rights would be diminished as a result of application of a supplemental term or condition included in the proposal, the supplemental term or condition will be considered null and void.

4.07
Contract Approval

This RFP does not, by itself, obligate the State. The State's obligation will commence when the purchasing agency approves the contract. Upon written notice to the contractor, the State may set a different starting date for the contract. The State will not be responsible for any work done by the contractor, even work done in good faith, if it occurs prior to the contract start date set by the State.

4.08
Contract Changes - Unanticipated Amendments

During the course of this contract, the contractor may be required to perform additional work. That work will be within the general scope of the initial contract. When additional work is required, the project manager designated by the State will provide the contractor a written description of the additional work and request the contractor to submit a firm time schedule for accomplishing the additional work and a firm price for the additional work. Cost and pricing data must be provided to justify the cost of amendments.

Contractor will not commence additional work until the project manager has secured any required State approvals necessary for the amendment and issued a written contract amendment, approved by the purchasing agency.

4.09
Indemnification and Insurance Requirements

Offerors must review the attached Risk Management Appendix (Attachment 3) for indemnification and insurance requirements. The indemnification and insurance provisions will be incorporated into the final contract.

Objections to any of the provisions of the Indemnification and Insurance Requirements must be made in writing to the attention of the procurement officer by the time and date set for receipt of questions. No alteration of these provisions will be permitted without prior written approval from the purchasing agency in consultation with the North Dakota Risk Management Division.

Upon receipt of the Notice of Intent to Award, the successful offeror must obtain the required insurance coverage and provide the procurement officer with proof of coverage prior to contract approval. The coverage must be satisfactory to the purchasing agency, in consultation with the North Dakota Risk Management Division. An offeror's failure to provide evidence of insurance coverage is a material breach and grounds for withdrawal of the award or termination of the contract.

4.10
Taxes and Taxpayer Identification

The contractor must provide a valid Vendor Tax Identification Number as a provision of the contract.

The State is not responsible for and will not pay local, state, or federal taxes. The State sales tax exemption number is E-2001, and certificates will be furnished upon request by the purchasing agency.

4.11
Proposed Payment Procedures

The State will make a single payment when all of the deliverables are received and the contract is completed and approved by the project manager designated by the State. The State will not make any advanced payments before performance by the contractor under this contract.

4.12
Contract Funding

Approval or continuation of a contract resulting from this solicitation is contingent upon continuing appropriation. The contract may be terminated by the state or modified by agreement of both parties in the event funding from federal, state, or other sources is not obtained and continued at sufficient levels.

4.13
Payment Terms

No payment will be made until the purchasing agency approves the contract. Payment for commodities and services received under contracts will normally be made within 30 calendar days after receipt and acceptance by the purchasing agency or after receipt of a correct invoice, whichever is later. Payment inquiries must be directed to the purchasing agency.

4.14
Contract Personnel

The project manager designated by the purchasing agency must approve any change of the contractor's project team members named in the proposal, in advance and in writing. Personnel changes that are not approved by the State may be grounds for the State to terminate the contract.

4.15
Right to Inspect Place of Business

At reasonable times, the State may inspect those areas of the contractor's place of business that are related to the performance of a contract. If the State makes an inspection, the contractor must provide reasonable assistance.

4.16
Inspection & Modification - Reimbursement for Unacceptable Deliverables

The contractor is responsible for the completion of all work set out in the contract. All work is subject to inspection, evaluation, and approval by the project manager designated by the State. The State may employ all reasonable means to ensure that the work is progressing and being performed in compliance with the contract. Should the project manager determine that corrections or modifications are necessary in order to accomplish its intent, the project manager may direct the contractor to make changes. The contractor will not unreasonably withhold changes.

Substantial failure of the contractor to perform the contract may cause the State to terminate the contract. In this event, the State may require the contractor to reimburse monies paid (based on the identified portion of unacceptable work received) and may seek associated damages.

4.17
Termination for Default

If the project manager designated by the purchasing agency determines that the contractor has refused to perform the work or has failed to perform the work with diligence as to ensure its timely and accurate completion, the State may, by providing written notice to the contractor, terminate the contractor's right to proceed with part or all or the remaining work.

This clause does not restrict the State's right to termination under the contract provisions of the Service Contract, attached.

4.18
Open Records Laws - Confidentiality

Any records that are obtained or generated by the contractor under this contract are subject to North Dakota open records law regarding public records and handling of confidential information.

4.19
Work Product, Equipment, and Material

All work products, equipment or materials created or purchased under this contract belong to the State and must be delivered to State at State's request upon termination of this contract, unless otherwise agreed in writing by the purchasing agency.

4.20
Independent Entity

The contractor is an independent entity under this contract and is not a State employee for any purpose. The contractor retains sole and absolute discretion in the manner and means of carrying out the contractor's activities and responsibilities under the contract, except to the extent specified in the contract.

4.21
Assignment

Contractor may not assign or otherwise transfer or delegate any right or duty without the State's express written consent. However, the contractor may enter into subcontracts provided that the subcontract acknowledges the binding nature of this contract and incorporates this contract, including any attachments.

4.22
Disputes - Applicable Law and Venue

Any dispute arising out of this agreement will be resolved under the laws of the State of North Dakota.

SECTION FIVE
EVALUATION CRITERIA AND CONTRACTOR SELECTION

Proposals will first be examined by the Procurement Officer to determine if they are sufficiently responsive to the RFP requirements to permit valid comparison. Those proposals that pass the initial screening will then be reviewed by a Proposal Evaluation Committee composed of NDRIO staff members. Reviewers will evaluate each responsive technical proposal and award points as described in Attachment 1. An NDRIO staff member who is not on the Proposal Review Committee will award points to each cost proposal separately from the technical proposal as described in Attachment 1.

THE TOTAL NUMBER OF POINTS USED TO SCORE THIS CONTRACT IS 100

5.01
Understanding of the Project

Ten Percent (10%) of the total possible evaluation points will be assigned to this criterion.

Proposals will be evaluated against the questions set out below:

[a] Has the offeror demonstrated a thorough understanding of the purpose and scope of the project?

[b] How well has the offeror identified pertinent issues and potential problems related to the project?

[c] Has the offeror demonstrated an understanding of the deliverables the State expects it to provide?

[d] Has the offeror demonstrated an understanding of the State's time schedule and can meet it?

[e] Is the proposal submitted responsive to all material requirements in the RFP?

5.02
Methodology Used for the Project

Ten Percent (10%) of the total possible evaluation points will be assigned to this criterion.

Proposals will be evaluated against the questions set out below:

[a] Does the methodology depict a logical approach to fulfilling the requirements of the RFP?

[b] Does the methodology match and achieve the objectives set out in the proposal?

[c] Does the methodology interface with the time schedule in the proposal?

[d] Does the methodology have provisions for quality assurance?

5.03
Management Plan for the Project

Ten Percent (10%) of the total possible evaluation points will be assigned to this criterion.

Proposals will be evaluated against the questions set out below:

[a] How well does the management plan support all of the project requirements and logically lead to the deliverables required in the RFP?

[b] How well is accountability completely and clearly defined?

[c] Is the organization of the project team clear?

[d] How well does the management plan illustrate the lines of authority and communication?

[e] To what extent does the offeror already have the hardware, software, equipment, and licenses necessary to perform the contract?

[f] Does it appear that offeror can meet the schedule set out in the RFP?

[g] Has the contractor gone beyond the minimum tasks necessary to meet the objectives of the RFP?

[h] Is the proposal practical, feasible, and within budget?

5.04
Experience and Qualifications

Forty Percent (40%) of the total possible points will be assigned to this criterion.

If the RFP required a minimum amount of experience or qualifications, no points will be awarded for meeting the minimum. Points will be awarded for experience and qualifications that exceed the stated minimums. Proposals will be evaluated against the questions set out below:

Questions regarding the personnel.

[a] Do the individuals assigned to the project have experience on similar projects?

[b] Are resumes complete and do they demonstrate backgrounds that would be desirable for individuals engaged in the work the RFP requires?

[c] How extensive is the applicable education and experience of the personnel designated to work on the project?

Questions regarding the firm.

[d] Has the firm demonstrated experience in completing similar projects on time and within budget?

[e] How successful is the general history of the firm regarding timely and successful completion of projects?

[f] Has the firm provided letters of reference from previous clients?

[g] Has the firm provided samples of previous work?

5.05
Contract Cost

Thirty Percent (30%) of the total possible evaluation points will be assigned to cost. Points will be awarded to each cost proposal separately from the technical proposals by a NDRIO staff member who is not on the Proposal Evaluation Committee. The lowest cost proposal will receive the maximum number of points allocated to cost. The point allocations for cost on the other proposals will be evaluated according to the method set out below in the Proposal Evaluation form attached to this RFP.

$$\frac{\text{Price of Lowest Cost Proposal}}{\text{Price of Proposal Being Rated}} \times \text{Total Points for Cost Available} = \text{Awarded Points}$$

5.06
Oral Presentations

After the Proposal Evaluation Committee completes the initial evaluation of proposals received, offerors whose proposals receive the highest total scores and are determined to be reasonably susceptible for award will be required to make an oral presentation of their proposal to the TFFR Board of Trustees. The presentations will be made to the TFFR Board at their meeting scheduled to be held on March 17, 2016 in the Peace Garden Room at the State Capitol in Bismarck, North Dakota.

Offerors will be responsible for all costs associated with providing the oral presentation, including travel expenses.

5.07
Selection

The NDTFFR Board of Trustees will make the final decision on selection of the actuarial consultant to conduct the actuarial audit. The Board reserves the right to make the final selection based upon any factors it deems applicable including, but not limited to, proposal information, cost, references, oral presentations, or other factors.

SECTION SIX
PROPOSAL FORMAT AND CONTENT

6.01
Proposal Format and Content

The State discourages overly lengthy and costly proposals; however, in order for the State to evaluate proposals fairly and completely, offerors must follow the format set out in this RFP and provide all information requested.

Offerors must provide the following when submitting their proposals:

1) Technical Proposal comprised of five (5) sections:
    a. Introduction
    b. Understanding of the Project
    c. Methodology Used for the Project
    d. Management Plan for the Project
    e. Experience and Qualifications

2) Cost Proposal

6.02
Introduction

Proposals must include the complete name and address of offeror's firm and the name, mailing address, and telephone number of the person the State should contact regarding the proposal.

Proposals must confirm that the offeror will comply with all provisions in this RFP. The proposal must disclose any instances where the firm or any individuals working on the contract has a possible conflict of interest and, if so, the nature of that conflict (e.g. employed by the State of North Dakota).

Proposals must be signed by a company officer empowered to bind the company. An offeror's failure to include these items in the proposals may cause the proposal to be determined to be non-responsive and the proposal may be rejected.

6.03
Understanding of the Project

Offerors must provide comprehensive narrative statements that illustrate their understanding of the requirements of the project, deliverables, project schedule, and contract terms and conditions. Offerors must also identify any pertinent issues and potential problems related to the project.

6.04
Methodology Used for the Project

Offerors must provide comprehensive narrative statements that set out the methodology it intends to employ. Offerors must illustrate how the methodology will serve to accomplish the work and provide the deliverables described in the scope of work within the State's project schedule.

6.05
Management Plan for the Project

Offerors must provide comprehensive narrative statements that set out the management plan it intends to follow and illustrate how the plan will serve to accomplish the work and furnish the deliverables described in the scope of work within the State's project schedule. Offerors must provide a narrative or organizational chart that describes the organization of the project team. The organizational chart must illustrate the lines of authority, designate the individual responsible and accountable for the completion of each component and deliverable of the RFP, and indicate where the work will be performed.

6.06
Experience and Qualifications

Offerors must describe the experience of their firm in completing similar projects. Additionally, offerors must provide information specific to the personnel assigned to accomplish the work called for in this RFP. Offerors must provide a narrative description of the organization of the project team and a personnel roster that identifies each person who will actually work on the contract and provide the following information about each person listed:

(a) title;
(b) resume;
(c) description of the type of work the individual will perform; and
(d) the number of estimated hours for each individual named above.

Offerors must provide three (3) reference names and contact information for similar projects the offeror's firm has completed. The State reserves the right to contact any references provided by the offeror. Offerors are invited to provide letters of reference from previous clients. Offerors must provide a sample actuarial audit report.

6.07
Cost Proposal

Offerors must complete cost proposal attached to this RFP or prepare a cost proposal following the same format. The cost proposal must be on a fixed-fee basis for all work involved. The cost proposal should be separate from the responses to the other sections of the RFP and clearly labeled "Cost Proposal."

All costs associated with the contract must be stated in U.S. currency.

Travel expenses (including transportation, lodging, meals and other travel related expenses) should not be included in your proposal. Travel expenses for the presentation to the TFFR Board of Trustees in July 2016 will be reimbursed if the Chief Retirement Officer has given prior approval for each individual to incur such expenses. NDTFFR is under no obligation to reimburse the consultant if no approval was given.

6.08
Required Enclosures

Offerors must provide all information specifically required in this RFP.

SECTION SEVEN
STANDARD PROPOSAL INFORMATION

7.01
Authorized Signature

An individual authorized to bind the offeror to the provisions of the RFP must sign all proposals.

7.02
State Not Responsible for Preparation Costs

The State will not pay any cost associated with the preparation, submittal, presentation, or evaluation of any proposal.

7.03
Conflict of Interest

Offerors must disclose any instances where the firm or any individuals working on the contract has a possible conflict of interest and, if so, the nature of that conflict (e.g. employed by the State of North Dakota). The State reserves the right to cancel the award if any interest disclosed from any source could either give the appearance of a conflict or cause speculation as to the objectivity of the offeror's proposal. The State's determination regarding any questions of conflict of interest is final.

7.04
Offeror's Certification

By signature on the proposal, an offeror certifies that it complies with:

a) the laws of the State of North Dakota;
b) North Dakota Administrative Code;
c) all applicable local, state, and federal laws, code, and regulations;
d) the applicable portion of the Federal Civil Rights Act of 1964;
e) the Equal Employment Opportunity Act and the regulations issued by the federal government;
f) the Americans with Disabilities Act of 1990 and the regulations issued by the federal government;
g) all terms, conditions, and requirements set forth in this RFP;
h) a condition that the proposal submitted was independently arrived at, without collusion;
i) a condition that the offer will remain open and valid for the period indicated in this solicitation; and
j) a condition that the firm and any individuals working on the contract do not have a possible conflict of interest (e.g. employed by the State of North Dakota).

If any offeror fails to comply with the provisions stated in this paragraph, the State reserves the right to reject the proposal, terminate the contract, or consider the contractor in default.

7.05
Offer Held firm

Proposals must remain open and valid for at least 90 days from the deadline specified for submission of proposals. In the event award is not made within 90 days, the State will send a written request to all offerors deemed susceptible for award asking offerors to hold their price firm for a longer specified period of time.

7.06
Amendments to Proposals and Withdrawals of Proposals

Offerors may amend or withdraw proposals prior to the deadline set for receipt of proposals. No amendments will be accepted after the deadline unless they are in response to the State's request. After the deadline, offerors may make a written request to withdraw proposals and provide evidence that a substantial mistake has been made. The procurement officer may permit withdrawal of the proposal upon verifying that a substantial mistake has been made, and the State may retain the offeror's bid bond or other bid type of bid security, if one was required.

7.07
Alternate Proposals

Offerors may submit only one proposal for evaluation.

Alternate proposals (proposals that offer something different than what is requested) will be rejected.

7.08
Subcontractors

Subcontractors will not be allowed.

7.09
Joint Ventures

Joint ventures will not be allowed.

7.10
Disclosure of Proposal Contents and Compliance with North Dakota Open Records Laws

All proposals and other material submitted become the property of the State and may be returned only at the State's option. All proposals and related information, including detailed cost information, are exempt records until all oral presentation regarding the proposals, if any, have been heard, in accordance with N.D.C.C. § 44-04-18.4(6).

Offerors may make a written request that trade secrets and other proprietary data contained in proposals be held confidential. Material considered confidential by the offeror must be clearly identified, and the offeror must include a brief statement that sets out the reasons for confidentiality. See the North Dakota Office of the Attorney General website for additional information. http://www.ag.nd.gov/OpenRecords/ORM.htm

After oral presentations, if any, have been heard, proposals will be subject to the North Dakota open records law. Records are closed or confidential only if specifically stated in law. If a request for public information is received, the procurement officer, in consultation with the Office of the Attorney General, will determine whether the information is an exception to the North Dakota open records law, and the information will be processed appropriately.

7.11
Evaluation of Proposals

All proposals will be reviewed to determine if they are responsive to the requirements of this solicitation.

An evaluation committee made up of NDRIO staff will evaluate responsive proposals. The evaluation will be based on the evaluation factors set forth in this RFP. Points for price will be awarded separately.

Following is the weighting factor for each area:

Understanding of Project	10%
Methodology	10%
Management Plan	10%
Experience and Qualifications	40%
Cost	30%

Offerors whose proposals receive the highest scores and are determined to be reasonably susceptible for award will be required to make an oral presentation to the TFFR Board of Trustees. The Board will make the final contract award decision. The Board reserves the right to make the final selection based upon any factors it deems applicable including, but not limited to, proposal information, cost, references, oral presentations, or other factors.

7.12
Right of Rejection

The State reserves the right to reject any proposals, in whole or in part. Proposals received from debarred or suspended vendors will be rejected. The procurement officer may reject any proposal that is not responsive to all of the material and substantial terms, conditions, and performance requirements of the RFP.

Offerors may not qualify the proposal nor restrict the rights of the State. If an offeror does so, the procurement officer may determine the proposal to be a non-responsive counter-offer and the proposal may be rejected.

The procurement officer may waive minor informalities that:

- do not affect responsiveness;
- are merely a matter of form or format;
- do not change the relative standing or otherwise prejudice other offers;
- do not change the meaning or scope of the RFP;
- are insignificant, negligible, or immaterial in nature;
- do not reflect a material change in the work; or
- do not constitute a substantial reservation against a requirement or provision,

The State reserves the right to reject any proposal determined to be not responsive, and to reject the proposal of an offeror determined to be not responsible. The State also reserves the right to refrain from making an award if it determines it to be in its best interest.

7.13
Clarification of Offers

In order to determine if a proposal is reasonably susceptible for award, communications by the procurement officer or the proposal evaluation committee are permitted with an offeror to clarify uncertainties or eliminate confusion concerning the contents of a proposal and determine responsiveness to the RFP requirements. Clarifications may not result in a material or substantive change to the proposal. The initial evaluation may be adjusted because of a clarification under this section.

After receipt of proposals, if there is a need for any substantial clarification or material change in the RFP, an amendment will be issued. The amendment will incorporate the clarification or change, and a new date and time established for new or amended proposals. Evaluations may be adjusted as a result of receiving new or amended proposals.

7.14
Contract Negotiation

After final evaluation by the TFFR Board, the procurement officer may negotiate with the offeror of the highest-ranked proposal. Negotiations, if held, will be within the scope of the request for proposals and limited to those items that would not have an effect on the ranking of proposals. If the highest-ranked offeror fails to provide necessary information for negotiations in a timely manner, or fails to negotiate in good faith, the State may terminate negotiations and negotiate with the offeror of the next highest-ranked proposal.

If contract negotiations are commenced, they will be held primarily be teleconference or email.

If contract negotiations are held, the offeror will be responsible for all costs including its travel and per diem expenses.

7.15
Failure to Negotiate

If the selected offeror:

- fails to provide the information required to begin negotiations in a timely manner;
- fails to negotiate in good faith;
- indicates it cannot perform the contract within the budgeted funds available for the project; or
- if the offeror and the State, after a good faith effort, cannot come to terms,

the State may terminate negotiations with the offeror initially selected and commence negotiations with the next highest ranked offeror.

7.16
Notice of Intent to Award - Offeror Notification of Selection

After the completion of contract negotiation the procurement officer will issue a written Notice of Intent to Award and send copies to all offerors. The Notice of Intent Award will set out the names and addresses of all offerors and identify the proposal selected for award. The scores and placement of other offerors will not be part of the Notice of Intent to Award.

The successful offeror named in the Notice of Intent to Award is advised not to begin work, purchase materials, or enter into subcontracts relating to the project until both the successful offeror and the State sign the contract.

7.17
Protest and Appeal

North Dakota law provides that an interested party may protest a solicitation. If an interested party wishes to protest the content of this RFP, the protest must be received, in writing, by the procurement officer at least seven calendar days before the deadline for receipt of proposals.

An interested party may protest the award or proposed award of a contract. If an offeror wishes to protest the award of a contract or proposed award of a contract, the protest must be received, in writing, by the procurement officer within seven calendar days after the date the Notice of Intent to Award was issued.

SECTION EIGHT
ATTACHMENTS

8.01
Attachments

1. Proposal Evaluation Form
2. Contract Form
3. Indemnification and Insurance Requirements Appendix
4. Cost Proposal Format
5. Offeror Checklist

ATTACHMENT 1

PROPOSAL EVALUATION FORM

All proposals will be reviewed by the Procurement Officer for responsiveness and then evaluated by the Proposal Review Committee using the criteria set out herein.

INSTRUCTIONS FOR EVALUATORS
Each evaluation criterion has been assigned a specific number of points. The questions under each evaluated area help you measure the quality of the offeror's response. Do not assign points to individual questions, instead, award a total score for each evaluation criterion.

RATING SCALE FOR ASSESSING VENDOR RESPONSES
This rating scale is intended to establish guidelines within that range to ensure members of the RFP evaluation committee perform their evaluation with consistency. You may assign any value for a given criteria from 0 to the maximum number of points. A zero value typically constitutes no response or an inability of the vendor to meet the criterion. In contrast, the maximum value should constitute a high standard of meeting the criterion. If a specific criterion would only yield a yes or no response (e.g., offeror can submit an electronic report in required format by noon Friday), the evaluator should award either the maximum points or a zero.

For Example: "Experience and Qualifications" is an evaluation criteria receiving a weighting of 40% of the total possible points. Using a 100 Point Scale, a maximum of 40 points can be awarded. The rating scale would be:

Rating Scale (**40 *POINT*** Maximum)	
Point Value	Explanation
0	None. Not addressed or response of no value
1-10	Fair. Limited applicability
11-20	Good. Some applicability
21-30	Very Good. Substantial applicability
31-40	Excellent. Total applicability

COST PROPOSAL

An NDRIO staff member who is not on the Proposal Review Committee will award points to each cost proposal separately from the technical proposal. After the technical proposals have been evaluated, the cost proposal points will be recorded on the evaluation summary sheets.

EVALUATION CRITERIA AND SCORING

Person or Firm Name _____

Proposal Evaluation Committee (PEC) Member Name _____

Date of Review _____

RFP Title/Number _____

I hereby certify that I do not have a conflict of interest with this offeror. I further certify that I have reviewed the Request for Proposal Evaluators Guide and that neither I nor my immediate family members have a conflict of interest with regard to this offeror who submitted a proposal in response to this Request for Proposal, in accordance with N.D.A.C. § 4-12-04-04.

Signature_____**Date**_____

THE TOTAL NUMBER OF POINTS USED TO SCORE THIS CONTRACT IS 100

6.03 Understanding of the Project

Weight ***10 Percent***. Maximum Point Value for this Section
100 Points x ***10 Percent = 10 Points***

Rating Scale (***10 POINT*** Maximum)	
Point Value	Explanation
0	None. Not addressed or response of no value
1-2	Fair. Limited applicability
3-5	Good. Some applicability
6-8	Very Good. Substantial applicability
9-10	Excellent. Total applicability

Proposals will be evaluated against the questions set out below. Do not assign points to individual questions, instead, award a total score for each evaluation criterion.

[a] Has the offeror demonstrated a thorough understanding of the purpose and scope of the project?

EVALUATOR'S NOTES _____

_____

[b] How well has the offeror identified pertinent issues and potential problems related to the project?

EVALUATOR'S NOTES _____

_____

[c] Has the offeror demonstrated an understanding of the deliverables the State expects it to provide?

EVALUATOR'S NOTES _____

_____

[d] Has the offeror demonstrated an understanding of the State's time schedule and can meet it?

EVALUATOR'S NOTES _____

_____

[e] Is the proposal submitted responsive to all material requirements in the RFP?

EVALUATOR'S NOTES _____

_____

EVALUATOR'S POINT TOTAL FOR 6.03 _____

6.04 Methodology Used for the Project

Weight ***10 Percent***. Maximum Point Value for this Section
100 Points x ***10 Percent = 10 Points***

Rating Scale (***10 POINT*** Maximum)	
Point Value	Explanation
0	None. Not addressed or response of no value
1-2	Fair. Limited applicability
3-5	Good. Some applicability
6-8	Very Good. Substantial applicability
9-10	Excellent. Total applicability

Proposals will be evaluated against the questions set out below. Do not assign points to individual questions, instead, award a total score for each evaluation criterion.

[a] Does the methodology depict a logical approach to fulfilling the requirements of the RFP?

EVALUATOR'S NOTES _____

_____

[b] Does the methodology match and achieve the objectives set out in the proposal?

EVALUATOR'S NOTES _____

_____

[c] Does the methodology interface with the time schedule in the proposal?

EVALUATOR'S NOTES _____

_____

[d] Does the methodology have provisions for quality assurance?

EVALUATOR'S NOTES _____

_____

EVALUATOR'S POINT TOTAL FOR 6.04 _____

6.05 Management Plan for the Project

Weight ***10 Percent***. Maximum Point Value for this Section
100 Points x ***10 Percent*** = ***10 Points***

Rating Scale (***10 POINT*** Maximum)	
Point Value	Explanation
0	None. Not addressed or response of no value
1-2	Fair. Limited applicability
3-5	Good. Some applicability
6-8	Very Good. Substantial applicability
9-10	Excellent. Total applicability

Proposals will be evaluated against the questions set out below. Do not assign points to individual questions, instead, award a total score for each evaluation criterion.

[a] How well does the management plan support all of the project requirements and logically lead to the deliverables required in the RFP?

EVALUATOR'S NOTES _____

_____

[b] How well is accountability completely and clearly defined?

EVALUATOR'S NOTES _____

_____

[c] Is the organization of the project team clear?

EVALUATOR'S NOTES _____

_____

[d] How well does the management plan illustrate the lines of authority and communication?

EVALUATOR'S NOTES _____

_____

[e] To what extent does the offeror already have the hardware, software, equipment, and licenses necessary to perform the contract?

EVALUATOR'S NOTES _____

_____

[f] Does it appear that offeror can meet the schedule set out in the RFP?

EVALUATOR'S NOTES _____

_____

[g] Has the contractor gone beyond the minimum tasks necessary to meet the objectives of the RFP?

EVALUATOR'S NOTES _____

_____

[h] Is the proposal practical, feasible, and within budget?

EVALUATOR'S NOTES _____

_____

EVALUATOR'S POINT TOTAL FOR 6.05 _____

6.06 Experience and Qualifications

Weight ***40 Percent***. Maximum Point Value for this Section
100 Points x ***40 Percent*** = ***40 Points***

Rating Scale (***40 POINT*** Maximum)	
Point Value	Explanation
0	None. Not addressed or response of no value
1-10	Fair. Limited applicability
11-20	Good. Some applicability
21-30	Very Good. Substantial applicability
31-40	Excellent. Total applicability

Proposals will be evaluated against the questions set out below. Do not assign points to individual questions, instead, award a total score for each evaluation criterion.

Questions regarding the personnel.

[a] Do the individuals assigned to the project have experience on similar projects?

EVALUATOR'S NOTES _____

_____

[b] Are resumes complete and do they demonstrate backgrounds that would be desirable for individuals engaged in the work the RFP requires?

EVALUATOR'S NOTES _____

_____

[c] How extensive is the applicable education and experience of the personnel designated to work on the project?

EVALUATOR'S NOTES _____

_____

Questions regarding the firm.

[d] Has the firm demonstrated experience in completing similar projects on time and within budget?

EVALUATOR'S NOTES _____

_____

[e] How successful is the general history of the firm regarding timely and successful completion of projects?

EVALUATOR'S NOTES _____

_____

[f] If references were required, did the references provide information to verify the satisfactory performance of the vendor?

EVALUATOR'S NOTES _____

_____

[g] Has the firm provided letters of reference from previous clients?

EVALUATOR'S NOTES _____

_____

EVALUATOR'S POINT TOTAL FOR 6.06 _____

6.07 Contract Cost

Weight ***30 Percent***. Maximum Point Value for this Section
100 Points x ***30 Percent*** = ***30 Points***

Converting Cost to Points

The lowest cost proposal will receive the maximum number of points allocated to cost. The point allocations for cost on the other proposals will be determined as follows:

Price of Lowest Cost Proposal
Price of Proposal Being Rated X Total Points for Cost Available = Awarded Points

COST PROPOSAL EVALUATION

EVALUATOR'S POINT TOTAL FOR 6.07 _____

Request for Proposal
Evaluation Summary

Name of RFP:		
RFP Number		
Vendor Being Evaluated:		
Evaluator Name:		
Date:		
Technical Evaluation *(Maximum **70 Points**)*	Maximum Points by Category	Score
1. Understanding of the Project	***10***	
2. Methodology Used for the Project:	***10***	
3. Management Plan for the Project:	***10***	
4. Experience and Qualifications:	***40***	
Cost Evaluation (Maximum ***30 Points***) Calculated points awarded for price. Price of Lowest Cost Proposal Price of Proposal Being Rated X **30 points** = Awarded Points		
5. Cost	***30***	
Total		

Request for Proposal
Evaluation Totals

Name of RFP:						
Name of Offeror:						
Date:						
Technical Evaluation Criteria	***70 POINTS*** Maximum	Evaluator	Evaluator	Evaluator	Evaluator	Evaluator
1.Understanding of the Project	***10***					
2. Methodology Used for the Project:	***10***					
3. Management Plan for the Project:	***10***					
4. Experience and Qualifications:	***40***					
Evaluator Totals						
Grand Total		Note: Sum of all individual scores.				
Technical Proposal Score		Note: Total of individual points divided by the number of evaluators (***70 POINT MAXIMUM***).				
Cost Proposal Score		Note: (***30 POINT MAXIMUM***)				
TOTAL						

Request for Proposal
Summary of Evaluation Committee Totals

Name of RFP:						
Date:						
Technical Evaluation Criteria	***70 POINTS*** Maximum	Vendor 1	Vendor 2	Vendor 3	Vendor 4	Vendor 5
1. Understanding of the Project	***10***					
2. Methodology Used for the Project:	***10***					
3. Management Plan for the Project:	***10***					
4. Experience and Qualifications:	***40***					
Technical Proposal Score						
Cost Proposal Score						
Grand Total						

ATTACHMENT 2

SERVICE CONTRACT

AGREEMENT FOR
ACTUARIAL AUDIT SERVICES

CONTRACTOR AND
North Dakota Teachers' Fund for Retirement

This Agreement for Actuarial Audit Services (hereinafter referred to as the "Agreement") is made and entered into by and between Contractor (hereinafter referred to as "Contractor"), and the State of North Dakota on behalf of the Teachers' Fund for Retirement through its Retirement and Investment Office (hereinafter referred to as "TFFR") that has responsibility for the management and administration of the retirement plan funded by contributing employers within North Dakota (hereinafter referred to as "TFFR") this _____, 2016, to provide actuarial audit services in accordance with this Agreement.

1. SCOPE OF WORK
   Contractor will provide the services as described under this Agreement, the proposal from Contractor dated _____, 2016, and the Request for Proposal issued _____, 2016 (hereinafter "Scope of Service Documents"). During the performance of such services by Contractor, TFFR will retain and exercise all decision-making authority with respect to the management and administration of the TFFR retirement plan and investments relating thereto.

2. TERMS OF AGREEMENT
   This Agreement shall be in effect beginning April 1, 2016, through July 30, 2016, or until the actuarial audit is completed and presented to the TFFR Board, whichever is earlier. This Agreement may, however, be extended for additional periods subject to the written approval of Contractor and TFFR. This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements, undertakings, negotiations and discussions, both written and oral.

3. CANCELLATION
   Contractor or TFFR may cancel this Agreement for convenience upon thirty (30) calendar days' written notice to the other party, or as mutually agreed to by the parties. Notice shall be deemed effective as of the date mailed if sent by certified mail to the parties as set forth in this Agreement.

   In addition, TFFR by written notice to Contractor, may terminate the whole or any part of this Agreement under any of the following conditions:

   1) If funding from federal, state, or other sources is not obtained and continued at levels sufficient to allow for purchase of the services or supplies in the indicated quantities or term.

2) If federal or state laws or rules are modified or interpreted in a way that the services are no longer allowable or appropriate for purchase under this Agreement or are no longer eligible for the funding proposed for payments authorized by this Agreement.
3) If any license, permit, or certificate required by law or rule, or by the terms of this Agreement, is for any reason denied, revoked, suspended, or not renewed.
Termination of this Agreement under this subsection is without prejudice to any obligations or liabilities of either party already accrued prior to termination.

4. FEES
Contractor's fees for performance of the work as referenced in the Scope of Service Documents is set forth in Contractor's Proposal.

5. TRAVEL AND EXPENSES
The fees detailed in Contractor's proposal do not cover travel-related expenses. TFFR shall reimburse Contractor for reasonable expenses related to such travel as agreed upon by the parties.

6. PAYMENTS
All fees are quoted on a cash basis. TFFR will be invoiced at the completion of the project. TFFR shall make cash payments within thirty (30) days following receipt of billing from Contractor.

7. APPLICABLE LAWS
The Agreement will be construed and interpreted under the laws of the State of North Dakota to the extent not preempted by applicable federal law.

8. CHANGES IN THE AGREEMENT
Any change to this Agreement shall be in writing in the form of an amendment mutually agreed upon and duly executed by both parties. Contractor's named representative shall be the point of contact with regard to contractual matters.

9. SEVERABILITY
If any portion of this Agreement is either held unenforceable for any reason or is modified pursuant to a subsequent written modification, the remaining terms of the Agreement shall remain in effect as set forth herein.

10. ASSIGNMENT
No assignment in whole or in part of this Agreement and no delegation of any part or all of the performance of its duties hereunder may be made by Contractor without the prior written consent of TFFR, and any attempted assignment or delegation without such consent will be void.

11. WAIVER
Failure of one party to perform any part of this Agreement does not constitute a waiver of this Agreement or any provision therein. Failure of one party to require performance of any part of this Agreement does not constitute a waiver of that party's right to enforce performance at any subsequent time.

12. INDEMNIFICATION

Contractor agrees to defend, indemnify, and hold harmless the state of North Dakota, its agencies, officers and employees (State), from and against claims based on the vicarious liability of the State or its agents, but not against claims based on the State's contributory negligence, comparative and/or contributory negligence or fault, sole negligence, or intentional misconduct. This obligation to defend, indemnify, and hold harmless does not extend to professional liability claims arising from professional errors and omissions. The legal defense provided by Contractor to the State under this provision must be free of any conflicts of interest, even if retention of separate legal counsel for the State is necessary. Any attorney appointed to represent the State must first qualify as and be appointed by the North Dakota Attorney General as a Special Assistant Attorney General as required under N.D.C.C. § 54-12-08. Contractor also agrees to defend, indemnify, and hold the State harmless for all costs, expenses and attorneys' fees incurred if the State prevails in an action against Contractor in establishing and litigating the indemnification coverage provided herein. This obligation shall continue after the termination of this agreement.

13. INSURANCE

Contractor shall secure and keep in force during the term of this agreement and Contractor shall require all subcontractors, prior to commencement of an agreement between Contractor and the subcontractor, to secure and keep in force during the term of this agreement, from insurance companies, government self-insurance pools or government self-retention funds, authorized to do business in North Dakota, the following insurance coverages:

1) Commercial general liability, including premises or operations, contractual, and products or completed operations coverages (if applicable), with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
2) Automobile liability, including Owned (if any), Hired, and Non-Owned automobiles, with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
3) Workers compensation coverage meeting all statutory requirements. The policy shall provide coverage for all states of operation that apply to the performance of this contract.
4) Employer's liability or "stop gap" insurance of not less than $1,000,000 as an endorsement on the workers compensation or commercial general liability insurance.
5) Professional errors and omissions with minimum limits of $1,000,000 per occurrence and in the aggregate, Contractor shall continuously maintain such coverage during the contact period and for three years thereafter. In the event of a change or cancellation of coverage, Contractor shall purchase an extended reporting period to meet the time periods required in this section.
The insurance coverages listed above must meet the following additional requirements:

1) Any deductible or self-insured retention amount or other similar obligation under the policies shall be the sole responsibility of the Contractor.
2) This insurance may be in policy or policies of insurance, primary and excess, including the so-called umbrella or catastrophe form and must be placed with insurers rated "A-" or better by A.M. Best Company, Inc., provided any excess policy follows form for coverage. Less than an "A-" rating must be approved by the State. The policies shall be in form and terms approved by the State.
3) The duty to defend, indemnify, and hold harmless the State under this agreement shall not be limited by the insurance required in this agreement.

4) The state of North Dakota and its agencies, officers, and employees (State) shall be endorsed on the commercial general liability policy, including any excess policies (to the extent applicable), as additional insured. The State shall have all the benefits, rights and coverages of an additional insured under these policies that shall not be limited to the minimum limits of insurance required by this agreement or by the contractual indemnity obligations of the Contractor.

5) The insurance required in this agreement, through a policy or endorsement, shall include:

a) "Waiver of Subrogation" waiving any right to recovery the insurance company may have against the State;

b) a provision that Contractor's insurance coverage shall be primary (i.e. pay first) as respects any insurance, self-insurance or self-retention maintained by the State and that any insurance, self-insurance or self-retention maintained by the State shall be in excess of the Contractor's insurance and shall not contribute with it;

c) Cross liability/severability of interest for all policies and endorsements;

d) The legal defense provided to the State under the policy and any endorsements must be free of any conflicts of interest, even if retention of separate legal counsel for the State is necessary;

e) The insolvency or bankruptcy of the insured Contractor shall not release the insurer from payment under the policy, even when such insolvency or bankruptcy prevents the insured Contractor from meeting the retention limit under the policy.

6) The Contractor shall furnish a certificate of insurance to the undersigned State representative prior to commencement of this agreement. All endorsements shall be provided as soon as practicable.

7) Failure to provide insurance as required in this agreement is a material breach of contract entitling the State to terminate this agreement immediately.

8) Contractor shall provide at least 30-day notice of any cancellation or material change to the policies or endorsements.

14. FORCE MAJEURE

Neither party shall be held responsible for delay or default caused by fire, riot, terrorism, acts of God or war if the event is beyond the party's reasonable control and the affected party gives notice to the other party immediately upon occurrence of the event causing the delay or default or that is reasonably expected to cause a delay or default.

15. WORK PRODUCT

All work product, equipment or materials created for TFFR or purchased by TFFR under this Agreement belongs to TFFR and must be immediately delivered to TFFR at TFFR's request upon termination of this Agreement.

16. NOTICE

All notices or other communications required under this Agreement must be given by registered or certified mail and are complete on the date mailed when addressed to the parties at the following addresses:

17. CONFIDENTIALITY & ACCESS TO RECORDS

The parties agree that all records relating to the benefits and participation of Teachers' Fund For Retirement members and their beneficiaries in programs administered by the Teachers' Fund For Retirement are confidential under North Dakota law. Contractor may request and the Teachers' Fund For Retirement shall provide directly to Contractor upon such request, confidential information necessary for Contractor to provide the services

described in the Scope of Service section. Contractor shall keep confidential all Teachers' Fund For Retirement member and beneficiary information obtained in the course of delivering services. Failure of Contractor to maintain the confidentiality of such information may be considered a material breach of the contract and may constitute the basis for additional civil and criminal penalties under North Dakota law. Contractor shall report to the State any use or disclosure of confidential information not provided for by this Agreement of which it becomes aware without unreasonable delay and in any case within thirty (30) days from the date of discovery. Contractor has exclusive control over the direction and guidance of the persons rendering services under this Agreement. Upon termination of this Agreement, for any reason, Contractor shall return or destroy all confidential information received from the Teachers' Fund For Retirement, or created or received by Contractor on behalf of the Teachers' Fund For Retirement. This provision applies to confidential information that may be in the possession of subcontractors or agents of Contractor. Contractor shall retain no copies of the confidential information. In the event that Contractor asserts that returning or destroying the confidential information is not feasible, Contractor shall provide to the Teachers' Fund For Retirement notification of the conditions that make return or destruction infeasible. Upon explicit written agreement of the Teachers' Fund For Retirement that return or destruction of confidential information is not feasible, Contractor shall extend the protections of this Agreement to that confidential information and limit further uses and disclosures of any such confidential information to those purposes that make the return or destruction infeasible, for so long as Contractor maintains the confidential information.

18. COMPLIANCE WITH PUBLIC RECORDS LAW

Contractor understands that, except for disclosures prohibited in this Agreement, TFFR must disclose to the public upon request any records it receives from Contractor. Contractor further understands that any records obtained or generated by Contractor under this Agreement, except for records that are confidential under this Agreement, may, under certain circumstances, be open to the public upon request under the North Dakota public records law. Contractor agrees to contact TFFR immediately upon receiving a request for information under the public records law and to comply with TFFR's instructions on how to respond to the request.

19. INDEPENDENT ENTITY

Contractor is an independent entity under this Agreement and is not a TFFR employee for any purpose, including the application of the Social Security Act, the Fair Labor Standards Act, the Federal Insurance Contribution Act, the North Dakota Unemployment Compensation Law and the North Dakota Workforce Safety and Insurance Act. Contractor retains sole and absolute discretion in the manner and means of carrying out Contractor's activities and responsibilities under this Agreement, except to the extent specified in this Agreement.

20. NONDISCRIMINATION AND COMPLIANCE WITH LAWS

Contractor agrees to comply with all laws, rules, and policies, including those relating to nondiscrimination, accessibility and civil rights. Contractor agrees to timely file all required reports, make required payroll deductions, and timely pay all taxes and premiums owed, including sales and use taxes and unemployment compensation and workers' compensation premiums. Contractor shall have and keep current at all times during the term of this Agreement all licenses and permits required by law.

21. ALTERNATIVE DISPUTE RESOLUTION - JURY TRIAL

TFFR does not agree to any form of binding arbitration, mediation, or other forms of mandatory alternative dispute resolution. The parties have the right to enforce their rights and remedies in judicial proceedings. TFFR does not waive any right to a jury trial.

22. STATE AUDIT

All records, regardless of physical form, and the accounting practices and procedures of Contractor relevant to this Agreement are subject to examination by the North Dakota State Auditor, the Auditor's designee, or federal auditors. Contractor shall maintain all of these records for at least three (3) years following completion of this Agreement and be able to provide them at any reasonable time. State, State Auditor, or Auditor's designee shall provide reasonable notice.

BY THE SIGNATURES affixed below, the above Agreement is hereby accepted as to all the terms and conditions.

ATTACHMENT 3

RISK MANAGEMENT APPENDIX

Indemnification

Contractor agrees to defend, indemnify, and hold harmless the state of North Dakota, its agencies, officers and employees (State), from and against claims based on the vicarious liability of the State or its agents, but not against claims based on the State's contributory negligence, comparative and/or contributory negligence or fault, sole negligence, or intentional misconduct. This obligation to defend, indemnify, and hold harmless does not extend to professional liability claims arising from professional errors and omissions. The legal defense provided by Contractor to the State under this provision must be free of any conflicts of interest, even if retention of separate legal counsel for the State is necessary. Any attorney appointed to represent the State must first qualify as and be appointed by the North Dakota Attorney General as a Special Assistant Attorney General as required under N.D.C.C. § 54-12-08. Contractor also agrees to defend, indemnify, and hold the State harmless for all costs, expenses and attorneys' fees incurred if the State prevails in an action against Contractor in establishing and litigating the indemnification coverage provided herein. This obligation shall continue after the termination of this agreement.

Insurance

Contractor shall secure and keep in force during the term of this agreement and Contractor shall require all subcontractors, prior to commencement of an agreement between Contractor and the subcontractor, to secure and keep in force during the term of this agreement, from insurance companies, government self-insurance pools or government self-retention funds, authorized to do business in North Dakota, the following insurance coverages:

1) Commercial general liability, including premises or operations, contractual, and products or completed operations coverages (if applicable), with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
2) Automobile liability, including Owned (if any), Hired, and Non-Owned automobiles, with minimum liability limits of $250,000 per person and $1,000,000 per occurrence.
3) Workers compensation coverage meeting all statutory requirements. The policy shall provide coverage for all states of operation that apply to the performance of this contract.
4) Employer's liability or "stop gap" insurance of not less than $1,000,000 as an endorsement on the workers compensation or commercial general liability insurance.
5) Professional errors and omissions with minimum limits of $1,000,000 per occurrence and in the aggregate, Contractor shall continuously maintain such coverage during the contact period and for three years thereafter. In the event of a change or cancellation of

coverage, Contractor shall purchase an extended reporting period to meet the time periods required in this section.

The insurance coverages listed above must meet the following additional requirements:

1) Any deductible or self-insured retention amount or other similar obligation under the policies shall be the sole responsibility of the Contractor.
2) This insurance may be in policy or policies of insurance, primary and excess, including the so-called umbrella or catastrophe form and must be placed with insurers rated “A-” or better by A.M. Best Company, Inc., provided any excess policy follows form for coverage. Less than an “A-” rating must be approved by the State. The policies shall be in form and terms approved by the State.
3) The duty to defend, indemnify, and hold harmless the State under this agreement shall not be limited by the insurance required in this agreement.
4) The state of North Dakota and its agencies, officers, and employees (State) shall be endorsed on the commercial general liability policy, including any excess policies (to the extent applicable), as additional insured. The State shall have all the benefits, rights and coverages of an additional insured under these policies that shall not be limited to the minimum limits of insurance required by this agreement or by the contractual indemnity obligations of the Contractor.
5) The insurance required in this agreement, through a policy or endorsement, shall include:
a) “Waiver of Subrogation” waiving any right to recovery the insurance company may have against the State;
b) a provision that Contractor’s insurance coverage shall be primary (i.e. pay first) as respects any insurance, self-insurance or self-retention maintained by the State and that any insurance, self-insurance or self-retention maintained by the State shall be in excess of the Contractor’s insurance and shall not contribute with it;
c) Cross liability/severability of interest for all policies and endorsements;
d) The legal defense provided to the State under the policy and any endorsements must be free of any conflicts of interest, even if retention of separate legal counsel for the State is necessary;
e) The insolvency or bankruptcy of the insured Contractor shall not release the insurer from payment under the policy, even when such insolvency or bankruptcy prevents the insured Contractor from meeting the retention limit under the policy.
6) The Contractor shall furnish a certificate of insurance to the undersigned State representative prior to commencement of this agreement. All endorsements shall be provided as soon as practicable.
7) Failure to provide insurance as required in this agreement is a material breach of contract entitling the State to terminate this agreement immediately.
8) Contractor shall provide at least 30 day notice of any cancellation or material change to the policies or endorsements.

ATTACHMENT 4

COST PROPOSAL FORMAT

Cost Proposal
2015 Actuarial Audit
ND Teachers' Fund for Retirement

	Estimated Total Hours	Total Fixed Fee*
Actuarial Audit	_____	$_____

*Total Fixed Fee does not include travel expenses (including transportation, lodging, meals and other travel related expenses) and should not be included in your proposal. Travel expenses for the presentation to the TFFR Board of Trustees in July 2016 will be reimbursed if the Chief Retirement Officer has given prior approval for each individual to incur such expenses. NDTFFR is under no obligation to reimburse the consultant if no approval was given.

ATTACHMENT 5
CHECKLIST FOR OFFERORS

- ❑ Submit any questions, comments, or requests for clarification to the procurement officer by the deadline for submission of questions.
- ❑ Review Attachments 2 and 3. State any objections to any of the provisions in the Contract Form or Indemnification and Insurance Requirements prior to the deadline for submission of questions.
- ❑ Be sure an individual authorized to bind the offeror to the provisions of the RFP signs the proposal.
- ❑ Comply with the North Dakota Secretary of State and the North Dakota State Procurement Office Registration requirements prior to the deadline stated in the RFP.
- ❑ Comply with minimum requirements for experience for both firm and personnel.
- ❑ Comply with professional licensing requirements.
- ❑ Provide the information about the qualifications of the firm and individuals that will be working on the project.
- ❑ Identify all known federal requirements that apply to the proposal, the evaluation, or the contract.
- ❑ Provide the required references.
- ❑ Provide all documents or materials that must be submitted with the RFP.
- ❑ Identify and label and sections of the proposal you feel contain confidential information.

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **January 14, 2016**

SUBJ: **IRS Determination Letter Update**

At the September 2015 meeting, the TFFR Board gave approval to submit the TFFR plan for another IRS Determination letter as part of Cycle E filing schedule.

Melanie Walker, benefits consultant with Segal Company, conducted an IRC compliance review, and drafted the application forms and necessary information to apply for the determination letter. Jan Murtha, TFFR legal counsel with the Attorney General's Office, has completed her review of the forms and determination letter process.

The IRS application forms and $2,500 fee will be submitted to the IRS prior to the deadline of January 31, 2016. It could take 1-2 years before we receive a determination.

No Board action is requested at this time. This update is for informational purposes.

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **January 14, 2016**

SUBJ: **Administrative Rules Update**

A public hearing to solicit comments for the proposed amendments, additions, and deletions to Title 82 of the ND Administrative Code was held on November 19, 2015 at 1:00 p.m. in the Conference Room at the ND Retirement and Investment Office. There were no members of the public in attendance. The minutes from the hearing are attached as well as the proposed rules, formal notice, summary of rules, and written record of consideration of public comments received. The comment period was held open until 5:00 p.m. on November 30, 2015.

On January 12, 2016, the Attorney General's Office approved the rules as to their legality.

Board Action Requested: Adopt the proposed administrative rules, and authorize staff to submit to Legislative Council for final promulgation.

Attachments

STATE OF NORTH DAKOTA
OFFICE OF ATTORNEY GENERAL
STATE CAPITOL
600 E BOULEVARD AVE DEPT 125
BISMARCK, ND 58505-0040
(701) 328-2210 FAX (701) 328-2226
www.ag.nd.gov

Wayne Stenehjem
ATTORNEY GENERAL

RECEIVED
JAN 14 2016
NDRIO

OPINION

January 12, 2016

Ms. Fay Kopp
Deputy Executive Director-Chief Retirement Officer
North Dakota Retirement and Investment Office
Teachers Fund for Retirement
1930 Burnt Boat Dr
PO Box 7100
Bismarck, ND 58507-7100

Dear Ms. Kopp:

The Office of Attorney General has examined the proposed amendments to N.D.A.C. title 82 concerning the Teachers Fund for Retirement, along with the notice of the proposed rules, the publication of that notice, and the filing of that notice with the Legislative Council. This office has also determined that 1) a written record of the agency's consideration of any comments to the proposed rules was made, 2) a regulatory analysis was not issued nor requested, 3) a takings assessment was not prepared, 4) a small entity regulatory analysis and an economic impact statement were prepared, and 5) the proposed rules are within the agency's statutory authority.

These administrative rules are in compliance with N.D.C.C. ch. 28-32 and are hereby approved as to their legality. Upon final adoption, these rules may be filed with the Legislative Council.

Sincerely,

Wayne Stenehjem
Attorney General

cc: Vonette Richter, Legislative Council

ND Retirement and Investment Office

Teachers' Fund for Retirement
State Investment Board

1930 Burnt Boat Drive
P.O. Box 7100
Bismarck, ND 58507-7100
Telephone 701-328-9885
Toll Free 800-952-2970
Fax 701-328-9897
www.nd.gov/rio

ND TEACHERS' FUND FOR RETIREMENT – ND RETIREMENT AND INVESTMENT OFFICE

NOTICE OF INTENT TO ADOPT AND AMEND ADMINISTRATIVE RULES

TAKE NOTICE that the ND Teachers' Fund for Retirement – ND Retirement and Investment Office will hold a public hearing to address proposed new rules and amendments to Title 82 of the N.D. Administrative Code at 1:00 p.m. on Thursday, November 19, 2015, in the Lower Level Conference Room of the ND Retirement and Investment Office at 1930 Burnt Boat Drive, in Bismarck, North Dakota. The proposed new rules and amendments address the following:

Section	Description of Change	Reason for Change
82-02-01-01 (4)	Proposed new rule defines **"benefit payment date"** as the date the member is paid a benefit which is the first day of the month. Benefits are paid on the benefit payment date retroactive to a member's retirement date.	Administrative clarification
82-02-01-01(10)	Proposed new rule defines **"covered payroll"** as all amounts included in payroll, salary or compensation paid to active members on which contributions to and benefits from the pension plan are based according to the definition of salary in NDCC 15-39.1-04(10).	Administrative clarification
82-02-01-01(18)	Proposed new rule defines **"retirement date"** as the effective date selected by the member to begin retirement benefits. Benefits are calculated as of the retirement date. A member's retirement will not be effective until the member accepts the first benefit payment.	Administrative clarification
82-02-01-01(20)	Proposed amendment to the rule updates the definition of "**special teachers"** to clarify that school counselors, language pathologists, and program coordinators are members of the plan if licensed by ESPB and under contract.	Administrative clarification
82-03-01-06	**Veterans' rights** – Proposed amendment to the rule to reflect specific language outlining benefit eligibility for members who die or become disabled while performing qualified USERRA military service under the federal HEART Act (Heroes Earnings Assistance and Relief Tax Act.)	Maintain compliance with federal IRC requirements relating to (HEART Act, Public Law No. 110-245)
82-03-01-08	**Dual Membership** – Proposed amendment to the rule to update plan requirements for receiving salary information from the alternate retirement system by replacing the phrase "certified in writing" with "provided in writing" since certified copies of account copies are not needed.	Administrative clarification

82-05-03-03	**Overpayment of retirement payments – Write offs** – Proposed new rule clarifies that the TFFR Board may write off an overpayment of retirement benefits if the cost of recovering the amount is estimated to exceed the overpayment.	Administrative clarification
82-05-04-01 82-05-04-02 82-05-04-04	**Actuarial factors – Early retirement** **Actuarial factors – Optional payment forms** **Actuarial factors – Purchase of service** Proposed amendment to rules to implement the Actuarial Experience study conducted every 5 years to compare actual and assumed plan experience as required by NDCC 15-39.1-05.2(3). Based on 2015 review, actuary recommended changes to certain plan assumptions and factors which were approved by the TFFR Board.	Update actuarial factors used to calculate benefits based on 2015 Actuarial Experience Study.

The proposed new rules and amendments to Title 82 of the Administrative Code are not expected to have an impact on the regulated community in excess of $50,000.

The proposed rules may be reviewed at the address listed below and are available on the ND TFFR website at http://www.nd.gov/rio/tffr/Administrative_Rules_Changes/default.htm. A copy of the proposed rules and/or a regulatory analysis may be requested by writing or calling:

ND Retirement and Investment Office
1930 Burnt Boat Drive, P.O. Box 7100, Bismarck, ND 58507-7100
Email: rio@nd.gov
Phone 701.328.9885 or toll free 1.800.952.2970

Written or oral comments on the proposed rules may be entered at the hearing or sent to the above address or telephone number. Written or oral comments on the proposed rules received by 5:00 p.m. on November 30, 2015, will be fully considered.

If you plan to attend the public hearing and will need special facilities or assistance relating to a disability, please contact the ND Retirement and Investment Office at the above telephone number or address at least three days prior to the public hearing.

Dated this 8th day of October, 2015.

Fay Kopp

Fay Kopp, Chief Retirement Officer - Deputy Executive Director
ND Teachers' Fund for Retirement – ND Retirement and Investment Office

Section 82-02-01-01 is amended as follows:

82-02-01-01. Definitions. Unless made inappropriate by context, all words used in this title have the meanings given to them under North Dakota Century Code chapter 15-39.1. The following definitions are not established by statute and apply for the purpose of this title:

1. "Acceptance of benefit" means the benefit payment date that is the first calendar day of each month for benefits paid by paper check or electronic funds transfer to a financial institution.

2. "Account balance" or "value of account" means the member's accumulated contributions or assessments, plus the sum of any member purchase or repurchase payments, plus interest at an annual rate of six percent compounded monthly.

3. "Administrative" means to manage, direct, or superintend a program, service, or school district or other participating employer.

4. <u>"Benefit payment date" means the date the member is paid a benefit which is the first day of the month. Benefits may be paid retroactive to a member's retirement date.</u>

<u>5.</u> "Benefit service credit" means employment service used to determine benefits payable under the fund.

~~5~~<u>6</u>. "Bonus" means an amount paid to a member in addition to regular contract salary which does not increase the member's base rate of pay, is not expected to recur or continue in future fiscal years, or is not expected to be a permanent salary increase. A bonus is not considered eligible retirement salary and is not subject to payment of member and employer contributions.

   Bonuses include the following:

   a. Recruitment or contract signing payments defined in North Dakota Century Code section 15.1-09-33.1.

   b. Retention, experience, or service-related payments.

   c. Early retirement incentive payments, severance payments, or other payments conditioned on or made in anticipation of a member's retirement or termination.

   d. Payments made to recognize or reward a member's accomplishments or service.

e. Other special or irregular payments which the board determines to be bonuses using criteria and documentation described in section 82-04-02-01.

~~6~~7. "Cessation of employment" means severance or termination of employment.

~~7~~8. "Contributions" means the assessments or payments made to the fund.

~~8~~9. "Covered employment" means employment as a teacher in a North Dakota state agency, state institution, school district, special education unit, regional education association, or other governing body of a school district.

~~9~~10. "Covered payroll" means all amounts included in payroll, salary or compensation paid to active members on which contributions to and benefits from the pension plan are based according to the definition of salary in NDCC 15-39.1-04(10). Covered payroll may also be referred to as pensionable or eligible payroll, salary, compensation, or earnings.

11. "Eligibility service credit" means employment service used to determine vesting and benefit eligibility for dual members and qualified veterans under the Uniformed Services Employment and Reemployment Rights Act of 1994. Eligibility service credit is not used for benefit calculation purposes.

~~10~~12. "Extracurricular services" means outside of the regular curriculum of a school district or other participating employer which includes advising, directing, monitoring, or coaching athletics, music, drama, journalism, and other supplemental programs.

~~11~~13. "Member" is a teacher as defined in North Dakota Century Code section 15-39.1-04 who is a participant in the fund.

~~12~~14. "Participating employer" means the employer of a teacher, including a North Dakota state agency, state institution, school district, special education unit, area career and technology center, regional education association, or other governing body of a school district who contributes to the teachers' fund for retirement.

~~13~~15. "Performance or merit pay" means an amount paid to a member pursuant to a written compensation plan or policy that links a member's compensation to attainment of specific performance goals and duties. The specific goals, duties, and performance measures under which performance pay is expected to be made must be determined in advance

of the performance period and documented in writing. Performance or merit pay may be in addition to regular salary or may replace regular salary increases. Performance or merit pay is considered eligible retirement salary and subject to payment of member and employer contributions, unless the teachers' fund for retirement board determines the payments are ineligible salary using criteria and documentation described in section 82-04-02-01.

~~14~~16. "Plan year" means the twelve consecutive months commencing July first of the calendar year and ending June thirtieth of the subsequent year.

~~15~~17. "Referee" means all sporting and nonsporting event judges and officials, including referees, umpires, line judges, scorekeepers, timekeepers, ticket takers, ushers, and other judges or officials.

~~16~~18. "Retirement date" means the date selected by the member to begin retirement benefits. The benefit is calculated as of the retirement date and can be no earlier than the first or fifteenth day of the month following eligibility for retirement benefits or the first day of the month following eligibility for disability or death benefits. Notwithstanding the foregoing a member's retirement will not be effective until the member accepts the first benefit payment.

19. "Salary reduction or salary deferral amounts under 26 U.S.C. section 125, 132(f), 401(k), 403(b), or 457" means amounts deducted from a member's salary, at the member's option, to these plans. These reductions or deferrals are part of salary when calculating retirement contributions. Employer contributions to plans specified in 26 U.S.C. section 125, 132(f), 401(k), 403(b), or 457 which are made for the benefit of the member will not be counted as retirement salary when calculating retirement contributions. Member contributions paid by the employer under IRC section 414(h) pursuant to a salary reduction agreement do not reduce salary when calculating retirement contributions.

~~17~~20. "Special teachers" include licensed special education teachers, guidance and school counselors, speech ~~therapists~~and language pathologists, social workers, school psychologists, librarians, ~~audio visual or~~ media ~~coordinators~~specialists, technology coordinators, program coordinators, and other staff members licensed by the education standards and practices board provided they are under contract with a school district or other participating employer to provide teaching, supervisory, administrative, or extracurricular services.

~~18~~21. "Supervisory" means to have general oversight or authority over students or teachers, or both, of a school district or other participating employer.

~~19~~22. "Teaching" means to impart knowledge or skills to students or teachers, or both, by means of oral or written lessons, instructions, and information.

~~20~~23. "Vested" means the status attained by a teacher when the teacher has earned three years of service credit for a tier one member or five years of service credit for a tier two member for covered employment in this state.

~~21~~24. "Written agreement" means a teaching contract, school board minutes, or other official document evidencing a contractual relationship between a teacher and participating employer.

History: Effective September 1, 1990; amended effective May 1, 1992; May 1, 1998; May 1, 2000; May 1, 2004; July 1, 2008; July 1, 2012;_____.
General Authority: NDCC 15-39.1-07
Law Implemented: NDCC 15-39.1~~, 15-39.1-04, 15-39.1-07~~

Section 82-03-01-06 is amended as follows:

82-03-01-06. Veterans' rights. A member may be entitled to eligibility service credit for military service under the Uniformed Services Employment and Reemployment Rights Act of 1994 (USERRA) [Pub. L. 103-353; 108 Stat. 3150; 38 U.S.C. 4301 et seq.] provided that the member received an honorable discharge and had the member's North Dakota teaching service interrupted by military duty after December 31, 1994. Interruption of service requires the member to enter military service within ninety days of leaving covered teaching employment and reenter covered employment within ninety days of the member's honorable discharge. Notwithstanding the preceding sentence, ~~a member who dies or becomes disabled (under the terms of the plan) while performing USERRA qualified military service~~effective for deaths occurring on or after January 1, 2007,~~ shall be treated as if the~~a member~~ has~~dies while performing qualified military service (as defined in the Internal Revenue Code section 414(u)(5)), the fund shall provide all applicable benefits required in accordance with Internal Revenue Code section 401(a)(37), as if the member had resumed covered employment~~ in accordance with USERRA~~ on the day preceding death~~ or disability~~ and terminated employment ~~on~~as of the actual date of death~~ or disability~~. For benefit calculation purposes, the fund will treat a member who dies or becomes disabled (as defined under the terms of the fund) while performing qualified military service as if the member resumed employment in accordance with the member's reemployment rights under USERRA on the day preceding death or disability and terminated employment on the actual date of death or disability. A member eligible to receive military credit under USERRA will have the service credit recognized for vesting and benefit eligibility purposes.

In addition to having the service credit recognized for vesting and benefit eligibility purposes, at the member's option, a member eligible to receive military credit under USERRA may pay an amount calculated by the fund to allow the credit to be

used for benefit calculation purposes. A member may purchase up to five years of military credit and must apply for and complete the purchase prior to retirement. The member must provide a copy of the member's military discharge papers (DD214) as proof of eligibility. The timeframe to purchase military service under USERRA begins with reemployment and is equal to three times the length of the military service but may not exceed five years.

The cost to purchase USERRA military credit for benefit calculation purposes is the member and employer contributions required under North Dakota Century Code section 15-39.1-09 had the member's employment not been interrupted by military service. The member contributions must be applied to the member's annual salary at the time of the military leave. The member contributions must be paid by the member if the employer is withholding contributions under a salary reduction plan. If the employer is paying all of the member contributions ~~in lieu of~~as a salary ~~increase~~supplement, the employer is responsible for payment of any member contributions owed. If the employer is paying a portion of the member contributions ~~in lieu of~~as a salary ~~increase~~supplement, both the member and employer are responsible for payment of the member contributions. The employer is required to pay the employer contributions. No interest is charged if the credit is purchased within the timeframe allowed under USERRA.

Effective January 1, 2009, ~~any employee receiving a differential wage payment on account of military service shall be treated as an employee of the employer making the payment and the payment shall be treated as~~ compensation shall include military differential wage payments, as defined in Internal Revenue Code section 3401(h), for purposes of calculation of contributions and benefits.

If the credit is not purchased within the USERRA timeframe, the cost becomes the responsibility of the member and six percent interest is charged beginning with the date the USERRA timeframe elapsed.

History: Effective May 1, 1992; amended effective May 1, 1998; May 1, 2000; July 1, 2012; _____.
General Authority: NDCC 15-39.1-07
Law Implemented: NDCC 15-39.1-24, 15-39.2-01.2; 26 USC 401(a)(37), 26 USC 414(u)(12)(A)

Section 82-03-01-08 is amended as follows:

82-03-01-08. Dual membership - Receipt of retirement benefits while contributing to the public employees retirement system or the highway patrolmen's retirement system.

1. Dual members may select one of the following options at retirement eligibility:

a. Begin receiving retirement benefits from one plan prior to ceasing employment covered by the alternate plan, unless the continued employment is with the same employer.

b. Begin receiving retirement benefits from one plan and begin work in a job covered by the alternate plan if for a different employer.

c. Continue participating as a dual member and begin receiving retirement benefits from both plans after ceasing employment.

2. The following limitations apply when a member elects an option under subsection 1:

a. Eligible service credit may be used for vesting purposes and determining when the dual member may begin drawing normal retirement benefits. A member may begin drawing retirement benefits from one fund and use the same years, and any additional years, for reaching retirement from the alternate fund so long as service credit does not exceed one year in any fiscal year.

b. If a dual member elects to receive retirement benefits as provided in subdivision a or b of subsection 1, the final average salary, service credit, and member's age used to calculate the benefit that is applicable at the time retirement benefits begin may not be adjusted after the benefit effective date.

c. The salary used in calculating the retirement benefit must be ~~certified~~provided in writing by the alternate retirement system.

History: Effective May 1, 2004;_____.
General Authority: NDCC 15-39.1-07
Law Implemented: NDCC 15-39.1-10.3

Section 82-05-03-03 is created as follows:

82-05-03-03. Overpayment of retirement benefits- Write-offs. If the cost of recovering the amount of the overpayment of retirement benefits is estimated to exceed the overpayment, the TFFR Board may consider the repayment to be unrecoverable and written off.

History: Effective
General Authority: NDCC 15-39.1-07
Law Implemented: NDCC 15-39.1-29, NDCC 15-39.1-31

Section 82-05-04-01 is amended as follows:

82-05-04-01. Actuarial factors - Early retirement. In determining early retirement benefits under North Dakota Century Code section 15-39.1-12, the benefits to which a member is entitled shall be reduced 0.5 percent for each month that the early retirement date precedes the first day of the month coincident with or next following the earlier of the member's sixty-fifth birthday or the date at which current service plus the member's age will equal eighty-five for a tier one grandfathered member~~ or current service plus member's age will equal ninety for a~~. Effective July 1, 2013, for members who are either tier one non-grandfathered or tier two, in determining the early retirement benefit under North Dakota Century Code section 15-39.1-12, the benefits to which a member is entitled shall be reduced 0.6667 percent for each month that the early retirement date precedes the first day of the month coincident with or next following the earlier of the member's sixty-fifth birthday or the date at which current service plus the member's age will equal ninety, with a minimum age of 60.

History: Effective September 1, 1990; amended effective May 1, 2000; July 1, 2008; _____.
General Authority: NDCC 15-39.1-07
Law Implemented: NDCC 15-39.1-12, 15-39.1-16, 15-39.1-24

Section 82-05-04-02 is amended as follows:

82-05-04-02. Actuarial factors - Optional payment forms. Under North Dakota Century Code section 15-39.1-16, the actuarial factors used to determine benefit amounts under the optional joint and survivor, term certain and life, partial lump sum and level income forms of annuity payment shall be based on the following actuarial assumptions:

1. Interest rate - ~~8.00~~7.75 percent per year, compounded annually.

2. Member's mortality (used for nondisabled members) - a mortality table constructed by blending ~~forty~~thirty-three percent of the mortality rates under the ~~1983 group annuity mortality table~~RP-2014 male "combined" table, Employee and Healthy Annuitant Tables for males, ~~without margins, setback four years~~adjusted and projected to 2017 using projection scale MP-2014, set back one year, with ~~sixty~~sixty-seven percent of the mortality rates under the ~~1983 group annuity mortality table years~~RP-2014 female "combined" table, Employee and Healthy Annuitant Tables for females, ~~without margins, setback three~~adjusted and projected to 2017 using projection scale MP-2014, set back one year.

3. Beneficiary's mortality - a mortality table constructed by blending ~~sixty~~sixty-seven percent of the mortality rates under the ~~1983 group~~

~~annuity mortality table table~~RP-2014 male “combined” table, Employee and Healthy Annuitant Tables for males, ~~without margins, setback four years~~adjusted and projected to 2017 using projection scale MP-2014, set back one year, with ~~forty~~thirty-three percent of the mortality rates under the ~~1983 group annuity mortality table~~RP-2014 female “combined” table, Employee and Healthy Annuitant Tables for females, ~~without margins, setback three years~~adjusted and projected to 2017 using projection scale MP-2014, set back one year.

4. Disabled member’s mortality - a mortality table constructed by blending ~~forty~~thirty-three percent of the mortality rates under ~~pension benefit guaranty corporation table Va~~the RP-2014 Disabled Mortality Table for ~~disabled~~ males, set forward four years, with ~~sixty~~sixty-seven percent of the mortality rates under ~~pension benefit guaranty corporation table VIa~~the RP-2014 Disabled Mortality Table for ~~disabled~~ females, set forward four years.

In addition, the above actuarial assumptions shall be used to determine actuarial equivalence for other purposes not covered by sections 82-05-04-01, 82-05-04-03, and 82-05-04-04, such as the determination of the reduction to a member’s benefit because of the existence of a qualified domestic relations order.

History: Effective May 1, 2000; amended effective May 1, 2004; July 1, 2008;_____.
General Authority: NDCC 15-39.1-07
Law Implemented: NDCC 15-39.1-16, 15-39.1-24

Section 82-05-04-04 is amended as follows:

82-05-04-04. Actuarial factors - Purchase of service. Whenever the North Dakota Century Code permits a member to purchase service on an actuarially equivalent basis, the following actuarial assumptions shall be used:

1. Interest rate - ~~8.00~~7.75 percent per year, compounded annually.

2. Mortality rates - the same table specified in section 82-05-04-02 for nondisabled members.

3. Retirement - the member will be assumed to retire at the age at which the member is first eligible for an unreduced retirement benefit. Such unreduced retirement date will be determined taking into account any purchased service and assuming the member continues in full-time covered service.

4. Salary increase rate - Increases are assumed to occur once each year. The following table shows the increase rates indexed by the member's service (excluding any service being purchased):

Nearest Service at the Beginning of the Year	Percentage Increase at End of Year
0	~~14.00~~14.50%
1	~~8.00~~7.75%
2	~~7.75~~7.50%
3	~~7.50~~7.25%
4	~~7.25~~7.00%
5	~~7.00~~6.75%
6	~~6.75~~6.50%
7	~~6.50~~6.25%
8-9	~~6.25~~6.00%
~~9~~10-11	~~6.00~~5.75%
~~10~~12-13	~~5.75~~5.50%
~~11~~14-15	~~5.50~~5.25%
~~12~~16-18	~~5.50~~5.00%
~~13~~19-22	~~5.50~~4.75%
~~14~~23-24	~~5.25~~4.50%
~~15~~25 or more	~~4.50~~4.25%

History: Effective May 1, 2000; amended effective July 1, 2008;_____.
General Authority: NDCC 15-39.1-07
Law Implemented: NDCC 15-39.1-16, 15-39.1-24

NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT
ADMINISTRATIVE RULES PUBLIC HEARING
NOVEMBER 19, 2015
RETIREMENT AND INVESTMENT OFFICE – CONFERENCE ROOM
1:00 P.M.

STAFF PRESENT: Fay Kopp, Deputy Executive Director/Chief Retirement Officer
Darlene Roppel, Retirement Assistant
Shelly Schumacher, Retirement Program Manager

Mrs. Fay Kopp, Deputy Executive Director/Chief Retirement Officer, acted as the hearing officer and opened the public hearing at 1:00 p.m. on Thursday, November 19, 2015, at the Retirement and Investment Office (RIO), Conference Room, Bismarck, ND.

It was explained that the public hearing was called for the purpose of allowing all interested individuals an opportunity to submit information concerning proposed new rules and amendments to Title 82 of the ND Administrative Code, specifically:

82-02-01-01(4) **Definitions** – Proposed new rule defines "**benefit payment date**" as the date the member is paid a benefit which is the first day of the month. Benefits are paid on the benefit payment date retroactive to a member's retirement date.

82-02-01-01(10) Proposed new rule defines "**covered payroll**" as all amounts included in payroll, salary or compensation paid to active members on which contributions to and benefits from the pension plan are based according to the definition of salary in NDCC 15-39.1-04(10) .

82-02-01-01(18) Proposed new rule defines "**retirement date**" as the effective date selected by the member to begin retirement benefits. Benefits are calculated as of the retirement date. A member's retirement will not be effective until the member accepts the first benefit payment.

82-02-01-01(20) Proposed amendment to the rule updates the definition of "**special teachers**" to clarify that school counselors, language pathologists, and program coordinators are members of the plan if licensed by ESPB and under contract.

82-03-01-06 **Veterans' rights** – Proposed amendment to the rule to reflect specific language outlining benefit eligibility for members who die or become disables while performing qualified USERRA military service under the federal HEART Act (Heroes Earnings Assistance and Relief Tax Act.)

82-03-01-08 **Dual Membership** – Proposed amendment to the rule to update plan requirements for receiving salary information from the alternate retirement system by replacing the phrase "certified in writing" with "provided in writing" since certified copies of account copies are not needed.

82-05-03-03 **Overpayment of retirement payments – Write offs** – Proposed new rule clarifies that the TFFR Board may write off an overpayment of retirement benefits if the cost of recovering the amount is estimated to exceed the overpayment.

82-05-04-01 **Actuarial factors – Early retirement**
82-05-04-02 **Actuarial factors – Optional payment forms**
82-05-04-04 **Actuarial factors – Purchase of service**
Proposed amendment to rules to implement the Actuarial Experience study conducted every 5 years to compare actual and assumed plan experience as required by NDCC 15-39.1-05.2(3).

It was explained that information gathered at this hearing will be transmitted to the TFFR Board for its deliberation and final decision.

At this point, the hearing was opened for comments.

Mrs. Shelly Schumacher, Retirement Program Manager, commented on two typo errors that were found in 82-05-04-02, nos. 2 and 3. The word "health" when it describes employee and annuitant tables should be "healthy".

There were no others in attendance, and no other comments were received.

Mrs. Kopp indicated that written and oral comments would be received until November 30, 2015.

Mrs. Kopp closed the hearing at 1:15 p.m.

Respectfully Submitted:

Fay Kopp

Mrs. Fay Kopp, Deputy ED/CRO
Teachers' Fund for Retirement

Darlene Roppel

Darlene Roppel
Reporting Secretary

ND Retirement and Investment Office

Teachers' Fund for Retirement
State Investment Board

1930 Burnt Boat Drive
P.O. Box 7100
Bismarck, ND 58507-7100
Telephone 701-328-9885
Toll Free 800-952-2970
Fax 701-328-9897
www.nd.gov/rio

WRITTEN RECORD OF CONSIDERATION OF PUBLIC COMMENT RECEIVED RELATING TO PROPOSED AMENDMENTS TO ND ADMINISTRATIVE CODE, TITLE 82 BY THE ND TEACHERS FUND FOR RETIREMENT

During the public comment period ending at 5 p.m. on November 30, 2015, the ND Retirement and Investment Office received one comment on the proposed changes to ND Administrative Code, Title 82, which referred to correction of two minor typos in 82-05-04-02, nos. 2 and 3. In the title of the updated Employee and Annuitant Mortality Table, the title should be "Healthy Annuitant," not "Health Annuitant." Staff agrees with the correction, and will request that the correct title be referenced in the final adoption of the rules.

No other written or oral comments on the rules were received, although there were requests to clarify the potential impact of the rule changes on member benefits.

Respectfully submitted this 1st day of December, 2015.

Fay Kopp

Fay Kopp
Chief Retirement Officer - Deputy Executive Director
ND Teachers' Fund for Retirement - ND Retirement and Investment Office

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **January 14, 2016**

SUBJ: **2015 GASB 68 Report**

Attached is the June 30, 2015 GASB 67 and 68 Report developed by TFFR's actuary, Segal Company, and audited by the plan's auditor, CliftonLarsonAllen.

Shelly Schumacher will provide an overview of the information contained in the report, and an update on issues raised by employers to date.

After review and acceptance by the Board, the report will be posted to the TFFR website for use in employer financial statements (June 30, 2016).

Board Action Requested: Accept the June 30, 2015 GASB 68 report.

Attachment

North Dakota Teachers' Fund for Retirement

Governmental Accounting Standards Board (GASB)
Statement Nos. 67 and 68
Actuarial Valuation as of July 1, 2015

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Segal Consulting
101 North Wacker Drive, Suite 500, Chicago, IL 60606
T 312.984.8500 www.segalco.com

November 23, 2015

Board of Trustees
North Dakota Teachers' Fund for Retirement
1930 Burnt Boat Drive, P.O. Box 7100
Bismarck, ND 58507-7100

Dear Trustees:

We are pleased to submit the following report intended to be used for satisfying certain reporting requirements by Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 as of June 30, 2015.

This report was prepared in accordance with generally accepted actuarial principles and practices. The census and financial information on which our calculations were based was supplied by the staff of the Retirement and Investment Office. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Matthew Strom, FSA, MAAA, Enrolled Actuary.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the Fund.

We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

Kim Nicholl, FSA, EA, MAAA
Senior Vice President and Actuary

Matthew A. Strom, FSA, EA, MAAA
Vice President and Actuary

SECTION 1

VALUATION SUMMARY

Purpose i
Significant Issues in Valuation Year..... i
Summary of Key Valuation Results..... iii

SECTION 2

GASB 67 AND 68 INFORMATION

EXHIBIT 1
Membership Data..... 1
EXHIBIT 2
Net Pension Liability 2
EXHIBIT 3
Schedule of Changes in Net Pension Liability 5
EXHIBIT 4
Schedule of Employer Contributions 6

SECTION 3

ADDITIONAL INFORMATION FOR GASB 68

EXHIBIT A
Reconciliation of Collective Net Pension Liability 8
EXHIBIT B
Collective Deferred Outflows of Resources and Deferred Inflows of Resources..... 9
EXHIBIT C
Collective Pension Expense..... 11
EXHIBIT D
Schedule of Employer Allocations..... 13
EXHIBIT E
Schedule of Pension Amounts by Employer..... 17

Purpose

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 as of June 30, 2015. This valuation is based on:

- The benefit provisions of the Fund, as administered by the Board;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of July 1, 2015;
- The assets of the Fund as of June 30, 2015;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- The Governmental Accounting Standards Board (GASB) approved two Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. Statement 67 was effective with the fiscal year ending June 30, 2014, for Plan reporting. Statement 68 was effective with the fiscal year ending June 30, 2015, for employer reporting. The information contained in this valuation is intended to be used (along with other information) in order to comply with both Statements 67 and 68.
- It is important to note that the GASB rules only redefine pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for actual pension funding purposes. Plans can still develop and adopt funding policies under current practices.
- When measuring pension liability for GASB purposes, the same actuarial cost method (Entry Age method) is used to determine the funded status of the Plan, the actuarially determined contribution rate, and the effective amortization period. In addition, the GASB blended discount rate calculation results in the same discount rate (expected return on assets) as used for funding purposes. This means that the total pension liability (TPL) measure for financial reporting shown in this report is determined on the same basis as the actuarial accrued liability (AAL) measure for funding.

- The net pension liability (NPL) is equal to the difference between the TPL and the plan fiduciary net position. The plan fiduciary net position is equal to the market value of assets and therefore, the NPL measure is very similar to an unfunded actuarial accrued liability (UAAL) on a market value basis. The NPL increased from $1.05 billion as of June 30, 2014, to $1.31 billion as of June 30, 2015. Changes in these values during the prior fiscal year ending June 30, 2015, can be found in Exhibit 3.
- Effective June 30, 2015, the Board adopted several assumption changes, including the following:
  - Long-term investment return assumption lowered from 8.00% to 7.75%.
  - Inflation assumption lowered from 3.00% to 2.75%.
  - Total salary scale rates lowered by 0.25% due to lower inflation.
  - Added an explicit administrative expense assumption, equal to prior year administrative expenses plus inflation.
  - Rates of turnover and retirement were changed to better reflect anticipated future experience.
  - Updated the mortality assumption to the "RP-2014" mortality tables with generational improvement.

  The net impact of the assumption changes was an increase in the TPL of $171.3 million.
- As a result of the assumption changes that were adopted by the Board, the discount rate used to determine the TPL and NPL was decreased from 8.00% as of June 30, 2014 to 7.75% as of June 30, 2015. Various information that is required to be disclosed can be found throughout Section 2 and Section 3.

Summary of Key Valuation Results

	2015	2014
Disclosure elements for fiscal year ending June 30:		
Service cost	$60,617,900	$56,751,722
Total pension liability	3,449,775,982	3,138,799,773
Plan fiduciary net position	2,141,920,800	2,090,977,056*
Net pension liability	1,307,855,182	1,047,822,717
Plan fiduciary net position as a percentage of total pension liability	62.1%	66.6%
Schedule of contributions for fiscal year ending June 30:		
Actuarially determined contributions	$71,167,632	$59,513,485
Actual contributions	78,422,098	62,355,146
Contribution deficiency (excess)	(7,254,466)	(2,841,661)
Demographic data as of July 1:		
Number of retirees and beneficiaries	8,025	7,747
Number of inactive vested members	1,607	1,509
Number of inactive non-vested members	660	661
Number of active members	10,514	10,305
Key assumptions:		
Discount rate	7.75%	8.00%
Inflation rate	2.75%	3.00%
Projected salary increases	4.25% to 14.50%, varying by service	4.50% to 14.75%, varying by service
Investment rate of return	7.75%	8.00%

** The Plan fiduciary net position as of June 30, 2014, was restated by ($561,999) due to GASB 68 Implementation. The restated amount is $2,090,415,057.*

EXHIBIT 1

Membership Data

	July 1, 2015	July 1, 2014
Retired members and beneficiaries	8,025	7,747
Vested inactive members	1,607	1,509
Non-vested inactive members	660	661
Active members:		
Vested	7,369	7,406
Non-vested	3,145	2,899
Total active members	10,514	10,305
Total membership	20,806	20,222

Active Membership By Plan Eligibility

	July 1, 2015	July 1, 2014
Tier 1 Grandfathered	2,869	3,240
Tier 1 Non-grandfathered	3,312	3,395
Tier 2	4,333	3,670
Total active membership	10,514	10,305

EXHIBIT 2

Net Pension Liability

	June 30, 2015	June 30, 2014
The components of the net pension liability are as follows:		
Total pension liability	$3,449,775,982	$3,138,799,773
Plan fiduciary net position	(2,141,920,800)	(2,090,977,056)
Net pension liability	$1,307,855,182	$1,047,822,717
Plan fiduciary net position as a percentage of the total pension liability	62.1%	66.6%

Plan provisions. The plan provisions used in the measurement of the net pension liability are the same as those used in the actuarial valuation as of July 1, 2015.

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of July 1, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	4.25% to 14.50%, varying by service, including inflation and productivity
Investment rate of return	7.75%, net of investment expenses
Cost-of-living adjustments	None

For active and inactive members, mortality rates were based on the RP-2014 Employee Mortality Table, projected generationally using Scale MP-2014. For healthy retirees, mortality rates were based on the RP-2014 Healthy Annuitant Mortality Table set back one year, multiplied by 50% for ages under 75 and grading up to 100% by age 80, projected generationally using Scale MP-2014. For disabled retirees, mortality rates were based on the RP-2014 Disabled Mortality Table set forward four years.

The actuarial assumptions used were based on the results of an experience study dated April 30, 2015. They are the same as the assumptions used in the July 1, 2015, funding actuarial valuation for TFFR.

The long-term expected investment rate of return assumption was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Fund's target asset allocation are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global Equities	57%	7.53%
Global Fixed Income	22%	1.28%
Global Real Assets	20%	5.38%
Cash Equivalents	1%	0.00%
Total	100%	

Discount rate: The discount rate used to measure the total pension liability was 7.75% as of June 30, 2015. The projection of cash flows used to determine the discount rate assumes that member and employer contributions will be made at rates equal to those based on the July 1, 2015, Actuarial Valuation Report. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments for current plan members as of June 30, 2015. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2015.

Supporting documentation for these projections can be provided upon request.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability as of June 30, 2014, and June 30, 2015, calculated using the discount rate of 7.75% for 2015 (8.00% for 2014), as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.75%/7.00%) or 1-percentage-point higher (8.75%/9.00%) than the current rate:

	1% Decrease	Current Discount Rate	1% Increase
Net pension liability as of June 30, 2014	$1,414,755,083	$1,047,822,717	$739,221,908
Net pension liability as of June 30, 2015	$1,728,392,470	$1,307,855,182	$957,135,967

EXHIBIT 3

Schedule of Changes in Net Pension Liability

	2015	2014
Total pension liability		
Service cost	$60,617,900	$56,751,722
Interest	249,063,837	237,820,894
Change of benefit terms	0	0
Differences between expected and actual experience	2,209,258	9,347,346
Changes of assumptions	171,324,647	0
Benefit payments, including refunds of employee contributions	(172,239,433)	(162,259,276)
Net change in total pension liability	$310,976,209	$141,660,686
Total pension liability – beginning	3,138,799,773	2,997,139,087
Total pension liability – ending (a)	$3,449,775,982	$3,138,799,773
Plan fiduciary net position		
Contributions – employer	$78,422,098	$62,355,146
Contributions – member	72,268,451	56,554,767
Contributions – purchased service credit	1,600,739	2,034,289
Contributions – other	172,474	47,766
Net investment income	73,204,806	294,246,449
Benefit payments, including refunds of employee contributions	(172,239,433)	(162,259,276)
Administrative expense	(1,923,392)	(1,586,045)
Restatement due to GASB implementation	(561,999)	N/A
Net change in plan fiduciary net position	$50,943,744	$251,393,096
Plan fiduciary net position – beginning	2,090,977,056	1,839,583,960
Plan fiduciary net position – ending (b)	$2,141,920,800	$2,090,977,056
Net pension liability – ending (a) – (b)	$1,307,855,182	$1,047,822,717
Plan fiduciary net position as a percentage of the total pension liability	62.1%	66.6%
Actual covered employee payroll	$615,104,860	$580,053,235
Plan net pension liability as percentage of covered employee payroll	212.6%	180.6%

EXHIBIT 4

Schedule of Employer Contributions

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Actual Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
2013	$52,396,153	$59,300,720	$(6,904,567)	$551,655,590	10.75%
2014	59,513,485	62,355,146	(2,841,661)	580,053,235	10.75%
2015	71,167,632	78,422,098	(7,254,466)	615,104,860	12.75%

Notes to Exhibit 4

Valuation date	Actuarially determined contribution rates are calculated as of June 30, with appropriate interest to the middle of the fiscal year.
Methods and assumptions used to establish actuarially determined contribution rates:	
Actuarial cost method	Entry Age Actuarial cost method
Amortization method	Level percentage of pay, closed
Remaining amortization period	28 years as of July 1, 2015.
	The amortization of unfunded actuarial accrued liability (UAAL) within the actuarially determined contribution rate calculation is based on the level percentage of pay required to amortize the UAAL over the 30-year closed period that began July 1, 2013. For this calculation, payroll is assumed to increase 3.25% per year.
Asset valuation method	The market value of assets with a five-year phase-in of actual return in excess of (or less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year).
Actuarial assumptions:	
Investment rate of return	7.75%, net of investment expenses
Inflation rate	2.75%
Projected salary increases	4.25% to 14.50%, varying by service, includes inflation and productivity
Mortality*	Post-retirement Non-Disabled: RP-2014 Healthy Annuitant Mortality Table set back one year, multiplied by 50% for ages under 75 and grading up to 100% by age 80, projected generationally using Scale MP-2014.
	Pre-retirement Non-Disabled: RP-2014 Employee Mortality Table, projected generationally using Scale MP-2014.
	Disabled: RP-2014 Disabled Mortality table set forward 4 years.
Other assumptions:	Same as those used in the July 1, 2015, and July 1, 2014, actuarial funding valuations.

** The mortality rates were based on historical and current demographic data, as used in the experience study dated April 30, 2015. The underlying tables reasonably reflect the mortality experience of the Fund as of the measurement date.*

Changes in the collective net pension liability from the beginning of the year to the end of the year arise from the net difference between changes in the total pension liability and plan fiduciary net position that occurred during the year. Changes in net pension liability will be recognized immediately as pension expense, or reported as deferred outflows of resources related to pensions or deferred inflows of resources related to pensions, depending on the nature of the change.

Differences between actual and expected investment-related experience are recognized over a closed five-year period. Differences between actual and expected non-investment-related experience and changes of assumptions are recognized over the average of the expected remaining service lives of all members who are provided with pensions through the pension plan (active employees and inactive employees). The amounts below that are not included in pension expense for the current year are included in deferred outflows of resources or deferred inflows of resources related to pensions.

EXHIBIT A

Reconciliation of Collective Net Pension Liability

	Increase/(Decrease) For Fiscal Year Ending June 30, 2015		
	Total Pension Liability (a)	**Plan Fiduciary Net Position (b)**	**Net Pension Liability (a) – (b)**
Balances at beginning of year	$3,138,799,773	$2,090,977,056	$1,047,822,717
Changes for the year			
Service cost	60,617,900		60,617,900
Interest	249,063,837		249,063,837
Differences between expected and actual experience	2,209,258		2,209,258
Contributions – employer		78,422,098	(78,422,098)
Contributions – member		72,268,451	(72,268,451)
Contributions – purchased service credit		1,600,739	(1,600,739)
Contributions – other		172,474	(172,474)
Net investment income		73,204,806	(73,204,806)
Benefit payments, including refunds of employee contributions	(172,239,433)	(172,239,433)	0
Administrative expense		(1,923,392)	1,923,392
Changes of assumptions	171,324,647		171,324,647
Change of benefit terms			0
Restatement of Plan Fiduciary Net Position	--	(561,999)	561,999
Net changes	310,976,209	50,943,744	260,032,465
Balances at end of year	$3,449,775,982	$2,141,920,800	$1,307,855,182

As shown in Exhibit A, during the plan year that ended June 30, 2015, the changes in net pension liability due to differences between expected and actual demographic experience and changes in actuarial assumptions are increases of $2,209,258 and $171,324,647, respectively. The average expected remaining service lives of all members is 7 years, determined as of July 1, 2014. Therefore, of the $2,209,258 demographic loss and the loss of $171,324,647 due to changes of assumptions, $315,608 and $24,474,950 are recognized in pension expense in the current year and $1,893,650 and $146,849,697 are reflected as a deferred outflow of resources related to pensions.

Based on the assumed investment return of 8.00%, the expected net investment income for the year was $166,365,242. As shown in Exhibit A, the actual net investment income for the year was $73,204,806. The difference between actual and expected investment experience is an increase in net pension liability of $93,160,436, which is recognized over a 5-year period. Of this amount, $18,632,087 is reflected in the current year and $74,528,349 is reflected as a deferred outflow of resources related to pensions.

EXHIBIT B

Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

	Year Established	Original Balance	Original Amortization Period	Amortization Amount	Outstanding Balance at June 30, 2015
Outflows					
Demographic	2014	$9,347,346	7 years	$1,335,335	$6,676,676
Demographic	2015	2,209,258	7 years	315,608	1,893,650
Assumptions	2015	171,324,647	7 years	24,474,950	146,849,697
Investment	2015	93,160,436	5 years	18,632,087	74,528,349
Total outflows				**$44,757,980**	**$229,948,372**
Inflows					
Investment	2014	$148,793,866	5 years	$29,758,773	$89,276,320
Total inflows				**$29,758,773**	**$89,276,320**

EXHIBIT B (continued)
Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$8,570,326	$0
Changes of assumptions	146,849,697	0
Net difference between projected and actual earnings on pension plan investments	0	14,747,971
Total	$155,420,023	$14,747,971

Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:

Year Ended June 30:	
2016	14,999,207
2017	14,999,207
2018	14,999,206
2019	44,757,981
2020	26,125,894
Thereafter	24,790,557

Exhibit C below shows the individual components of collective pension expense, which totaled $86,197,430 for the fiscal year that ended June 30, 2015.

Annual pension expense for the year can also be viewed as the change in net pension liability, plus employer contributions for the year, less the change in outstanding balances of deferred outflows and deferred inflows of resources from the end of the prior fiscal year to end of the current fiscal year. From Exhibit A, the change in net pension liability during the year was $260,032,465 and employer contributions were $78,422,098. The net value of deferred outflows and deferred inflows of resources as of the end of the current fiscal year is $140,672,052 compared to the net value as of the end of the prior fiscal of ($111,023,082), for a change of $251,695,134. Therefore, the pension expense for the fiscal year that ended June 30, 2015, is $260,032,465 + $78,422,098 – $251,695,134, or $86,759,429.

EXHIBIT C

Collective Pension Expense

	Fiscal Year Ending June 30, 2015	Fiscal Year Ending June 30, 2014
Components of pension expense		
Service cost	$60,617,900	$56,751,722
Interest on the total pension liability	249,063,837	237,820,894
Projected earnings on plan investments	(166,365,242)	(145,452,583)
Contributions – member	(72,268,451)	(56,554,767)
Contributions – purchased service credit	(1,600,739)	(2,034,289)
Contributions – other	(172,474)	0
Administrative expense	1,923,392	1,586,045
Current year recognition of:		
Changes of assumptions	24,474,950	0
Difference between expected and actual experience	1,650,943	1,335,335
Difference between projected and actual earnings on pension plan investments	(11,126,686)	(29,758,773)
Change of benefit terms	0	0
Restatement of Plan Fiduciary Net Position	561,999	N/A
Total pension expense	$86,759,429	$63,693,584

TFFR is classified as a cost-sharing multiple-employer defined benefit pension plan for GASB accounting purposes. As specified in GASB 68, employers that participate in TFFR are required to recognize their proportionate share of the collective pension amounts for all benefits provided through the Fund. Pension amounts to be recognized by employers include the net pension liability, deferred outflows of resources related to pensions, deferred inflows of resources related to pensions, and pension expense. In addition, the effects of (1) a change in the employer's proportion of the collective net pension liability and (2) differences during the measurement period between the employer's contributions and its proportionate share of the total of contributions from employers included in the collective net pension liability are required to be determined and recognized.

The basis of an employer's allocation of the collective pension amounts should be consistent with the manner in which contributions to the plan are determined. Since contributions to TFFR are collected as a percentage of payroll, covered employee payroll for the fiscal year ending June 30, 2015, is used as the proportionate share allocation basis. Retirement and Investment Office staff supplied covered employee payroll for each employer.

The net effect of the change on an employer's proportionate share of the collective net pension liability and collective deferred outflows of resources and deferred inflows of resources is recognized over the average of the expected remaining service lives of all members who are provided with pensions through TFFR.

In addition, the difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ended June 30, 2015, is recognized over the same period. However, since TFFR contributions are collected on the same basis as the proportionate share allocation, there is no difference between the actual employer contributions and the proportionate share of the employer contributions. If employers no longer report to TFFR, they will continue to remain on the schedule until their deferral balances are depleted.

Exhibits D and E that follow show the proportionate share information for employers of TFFR for the fiscal year ending June 30, 2015.

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EXHIBIT D
Schedule of Employer Allocations

Employer Name	Covered Employee Payroll	Employer's Proportionate Share Allocation
Alexander School	$ 942,165	0.153171%
Anamoose School	700,433	0.113872%
Apple Creek Elem School	321,168	0.052214%
Ashley School	940,568	0.152912%
Bakker Elem School	34,500	0.005609%
Barnes County North	1,652,365	0.268631%
Beach School	2,069,473	0.336442%
Belcourt School	8,039,312	1.306982%
Belfield Public School	1,356,823	0.220584%
Beulah School	3,386,927	0.550626%
Billings Co. School Dist.	631,967	0.102741%
Bismarck Public Schools	66,330,545	10.783616%
Bismarck State College	-	0.000000%
Blessed John Paul II Catholic Sch Network	30,863	0.005018%
Bottineau School	3,684,839	0.599059%
Bowbells School	521,990	0.084862%
Bowman School	2,727,489	0.443419%
Burke Central School	746,092	0.121295%
Burleigh County Spec. Ed.	87,435	0.014215%
Carrington School	2,851,899	0.463644%
Cavalier School	2,147,821	0.349180%
Center Stanton School	1,416,687	0.230316%
Central Cass School	3,427,889	0.557285%
Central Elementary School	63,927	0.010393%
Central Valley School	1,235,280	0.200824%
Dakota Prairie School	1,757,705	0.285757%
Devils Lake School	10,175,860	1.654329%
Dickinson School	17,340,566	2.819124%
Divide School	2,207,907	0.358948%
Drake School	520,062	0.084548%
Drayton School	1,236,526	0.201027%
Dunseith School	2,589,121	0.420923%
E Central Ctr Exc Childn	803,793	0.130676%
Earl Elem. School	30,900	0.005024%
Edgeley School	1,221,200	0.198535%
Edmore School	696,496	0.113232%
Eight Mile School	1,376,633	0.223805%
Elgin-New Leipzig School	982,762	0.159771%
Ellendale School	1,723,476	0.280192%
Emerado Elementary School	557,813	0.090686%
Enderlin Area School District	1,928,787	0.313570%
Fairmount School	982,807	0.159779%
Fargo Public Schools	65,440,942	10.638990%
Fessenden-Bowdon School	939,878	0.152800%
Finley-Sharon School	1,122,664	0.182516%
Flasher School	1,010,501	0.164281%
Fordville Lankin School	569,625	0.092606%
Fort Ransom Elem School	166,524	0.027072%
Fort Totten School	1,543,627	0.250954%
Fort Yates School	1,118,852	0.181896%
Gackle-Streeter Pub Sch	724,545	0.117792%
Garrison School	2,240,554	0.364256%
Glen Ullin School	1,106,691	0.179919%
Glenburn School	1,540,540	0.250452%
Goodrich School	281,322	0.045736%
Grafton School	4,295,908	0.698403%
Grand Forks School	42,971,154	6.985988%
Great North West Cooperative	160,269	0.026056%
Grenora School	1,101,160	0.179020%
Griggs County Central Sch	1,727,525	0.280851%
Gst Educational Services	1,422,035	0.231186%
Halliday School	443,998	0.072183%
Hankinson School	1,473,275	0.239516%
Harvey School	2,145,151	0.348746%
Hatton Eielson Psd	1,105,167	0.179671%
Hazelton - Moffit School	721,118	0.117235%
Hazen School	2,784,803	0.452736%
Hebron School	1,116,577	0.181526%

EXHIBIT D
Schedule of Employer Allocations

Employer Name	Covered Employee Payroll	Employer's Proportionate Share Allocation
Hettinger School	1,470,529	0.239070%
Hillsboro School	2,334,605	0.379546%
Hope School	596,108	0.096912%
Horse Creek Elem. School	34,500	0.005609%
James River Multidistrict Spec Ed Unit	1,252,559	0.203633%
Jamestown School	12,847,669	2.088696%
Kenmare School	1,657,519	0.269469%
Kensal School	416,510	0.067714%
Kidder County School District	2,113,190	0.343549%
Killdeer School	2,552,580	0.414983%
Kindred School	3,054,003	0.496501%
Kulm School	1,049,725	0.170658%
Lake Region Spec Ed	1,704,712	0.277142%
Lakota School	1,078,948	0.175409%
Lamoure School	1,525,955	0.248080%
Langdon Area School	2,043,965	0.332295%
Larimore School	1,946,851	0.316507%
Leeds School	1,080,991	0.175741%
Lewis And Clark School	2,533,615	0.411900%
Lidgerwood School	1,075,893	0.174912%
Linton School	1,592,962	0.258974%
Lisbon School	3,229,368	0.525011%
Litchville-Marion School	802,581	0.130479%
Little Heart Elem. School	102,350	0.016639%
Logan County	4,079	0.000663%
Lone Tree Elem. School	222,167	0.036119%
Lonetree Spec Ed Unit	144,397	0.023475%
Maddock School	971,323	0.157912%
Mandan Public Schools	18,106,534	2.943650%
Mandaree School	1,545,115	0.251195%
Manning Elem School	84,270	0.013700%
Manvel Elem. School	739,999	0.120305%
Maple Valley School	1,566,975	0.254749%
Mapleton Elem. School	675,390	0.109801%
Marmarth Elem. School	133,327	0.021675%
Max School	1,109,259	0.180337%
May-Port C-G School	2,615,913	0.425279%
Mcclusky School	661,813	0.107593%
Mckenzie County	48,787	0.007931%
Mckenzie County School	5,592,594	0.909210%
Medina School	915,003	0.148756%
Menoken Elem School	126,900	0.020631%
Midkota	997,216	0.162121%
Midway School	1,341,951	0.218166%
Milnor School	1,451,776	0.236021%
Minnewaukan School	1,616,981	0.262879%
Minot School	41,782,306	6.792713%
Minto School	1,134,852	0.184497%
Mohall Lansford Sherwood	2,266,395	0.368457%
Montpelier School	700,707	0.113917%
Morton County	28,528	0.004638%
Mott-Regent School	1,487,872	0.241889%
Mt Pleasant School	1,556,266	0.253008%
Munich School	828,470	0.134688%
N Central Area Career And Tech Center	143,586	0.023343%
Napoleon School	1,459,067	0.237206%
Naughton Rural School	68,210	0.011089%
Nd Center For Distance Education	1,376,782	0.223829%
Nd Dept Of Public Instruction	113,498	0.018452%
Nd School For Blind	653,216	0.106196%
Nd School For Deaf	880,743	0.143186%
Nd United	306,072	0.049759%
Nd Youth Correctional Cnt	1,148,682	0.186746%
Nedrose School	1,406,389	0.228642%
Nelson County	11,531	0.001875%
Nesson School	1,462,253	0.237724%
New England School	1,224,181	0.199020%
New Public School	2,018,470	0.328151%

EXHIBIT D
Schedule of Employer Allocations

Employer Name	Covered Employee Payroll	Employer's Proportionate Share Allocation
New Rockford Sheyenne School	1,729,783	0.281218%
New Salem-Almont	1,743,327	0.283419%
New Town School	4,210,477	0.684514%
Newburg United District	609,685	0.099119%
North Border School	2,545,237	0.413789%
North Sargent School	1,270,298	0.206517%
North Star	1,541,769	0.250651%
North Valley Area Career	521,762	0.084825%
Northern Cass School Dist	2,544,771	0.413713%
Northern Plains Spec Ed	260,925	0.042420%
Northwood School	1,375,647	0.223644%
Oakes School	1,958,481	0.318398%
Oberon Elem School	425,282	0.069140%
Oliver - Mercer Spec Ed	943,552	0.153397%
Page School	694,469	0.112903%
Park River Area School District	2,007,593	0.326382%
Parshall School	1,640,900	0.266767%
Peace Garden Spec Ed	503,942	0.081928%
Pembina Spec Ed Coop	101,589	0.016516%
Pingree - Buchanan School	770,963	0.125338%
Pleasant Valley Elem	-	0.000000%
Powers Lake School	1,019,502	0.165744%
Richardton-Taylor	1,695,010	0.275564%
Richland School	1,568,558	0.255007%
Robinson School	37,235	0.006053%
Rolette County	-	0.000000%
Rolette School	1,154,363	0.187669%
Roosevelt School	380,314	0.061829%
Roughrider Area Career And Tech Center	160,135	0.026034%
Roughrider Service Program	191,316	0.031103%
Rugby School	3,075,745	0.500036%
Rural Cass Spec Ed	1,026,048	0.166809%
Sargent Central School	1,356,395	0.220514%
Sawyer School	879,870	0.143044%
Scranton School	1,078,208	0.175288%
Se Region Career And Tech	1,339,785	0.217814%
Selfridge School	815,751	0.132620%
Sheyenne Valley Area Voc	694,429	0.112896%
Sheyenne Valley Spec Ed	1,607,429	0.261326%
Slope County	23,708	0.003854%
Solen - Cannonball School	1,481,895	0.240918%
Souris Valley Spec Ed	1,540,949	0.250518%
South Cent. Prairie Sp Ed	95,975	0.015603%
South Heart School	1,397,217	0.227151%
South Prairie Elem School	1,359,306	0.220988%
South Valley Spec Ed	699,887	0.113783%
Southwest Special Education Unit	60,320	0.009806%
St. John'S School	2,429,174	0.394920%
St. Thomas School	673,588	0.109508%
Stanley School	3,106,099	0.504971%
Starkweather School	570,703	0.092781%
Sterling School	234,027	0.038047%
Strasburg School District	755,456	0.122817%
Surrey School	2,278,060	0.370353%
Sweet Briar Elem School	77,000	0.012518%
Tgu School District	2,597,628	0.422307%
Thompson School	1,912,181	0.310871%
Tioga School	2,770,986	0.450490%
Turtle Lake-Mercer School	1,157,579	0.188192%
Twin Buttes Elem. School	448,113	0.072851%
Underwood School	1,489,724	0.242190%
United School	2,772,073	0.450667%
Upper Valley Spec Ed	2,320,219	0.377207%
Valley - Edinburg School	1,445,576	0.235013%
Valley City School	5,626,852	0.914779%
Velva School	2,364,311	0.384375%
Wahpeton School	6,548,180	1.064563%
Ward County	27,466	0.004465%

EXHIBIT D
Schedule of Employer Allocations

Employer Name	Covered Employee Payroll	Employer's Proportionate Share Allocation
Warwick School	1,780,738	0.289502%
Washburn School	1,503,763	0.244473%
West Fargo School	48,132,439	7.825079%
West River Student Services	675,396	0.109802%
Westhope School	1,058,898	0.172149%
White Shield School	1,397,389	0.227179%
Williston School	16,446,502	2.673772%
Wilmac Special Education	2,895,200	0.470684%
Wilton School	1,207,198	0.196259%
Wing School	651,680	0.105946%
Wishek School	1,169,293	0.190097%
Wolford School	510,644	0.083017%
Wyndmere School	1,381,266	0.224558%
Yellowstone Elem. School	519,594	0.084472%
Zeeland School	447,251	0.072711%
Grand Totals:	**615,104,860**	**100%**

EXHIBIT E
Schedule of Pension Amounts by Employer as of June 30, 2015

				Discount Rate Sensitivity			Schedule of Contributions				Pension Expense		
Employer Name	Employer's Proportionate Share Allocation	Net Pension Liability	Covered Employee Payroll	1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)	Statutory Required Contribution	Contributions In Relation to the Statutory Required Contribution	Contribution Deficiency/ (Excess)	Contributions as a Percentage of Covered Employee Payroll	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Alexander School	0.153171%	$ 2,003,255	$ 942,165	$ 2,647,396	$ 2,003,255	$ 1,466,055	$ 120,120	$ (120,120)	$ -	12.75%	$ 132,890	$ 16,432	$ 149,322
Anamoose School	0.113872%	1,489,281	700,433	1,968,155	1,489,281	1,089,910	89,301	(89,301)	-	12.75%	98,795	11,915	110,710
Apple Creek Elem School	0.052214%	682,884	321,168	902,463	682,884	499,759	40,947	(40,947)	-	12.75%	45,301	(10,158)	35,143
Ashley School	0.152912%	1,999,868	940,568	2,642,919	1,999,868	1,463,576	119,917	(119,917)	-	12.75%	132,666	2,804	135,470
Bakker Elem School	0.005609%	73,358	34,500	96,946	73,358	53,686	4,399	(4,399)	-	12.75%	4,866	(275)	4,591
Barnes County North	0.268631%	3,513,304	1,652,365	4,642,998	3,513,304	2,571,164	210,666	(210,666)	-	12.75%	233,063	(35,144)	197,919
Beach School	0.336442%	4,400,174	2,069,473	5,815,038	4,400,174	3,220,207	263,845	(263,845)	-	12.75%	291,895	(30,004)	261,891
Belcourt School	1.306982%	17,093,432	8,039,312	22,589,778	17,093,432	12,509,595	1,024,963	(1,024,963)	-	12.75%	1,133,930	(57,762)	1,076,168
Belfield Public School	0.220584%	2,884,919	1,356,823	3,812,557	2,884,919	2,111,289	172,987	(172,987)	-	12.75%	191,377	2,435	193,812
Beulah School	0.550626%	7,201,391	3,386,927	9,516,978	7,201,391	5,270,239	431,812	(431,812)	-	12.75%	477,720	(11,241)	466,479
Billings Co. School Dist.	0.102741%	1,343,703	631,967	1,775,768	1,343,703	983,371	80,572	(80,572)	-	12.75%	89,138	(38,401)	50,737
Bismarck Public Schools	10.783616%	141,034,081	66,330,545	186,383,207	141,034,081	103,213,867	8,456,738	(8,456,738)	-	12.75%	9,355,804	234,431	9,590,235
Bismarck State College	0.000000%	-	-	-	-	-	-	-	-	12.75%	-	(8,930)	(8,930)
Blessed John Paul II Catholic Sch Network	0.005018%	65,628	30,863	86,731	65,628	48,029	3,935	(3,935)	-	12.75%	4,354	(420)	3,934
Bottineau School	0.599059%	7,834,824	3,684,839	10,354,091	7,834,824	5,733,809	469,795	(469,795)	-	12.75%	519,740	(12,153)	507,587
Bowbells School	0.084862%	1,109,872	521,990	1,466,748	1,109,872	812,245	66,551	(66,551)	-	12.75%	73,626	(4,086)	69,540
Bowman School	0.443419%	5,799,278	2,727,489	7,664,021	5,799,278	4,244,123	347,738	(347,738)	-	12.75%	384,708	(4,602)	380,106
Burke Central School	0.121295%	1,586,363	746,092	2,096,454	1,586,363	1,160,958	95,122	(95,122)	-	12.75%	105,235	(37,472)	67,763
Burleigh County Spec. Ed.	0.014215%	185,912	87,435	245,691	185,912	136,057	11,148	(11,148)	-	12.75%	12,333	4,289	16,622
Carrington School	0.463644%	6,063,792	2,851,899	8,013,588	6,063,792	4,437,703	363,599	(363,599)	-	12.75%	402,255	10,567	412,822
Cavalier School	0.349180%	4,566,769	2,147,821	6,035,201	4,566,769	3,342,127	273,834	(273,834)	-	12.75%	302,947	14,299	317,246
Center Stanton School	0.230316%	3,012,200	1,416,687	3,980,764	3,012,200	2,204,437	180,619	(180,619)	-	12.75%	199,821	4,875	204,696
Central Cass School	0.557285%	7,288,481	3,427,889	9,632,072	7,288,481	5,333,975	437,035	(437,035)	-	12.75%	483,497	(24,609)	458,888
Central Elementary School	0.010393%	135,925	63,927	179,632	135,925	99,475	8,150	(8,150)	-	12.75%	9,017	(111)	8,906
Central Valley School	0.200824%	2,626,487	1,235,280	3,471,027	2,626,487	1,922,159	157,490	(157,490)	-	12.75%	174,234	(13,885)	160,349
Dakota Prairie School	0.285757%	3,737,288	1,757,705	4,939,002	3,737,288	2,735,083	224,097	(224,097)	-	12.75%	247,921	4,419	252,340
Devils Lake School	1.654329%	21,636,228	10,175,860	28,593,298	21,636,228	15,834,178	1,297,360	(1,297,360)	-	12.75%	1,435,286	(92,638)	1,342,648
Dickinson School	2.819124%	36,870,059	17,340,566	48,725,527	36,870,059	26,982,850	2,210,816	(2,210,816)	-	12.75%	2,445,856	370,847	2,816,703
Divide School	0.358948%	4,694,520	2,207,907	6,204,030	4,694,520	3,435,620	281,495	(281,495)	-	12.75%	311,421	(20,467)	290,954
Drake School	0.084548%	1,105,765	520,062	1,461,321	1,105,765	809,239	66,304	(66,304)	-	12.75%	73,353	(11,703)	61,650
Drayton School	0.201027%	2,629,142	1,236,526	3,474,536	2,629,142	1,924,102	157,650	(157,650)	-	12.75%	174,410	26,476	200,886
Dunseith School	0.420923%	5,505,063	2,589,121	7,275,201	5,505,063	4,028,805	330,097	(330,097)	-	12.75%	365,190	6,839	372,029
E Central Ctr Exc Childn	0.130676%	1,709,053	803,793	2,258,594	1,709,053	1,250,747	102,479	(102,479)	-	12.75%	113,374	1,359	114,733
Earl Elem. School	0.005024%	65,707	30,900	86,834	65,707	48,087	3,940	(3,940)	-	12.75%	4,359	(387)	3,972
Edgeley School	0.198535%	2,596,550	1,221,200	3,431,464	2,596,550	1,900,250	155,695	(155,695)	-	12.75%	172,248	(2,253)	169,995
Edmore School	0.113232%	1,480,911	696,496	1,957,093	1,480,911	1,083,784	88,799	(88,799)	-	12.75%	98,239	5,849	104,088
Eight Mile School	0.223805%	2,927,045	1,376,633	3,868,229	2,927,045	2,142,118	175,513	(175,513)	-	12.75%	194,172	29,498	223,670
Elgin-New Leipzig School	0.159771%	2,089,573	982,762	2,761,470	2,089,573	1,529,226	125,296	(125,296)	-	12.75%	138,616	(8,574)	130,042
Ellendale School	0.280192%	3,664,506	1,723,476	4,842,817	3,664,506	2,681,818	219,732	(219,732)	-	12.75%	243,093	(22,712)	220,381
Emerado Elementary School	0.090686%	1,186,042	557,813	1,567,410	1,186,042	867,988	71,118	(71,118)	-	12.75%	78,679	(1,904)	76,775
Enderlin Area School District	0.313570%	4,101,041	1,928,787	5,419,720	4,101,041	3,001,291	245,908	(245,908)	-	12.75%	272,052	5,884	277,936
Fairmount School	0.159779%	2,089,678	982,807	2,761,608	2,089,678	1,529,302	125,302	(125,302)	-	12.75%	138,623	(3,313)	135,310
Fargo Public Schools	10.638990%	139,142,582	65,440,942	183,883,502	139,142,582	101,829,600	8,343,319	(8,343,319)	-	12.75%	9,230,327	(422,674)	8,807,653
Fessenden-Bowdon School	0.152800%	1,998,403	939,878	2,640,984	1,998,403	1,462,504	119,829	(119,829)	-	12.75%	132,568	(1,149)	131,419
Finley-Sharon School	0.182516%	2,387,045	1,122,664	3,154,593	2,387,045	1,746,926	143,133	(143,133)	-	12.75%	158,350	(8,796)	149,554
Flasher School	0.164281%	2,148,558	1,010,501	2,839,420	2,148,558	1,572,393	128,833	(128,833)	-	12.75%	142,529	(28,115)	114,414
Fordville Lankin School	0.092606%	1,211,152	569,625	1,600,595	1,211,152	886,365	72,624	(72,624)	-	12.75%	80,344	(1,679)	78,665
Fort Ransom Elem School	0.027072%	354,063	166,524	467,910	354,063	259,116	21,230	(21,230)	-	12.75%	23,488	1,477	24,965
Fort Totten School	0.250954%	3,282,115	1,543,627	4,337,470	3,282,115	2,401,971	196,803	(196,803)	-	12.75%	217,726	(20,614)	197,112
Fort Yates School	0.181896%	2,378,936	1,118,852	3,143,877	2,378,936	1,740,992	142,647	(142,647)	-	12.75%	157,812	11,074	168,886
Gackle-Streeter Pub Sch	0.117792%	1,540,549	724,545	2,035,908	1,540,549	1,127,430	92,375	(92,375)	-	12.75%	102,196	(8,912)	93,284
Garrison School	0.364256%	4,763,941	2,240,554	6,295,773	4,763,941	3,486,425	285,657	(285,657)	-	12.75%	316,026	21,540	337,566
Glen Ullin School	0.179919%	2,353,080	1,106,691	3,109,706	2,353,080	1,722,069	141,096	(141,096)	-	12.75%	156,097	15,853	171,950
Glenburn School	0.250452%	3,275,549	1,540,540	4,328,794	3,275,549	2,397,166	196,410	(196,410)	-	12.75%	217,291	(10,862)	206,429
Goodrich School	0.045736%	598,161	281,322	790,498	598,161	437,756	35,867	(35,867)	-	12.75%	39,680	(3,275)	36,405
Grafton School	0.698403%	9,134,100	4,295,908	12,071,145	9,134,100	6,684,666	547,702	(547,702)	-	12.75%	605,930	16,477	622,407
Grand Forks School	6.985988%	91,366,606	42,971,154	120,745,291	91,366,606	66,865,404	5,478,558	(5,478,558)	-	12.75%	6,061,003	(346,786)	5,714,217
Great North West Cooperative	0.026056%	340,775	160,269	450,350	340,775	249,391	20,434	(20,434)	-	12.75%	22,606	6,619	29,225
Grenora School	0.179020%	2,341,322	1,101,160	3,094,168	2,341,322	1,713,465	140,391	(140,391)	-	12.75%	155,317	19,589	174,906
Griggs County Central Sch	0.280851%	3,673,124	1,727,525	4,854,208	3,673,124	2,688,126	220,249	(220,249)	-	12.75%	243,665	(16,755)	226,910
Gst Educational Services	0.231186%	3,023,578	1,422,035	3,995,801	3,023,578	2,212,764	181,301	(181,301)	-	12.75%	200,576	(29,561)	171,015
Halliday School	0.072183%	944,049	443,998	1,247,606	944,049	690,889	56,607	(56,607)	-	12.75%	62,626	1,187	63,813
Hankinson School	0.239516%	3,132,522	1,473,275	4,139,777	3,132,522	2,292,494	187,833	(187,833)	-	12.75%	207,803	(46,930)	160,873
Harvey School	0.348746%	4,561,093	2,145,151	6,027,700	4,561,093	3,337,973	273,494	(273,494)	-	12.75%	302,570	(18,426)	284,144
Hatton Eielson Psd	0.179671%	2,349,836	1,105,167	3,105,420	2,349,836	1,719,696	140,902	(140,902)	-	12.75%	155,882	(3,735)	152,147
Hazelton - Moffit School	0.117235%	1,533,264	721,118	2,026,281	1,533,264	1,122,098	91,938	(91,938)	-	12.75%	101,712	(24,180)	77,532
Hazen School	0.452736%	5,921,131	2,784,803	7,825,055	5,921,131	4,333,299	355,045	(355,045)	-	12.75%	392,791	13,600	406,391
Hebron School	0.181526%	2,374,097	1,116,577	3,137,482	2,374,097	1,737,451	142,356	(142,356)	-	12.75%	157,491	(10,827)	146,664

EXHIBIT E
Schedule of Pension Amounts by Employer as of June 30, 2015

				Discount Rate Sensitivity			Schedule of Contributions				Pension Expense		
Employer Name	Employer's Proportionate Share Allocation	Net Pension Liability	Covered Employee Payroll	1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)	Statutory Required Contribution	Contributions In Relation to the Statutory Required Contribution	Contribution Deficiency/ (Excess)	Contributions as a Percentage of Covered Employee Payroll	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Hettinger School	0.239070%	3,126,689	1,470,529	4,132,068	3,126,689	2,288,225	187,484	(187,484)	-	12.75%	207,416	(42,303)	165,113
Hillsboro School	0.379546%	4,963,912	2,334,605	6,560,044	4,963,912	3,632,771	297,648	(297,648)	-	12.75%	329,292	23,228	352,520
Hope School	0.096912%	1,267,469	596,108	1,675,020	1,267,469	927,580	76,000	(76,000)	-	12.75%	84,080	(7,730)	76,350
Horse Creek Elem. School	0.005609%	73,358	34,500	96,946	73,358	53,686	4,399	(4,399)	-	12.75%	4,866	(561)	4,305
James River Multidistrict Spec Ed Unit	0.203633%	2,663,225	1,252,559	3,519,577	2,663,225	1,949,045	159,693	(159,693)	-	12.75%	176,671	13,759	190,430
Jamestown School	2.088696%	27,317,119	12,847,669	36,100,864	27,317,119	19,991,661	1,637,999	(1,637,999)	-	12.75%	1,812,141	(134,767)	1,677,374
Kenmare School	0.269469%	3,524,264	1,657,519	4,657,482	3,524,264	2,579,185	211,323	(211,323)	-	12.75%	233,790	(40,293)	193,497
Kensal School	0.067714%	885,601	416,510	1,170,364	885,601	648,115	53,103	(53,103)	-	12.75%	58,748	5,178	63,926
Kidder County School District	0.343549%	4,493,123	2,113,190	5,937,875	4,493,123	3,288,231	269,418	(269,418)	-	12.75%	298,061	(38,962)	259,099
Killdeer School	0.414983%	5,427,377	2,552,580	7,172,535	5,427,377	3,971,952	325,438	(325,438)	-	12.75%	360,037	24,170	384,207
Kindred School	0.496501%	6,493,514	3,054,003	8,581,486	6,493,514	4,752,190	389,367	(389,367)	-	12.75%	430,761	(13,499)	417,262
Kulm School	0.170658%	2,231,959	1,049,725	2,949,640	2,231,959	1,633,429	133,834	(133,834)	-	12.75%	148,062	(10,219)	137,843
Lake Region Spec Ed	0.277142%	3,624,616	1,704,712	4,790,101	3,624,616	2,652,626	217,341	(217,341)	-	12.75%	240,447	(19,616)	220,831
Lakota School	0.175409%	2,294,096	1,078,948	3,031,756	2,294,096	1,678,903	137,559	(137,559)	-	12.75%	152,184	(34,138)	118,046
Lamoure School	0.248080%	3,244,527	1,525,955	4,287,796	3,244,527	2,374,463	194,550	(194,550)	-	12.75%	215,233	11,509	226,742
Langdon Area School	0.332295%	4,345,937	2,043,965	5,743,362	4,345,937	3,180,515	260,593	(260,593)	-	12.75%	288,297	(7,677)	280,620
Larimore School	0.316507%	4,139,453	1,946,851	5,470,483	4,139,453	3,029,402	248,211	(248,211)	-	12.75%	274,600	(66,220)	208,380
Leeds School	0.175741%	2,298,438	1,080,991	3,037,494	2,298,438	1,682,080	137,820	(137,820)	-	12.75%	152,472	5,443	157,915
Lewis And Clark School	0.411900%	5,387,055	2,533,615	7,119,249	5,387,055	3,942,443	323,021	(323,021)	-	12.75%	357,362	9,653	367,015
Lidgerwood School	0.174912%	2,287,596	1,075,893	3,023,166	2,287,596	1,674,146	137,170	(137,170)	-	12.75%	151,753	(20,020)	131,733
Linton School	0.258974%	3,387,005	1,592,962	4,476,087	3,387,005	2,478,733	203,093	(203,093)	-	12.75%	224,684	(22,192)	202,492
Lisbon School	0.525011%	6,866,384	3,229,368	9,074,251	6,866,384	5,025,069	411,725	(411,725)	-	12.75%	455,497	(48,955)	406,542
Litchville-Marion School	0.130479%	1,706,476	802,581	2,255,189	1,706,476	1,248,861	102,324	(102,324)	-	12.75%	113,203	(14,297)	98,906
Little Heart Elem. School	0.016639%	217,614	102,350	287,587	217,614	159,258	13,049	(13,049)	-	12.75%	14,436	755	15,191
Logan County	0.000663%	8,671	4,079	11,459	8,671	6,346	520	(520)	-	12.75%	575	(41)	534
Lone Tree Elem. School	0.036119%	472,384	222,167	624,278	472,384	345,708	28,325	(28,325)	-	12.75%	31,337	4,371	35,708
Lonetree Spec Ed Unit	0.023475%	307,019	144,397	405,740	307,019	224,688	18,410	(18,410)	-	12.75%	20,367	(551)	19,816
Maddock School	0.157912%	2,065,260	971,323	2,729,339	2,065,260	1,511,433	123,838	(123,838)	-	12.75%	137,004	(238)	136,766
Mandan Public Schools	2.943650%	38,498,679	18,106,534	50,877,825	38,498,679	28,174,733	2,308,472	(2,308,472)	-	12.75%	2,553,894	203,392	2,757,286
Mandaree School	0.251195%	3,285,267	1,545,115	4,341,635	3,285,267	2,404,278	196,992	(196,992)	-	12.75%	217,935	(41,657)	176,278
Manning Elem School	0.013700%	179,176	84,270	236,790	179,176	131,128	10,744	(10,744)	-	12.75%	11,886	3,342	15,228
Manvel Elem. School	0.120305%	1,573,415	739,999	2,079,343	1,573,415	1,151,482	94,346	(94,346)	-	12.75%	104,376	(10,355)	94,021
Maple Valley School	0.254749%	3,331,748	1,566,975	4,403,063	3,331,748	2,438,294	199,780	(199,780)	-	12.75%	221,019	(16,361)	204,658
Mapleton Elem. School	0.109801%	1,436,038	675,390	1,897,792	1,436,038	1,050,945	86,108	(86,108)	-	12.75%	95,263	3,440	98,703
Marmarth Elem. School	0.021675%	283,478	133,327	374,629	283,478	207,459	16,998	(16,998)	-	12.75%	18,805	(7,587)	11,218
Max School	0.180337%	2,358,547	1,109,259	3,116,931	2,358,547	1,726,070	141,424	(141,424)	-	12.75%	156,459	(5,245)	151,214
May-Port C-G School	0.425279%	5,562,033	2,615,913	7,350,490	5,562,033	4,070,498	333,513	(333,513)	-	12.75%	368,970	13,583	382,553
Mcclusky School	0.107593%	1,407,161	661,813	1,859,629	1,407,161	1,029,811	84,377	(84,377)	-	12.75%	93,347	(30,246)	63,101
Mckenzie County	0.007931%	103,726	48,787	137,079	103,726	75,910	6,220	(6,220)	-	12.75%	6,881	(1,712)	5,169
Mckenzie County School	0.909210%	11,891,150	5,592,594	15,714,717	11,891,150	8,702,376	713,022	(713,022)	-	12.75%	788,825	234,747	1,023,572
Medina School	0.148756%	1,945,513	915,003	2,571,088	1,945,513	1,423,797	116,658	(116,658)	-	12.75%	129,060	(14,911)	114,149
Menoken Elem School	0.020631%	269,824	126,900	356,585	269,824	197,467	16,179	(16,179)	-	12.75%	17,899	1,076	18,975
Midkota	0.162121%	2,120,308	997,216	2,802,087	2,120,308	1,551,718	127,139	(127,139)	-	12.75%	140,655	(17,159)	123,496
Midway School	0.218166%	2,853,295	1,341,951	3,770,765	2,853,295	2,088,145	171,090	(171,090)	-	12.75%	189,280	(19,376)	169,904
Milnor School	0.236021%	3,086,813	1,451,776	4,079,369	3,086,813	2,259,042	185,093	(185,093)	-	12.75%	204,770	(7,071)	197,699
Minnewaukan School	0.262879%	3,438,077	1,616,981	4,543,581	3,438,077	2,516,109	206,155	(206,155)	-	12.75%	228,072	(25,372)	202,700
Minot School	6.792713%	88,838,849	41,782,306	117,404,740	88,838,849	65,015,499	5,326,988	(5,326,988)	-	12.75%	5,893,319	(197,361)	5,695,958
Minto School	0.184497%	2,412,954	1,134,852	3,188,832	2,412,954	1,765,887	144,686	(144,686)	-	12.75%	160,069	1,406	161,475
Mohall Lansford Sherwood	0.368457%	4,818,884	2,266,395	6,368,383	4,818,884	3,526,634	288,952	(288,952)	-	12.75%	319,671	(22,245)	297,426
Montpelier School	0.113917%	1,489,869	700,707	1,968,933	1,489,869	1,090,341	89,336	(89,336)	-	12.75%	98,834	632	99,466
Morton County	0.004638%	60,658	28,528	80,163	60,658	44,392	3,637	(3,637)	-	12.75%	4,024	291	4,315
Mott-Regent School	0.241889%	3,163,558	1,487,872	4,180,791	3,163,558	2,315,207	189,694	(189,694)	-	12.75%	209,862	(10,203)	199,659
Mt Pleasant School	0.253008%	3,308,978	1,556,266	4,372,971	3,308,978	2,421,631	198,414	(198,414)	-	12.75%	219,508	8,165	227,673
Munich School	0.134688%	1,761,524	828,470	2,327,937	1,761,524	1,289,147	105,625	(105,625)	-	12.75%	116,855	8,761	125,616
N Central Area Career And Tech Center	0.023343%	305,293	143,586	403,459	305,293	223,424	18,306	(18,306)	-	12.75%	20,252	(690)	19,562
Napoleon School	0.237206%	3,102,311	1,459,067	4,099,851	3,102,311	2,270,384	186,022	(186,022)	-	12.75%	205,799	(4,137)	201,662
Naughton Rural School	0.011089%	145,028	68,210	191,661	145,028	106,137	8,696	(8,696)	-	12.75%	9,621	(339)	9,282
Nd Center For Distance Education	0.223829%	2,927,359	1,376,782	3,868,644	2,927,359	2,142,348	175,531	(175,531)	-	12.75%	194,193	119,091	313,284
Nd Dept Of Public Instruction	0.018452%	241,325	113,498	318,923	241,325	176,611	14,470	(14,470)	-	12.75%	16,009	(902)	15,107
Nd School For Blind	0.106196%	1,388,890	653,216	1,835,484	1,388,890	1,016,440	83,281	(83,281)	-	12.75%	92,135	(7,372)	84,763
Nd School For Deaf	0.143186%	1,872,666	880,743	2,474,816	1,872,666	1,370,485	112,289	(112,289)	-	12.75%	124,227	5,372	129,599
Nd United	0.049759%	650,776	306,072	860,031	650,776	476,261	39,022	(39,022)	-	12.75%	43,171	(1,379)	41,792
Nd Youth Correctional Cnt	0.186746%	2,442,367	1,148,682	3,227,704	2,442,367	1,787,413	146,450	(146,450)	-	12.75%	162,020	(13,741)	148,279
Nedrose School	0.228642%	2,990,306	1,406,389	3,951,831	2,990,306	2,188,415	179,306	(179,306)	-	12.75%	198,368	7,014	205,382
Nelson County	0.001875%	24,522	11,531	32,407	24,522	17,946	1,470	(1,470)	-	12.75%	1,627	76	1,703
Nesson School	0.237724%	3,109,086	1,462,253	4,108,804	3,109,086	2,275,342	186,428	(186,428)	-	12.75%	206,248	10,060	216,308
New England School	0.199020%	2,602,893	1,224,181	3,439,847	2,602,893	1,904,892	156,076	(156,076)	-	12.75%	172,669	19,071	191,740
New Public School	0.328151%	4,291,740	2,018,470	5,671,737	4,291,740	3,140,851	257,343	(257,343)	-	12.75%	284,702	(26,158)	258,544

EXHIBIT E
Schedule of Pension Amounts by Employer as of June 30, 2015

				Discount Rate Sensitivity			Schedule of Contributions				Pension Expense		
Employer Name	Employer's Proportionate Share Allocation	Net Pension Liability	Covered Employee Payroll	1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)	Statutory Required Contribution	Contributions In Relation to the Statutory Required Contribution	Contribution Deficiency/ (Excess)	Contributions as a Percentage of Covered Employee Payroll	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
New Rockford Sheyenne School	0.281218%	3,677,924	1,729,783	4,860,551	3,677,924	2,691,639	220,537	(220,537)	-	12.75%	243,983	934	244,917
New Salem-Almont	0.283419%	3,706,710	1,743,327	4,898,593	3,706,710	2,712,705	222,263	(222,263)	-	12.75%	245,893	27,696	273,589
New Town School	0.684514%	8,952,452	4,210,477	11,831,088	8,952,452	6,551,730	536,810	(536,810)	-	12.75%	593,880	54,860	648,740
Newburg United District	0.099119%	1,296,333	609,685	1,713,165	1,296,333	948,704	77,731	(77,731)	-	12.75%	85,995	(1,747)	84,248
North Border School	0.413789%	5,411,761	2,545,237	7,151,898	5,411,761	3,960,523	324,502	(324,502)	-	12.75%	359,001	(71,115)	287,886
North Sargent School	0.206517%	2,700,943	1,270,298	3,569,424	2,700,943	1,976,648	161,955	(161,955)	-	12.75%	179,173	2,606	181,779
North Star	0.250651%	3,278,152	1,541,769	4,332,233	3,278,152	2,399,071	196,566	(196,566)	-	12.75%	217,463	7,182	224,645
North Valley Area Career	0.084825%	1,109,388	521,762	1,466,109	1,109,388	811,891	66,522	(66,522)	-	12.75%	73,594	(27,289)	46,305
Northern Cass School Dist	0.413713%	5,410,767	2,544,771	7,150,584	5,410,767	3,959,796	324,442	(324,442)	-	12.75%	358,935	6,413	365,348
Northern Plains Spec Ed	0.042420%	554,792	260,925	733,184	554,792	406,017	33,267	(33,267)	-	12.75%	36,803	16,568	53,371
Northwood School	0.223644%	2,924,940	1,375,647	3,865,446	2,924,940	2,140,577	175,386	(175,386)	-	12.75%	194,032	1,031	195,063
Oakes School	0.318398%	4,164,185	1,958,481	5,503,167	4,164,185	3,047,502	249,694	(249,694)	-	12.75%	276,240	(15,267)	260,973
Oberon Elem School	0.069140%	904,251	425,282	1,195,011	904,251	661,764	54,221	(54,221)	-	12.75%	59,985	(10,445)	49,540
Oliver - Mercer Spec Ed	0.153397%	2,006,211	943,552	2,651,302	2,006,211	1,468,218	120,297	(120,297)	-	12.75%	133,086	10,334	143,420
Page School	0.112903%	1,476,608	694,469	1,951,407	1,476,608	1,080,635	88,541	(88,541)	-	12.75%	97,954	(3,400)	94,554
Park River Area School District	0.326382%	4,268,604	2,007,593	5,641,162	4,268,604	3,123,920	255,956	(255,956)	-	12.75%	283,167	(29,123)	254,044
Parshall School	0.266767%	3,488,926	1,640,900	4,610,781	3,488,926	2,553,323	209,204	(209,204)	-	12.75%	231,446	(29,064)	202,382
Peace Garden Spec Ed	0.081928%	1,071,500	503,942	1,416,037	1,071,500	784,162	64,250	(64,250)	-	12.75%	71,080	10,656	81,736
Pembina Spec Ed Coop	0.016516%	216,005	101,589	285,461	216,005	158,081	12,952	(12,952)	-	12.75%	14,329	(20,583)	(6,254)
Pingree - Buchanan School	0.125338%	1,639,240	770,963	2,166,333	1,639,240	1,199,655	98,293	(98,293)	-	12.75%	108,743	(9,234)	99,509
Pleasant Valley Elem	0.000000%	-	-	-	-	-	-	-	-	12.75%	-	(4,753)	(4,753)
Powers Lake School	0.165744%	2,167,691	1,019,502	2,864,707	2,167,691	1,586,395	129,980	(129,980)	-	12.75%	143,799	6,528	150,327
Richardton-Taylor	0.275564%	3,603,978	1,695,010	4,762,827	3,603,978	2,637,522	216,103	(216,103)	-	12.75%	239,078	15,729	254,807
Richland School	0.255007%	3,335,122	1,568,558	4,407,522	3,335,122	2,440,764	199,982	(199,982)	-	12.75%	221,243	(7,369)	213,874
Robinson School	0.006053%	79,164	37,235	104,620	79,164	57,935	4,747	(4,747)	-	12.75%	5,252	(10,135)	(4,883)
Rolette County	0.000000%	-	-	-	-	-	-	-	-	12.75%	-	(1,137)	(1,137)
Rolette School	0.187669%	2,454,439	1,154,363	3,243,657	2,454,439	1,796,247	147,174	(147,174)	-	12.75%	162,821	17,318	180,139
Roosevelt School	0.061829%	808,634	380,314	1,068,648	808,634	591,788	48,488	(48,488)	-	12.75%	53,642	(6,837)	46,805
Roughrider Area Career And Tech Center	0.026034%	340,487	160,135	449,970	340,487	249,181	20,416	(20,416)	-	12.75%	22,587	(2,493)	20,094
Roughrider Service Program	0.031103%	406,782	191,316	537,582	406,782	297,698	24,392	(24,392)	-	12.75%	26,985	26,624	53,609
Rugby School	0.500036%	6,539,747	3,075,745	8,642,585	6,539,747	4,786,024	392,139	(392,139)	-	12.75%	433,828	(1,132)	432,696
Rural Cass Spec Ed	0.166809%	2,181,620	1,026,048	2,883,114	2,181,620	1,596,589	130,815	(130,815)	-	12.75%	144,723	(9,221)	135,502
Sargent Central School	0.220514%	2,884,004	1,356,395	3,811,347	2,884,004	2,110,619	172,932	(172,932)	-	12.75%	191,317	(12,794)	178,523
Sawyer School	0.143044%	1,870,808	879,870	2,472,362	1,870,808	1,369,126	112,178	(112,178)	-	12.75%	124,104	9,719	133,823
Scranton School	0.175288%	2,292,513	1,078,208	3,029,665	2,292,513	1,677,744	137,465	(137,465)	-	12.75%	152,079	4,443	156,522
Se Region Career And Tech	0.217814%	2,848,692	1,339,785	3,764,681	2,848,692	2,084,776	170,814	(170,814)	-	12.75%	188,974	1,674	190,648
Selfridge School	0.132620%	1,734,478	815,751	2,292,194	1,734,478	1,269,354	104,003	(104,003)	-	12.75%	115,060	(4,601)	110,459
Sheyenne Valley Area Voc	0.112896%	1,476,516	694,429	1,951,286	1,476,516	1,080,568	88,535	(88,535)	-	12.75%	97,948	(5,452)	92,496
Sheyenne Valley Spec Ed	0.261326%	3,417,766	1,607,429	4,516,739	3,417,766	2,501,245	204,937	(204,937)	-	12.75%	226,725	10,145	236,870
Slope County	0.003854%	50,405	23,708	66,612	50,405	36,888	3,022	(3,022)	-	12.75%	3,344	(124)	3,220
Solen - Cannonball School	0.240918%	3,150,859	1,481,895	4,164,009	3,150,859	2,305,913	188,933	(188,933)	-	12.75%	209,019	(70,181)	138,838
Souris Valley Spec Ed	0.250518%	3,276,413	1,540,949	4,329,934	3,276,413	2,397,798	196,461	(196,461)	-	12.75%	217,348	(3,167)	214,181
South Cent. Prairie Sp Ed	0.015603%	204,065	95,975	269,681	204,065	149,342	12,236	(12,236)	-	12.75%	13,537	(598)	12,939
South Heart School	0.227151%	2,970,806	1,397,217	3,926,061	2,970,806	2,174,144	178,137	(178,137)	-	12.75%	197,075	24,213	221,288
South Prairie Elem School	0.220988%	2,890,203	1,359,306	3,819,540	2,890,203	2,115,156	173,303	(173,303)	-	12.75%	191,728	25,650	217,378
South Valley Spec Ed	0.113783%	1,488,117	699,887	1,966,617	1,488,117	1,089,058	89,231	(89,231)	-	12.75%	98,717	8,994	107,711
Southwest Special Education Unit	0.009806%	128,248	60,320	169,486	128,248	93,857	7,690	(7,690)	-	12.75%	8,508	(982)	7,526
St. John'S School	0.394920%	5,164,982	2,429,174	6,825,768	5,164,982	3,779,921	309,705	(309,705)	-	12.75%	342,630	5,859	348,489
St. Thomas School	0.109508%	1,432,206	673,588	1,892,728	1,432,206	1,048,140	85,878	(85,878)	-	12.75%	95,009	119	95,128
Stanley School	0.504971%	6,604,289	3,106,099	8,727,881	6,604,289	4,833,259	396,009	(396,009)	-	12.75%	438,110	33,921	472,031
Starkweather School	0.092781%	1,213,441	570,703	1,603,620	1,213,441	888,040	72,761	(72,761)	-	12.75%	80,496	(4,806)	75,690
Sterling School	0.038047%	497,600	234,027	657,601	497,600	364,162	29,837	(29,837)	-	12.75%	33,009	4,453	37,462
Strasburg School District	0.122817%	1,606,268	755,456	2,122,760	1,606,268	1,175,526	96,316	(96,316)	-	12.75%	106,555	(28,504)	78,051
Surrey School	0.370353%	4,843,681	2,278,060	6,401,153	4,843,681	3,544,782	290,439	(290,439)	-	12.75%	321,316	4,000	325,316
Sweet Briar Elem School	0.012518%	163,717	77,000	216,360	163,717	119,814	9,817	(9,817)	-	12.75%	10,861	174	11,035
Tgu School District	0.422307%	5,523,164	2,597,628	7,299,122	5,523,164	4,042,052	331,182	(331,182)	-	12.75%	366,391	(13,366)	353,025
Thompson School	0.310871%	4,065,742	1,912,181	5,373,071	4,065,742	2,975,458	243,792	(243,792)	-	12.75%	269,710	(17,093)	252,617
Tioga School	0.450490%	5,891,757	2,770,986	7,786,235	5,891,757	4,311,802	353,284	(353,284)	-	12.75%	390,843	76,436	467,279
Turtle Lake-Mercer School	0.188192%	2,461,279	1,157,579	3,252,696	2,461,279	1,801,253	147,584	(147,584)	-	12.75%	163,274	(32,549)	130,725
Twin Buttes Elem. School	0.072851%	952,786	448,113	1,259,151	952,786	697,283	57,131	(57,131)	-	12.75%	63,205	(5,170)	58,035
Underwood School	0.242190%	3,167,494	1,489,724	4,185,994	3,167,494	2,318,088	189,930	(189,930)	-	12.75%	210,123	(5,629)	204,494
United School	0.450667%	5,894,072	2,772,073	7,789,294	5,894,072	4,313,496	353,423	(353,423)	-	12.75%	390,996	(44,791)	346,205
Upper Valley Spec Ed	0.377207%	4,933,321	2,320,219	6,519,617	4,933,321	3,610,384	295,814	(295,814)	-	12.75%	327,263	21,973	349,236
Valley - Edinburg School	0.235013%	3,073,630	1,445,576	4,061,947	3,073,630	2,249,394	184,302	(184,302)	-	12.75%	203,896	(11,026)	192,870
Valley City School	0.914779%	11,963,985	5,626,852	15,810,971	11,963,985	8,755,679	717,389	(717,389)	-	12.75%	793,657	(147,917)	645,740
Velva School	0.384375%	5,027,068	2,364,311	6,643,509	5,027,068	3,678,991	301,435	(301,435)	-	12.75%	333,482	(24,702)	308,780
Wahpeton School	1.064563%	13,922,942	6,548,180	18,399,827	13,922,942	10,189,315	834,853	(834,853)	-	12.75%	923,609	(16,871)	906,738
Ward County	0.004465%	58,396	27,466	77,173	58,396	42,736	3,502	(3,502)	-	12.75%	3,874	(38)	3,836

EXHIBIT E
Schedule of Pension Amounts by Employer as of June 30, 2015

				Discount Rate Sensitivity			Schedule of Contributions				Pension Expense		
Employer Name	Employer's Proportionate Share Allocation	Net Pension Liability	Covered Employee Payroll	1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)	Statutory Required Contribution	Contributions In Relation to the Statutory Required Contribution	Contribution Deficiency/ (Excess)	Contributions as a Percentage of Covered Employee Payroll	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Warwick School	0.289502%	3,786,267	1,780,738	5,003,731	3,786,267	2,770,928	227,034	(227,034)	-	12.75%	251,170	44,799	295,969
Washburn School	0.244473%	3,197,353	1,503,763	4,225,453	3,197,353	2,339,939	191,721	(191,721)	-	12.75%	212,103	(3,094)	209,009
West Fargo School	7.825079%	102,340,701	48,132,439	135,248,076	102,340,701	74,896,646	6,136,591	(6,136,591)	-	12.75%	6,788,994	545,048	7,334,042
West River Student Services	0.109802%	1,436,051	675,396	1,897,809	1,436,051	1,050,954	86,109	(86,109)	-	12.75%	95,264	17,033	112,297
Westhope School	0.172149%	2,251,460	1,058,898	2,975,410	2,251,460	1,647,700	135,003	(135,003)	-	12.75%	149,355	17,942	167,297
White Shield School	0.227179%	2,971,172	1,397,389	3,926,545	2,971,172	2,174,412	178,159	(178,159)	-	12.75%	197,099	(15,146)	181,953
Williston School	2.673772%	34,969,066	16,446,502	46,213,274	34,969,066	25,591,633	2,096,828	(2,096,828)	-	12.75%	2,319,749	463,871	2,783,620
Wilmac Special Education	0.470684%	6,155,865	2,895,200	8,135,267	6,155,865	4,505,086	369,120	(369,120)	-	12.75%	408,363	75,399	483,762
Wilton School	0.196259%	2,566,784	1,207,198	3,392,126	2,566,784	1,878,465	153,910	(153,910)	-	12.75%	170,273	1,324	171,597
Wing School	0.105946%	1,385,620	651,680	1,831,163	1,385,620	1,014,047	83,085	(83,085)	-	12.75%	91,918	(4,159)	87,759
Wishek School	0.190097%	2,486,193	1,169,293	3,285,622	2,486,193	1,819,487	149,078	(149,078)	-	12.75%	164,927	3,430	168,357
Wolford School	0.083017%	1,085,742	510,644	1,434,860	1,085,742	794,586	65,104	(65,104)	-	12.75%	72,025	6,667	78,692
Wyndmere School	0.224558%	2,936,893	1,381,266	3,881,244	2,936,893	2,149,325	176,103	(176,103)	-	12.75%	194,825	(17,816)	177,009
Yellowstone Elem. School	0.084472%	1,104,771	519,594	1,460,008	1,104,771	808,512	66,245	(66,245)	-	12.75%	73,287	8,365	81,652
Zeeland School	0.072711%	950,955	447,251	1,256,731	950,955	695,943	57,021	(57,021)	-	12.75%	63,084	(7,100)	55,984
Grand Totals:	**100%**	**1,307,855,182**	**615,104,860**	**1,728,392,470**	**1,307,855,182**	**957,135,967**	**78,422,098**	**(78,422,098)**	**-**	**12.75%**	**86,759,429**	**-**	**86,759,429**

Note: Columns may not foot due to rounding.

EXHIBIT E (continued)
Schedule of Pension Amounts by Employer as of June 30, 2015

	Deferred Outflows of Resources				Deferred Inflows of Resources					Deferred (Inflows)/Outflows Recognized In Future Pension Expense (Year Ended June 30):					
Employer Name	Differences Between Expected and Actual Experience	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	2016	2017	2018	2019	2020	Thereafter
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
Alexander School	$ 13,127	$ 224,931	$ 98,595	$ 336,653	$ -	$ 22,590	$ -	$ -	$ 22,590	$ 39,407	$ 39,407	$ 39,407	$ 84,989	$ 56,450	$ 54,402
Anamoose School	9,759	167,221	71,487	248,467	-	16,794	-	-	16,794	28,995	28,995	28,995	62,882	41,665	40,142
Apple Creek Elem School	4,475	76,676	-	81,151	-	7,701	-	60,949	68,650	(2,326)	(2,326)	(2,326)	13,212	3,483	2,785
Ashley School	13,105	224,551	16,827	254,483	-	22,551	-	-	22,551	25,741	25,740	25,740	71,244	42,754	40,714
Bakker Elem School	481	8,237	-	8,718	-	827	-	1,649	2,476	566	566	566	2,235	1,190	1,117
Barnes County North	23,023	394,484	-	417,507	-	39,618	-	210,867	250,485	5,148	5,148	5,148	85,089	35,037	31,453
Beach School	28,834	494,064	-	522,898	-	49,618	-	180,025	229,643	20,460	20,460	20,460	120,581	57,894	53,401
Belcourt School	112,013	1,919,299	-	2,031,312	-	192,753	-	346,571	539,324	138,275	138,275	138,275	527,217	283,699	266,247
Belfield Public School	18,905	323,927	14,612	357,444	-	32,532	-	-	32,532	35,521	35,521	35,521	101,164	60,065	57,121
Beulah School	47,190	808,593	-	855,783	-	81,206	-	67,445	148,651	71,349	71,349	71,349	235,208	132,615	125,263
Billings Co. School Dist.	8,805	150,875	-	159,680	-	15,152	-	230,405	245,557	(22,991)	(22,991)	(22,991)	7,584	(11,559)	(12,930)
Bismarck Public Schools	924,191	15,835,707	1,406,587	18,166,485	-	1,590,365	-	-	1,590,365	1,851,888	1,851,888	1,851,888	5,060,960	3,051,747	2,907,750
Bismarck State College	-	-	-	-	-	-	-	53,578	53,578	(8,930)	(8,930)	(8,930)	(8,930)	(8,930)	(8,928)
Blessed John Paul II Catholic Sch Network	430	7,369	-	7,799	-	740	-	2,523	3,263	332	332	332	1,825	890	826
Bottineau School	51,341	879,716	-	931,057	-	88,349	-	72,918	161,267	77,701	77,701	77,701	255,974	144,357	136,357
Bowbells School	7,273	124,620	-	131,893	-	12,515	-	24,514	37,029	8,643	8,643	8,643	33,897	18,085	16,954
Bowman School	38,002	651,159	-	689,161	-	65,395	-	27,614	93,009	61,907	61,907	61,907	193,863	111,245	105,322
Burke Central School	10,395	178,121	-	188,516	-	17,889	-	224,833	242,722	(19,279)	(19,279)	(19,279)	16,817	(5,783)	(7,403)
Burleigh County Spec. Ed.	1,218	20,875	25,737	47,830	-	2,096	-	-	2,096	6,422	6,421	6,421	10,651	8,003	7,815
Carrington School	39,736	680,860	63,402	783,998	-	68,378	-	-	68,378	80,110	80,110	80,110	218,085	131,698	125,507
Cavalier School	29,926	512,770	85,791	628,487	-	51,497	-	-	51,497	66,673	66,672	66,672	170,584	105,524	100,864
Center Stanton School	19,739	338,218	29,253	387,210	-	33,967	-	-	33,967	39,422	39,422	39,422	107,961	65,048	61,970
Central Cass School	47,761	818,371	-	866,132	-	82,188	-	147,653	229,841	58,979	58,979	58,979	224,821	120,987	113,546
Central Elementary School	891	15,262	-	16,153	-	1,533	-	665	2,198	1,448	1,448	1,448	4,541	2,604	2,466
Central Valley School	17,211	294,909	-	312,120	-	29,617	-	83,307	112,924	16,237	16,237	16,237	76,000	38,582	35,903
Dakota Prairie School	24,490	419,633	26,511	470,634	-	42,143	-	-	42,143	47,280	47,279	47,279	132,317	79,075	75,261
Devils Lake School	141,781	2,429,377	-	2,571,158	-	243,980	-	555,829	799,809	155,498	155,498	155,498	647,806	339,570	317,478
Dickinson School	241,608	4,139,875	2,225,083	6,606,566	-	415,764	-	-	415,764	793,693	793,693	793,693	1,632,630	1,107,368	1,069,725
Divide School	30,763	527,114	-	557,877	-	52,938	-	122,801	175,739	33,372	33,372	33,372	140,191	73,311	68,519
Drake School	7,246	124,158	-	131,404	-	12,469	-	70,216	82,685	979	979	979	26,139	10,386	9,259
Drayton School	17,229	295,208	158,858	471,295	-	29,647	-	-	29,647	56,628	56,628	56,628	116,452	78,996	76,314
Dunseith School	36,074	618,124	41,033	695,231	-	62,078	-	-	62,078	69,974	69,974	69,974	195,236	116,809	111,187
E Central Ctr Exc Childn	11,199	191,897	8,155	211,251	-	19,272	-	-	19,272	20,959	20,959	20,959	59,847	35,499	33,755
Earl Elem. School	431	7,378	-	7,809	-	741	-	2,325	3,066	366	367	367	1,862	926	856
Edgeley School	17,015	291,548	-	308,563	-	29,280	-	13,519	42,799	27,526	27,526	27,526	86,607	49,616	46,964
Edmore School	9,704	166,281	35,093	211,078	-	16,699	-	-	16,699	22,833	22,833	22,833	56,529	35,432	33,919
Eight Mile School	19,181	328,657	176,985	524,823	-	33,007	-	-	33,007	63,067	63,067	63,067	129,669	87,969	84,978
Elgin-New Leipzig School	13,693	234,623	-	248,316	-	23,563	-	51,443	75,006	15,390	15,390	15,390	62,936	33,168	31,035
Ellendale School	24,013	411,461	-	435,474	-	41,323	-	136,270	177,593	19,315	19,315	19,315	102,696	50,491	46,751
Emerado Elementary School	7,772	133,172	-	140,944	-	13,374	-	11,423	24,797	11,698	11,698	11,698	38,685	21,789	20,579
Enderlin Area School District	26,874	460,477	35,301	522,652	-	46,245	-	-	46,245	52,917	52,917	52,917	146,232	87,807	83,617
Fairmount School	13,694	234,635	-	248,329	-	23,564	-	19,876	43,440	20,653	20,653	20,653	68,201	38,431	36,299
Fargo Public Schools	911,796	15,623,325	-	16,535,121	-	1,569,035	-	2,536,045	4,105,080	1,173,090	1,173,090	1,173,090	4,339,123	2,356,857	2,214,790
Fessenden-Bowdon School	13,095	224,386	-	237,481	-	22,535	-	6,893	29,428	21,770	21,770	21,770	67,241	38,771	36,732
Finley-Sharon School	15,642	268,024	-	283,666	-	26,917	-	52,773	79,690	18,580	18,580	18,580	72,894	38,888	36,454
Flasher School	14,079	241,246	-	255,325	-	24,228	-	168,692	192,920	(3,474)	(3,474)	(3,474)	45,414	14,805	12,609
Fordville Lankin School	7,937	135,992	-	143,929	-	13,658	-	10,072	23,730	12,211	12,211	12,211	39,770	22,515	21,281
Fort Ransom Elem School	2,320	39,755	8,860	50,935	-	3,993	-	-	3,993	5,538	5,538	5,538	13,594	8,550	8,186
Fort Totten School	21,508	368,525	-	390,033	-	37,011	-	123,685	160,696	17,027	17,027	17,027	91,708	44,950	41,598
Fort Yates School	15,589	267,114	66,441	349,144	-	26,826	-	-	26,826	38,357	38,357	38,357	92,487	58,596	56,164
Gackle-Streeter Pub Sch	10,095	172,977	-	183,072	-	17,372	-	53,469	70,841	8,756	8,757	8,757	43,810	21,863	20,288
Garrison School	31,218	534,909	129,237	695,364	-	53,720	-	-	53,720	76,176	76,176	76,176	184,574	116,705	111,838
Glen Ullin School	15,420	264,211	95,118	374,749	-	26,534	-	-	26,534	42,839	42,839	42,839	96,381	62,858	60,456
Glenburn School	21,465	367,788	-	389,253	-	36,937	-	65,170	102,107	26,704	26,704	26,704	101,235	54,571	51,228
Goodrich School	3,920	67,163	-	71,083	-	6,745	-	19,647	26,392	3,585	3,586	3,586	17,197	8,675	8,062
Grafton School	59,855	1,025,603	98,863	1,184,321	-	103,000	-	-	103,000	121,232	121,232	121,232	329,068	198,941	189,616
Grand Forks School	598,722	10,258,902	-	10,857,624	-	1,030,291	-	2,080,718	3,111,009	701,057	701,057	701,057	2,780,001	1,478,366	1,385,077
Great North West Cooperative	2,233	38,263	39,712	80,208	-	3,843	-	-	3,843	10,527	10,527	10,527	18,281	13,426	13,076
Grenora School	15,343	262,890	117,537	395,770	-	26,402	-	-	26,402	46,442	46,442	46,442	99,716	66,361	63,967
Griggs County Central Sch	24,070	412,429	-	436,499	-	41,420	-	100,532	141,952	25,370	25,370	25,370	108,948	56,620	52,868
Gst Educational Services	19,813	339,496	-	359,309	-	34,095	-	177,363	211,458	5,115	5,116	5,116	73,914	30,839	27,750
Halliday School	6,186	106,001	7,122	119,309	-	10,646	-	-	10,646	12,014	12,014	12,014	33,495	20,045	19,082
Hankinson School	20,527	351,729	-	372,256	-	35,324	-	281,580	316,904	(11,004)	(11,004)	(11,005)	60,273	15,646	12,447
Harvey School	29,889	512,132	-	542,021	-	51,433	-	110,554	161,987	33,883	33,883	33,883	137,666	72,687	68,032
Hatton Eielson Psd	15,398	263,846	-	279,244	-	26,498	-	22,409	48,907	23,214	23,214	23,214	76,682	43,206	40,807
Hazelton - Moffit School	10,047	172,159	-	182,206	-	17,290	-	145,081	162,371	(6,596)	(6,596)	(6,596)	28,292	6,449	4,882
Hazen School	38,801	664,841	81,599	785,241	-	66,769	-	-	66,769	81,507	81,507	81,507	216,235	131,881	125,835
Hebron School	15,557	266,570	-	282,127	-	26,771	-	64,962	91,733	16,400	16,400	16,400	70,420	36,598	34,174

EXHIBIT E (continued)
Schedule of Pension Amounts by Employer as of June 30, 2015

	Deferred Outflows of Resources				Deferred Inflows of Resources					Deferred (Inflows)/Outflows Recognized In Future Pension Expense (Year Ended June 30):					
Employer Name	Differences Between Expected and Actual Experience	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	2016	2017	2018	2019	2020	Thereafter
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
Hettinger School	20,489	351,074	-	371,563	-	35,258	-	253,817	289,075	(6,444)	(6,444)	(6,444)	64,700	20,156	16,965
Hillsboro School	32,528	557,362	139,370	729,260	-	55,975	-	-	55,975	80,157	80,157	80,157	193,105	122,388	117,322
Hope School	8,306	142,315	-	150,621	-	14,293	-	46,377	60,670	6,806	6,807	6,807	35,647	17,590	16,294
Horse Creek Elem. School	481	8,237	-	8,718	-	827	-	3,367	4,194	280	280	280	1,949	904	829
James River Multidistrict Spec Ed Unit	17,452	299,034	82,553	399,039	-	30,032	-	-	30,032	44,302	44,302	44,302	104,901	66,960	64,240
Jamestown School	179,008	3,067,244	-	3,246,252	-	308,040	-	808,603	1,116,643	178,521	178,521	178,521	800,091	410,924	383,031
Kenmare School	23,094	395,714	-	418,808	-	39,741	-	241,758	281,499	125	125	125	80,316	30,108	26,510
Kensal School	5,803	99,438	31,071	136,312	-	9,986	-	-	9,986	15,336	15,335	15,335	35,485	22,869	21,967
Kidder County School District	29,443	504,501	-	533,944	-	50,667	-	233,772	284,439	12,568	12,568	12,568	114,804	50,793	46,206
Killdeer School	35,565	609,401	145,021	789,987	-	61,202	-	-	61,202	86,414	86,414	86,414	209,908	132,588	127,048
Kindred School	42,552	729,110	-	771,662	-	73,224	-	80,993	154,217	60,972	60,972	60,972	208,725	116,216	109,587
Kulm School	14,626	250,611	-	265,237	-	25,169	-	61,317	86,486	15,377	15,378	15,378	66,164	34,367	32,086
Lake Region Spec Ed	23,752	406,982	-	430,734	-	40,873	-	117,696	158,569	21,953	21,953	21,953	104,427	52,790	49,089
Lakota School	15,033	257,588	-	272,621	-	25,869	-	204,828	230,697	(7,828)	(7,828)	(7,828)	44,372	11,689	9,347
Lamoure School	21,261	364,305	69,054	454,620	-	36,587	-	-	36,587	48,719	48,719	48,719	122,545	76,322	73,009
Langdon Area School	28,479	487,974	-	516,453	-	49,007	-	46,059	95,066	42,165	42,166	42,166	141,053	79,139	74,700
Larimore School	27,126	464,790	-	491,916	-	46,678	-	397,318	443,996	(18,746)	(18,746)	(18,746)	75,442	16,470	12,246
Leeds School	15,062	258,075	32,660	305,797	-	25,918	-	-	25,918	31,803	31,803	31,803	84,101	51,357	49,012
Lewis And Clark School	35,301	604,874	57,919	698,094	-	60,747	-	-	60,747	71,435	71,435	71,435	194,011	117,266	111,766
Lidgerwood School	14,991	256,858	-	271,849	-	25,796	-	120,119	145,915	6,215	6,215	6,215	58,267	25,677	23,343
Linton School	22,195	380,303	-	402,498	-	38,193	-	133,151	171,344	16,652	16,652	16,652	93,720	45,467	42,010
Lisbon School	44,995	770,977	-	815,972	-	77,428	-	293,727	371,155	29,792	29,792	29,792	186,029	88,209	81,201
Litchville-Marion School	11,182	191,608	-	202,790	-	19,243	-	85,781	105,024	5,274	5,274	5,274	44,103	19,792	18,050
Little Heart Elem. School	1,426	24,434	4,529	30,389	-	2,454	-	-	2,454	3,251	3,251	3,251	8,202	5,102	4,879
Logan County	57	974	-	1,031	-	98	-	249	347	57	58	58	256	132	121
Lone Tree Elem. School	3,096	53,041	26,223	82,360	-	5,327	-	-	5,327	9,789	9,788	9,788	20,536	13,806	13,326
Lonetree Spec Ed Unit	2,012	34,473	-	36,485	-	3,462	-	3,308	6,770	2,970	2,970	2,970	9,956	5,582	5,267
Maddock School	13,534	231,893	-	245,427	-	23,289	-	1,431	24,720	23,447	23,448	23,448	70,440	41,018	38,907
Mandan Public Schools	252,280	4,322,741	1,220,354	5,795,375	-	434,129	-	-	434,129	644,916	644,916	644,916	1,520,910	972,447	933,141
Mandaree School	21,528	368,879	-	390,407	-	37,046	-	249,943	286,989	(3,980)	(3,980)	(3,980)	70,773	23,970	20,615
Manning Elem School	1,174	20,118	20,055	41,347	-	2,020	-	-	2,020	5,398	5,398	5,398	9,475	6,922	6,736
Manvel Elem. School	10,311	176,668	-	186,979	-	17,743	-	62,131	79,874	7,690	7,690	7,690	43,491	21,076	19,468
Maple Valley School	21,833	374,098	-	395,931	-	37,570	-	98,168	135,738	21,849	21,849	21,849	97,660	50,194	46,791
Mapleton Elem. School	9,410	161,242	20,641	191,293	-	16,193	-	-	16,193	19,909	19,909	19,909	52,585	32,126	30,661
Marmarth Elem. School	1,858	31,830	-	33,688	-	3,197	-	45,523	48,720	(4,336)	(4,336)	(4,336)	2,114	(1,924)	(2,215)
Max School	15,455	264,824	-	280,279	-	26,596	-	31,467	58,063	21,804	21,804	21,804	75,470	41,870	39,465
May-Port C-G School	36,448	624,521	81,500	742,469	-	62,720	-	-	62,720	77,371	77,371	77,371	203,929	124,691	119,014
Mcclusky School	9,221	158,000	-	167,221	-	15,868	-	181,475	197,343	(14,108)	(14,108)	(14,108)	17,910	(2,136)	(3,572)
Mckenzie County	680	11,647	-	12,327	-	1,170	-	10,270	11,440	(522)	(522)	(522)	1,838	360	256
Mckenzie County School	77,922	1,335,172	1,408,485	2,821,579	-	134,090	-	-	134,090	371,122	371,121	371,121	641,691	472,286	460,147
Medina School	12,749	218,448	-	231,197	-	21,938	-	89,466	111,404	7,401	7,401	7,401	51,669	23,953	21,966
Menoken Elem School	1,768	30,297	6,456	38,521	-	3,043	-	-	3,043	4,170	4,170	4,170	10,310	6,466	6,191
Midkota	13,894	238,074	-	251,968	-	23,910	-	102,955	126,865	7,158	7,158	7,158	55,403	25,197	23,031
Midway School	18,698	320,376	-	339,074	-	32,175	-	116,255	148,430	13,347	13,347	13,347	78,271	37,622	34,710
Milnor School	20,228	346,596	-	366,824	-	34,808	-	42,423	77,231	28,330	28,330	28,330	98,567	54,592	51,443
Minnewaukan School	22,530	386,037	-	408,567	-	38,769	-	152,233	191,002	14,058	14,058	14,058	92,287	43,307	39,796
Minot School	582,158	9,975,078	-	10,557,236	-	1,001,787	-	1,184,169	2,185,956	821,491	821,492	821,492	2,842,920	1,577,296	1,486,588
Minto School	15,812	270,933	8,433	295,178	-	27,210	-	-	27,210	29,079	29,078	29,078	83,982	49,606	47,145
Mohall Lansford Sherwood	31,578	541,078	-	572,656	-	54,340	-	133,469	187,809	33,021	33,021	33,021	142,669	74,018	69,099
Montpelier School	9,763	167,287	3,795	180,845	-	16,800	-	-	16,800	17,720	17,719	17,719	51,619	30,394	28,875
Morton County	397	6,811	1,749	8,957	-	684	-	-	684	988	987	987	2,367	1,503	1,443
Mott-Regent School	20,731	355,213	-	375,944	-	35,674	-	61,217	96,891	26,078	26,078	26,078	98,062	52,993	49,764
Mt Pleasant School	21,684	371,541	48,989	442,214	-	37,314	-	-	37,314	46,114	46,114	46,114	121,406	74,266	70,886
Munich School	11,543	197,789	52,565	261,897	-	19,864	-	-	19,864	28,963	28,963	28,963	69,045	43,949	42,150
N Central Area Career And Tech Center	2,001	34,279	-	36,280	-	3,443	-	4,142	7,585	2,811	2,811	2,811	9,758	5,409	5,095
Napoleon School	20,329	348,336	-	368,665	-	34,983	-	24,823	59,806	31,442	31,442	31,442	102,032	57,835	54,667
Naughton Rural School	950	16,284	-	17,234	-	1,635	-	2,037	3,672	1,323	1,324	1,324	4,624	2,558	2,408
Nd Center For Distance Education	19,183	328,692	714,548	1,062,423	-	33,010	-	-	33,010	152,664	152,664	152,664	219,272	177,568	174,581
Nd Dept Of Public Instruction	1,581	27,097	-	28,678	-	2,721	-	5,414	8,135	1,866	1,866	1,866	7,357	3,919	3,670
Nd School For Blind	9,101	155,949	-	165,050	-	15,662	-	44,231	59,893	8,557	8,557	8,557	40,159	20,373	18,956
Nd School For Deaf	12,272	210,268	32,233	254,773	-	21,117	-	-	21,117	26,849	26,849	26,849	69,459	42,781	40,870
Nd United	4,265	73,071	-	77,336	-	7,338	-	8,274	15,612	6,084	6,084	6,084	20,892	11,621	10,957
Nd Youth Correctional Cnt	16,005	274,236	-	290,241	-	27,541	-	82,443	109,984	14,269	14,269	14,269	69,843	35,048	32,557
Nedrose School	19,595	335,760	42,086	397,441	-	33,720	-	-	33,720	41,308	41,308	41,308	109,350	66,749	63,698
Nelson County	161	2,753	457	3,371	-	277	-	-	277	357	357	357	915	566	542
Nesson School	20,374	349,097	60,363	429,834	-	35,059	-	-	35,059	45,718	45,718	45,718	116,461	72,169	68,991
New England School	17,057	292,260	114,428	423,745	-	29,351	-	-	29,351	48,922	48,922	48,922	108,148	71,067	68,411
New Public School	28,124	481,889	-	510,013	-	48,396	-	156,951	205,347	23,061	23,061	23,061	120,715	59,573	55,194

EXHIBIT E (continued)
Schedule of Pension Amounts by Employer as of June 30, 2015

	Deferred Outflows of Resources				Deferred Inflows of Resources					Deferred (Inflows)/Outflows Recognized In Future Pension Expense (Year Ended June 30):					
Employer Name	Differences Between Expected and Actual Experience	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	2016	2017	2018	2019	2020	Thereafter
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
New Rockford Sheyenne School	24,101	412,968	5,602	442,671	-	41,474	-	-	41,474	43,114	43,114	43,114	126,801	74,405	70,648
New Salem-Almont	24,290	416,200	166,179	606,669	-	41,799	-	-	41,799	70,208	70,207	70,207	154,549	101,742	97,959
New Town School	58,665	1,005,207	329,158	1,393,030	-	100,952	-	-	100,952	157,532	157,532	157,532	361,235	233,695	224,553
Newburg United District	8,495	145,556	-	154,051	-	14,618	-	10,479	25,097	13,120	13,121	13,121	42,618	24,150	22,824
North Border School	35,463	607,648	-	643,111	-	61,025	-	426,690	487,715	(9,050)	(9,050)	(9,050)	114,089	36,991	31,466
North Sargent School	17,699	303,270	15,634	336,603	-	30,457	-	-	30,457	33,582	33,582	33,582	95,039	56,560	53,801
North Star	21,482	368,080	43,089	432,651	-	36,966	-	-	36,966	44,778	44,777	44,777	119,367	72,666	69,321
North Valley Area Career	7,270	124,565	-	131,835	-	12,510	-	163,735	176,245	(14,566)	(14,566)	(14,566)	10,677	(5,128)	(6,261)
Northern Cass School Dist	35,457	607,536	38,481	681,474	-	61,014	-	-	61,014	68,468	68,467	68,467	191,583	114,499	108,977
Northern Plains Spec Ed	3,636	62,294	99,409	165,339	-	6,256	-	-	6,256	22,931	22,931	22,931	35,554	27,651	27,085
Northwood School	19,167	328,421	6,189	353,777	-	32,983	-	-	32,983	34,577	34,576	34,576	101,130	59,460	56,476
Oakes School	27,288	467,566	-	494,854	-	46,957	-	91,602	138,559	32,490	32,490	32,490	127,242	67,917	63,666
Oberon Elem School	5,926	101,532	-	107,458	-	10,197	-	62,667	72,864	(75)	(74)	(74)	20,502	7,619	6,694
Oliver - Mercer Spec Ed	13,147	225,263	62,001	300,411	-	22,623	-	-	22,623	33,342	33,342	33,342	78,991	50,410	48,359
Page School	9,676	165,798	-	175,474	-	16,651	-	20,403	37,054	13,534	13,535	13,535	47,133	26,097	24,587
Park River Area School District	27,972	479,291	-	507,263	-	48,135	-	174,741	222,876	19,831	19,831	19,831	116,958	56,146	51,791
Parshall School	22,863	391,747	-	414,610	-	39,343	-	174,383	213,726	10,949	10,949	10,949	90,336	40,631	37,070
Peace Garden Spec Ed	7,021	120,311	63,939	191,271	-	12,083	-	-	12,083	22,946	22,945	22,945	47,325	32,060	30,968
Pembina Spec Ed Coop	1,415	24,254	-	25,669	-	2,436	-	123,496	125,932	(18,106)	(18,106)	(18,106)	(13,191)	(16,268)	(16,487)
Pingree - Buchanan School	10,742	184,058	-	194,800	-	18,485	-	55,406	73,891	9,566	9,566	9,566	46,865	23,512	21,836
Pleasant Valley Elem	-	-	-	-	-	-	-	28,517	28,517	(4,753)	(4,753)	(4,753)	(4,753)	(4,753)	(4,752)
Powers Lake School	14,205	243,395	39,165	296,765	-	24,444	-	-	24,444	31,388	31,388	31,388	80,712	49,830	47,614
Richardton-Taylor	23,617	404,665	94,373	522,655	-	40,640	-	-	40,640	57,061	57,061	57,061	139,066	87,723	84,042
Richland School	21,855	374,477	-	396,332	-	37,608	-	44,211	81,819	30,880	30,880	30,880	106,767	59,254	55,852
Robinson School	519	8,889	-	9,408	-	893	-	60,810	61,703	(9,227)	(9,227)	(9,227)	(7,426)	(8,554)	(8,634)
Rolette County	-	-	-	-	-	-	-	6,824	6,824	(1,137)	(1,137)	(1,137)	(1,137)	(1,137)	(1,139)
Rolette School	16,084	275,591	103,909	395,584	-	27,677	-	-	27,677	45,467	45,467	45,467	101,315	66,348	63,843
Roosevelt School	5,299	90,796	-	96,095	-	9,119	-	41,023	50,142	2,437	2,437	2,437	20,836	9,316	8,490
Roughrider Area Career And Tech Center	2,231	38,231	-	40,462	-	3,839	-	14,959	18,798	1,412	1,412	1,412	9,159	4,309	3,960
Roughrider Service Program	2,666	45,675	159,742	208,083	-	4,587	-	-	4,587	31,289	31,289	31,289	40,545	34,750	34,333
Rugby School	42,855	734,301	-	777,156	-	73,745	-	6,795	80,540	73,868	73,869	73,869	222,674	129,507	122,828
Rural Cass Spec Ed	14,296	244,959	-	259,255	-	24,601	-	55,327	79,928	15,799	15,799	15,799	65,439	34,359	32,131
Sargent Central School	18,899	323,824	-	342,723	-	32,521	-	76,762	109,283	20,281	20,281	20,281	85,904	44,817	41,875
Sawyer School	12,259	210,060	58,317	280,636	-	21,096	-	-	21,096	31,175	31,174	31,174	73,743	47,091	45,182
Scranton School	15,023	257,410	26,660	299,093	-	25,851	-	-	25,851	30,735	30,735	30,735	82,898	50,239	47,900
Se Region Career And Tech	18,667	319,859	10,042	348,568	-	32,123	-	-	32,123	34,344	34,344	34,344	99,163	58,580	55,669
Selfridge School	11,366	194,752	-	206,118	-	19,559	-	27,603	47,162	15,291	15,291	15,291	54,757	30,047	28,279
Sheyenne Valley Area Voc	9,676	165,787	-	175,463	-	16,650	-	32,709	49,359	11,482	11,483	11,483	45,079	24,044	22,535
Sheyenne Valley Spec Ed	22,396	383,756	60,869	467,021	-	38,540	-	-	38,540	49,342	49,342	49,342	127,109	78,419	74,928
Slope County	330	5,660	-	5,990	-	568	-	745	1,313	454	454	454	1,601	883	830
Solen - Cannonball School	20,647	353,787	-	374,434	-	35,531	-	421,088	456,619	(34,045)	(34,045)	(34,045)	37,649	(7,239)	(10,458)
Souris Valley Spec Ed	21,470	367,885	-	389,355	-	36,946	-	19,002	55,948	34,409	34,409	34,409	108,960	62,283	58,938
South Cent. Prairie Sp Ed	1,337	22,913	-	24,250	-	2,301	-	3,585	5,886	1,742	1,742	1,742	6,386	3,478	3,273
South Heart School	19,468	333,571	145,280	498,319	-	33,500	-	-	33,500	58,284	58,284	58,284	125,881	83,558	80,527
South Prairie Elem School	18,939	324,520	153,902	497,361	-	32,591	-	-	32,591	58,796	58,796	58,796	124,560	83,385	80,436
South Valley Spec Ed	9,752	167,090	53,966	230,808	-	16,781	-	-	16,781	26,061	26,061	26,061	59,921	38,721	37,203
Southwest Special Education Unit	840	14,400	-	15,240	-	1,446	-	5,890	7,336	489	489	489	3,407	1,580	1,451
St. John'S School	33,846	579,939	35,153	648,938	-	58,243	-	-	58,243	65,094	65,094	65,094	182,617	109,035	103,761
St. Thomas School	9,385	160,812	715	170,912	-	16,150	-	-	16,150	16,544	16,544	16,544	49,133	28,729	27,268
Stanley School	43,278	741,548	203,527	988,353	-	74,473	-	-	74,473	109,663	109,663	109,663	259,936	165,849	159,107
Starkweather School	7,952	136,249	-	144,201	-	13,683	-	28,835	42,518	9,110	9,110	9,110	36,721	19,434	18,196
Sterling School	3,261	55,872	26,720	85,853	-	5,611	-	-	5,611	10,160	10,160	10,160	21,482	14,393	13,887
Strasburg School District	10,526	180,356	-	190,882	-	18,113	-	171,026	189,139	(10,082)	(10,082)	(10,082)	26,466	3,583	1,941
Surrey School	31,740	543,862	23,998	599,600	-	54,620	-	-	54,620	59,550	59,550	59,550	169,763	100,758	95,811
Sweet Briar Elem School	1,073	18,383	1,043	20,499	-	1,846	-	-	1,846	2,052	2,052	2,052	5,777	3,444	3,276
Tgu School District	36,193	620,157	-	656,350	-	62,282	-	80,199	142,481	49,976	49,976	49,976	175,649	96,964	91,328
Thompson School	26,643	456,513	-	483,156	-	45,847	-	102,558	148,405	29,535	29,535	29,535	122,047	64,125	59,974
Tioga School	38,608	661,543	458,615	1,158,766	-	66,438	-	-	66,438	144,006	144,006	144,006	278,066	194,131	188,114
Turtle Lake-Mercer School	16,129	276,359	-	292,488	-	27,755	-	195,292	223,047	(4,322)	(4,322)	(4,322)	51,682	16,618	14,107
Twin Buttes Elem. School	6,244	106,981	-	113,225	-	10,744	-	31,021	41,765	5,757	5,757	5,757	27,437	13,863	12,889
Underwood School	20,756	355,655	-	376,411	-	35,718	-	33,772	69,490	30,698	30,698	30,698	102,770	57,645	54,413
United School	38,624	661,803	-	700,427	-	66,464	-	268,746	335,210	22,805	22,805	22,805	156,918	72,950	66,932
Upper Valley Spec Ed	32,328	553,927	131,841	718,096	-	55,630	-	-	55,630	78,552	78,551	78,551	190,803	120,522	115,487
Valley - Edinburg School	20,141	345,116	-	365,257	-	34,660	-	66,153	100,813	24,224	24,224	24,224	94,161	50,373	47,238
Valley City School	78,400	1,343,350	-	1,421,750	-	134,911	-	887,500	1,022,411	(10,707)	(10,707)	(10,707)	261,520	91,077	78,864
Velva School	32,942	564,454	-	597,396	-	56,688	-	148,209	204,897	32,951	32,951	32,951	147,336	75,719	70,590
Wahpeton School	91,237	1,563,308	-	1,654,545	-	157,001	-	101,227	258,228	142,805	142,805	142,805	459,606	261,256	247,039
Ward County	383	6,557	-	6,940	-	658	-	229	887	632	632	632	1,960	1,129	1,068

EXHIBIT E (continued)
Schedule of Pension Amounts by Employer as of June 30, 2015

	Deferred Outflows of Resources				Deferred Inflows of Resources					Deferred (Inflows)/Outflows Recognized In Future Pension Expense (Year Ended June 30):					
Employer Name	Differences Between Expected and Actual Experience	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	2016	2017	2018	2019	2020	Thereafter
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
Warwick School	24,811	425,133	268,796	718,740	-	42,696	-	-	42,696	88,222	88,222	88,222	174,374	120,434	116,570
Washburn School	20,952	359,008	-	379,960	-	36,055	-	18,565	54,620	33,575	33,575	33,575	106,327	60,777	57,511
West Fargo School	670,635	11,491,105	3,270,290	15,432,030	-	1,154,040	-	-	1,154,040	1,718,748	1,718,748	1,718,748	4,047,395	2,589,420	2,484,931
West River Student Services	9,410	161,244	102,201	272,855	-	16,194	-	-	16,194	33,503	33,502	33,502	66,178	45,720	44,256
Westhope School	14,754	252,800	107,654	375,208	-	25,388	-	-	25,388	43,763	43,763	43,763	94,992	62,917	60,621
White Shield School	19,470	333,612	-	353,082	-	33,504	-	90,877	124,381	18,929	18,929	18,929	86,535	44,207	41,172
Williston School	229,151	3,926,426	2,783,227	6,938,804	-	394,327	-	-	394,327	864,916	864,916	864,916	1,660,597	1,162,418	1,126,715
Wilmac Special Education	40,339	691,198	452,397	1,183,934	-	69,416	-	-	69,416	145,999	145,999	145,999	286,069	198,370	192,082
Wilton School	16,820	288,206	7,947	312,973	-	28,944	-	-	28,944	30,762	30,761	30,761	89,166	52,598	49,980
Wing School	9,080	155,581	-	164,661	-	15,625	-	24,951	40,576	11,732	11,732	11,732	43,260	23,520	22,109
Wishek School	16,292	279,157	20,581	316,030	-	28,035	-	-	28,035	31,943	31,943	31,943	88,514	53,095	50,557
Wolford School	7,115	121,910	40,000	169,025	-	12,243	-	-	12,243	19,119	19,119	19,119	43,824	28,356	27,245
Wyndmere School	19,245	329,763	-	349,008	-	33,118	-	106,899	140,017	15,865	15,866	15,866	82,692	40,852	37,851
Yellowstone Elem. School	7,240	124,047	50,191	181,478	-	12,458	-	-	12,458	21,035	21,035	21,035	46,173	30,434	29,307
Zeeland School	6,232	106,776	-	113,008	-	10,723	-	42,603	53,326	3,805	3,806	3,806	25,444	11,896	10,923
Grand Totals:	**8,570,326**	**146,849,697**	**19,310,133**	**174,730,156**	**-**	**14,747,971**	**-**	**19,310,133**	**34,058,104**	**14,999,207**	**14,999,207**	**14,999,206**	**44,757,981**	**26,125,894**	**24,790,557**

Note: Columns may not foot due to rounding.

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **January 14, 2016**

SUBJ: **2017 Legislative Planning**

NDCC 15-39.1-05.2 (5) requires that the TFFR Board "shall submit to the Legislative Employee Benefits Program Committee any necessary or desirable changes in statutes relating to the administration of the fund."

The deadline to submit bill drafts to this interim legislative committee is April 1, 2016. Therefore, the TFFR Board will begin this discussion at the January 21, 2016 board meeting. Legislative proposals (if any) must be finalized by the end of March so they can be submitted by the April 1 deadline.

As you may recall, the TFFR Board spent most of the 2009-10 interim developing a funding improvement plan which was approved by the Legislature in 2011. These changes have been phased in over the past few years (contribution increases 7/1/12 and 7/1/14 and benefit changes 7/1/13). Since that time, there has been little TFFR related legislation, and most of that has been to update federal references and dates for IRS compliance purposes (2013 and 2015) as well as some minor administrative updates. Enclosed is a summary of TFFR retirement plan changes made since 1977.

At the January board meeting, I plan to briefly highlight 2015 actuarial valuation results and funding projections (which were presented by the actuary in October). The Board can then discuss whether additional contribution, benefit, or other plan changes are needed. This may also be an appropriate time to review alternative plan designs (defined contribution and hybrid plans) to decide if additional study or information is needed.

Finally, if member and employer interest group representatives are in attendance, the Board may wish to also request their input.

Attachment

History of TFFR Retirement Plan Changes

July 1	Other Plan Changes	Contribution Rates	Benefit Formula	Retiree Benefit Increase	$ Average Increase	% Average Increase	Average Monthly Benefit
2015	• None	No Change	No Change	None	-0-	-0-	2015-$1842 2014-$1783
2013	• Increased contribution rates in effect until plan is 100% funded.	No Change	No Change	None	-0-	-0-	2013-$1722 2012-$1664
2011	• Increase employer and employee contribution rates (until 90% funded) • For non-grandfathered members, raise retire elig age for unreduced benefits to age 60 w/Rule of 90 and increase reduction factor to 8%. (7-01-13) • Tighten disability retirement eligibility and benefit calculations. (7-01-13) • Clarified definition of salary. (8-01-11)	Effec 7-01-12 10.75% ER 9.75% EE Effec 7-01-14 12.75% ER 11.75% EE	No Change	None	-0-	-0-	2011-$1606 2010-$1564
2009	• Increase employer contribution rates (until 90% funded)	Effec 7-01-10 8.75% ER 7.75% EE	No Change	One time supplemental retiree payment based on formula: $20 per year of service credit + $15 per year of retirement (capped at greater of 10% of annual annuity or $750).	$723 one time payment	-0-	2009-$1514 2008-$1477
2007	• Increase employer contribution rates (until 90% funded) • Create new tier of reduced member benefits (7-01-08): ○ Tier 1 – Rule of 85, 3 yr vesting, 3 yr FAS ○ Tier 2 – Rule of 90, 5 yr vesting, 5 yr FAS • Require employer contributions on re-employed retirees.	Effec 7-01-08 8.25% ER 7.75% EE	No Change	None	-0-	-0-	2007-$1434 2006-$1383
2005	• None.	No Change	No Change	None	-0-	-0-	2005-$1309 2004-$1255
2003	• Clarified definition of salary. • Updated dual membership guidelines. • Added 20 year term certain and partial lump sum distribution (PLSO) options. • Expanded refund & rollover options to purchase service credit. • Allow employers to purchase service credit on behalf of members.	No Change	No Change	None	-0-	-0-	2003-$1203 2002-$1152
2001	• Modified retiree employment provisions by adding exceptions for critical shortage areas and educational foundation donations, and improved recalculation of retiree benefits after returning to teach.	No Change	2.00% X FAS X Service Credit	Increase equal to $2 month X member's years of service credit + $1 month X number of years since member's retirement, plus 0.75% annual adjustment for 7-1-01 and 7-1-02.	$78.00	7.8%	2001-$995 2000-$970
1999	• Vesting reduced from 5 to 3 years. • Early retirement reduction changed from age 65 to earlier of age 65 or Rule of 85. • Purchase of service credit modified; air time and leave of absence added. • Member's spouse required to be beneficiary and spousal consent to choice of benefit option.	No Change	1.88% X FAS X Service Credit	Increase equal to $2 month X member's years of service credit + $1 month X number of years since member's retirement.	$70.00	8.5%	1999-$833 1998-$810

History of TFFR Retirement Plan Changes

July 1	Other Plan Changes	Contribution Rates	Benefit Formula	Retiree Benefit Increase	$ Average Increase	% Average Increase	Average Monthly Benefit
1997	• Allow rollovers to purchase service credit. • Expand TFFR Board to 7 members.	7.75% ER 7.75% EE	1.75% X FAS X Service Credit	$30 month increase.	$30.00	4.1%	1997-$729 1996-$719
1995	• Allow members to rollover refunds from TFFR to IRA or qualified plan.	No Change	No Change	None	-0-	-0-	1995-$690 1994-$663
1993	• Disability retirement formula changed to coincide with retirement formula.	No Change	1.55% X FAS X Service Credit	Greater of 10% of current benefit **or** leveling benefit increase based on retirement date and years of service. (Max $100/month)	$75.00	13.80%	1993-$547 1992-$549
1991	• Provisions for military service credit under Veterans' Reemployment Rights Act (VRRA) added.	No Change	1.39% X FAS X Service Credit	Greater of 10% of current benefit **or** leveling benefit increase based on retirement date and years of service. (Max $75/month)	$63.24	14.66%	1991-$513 1990-$415
1989	• "Rule of 85" replaced the "Rule of 90." • "Pop-up" to single life annuity for joint and survivor options added.. • Level income with Social Security option added.	6.75% ER 6.75% EE	1.275% X FAS X Service Credit	Increase equal to $.05 X years of service X number of years since member's retirement.	$18.30	5.2%	1989-$361 1988-$352
1987	• Eligibility for disability benefits reduced to one year of service and disability benefit improved. • Vesting for retirement benefits reduced from 10 to 5 years.	No Change	1.22% X FAS X Service Credit	$1.50/mo increase for every year since member's retirement. Members receiving benefits under 1967 & 1969 formulas rec'd add't $15/month (Max $75/month)	$27.25	9.1%	1987-$327 1986-$312
1985	• Partial retirement possible at age 62. • Dual membership for vesting of benefits for members under TFFR, PERS, and HPRS.	No Change	1.15% X FAS X Service Credit	1% increase in benefits for every year since member's retirement, up to 10%. (Max $40/month)	$17.88	7.39%	1985-$269 1984-$242
1983	• "Rule of 90" (age + service = 90) approved. • Employer payment of member contributions allowed. • School day for TFFR purposes set at 4 duty hours. • FAS changed to high 3 years of career.	No Change	1.05% X FAS X Service Credit	Greater of 15% increase in current benefit or $1 per month for every year of service. (Max of $45/month)	$29.78	15.93%	1983-$221 1982-$187
1981	• Early retirement age reduced to age 55. • Eligibility for disability benefits reduced from 15 to 10 years.	No Change	No Change	None	-0-	-0-	1981-$182 1980-$174
1979	• New benefit formula using multiplier, years of service and final average salary (high 5 of last 10 years). • Normal retirement @ 65 w/10 yrs or age 60 w/35 yrs service	6.25% ER 6.25% EE	1.0% X FAS X Service Credit	*Certain "pre 1971" retirees received benefit increase based on $6-$7.50 minimum benefit formula	*Unknown	*Unknown	1979-$171 1978-$165
1977	• $14.5 mil transfer from General Fund to TFFR to reduce unfunded liability caused by 1965-75 retiree benefit improvements. • Created interim legislative committee on public employee retirement programs.	5.00% ER 5.00% EE ER $500 contribution cap removed.	Minimum benefit: $6 per month for service up to 25 years + $7.50 per month for service over 25 years (or 1971 formula)	*Certain "post 1971" retirees received benefit increase based on $6/7.50 minimum benefit formula	*Unknown	*Unknown	1977-$164

NDTFFR Board 2017 Legislative Planning

January 21, 2016

Time Line

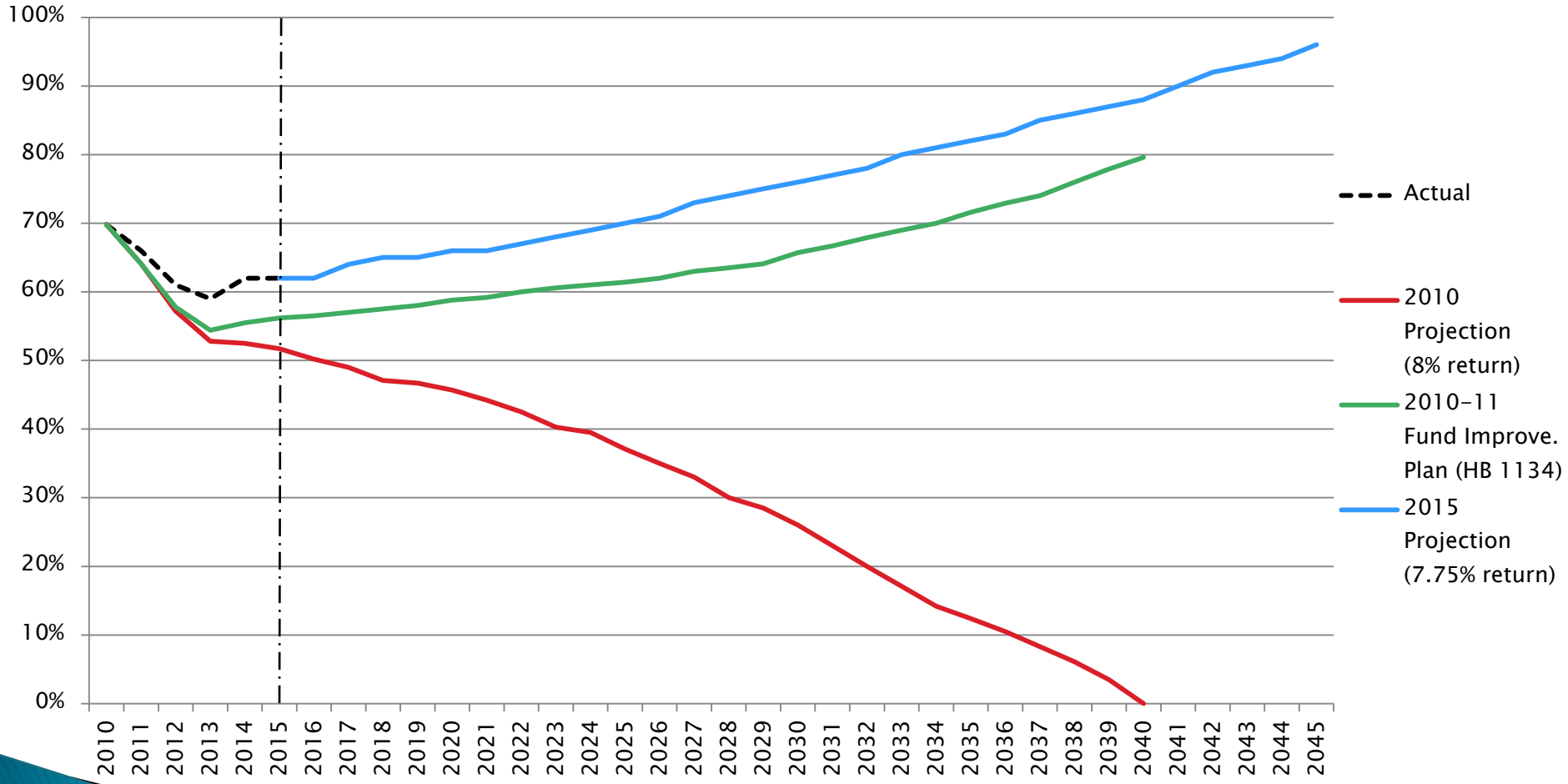
- Jan – March 2016
  - TFFR Board Legislative Planning
- April 1, 2016
  - Deadline to submit bill drafts to Legislative Employee Benefits Programs Committee (LEBPC) for study.
- April – November 2016
  - LEBPC study of legislative proposals, actuarial analysis, public hearings, and Committee recommendation
- December 8, 2016
  - Deadline for agencies to file bills with Legislative Council for 2017 legislative session
- January 3 – April 26, 2017
  - 65th Legislative Session

Current NDTFFR Defined Benefit Plan

2009-10 TFFR Funding Improvement Study Core Principles

- Restore the financial health of the TFFR plan for past, present, and future ND educators.
- Maintain adequate retirement security.
- Share responsibility for funding improvement with employees and employers
- Phase changes over time.
- Protect benefits of those employees closest to retirement.

TFFR Funded Ratio Projections Then (2010) and Now (2015)



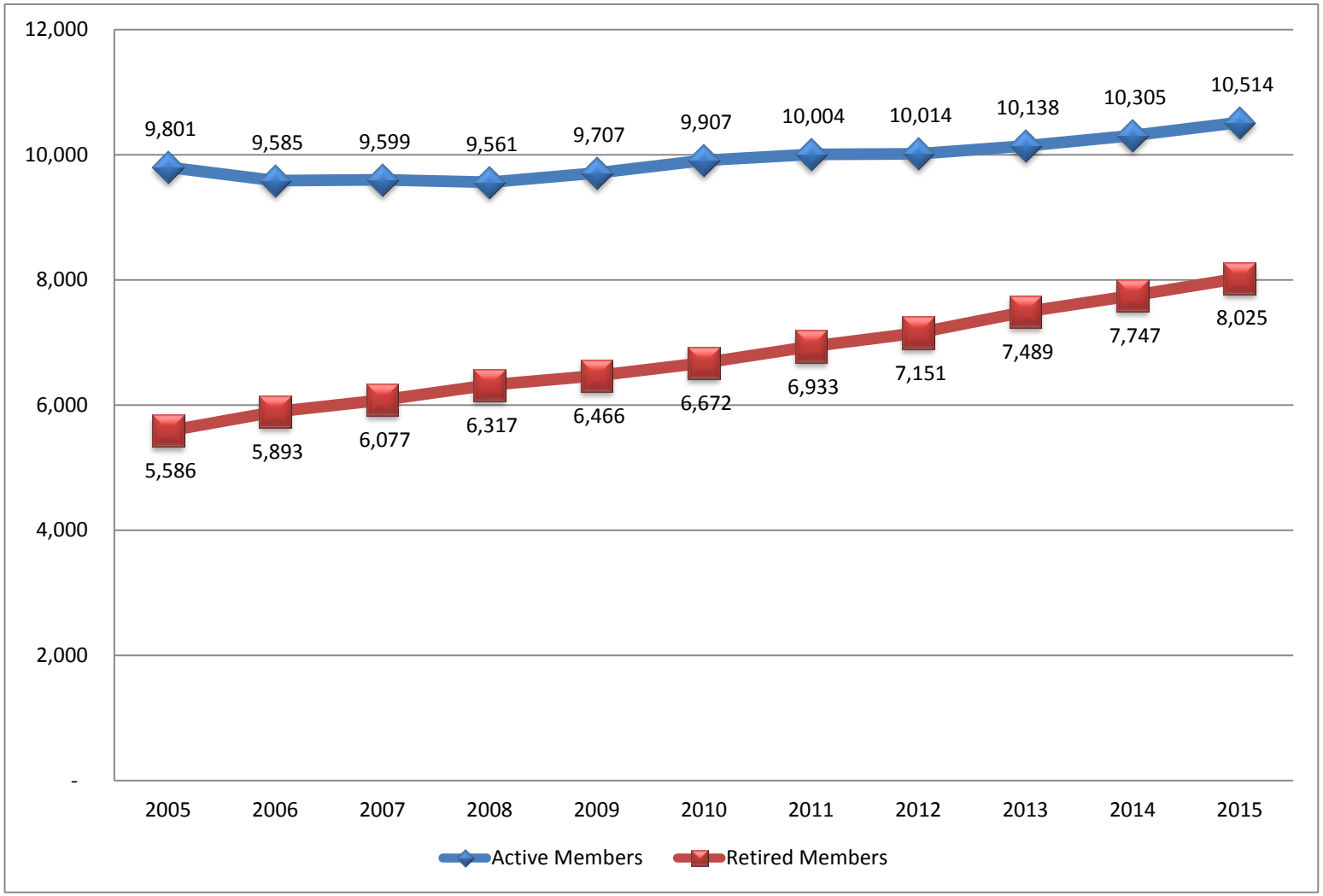
Summary of 2015 Valuation Highlights

- Valuation reflects assumption changes adopted as a result of the five year experience study completed earlier this year:
  - Investment return assumption lowered from 8.00% to 7.75%
  - Inflation assumption lowered from 3.00% to 2.75%
  - Individual salary increases lowered by 0.25% due to lower inflation assumption
  - An explicit administrative expense assumption added to the normal cost, equal to prior year administrative expenses plus inflation
  - Rates of turnover and retirement were changed to better reflect anticipated future experience
  - Mortality assumption updated to the "RP-2014" mortality tables with generational improvement
- The assumption changes impacted the 7/1/2015 valuation results as follows:
  - Accrued liability increased by $171 million
  - Funded ratio decreased by 3.2%
  - Effective amortization period increased by 8 years

Membership

	2015	2014	Change
Active			
• Number	10,514	10,305	+2.0%
• Payroll (annualized)	$589.8 mil	$557.2 mil	+5.8%
• Average Age	42.5 years	42.9 years	-0.4 years
• Average Service	12.4 years	12.8 years	-0.4 years
Retirees and Beneficiaries			
• Number	8,025	7,747	+3.6%
• Total Annual Benefits	$177.4 mil	$165.8 mil	+7.0%
• Average Monthly Benefit	$1,842	$1,783	+3.3%

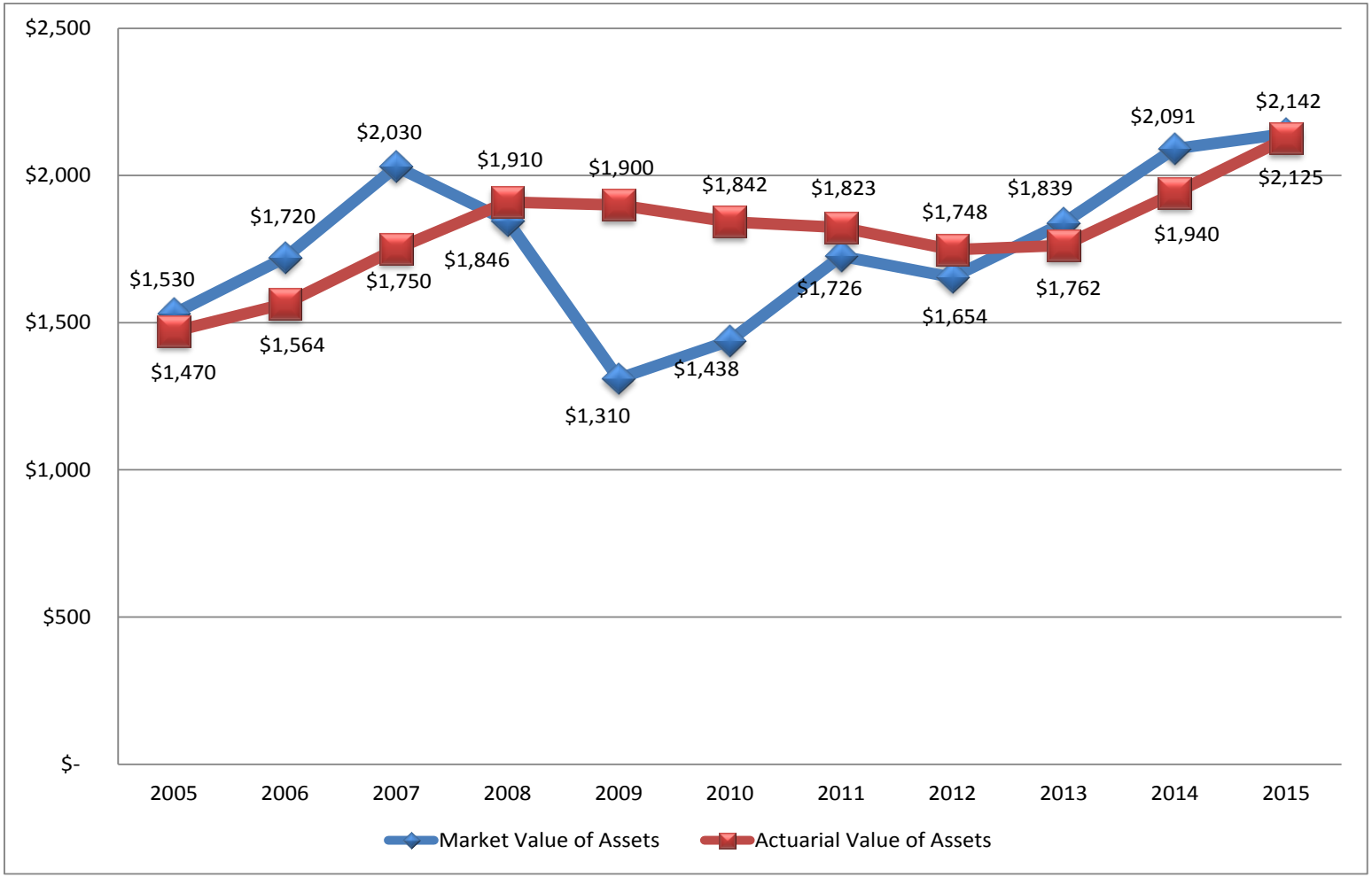
Active and Retired Membership



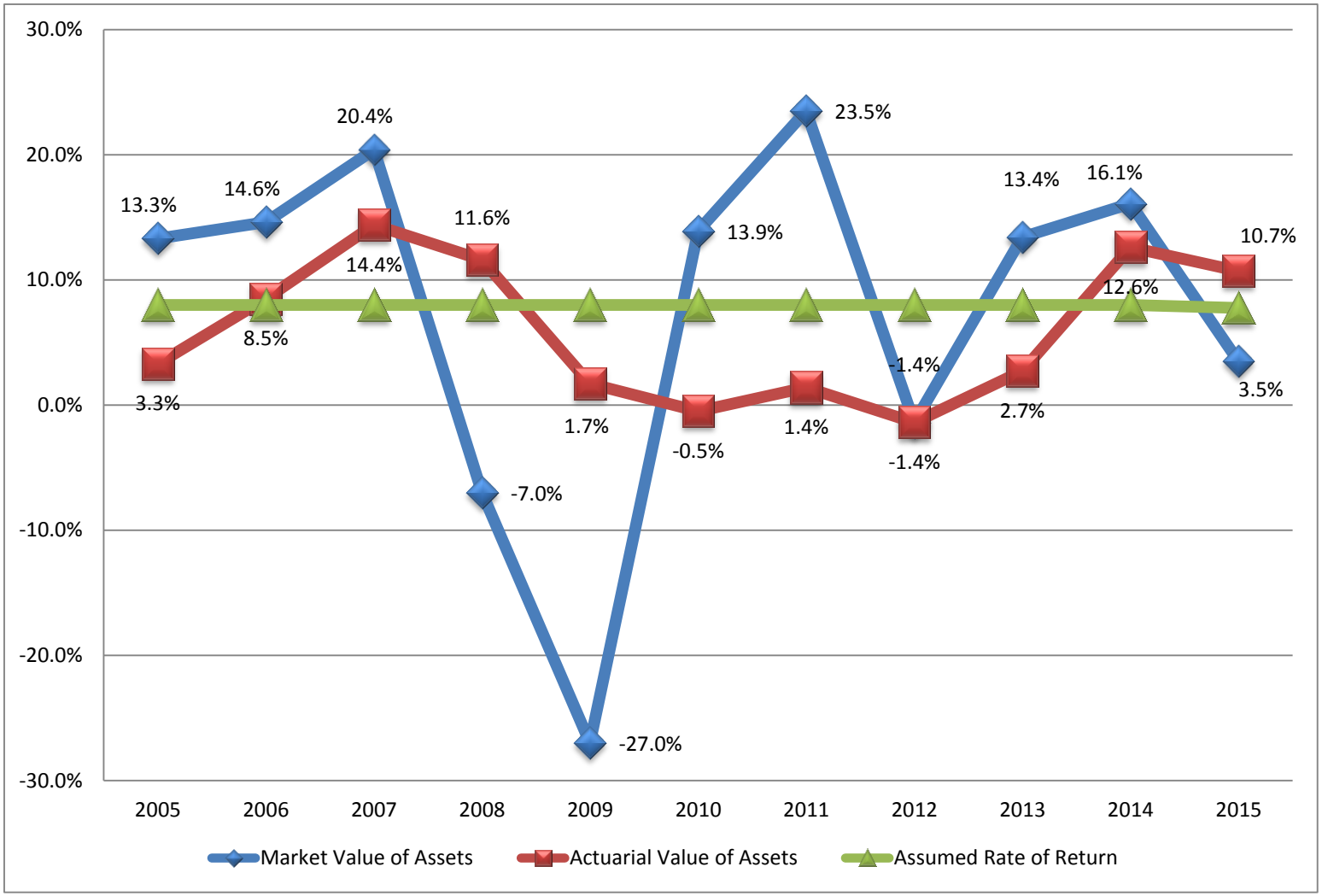
Since 2005, number of retirees and beneficiaries has increased 3.7% per year on average.

Market and Actuarial Values of Assets

$ Millions

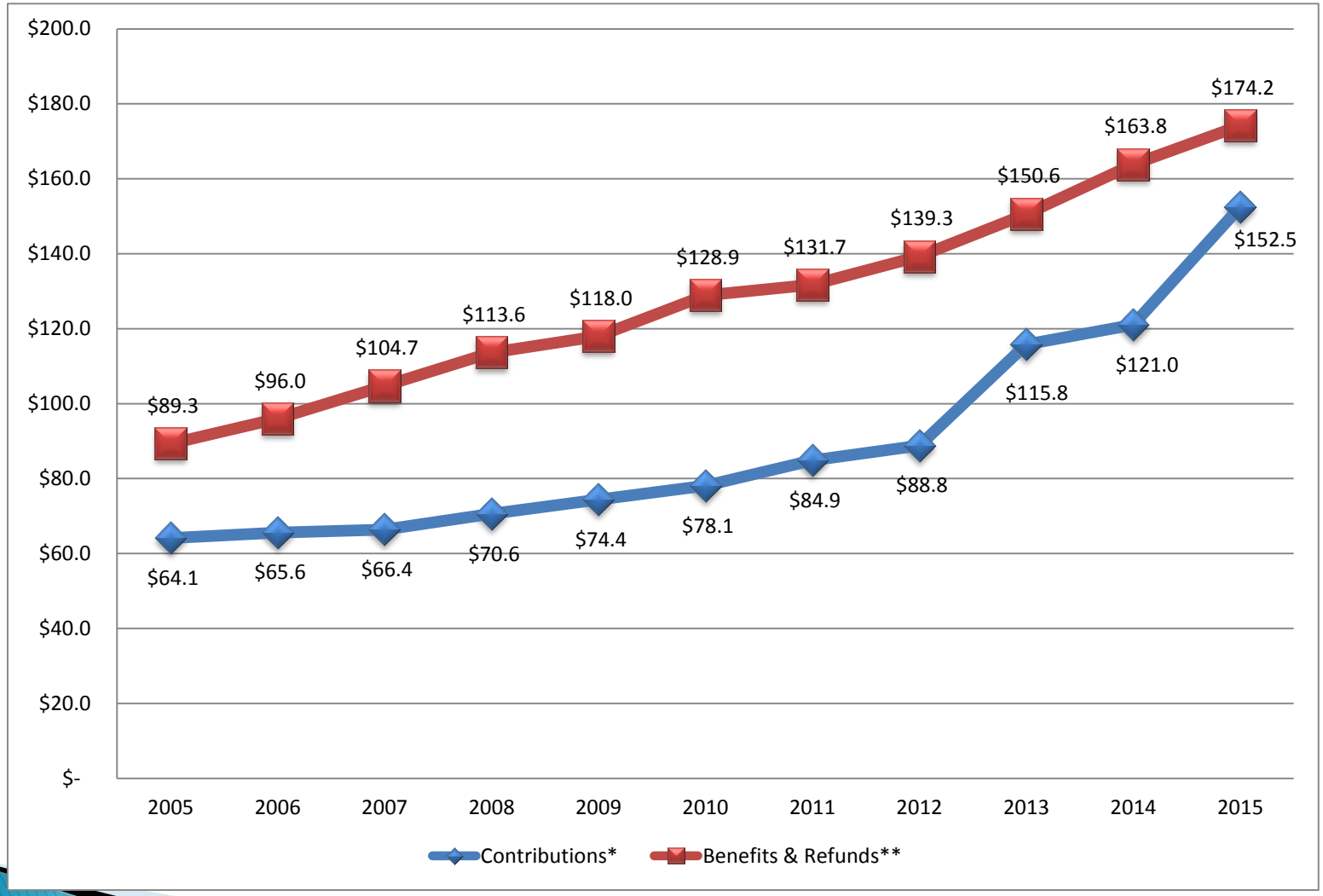


Asset Returns



Contributions vs. Benefits and Refunds

$ Millions



* Includes member and employer contributions, service purchases, and other

** Includes administrative expenses

Valuation Results ($ in millions)

	July 1, 2015		July 1, 2014
	Before Changes*	After Changes	
Actuarial Accrued Liability:			
• Active Members	$1,416	$1,490	$1,398
• Inactive Members	83	85	79
• Retirees and Beneficiaries	1,779	1,875	1,662
Total	**$3,278**	**$3,450**	**$3,139**
Actuarial Assets	2,125	2,125	1,940
Unfunded Accrued Liability	$1,153	$1,325	$1,198
Funded Ratio	64.8%	61.6%	61.8%
Effective Amortization Period**	21 years	29 years	24 years

* *Prior to reflecting the assumption changes that were adopted effective July 1, 2015.*

** *Based on actuarial accrued liability, normal cost rate, and payroll as of the valuation date and that all actuarial assumptions are realized as expected.*

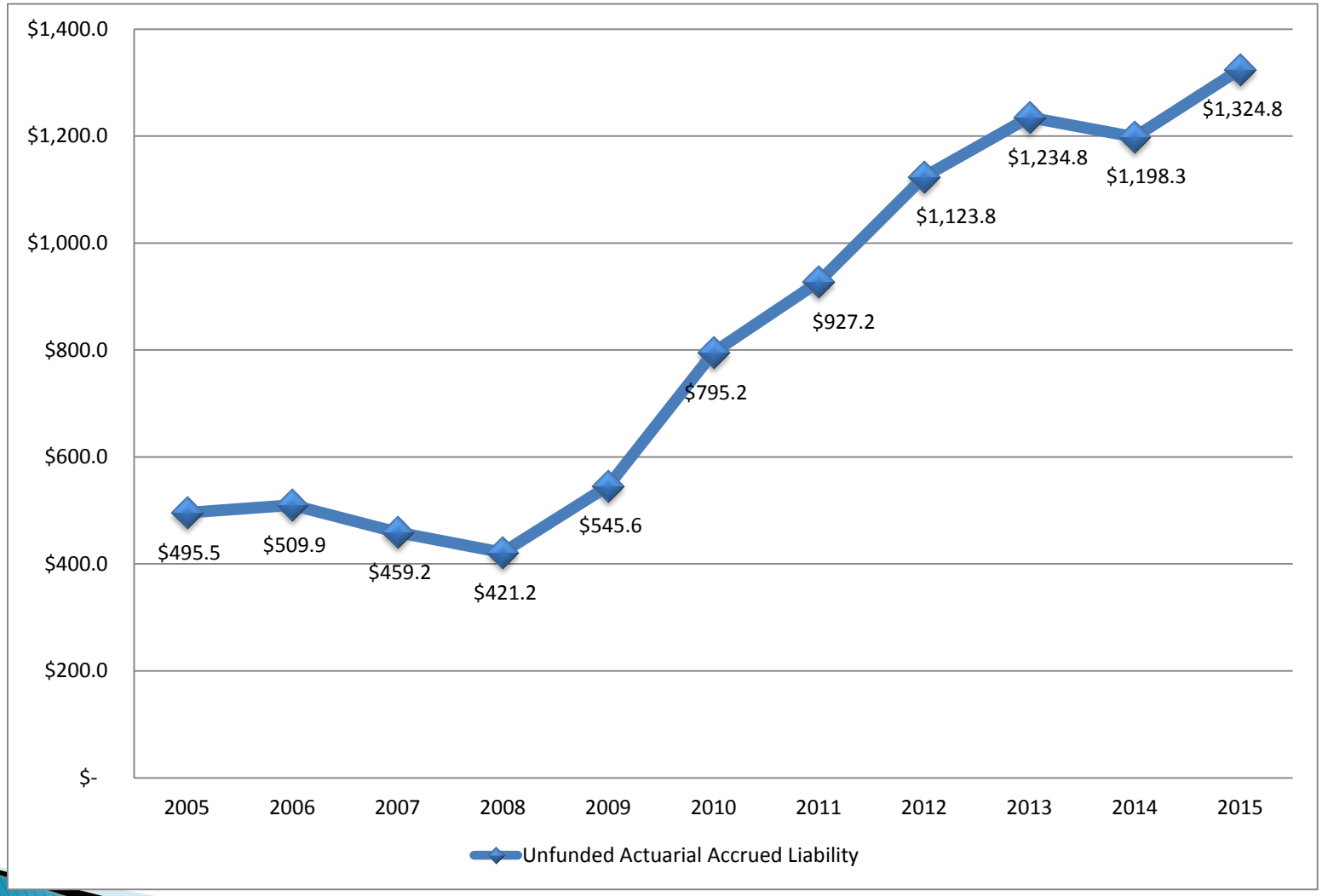
Actuarially Determined Contribution

	July 1, 2015		July 1, 2014
	Before Changes*	After Changes	
Normal Cost Rate**	10.70%	11.63%	10.63%
Member Rate	11.75%	11.75%	11.75%
Employer Normal Cost Rate	-1.05%	-0.12%	-1.12%
Amortization of UAAL	11.73%	13.16%	12.69%
Actuarially Determined Contribution	10.68%	13.04%	11.57%
Employer Rate	12.75%	12.75%	12.75%
Contribution Sufficiency/(Deficiency)	2.07%	(0.29%)	1.18%

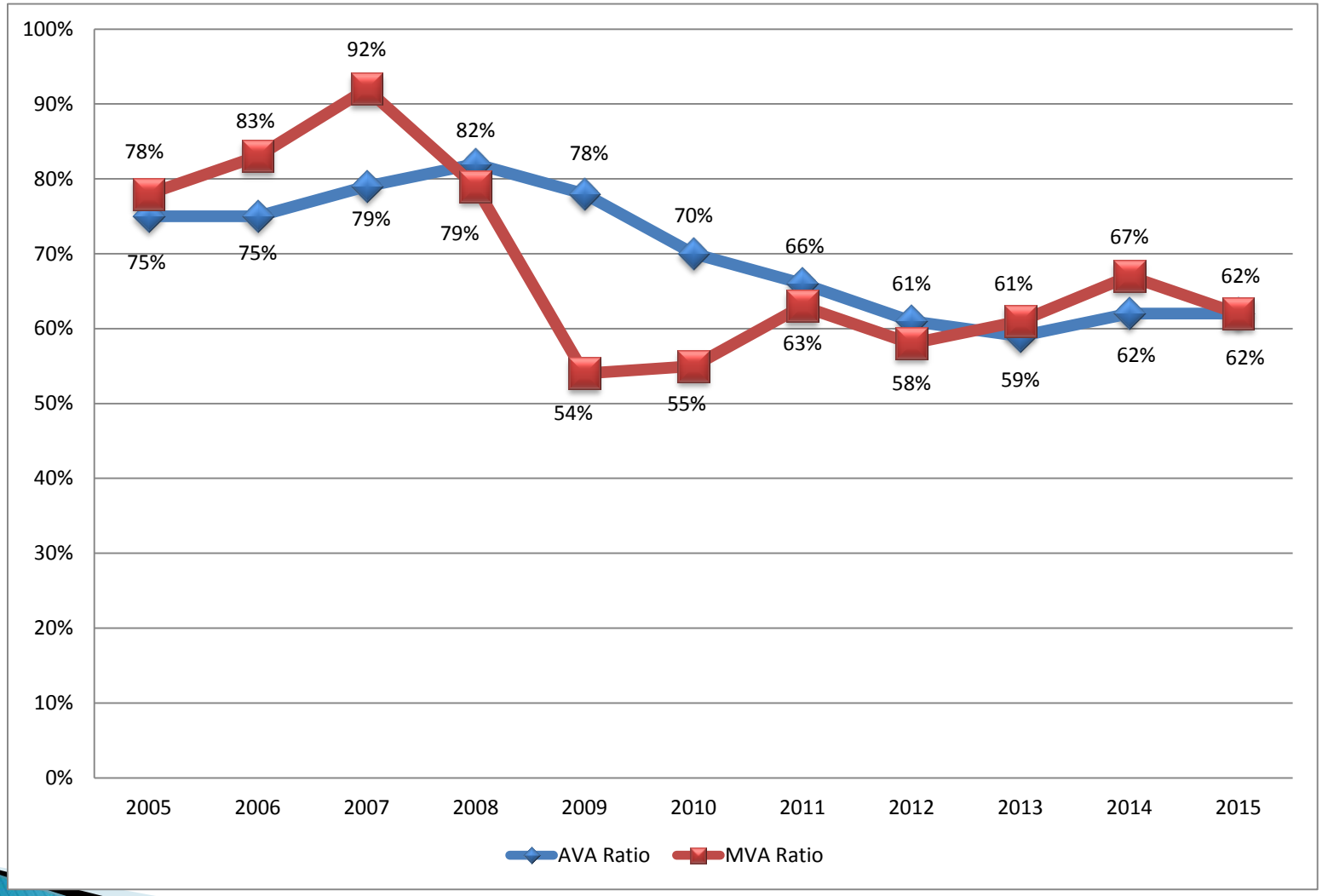
** Prior to reflecting the assumption changes that were adopted effective July 1, 2015.*
*** Includes administrative expenses of $1,976,285 for 2015*

Unfunded Actuarial Accrued Liability

$ Millions



Funded Ratios

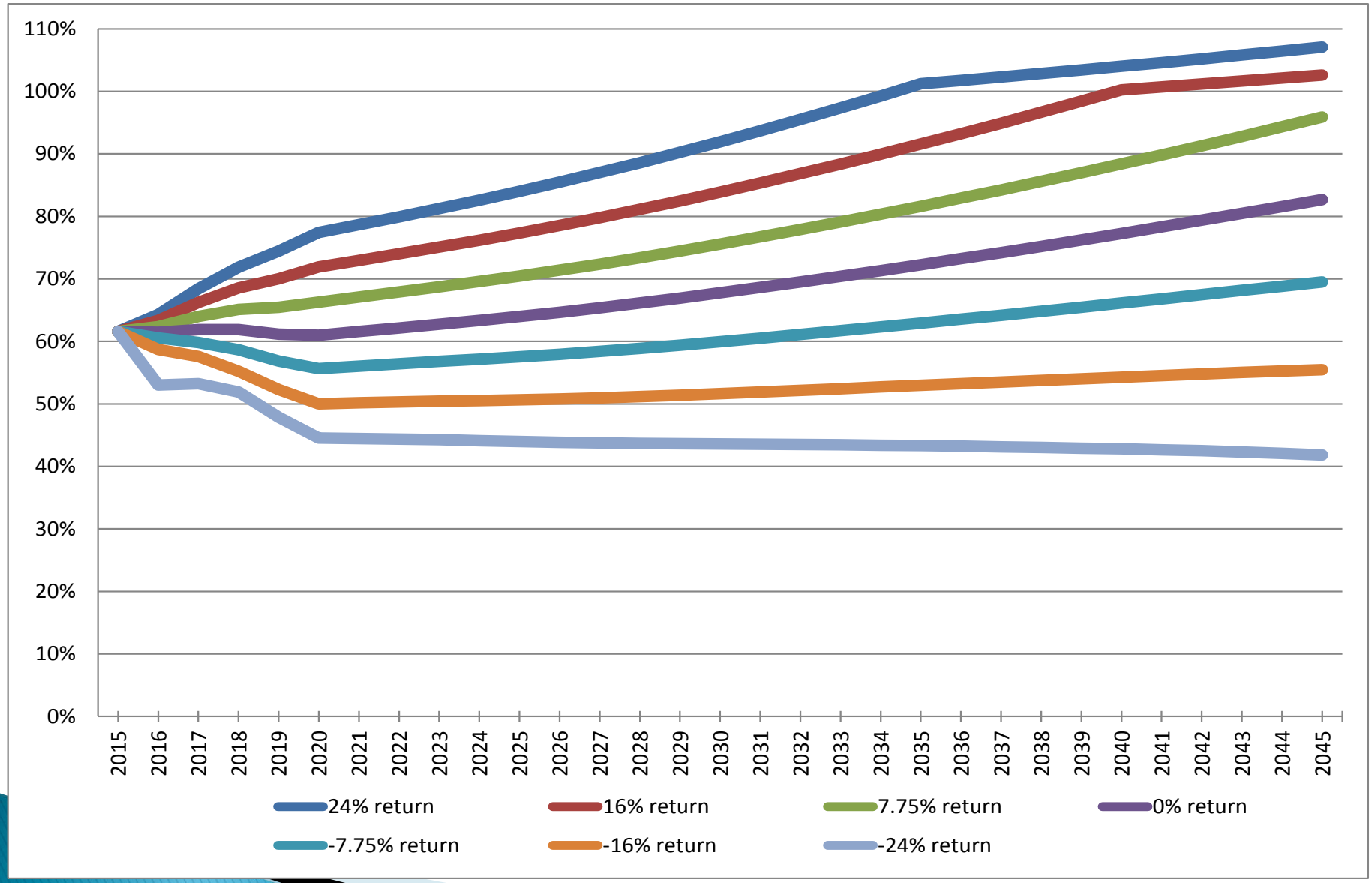


Projections

- Projections of estimated funded ratios for 30 years
  - Assumes Fund earns 7.75% per year in FY16 and each year thereafter
  - Additional projections assumes Fund earns 6.75% or 8.75% every year
  - All other experience is assumed to emerge as expected

- Includes statutory contribution rates
  - Member rate is 11.75% for FY15 and thereafter
  - Employer rate is 12.75% for FY15 and thereafter
  - Increases “sunset” back to 7.75% once the funded ratio reaches 100% (based on actuarial assets)

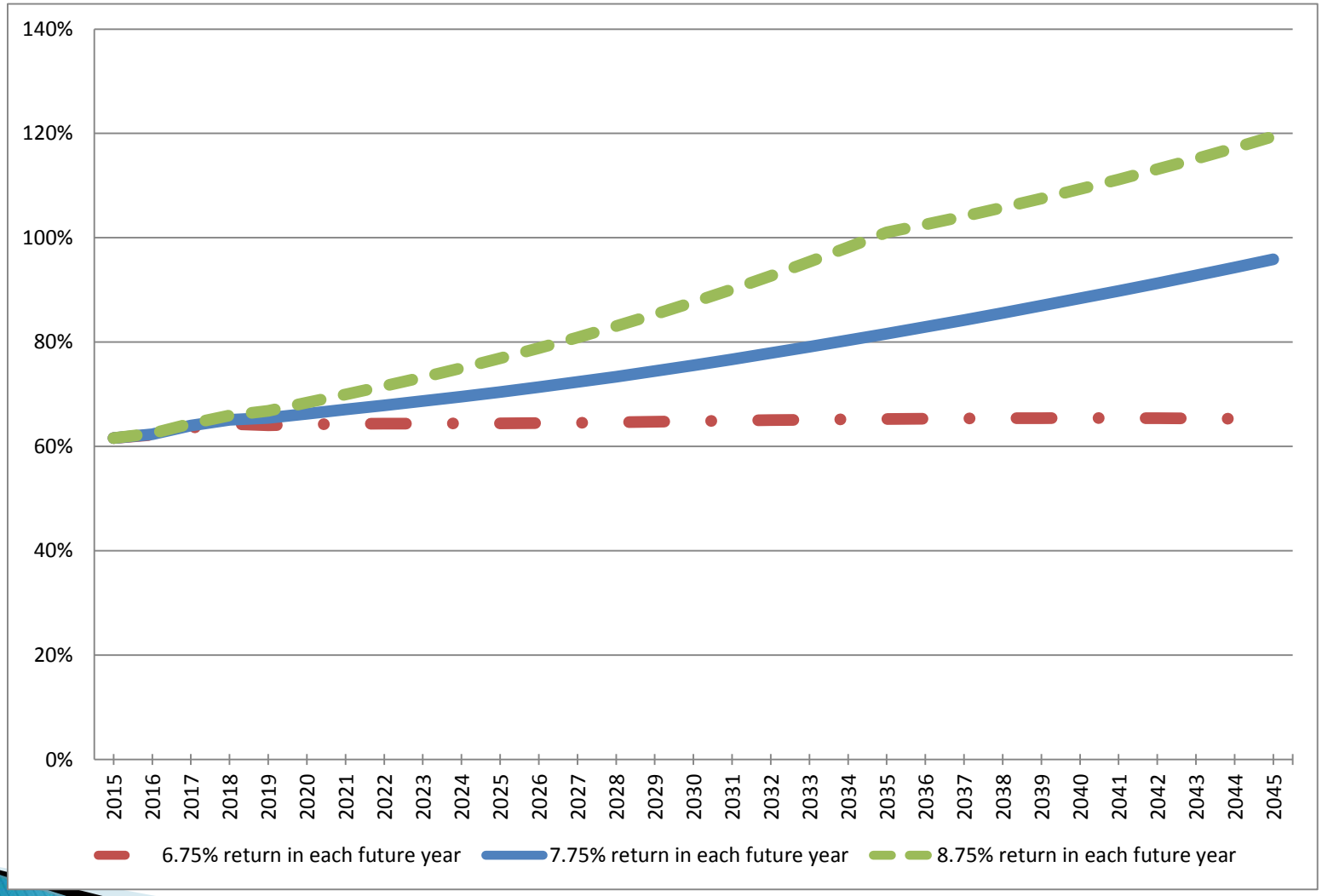
Projected Funded Ratios (AVA Basis)



Projected Funded Ratios (AVA Basis)

Valuation Year	24% for FY2016	16% for FY2016	7.75% for FY2016	0.00% for FY2016	-7.75% for FY2016	-16% for FY2016	-24% for FY2016
2015	62%	62%	62%	62%	62%	62%	62%
2016	64%	63%	62%	61%	61%	59%	53%
2017	68%	66%	64%	62%	60%	58%	53%
2018	72%	69%	65%	62%	59%	55%	52%
2019	74%	70%	65%	61%	57%	52%	48%
2020	77%	72%	66%	61%	56%	50%	45%
2025	84%	77%	70%	64%	58%	51%	44%
2030	92%	84%	76%	68%	60%	52%	44%
2035	101%	92%	82%	72%	63%	53%	43%
2040	104%	100%	88%	77%	66%	54%	43%
2045	107%	103%	96%	83%	69%	55%	42%

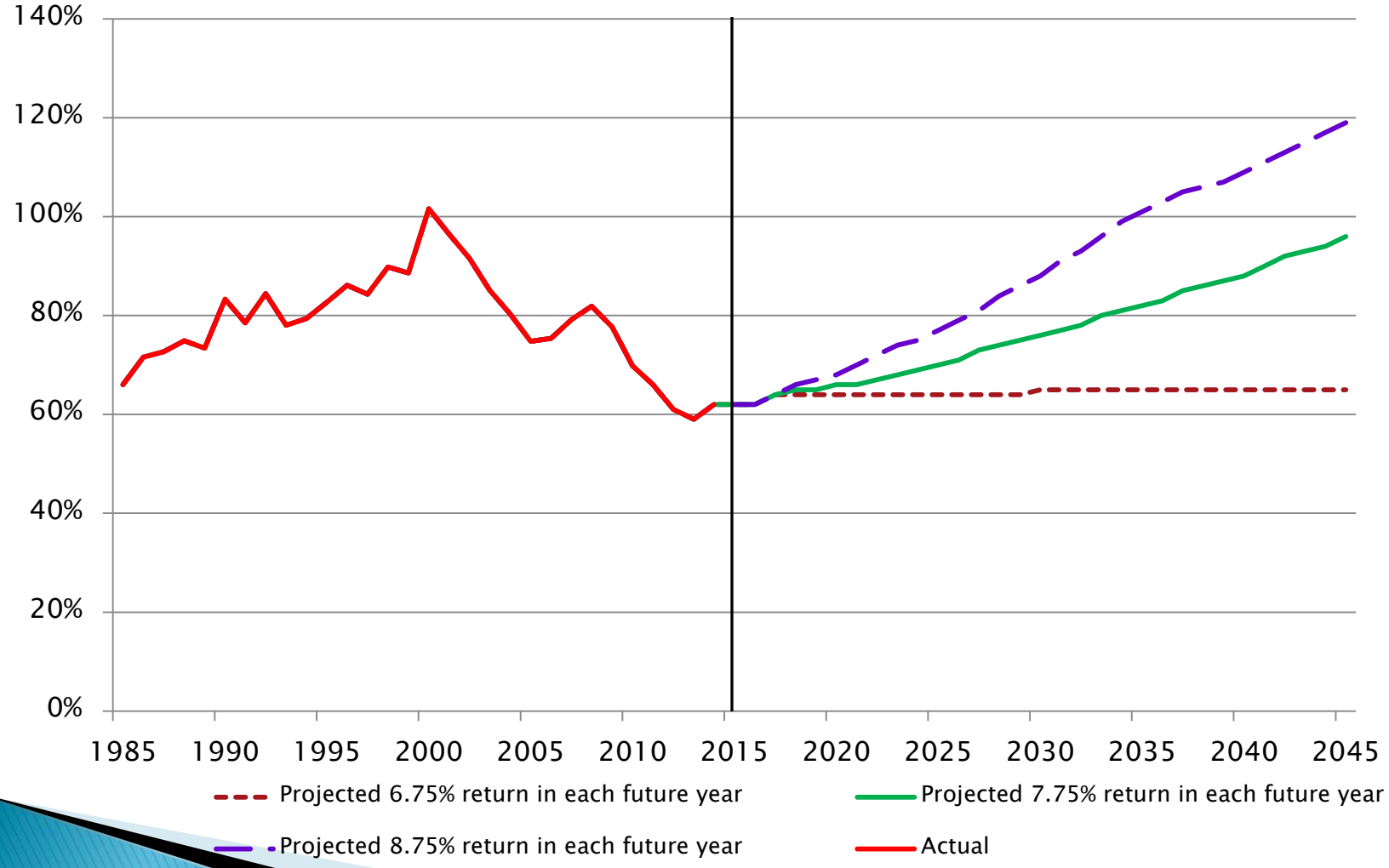
Projected Funded Ratios (AVA Basis) Actual Returns +1% or -1% of Assumed



Projected Funded Ratios (AVA Basis) Actual Returns +1% or -1% of Assumed

Valuation Year	6.75% Return in Each Future Year	7.75% Return in Each Future Year	8.75% Return in Each Future Year
2015	62%	62%	62%
2016	62%	62%	62%
2017	64%	64%	64%
2018	64%	65%	66%
2019	64%	65%	67%
2020	64%	66%	68%
2025	64%	70%	77%
2030	65%	76%	88%
2035	65%	82%	101%
2040	65%	88%	109%
2045	65%	96%	119%

TFFR Funded Ratio: Actual and Projected



2017 – Are Plan Changes Needed?

- Long term funding projections (estimates) are positive.

- Future investment returns:

	6.75%	7.75%	8.75%
10 yrs	64%	70%	77%
20 yrs	65%	82%	101%
30 yrs	65%	96%	119%

- Based on 2015 actuarial funding projections, no additional plan changes (contribution or benefit) are needed for funding purposes at this time.

- What could impact need for additional plan changes?
  - Future investment returns lower than expected.
  - Future actuarial experience (higher salaries, more retirements, improved mortality, etc.) that negatively impact plan.
  - Future legislative actions that result in funding declines.

- FUTURE UNKNOWN.
  - Closely monitor events/actions that could affect TFFR funding levels.

2017 – Administrative Changes?

- IRC compliance updates (none required)
  - Updates to federal references, language, and dates is not needed since 2015 changes included "as amended" language, UNLESS new IRC compliance provisions are required.

- Plan administration changes (none required)
  - Clarify or change definition of pensionable salary? Salary caps?
  - Clarify or change definition of teacher?
  - Clarify or change retiree re-employment provisions?
  - Review and remove certain outdated provisions?
  - Other plan design or administrative changes?

- Input from Member and Employer Interest Groups

NDUnited	NDRTA
NDCEL	NDSBA

Alternative Plan Designs

- DB/DC/Hybrid Plans

DB/DC/Hybrid plans

- 2009-11
  - LEBPC Study – Close DB plan and require new teachers and state employees to join DC plan (Bill 2)
  - 2011 Legislative Session – DC plan for New Hires – Bill failed (HB1258)

- 2011-13
  - LEBPC Study – No DC related bills filed for interim study (but reviewed HB1452 during 2013 session).
  - 2013 Legislative Session – New state employees provided option to participate in PERS DC plan (2014-17 window) – Bill Passed (HB 1452)

- 2013-15
  - Legislative Government Finance Committee – Study of DB/DC/Hybrid plans for state employees
  - LEBPC Study of bills from Gov Fin Com Study to close PERS DB plan, require new employees to participate in PERS DC plan, and create Public Employee Retirement Stabilization Fund (Bills 176,189).
  - 2015 Legislative Session – Bills failed

- 2015 – 17
  - LEBPC – will study all pension related legislative proposals filed by 4/1/16
  - 2017 Legislative Session

- Following slides are taken from 2012 Segal presentation to LEBPC on DB/DC/Hybrid plans

- Additional study or information related to alternative plan designs?

Defined Benefit and Defined Contribution Plans

- Under a DB plan, the benefit is defined and the contribution is not
- Under a DC plan, the contribution is defined, but the benefit is not
- Types of plan risks:
  - Investment risk
  - Inflation risk
  - Contribution risk
  - Longevity risk
- In a DB plan, the employer usually bears these risks
  - In North Dakota, the employee bears a portion of these risks
- In a DC plan the employee bears these risks
- A hybrid plan is a combination of a DB and DC plan

Definition of Risks

- **Investment Risk**
  - Rate of return on assets
  - In DB plan, employer usually bears all the investment risk
  - In DC plan, employee bears all the investment risk
  - In North Dakota, contribution rates are fixed for both employer and employee
  - The employer and employee contribution rates are scheduled to increase for PERS and TFFR, so both employer and employee are sharing the investment risk
- **Inflation risk**
  - Cost of living before and after retirement
  - DB plans usually based on final average salary, so employee has limited cost of living risk
  - Most public sector DB plans provide some form of post-retirement benefit increase, so employee has some protection against inflation in retirement
  - PERS and TFFR is based on final average salary, so employee has limited cost of living risk prior to retirement
  - PERS and TFFR do not have post-retirement benefit increases, so employees bear the inflation risk after retirement

Definition of Risks *continued*

- **Contribution risk**
  - Level and volatility of annual contributions
  - In DB plan, employer usually bears this risk
  - In DC plan, contributions are a percentage of salary
    - If investment returns are poor, employees may need to make additional contributions
  - The employer and employee contribution rates are scheduled to increase for PERS and TFFR, so both employer and employee are sharing this risk
- **Longevity risk**
  - Outliving retirement assets
  - In DB plan, benefits paid as life annuity, so employer usually bears all risk
  - In DC plan, benefits based on account balance, so employee bears all risk
  - The employer and employee contribution rates are scheduled to increase for PERS and TFFR, so both employer and employee are sharing this risk

Comparison of DB and DC Plans

Objective	Defined Benefit	Defined Contribution
Funding Certainty	Plan liabilities change based on actuarial assumptions, e.g., future salary increases, investment earnings, employee turnover.	Employer liability is fulfilled annually as contributions are made to employee accounts based on a percentage of payroll.
Predictable Contributions	Annual contributions may vary from year-to-year based upon actuarial assumptions. Rates may be set by statute to increase predictability. (These rates may need to be changed periodically.)	Annual cash expenditures are more predictable as they are based on a set percentage of employee salaries.
Recruitment Tool	Some portability through service credit purchase or return of employee contributions.	Assets are portable.
Reward Career Employees	Benefits are typically based on final year(s) salary, rewarding career employees.	Benefits are based upon accumulated contributions and earnings.
Expenses	Expenses include actuarial valuations, investment fees, and administrative fees. Employer pays these fees.	Employee expenses may be lower than a defined benefit plan because no actuarial valuations are necessary and investment fees are shifted to the employee. Employee education costs may be higher.

Comparison of DB and DC Plans

Objective	Defined Benefit	Defined Contribution
Benefit Potential	Benefits paid at retirement are for life and are guaranteed by the plan's benefit formula.	Benefits paid at retirement are based on contributions and earnings. The final retirement benefit can be eroded by pre-retirement distributions.
Understandable Benefits	Benefits require explanation because they are based on a set of variables, e.g., future earnings and year of service at retirement.	Benefits are based on accumulated contributions plus earnings at the time of retirement. Market fluctuations and life expectancy make it difficult to manage retirement benefit.
Access to Benefits While Employed	Benefits may not be withdrawn while actively employed.	Benefits may be withdrawn or loaned under certain circumstances.

Hybrid Plans

- Hybrid – Combined plans have both defined benefit and defined contribution components.
  - Defined benefit is primary plan with defined contribution to enhance portability.
  - Defined contribution is primary plan with defined benefit as “safety net” plan
- Hybrid – Crossover plans
  - Members can choose among defined benefit, defined contribution, or combined plan at hire date
  - Members have the option to “crossover” from one plan to another with restrictions

Hybrid – Cash Balance Plan

- Defined benefit plan that looks like a defined contribution plan
- Hypothetical account balance credited with percentage of salary and interest each year.
- For example:
  - Annual credit to account balance of 5% of salary
  - Annual interest on account balance equal to 10-year treasury rate plus 1.5%
  - Benefits paid at retirement or termination based on value of hypothetical account balance
- Actual contributions based on annual valuation and expected to be less than annual credit plus interest

DB – DC – Hybrid Plan Considerations

- DB and DC plans have very different approaches to benefit design
  - DB plans focus on benefit security
  - DC plans focus on wealth accumulation
- Shifting of plan risks may have unintended consequences
- There is no magic equivalent plan (DB = DC)
  - Difference rests in risk and performance
- Whether retirement benefits are provided by a DB plan, DC plan, or a hybrid plan, contributions should be sufficient so that employees have a reasonable opportunity for a viable retirement plan

Transition Issues

Changing from a defined benefit to a defined contribution plan or a hybrid plan results in transition issues that must be addressed.

- Unfunded liabilities are not eliminated by a change to a DC plan or a hybrid plan
  - Best practices and accounting standards call for accelerated funding, driving up short-term costs
  - Longer term asset allocation changes may lead to reduced investment return and therefore to *higher total costs for the plan sponsor*.
- If DC plan investments are participant-directed, employee education is needed
- Creating a new DC Plan could add administrative complexity and cost
- Allowing choice between plans introduces anti-selection issues
- Adequate death and disability benefits cannot be provided by a DC plan
- Workforce management is difficult with a DC plan

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **January 14, 2016**

SUBJ: **Eligible Salary Discussion**

A number of recent employer audits and reviews of various ND Career and Technology centers or programs conducted by NDRIO Audit Services staff has prompted us to review whether or not payments for certain duties are eligible compensation for TFFR purposes. It appears that certain payments to licensed teachers for similar types of duties are being treated differently by TFFR employers. At this time, two employer compliance audits are being held until the following question is answered.

Question: Should payments for the following duties be reported as pensionable earnings to TFFR if performed by an employee licensed by ESPB and contracted to provide teaching, supervisory, administrative, or extracurricular services at a career and technology education center, school district, or other participating employer?

1) Maintenance and/or Repair of Machinery and Equipment (welders, tools, etc.)

2) Maintenance and/or Repair of Computer Equipment (computers, routers, printers, etc.)

3) Building and/or Site prep or finish work (building construction)

ND Century Code (NDCC 15-39.1-04 (10) defines salary for TFFR purposes:

"Salary" means a member's earnings in eligible employment under this chapter for teaching, supervisory, administrative, and extracurricular services during a plan year reported as salary on the member's federal income tax withholding statements plus any salary reduction or salary deferral amounts under 26 U.S.C. 125, 132(f), 401(k), 403(b), 414(h), or 457, as amended. "Salary" includes amounts paid to members for performance of duties, unless amounts are conditioned on or made in anticipation of an individual member's retirement or termination. The annual salary of each member taken into account in determining benefit accruals and contributions may not exceed the annual compensation limits established under 26 U.S.C. 401(a)(17)(B), as amended, as adjusted for increases in the cost of living in accordance with 26 U.S.C. 401(a)(17)(B), as amended. A salary maximum is not applicable to members whose participation began before July 1, 1996.

"Salary" does not include:

a. Fringe benefits or side, nonwage, benefits that accompany or are in addition to a member's employment, including insurance programs, annuities, transportation allowances, housing allowances, meals, lodging, or expense allowances, or other benefits provided by employer.

b. Insurance programs, including medical, dental, vision, disability, life, long-term care, workforce safety and insurance, or other insurance premiums or benefits.

c. Payments for unused sick leave, personal leave, vacation leave, or other unused leave.

d. Early retirement incentive pay, severance pay, or other payments conditioned on or made in anticipation of retirement or termination.

e. Teacher's aide pay, referee pay, bus driver pay, or janitorial pay.

f. Amounts received by a member in lieu of previously employer-provided benefits or payments that are made on an individual selection basis.

g. Signing bonuses as defined under section 15.1-09-33.1.

h. Other benefits or payments not defined in this section which the board determines to be ineligible teachers' fund for retirement salary.

ND Administrative Code (NDAC 82-02-01-01) defines the following:

3. Administrative – means to manage, direct, or superintend a program, service, or school district or other participating employer.

10. Extracurricular – means outside of the regular curriculum of a school district or other participating employer which includes advising, directing, monitoring, or coaching athletics, music, drama, journalism, and other supplemental programs.

18. Supervisory – means to have general oversight or authority over students or teachers, or both, of a school district or other participating employer.

19. Teaching – means to impart knowledge or skills to students or teachers, or both, by means of oral or written lessons, instructions, and information.

Action Plan

To begin researching this issue, Shelly and I met with Wayne Kutzer, State Director of NDCTE. We also met with Mark Wagner, Asst. Director of NDCTE, and former director of North Valley CTC. In our meetings, it became apparent that there are a wide variety of programs, governance structures, payment structures, and processes being utilized by school districts and CTCs. Consequently, this issue appears to be quite complicated.

We decided to form a small working group of state and local directors of CTE programs and centers, and plan to meet with this group on Friday, January 22 in Valley City. Our purpose is to gather input, and to develop options for consideration by the TFFR Board since the Board will need to determine whether payments for such duties are to be reported as eligible (or ineligible) salary for TFFR purposes.

Since we are in the information gathering stage, we are also interested in any preliminary questions or feedback from TFFR Board members on this issue.

No board action is requested at this time. This topic will be on the agenda of the March 2016 TFFR Board meeting.

TFFR Ends
Annual Review
Year Ended June 30, 2015

The information provided below indicates that the TFFR ends policies formally adopted by the TFFR Board and accepted by the SIB are being implemented.

Ends Policy: **Membership Data and Contributions**

Ends: Ensure the security and accuracy of the members' permanent records and the collection of member and employer contributions from every governmental body employing a teacher.

- **Member and Employer Information**

  We have used the CPAS pension administration software and FileNet document management software for ten years and both continue to meet our needs. Retirement and IT staff continue work with CPAS staff on our Member Online Services application. Testing is 80% complete. ITD and TFFR take responsibility for the security of TFFR member information very seriously but unfortunately in 2014-15 a cyber-attack occurred on an ITD hosted server that contained member information on approximately 950 TFFR members. Letters were sent to each individual affected and to date we are not aware of any member information being used in a fraudulent manner.

- **Collections and Payments**

  Collected member and employer contributions totaling $150.7 million from 216 employers and $1.6 million from members for the purchase of service credit.

  Paid out $168.3 million in pension benefits and $3.9 million in refunds and rollovers totaling $172.2 million for the year.

  About 77% of employers electronically report contributions to TFFR. This comprises over 95% of the active membership.

  As of June 30, 2015, 165 employers are reporting using TFFR Employer Online Services.

  Assessed 32 reporting penalties and withheld foundation payments from no school districts. TFFR waived 15 of the 32 penalties. Employer reporting penalties include late reporting of contributions and failure to provide documentation in a timely manner (e.g. new member forms, return to teach forms, employer compliance audit documentation.)

- **Employer Outreach Programs**

  Met with school board members, business managers, and software vendors at the 2014 School Board and School Business Manager Association Annual Conference. A presentation to school board attendees was also provided.

  Made four presentations to school district business managers at regional workshops on TFFR reporting requirements.

  GASB 68 employer training session was held in December 2014 and the session was recorded and is available on our website.

  Created online TFFR employer reporting basics webcast & quiz for the business manager certification program.

Ends Policy: **Member Services**

Ends: Provide direct services and public information to members of TFFR.

- **Outreach Program Statistics**

  1,291 attended outreach programs (plus convention participants)
  Retirement Services staff traveled 6,387 miles

- **Preretirement Seminars**

  125 attended
  2 locations – Minot & Fargo

  Pre-retirement Seminars are generally held at two sites each year in July and rotate between Bismarck, Minot, Fargo, and Grand Forks. Additional seminars will be added if requested by an employer and minimum attendance can be met.

- **Benefits Counseling Sessions**

  Statewide – 219 attended
  13 locations – Grand Forks, Williston, Valley City, Dickinson, Fargo, Minot, Devils Lake, Bismarck, Jamestown, Wahpeton, West Fargo, Tioga, and Bottineau

- **Group Counseling Sessions**

  39 attended
  Pilot location – Fargo

- **Local Office Counseling –** 328 members

- **Group Presentations**

  580 attended

  NDRTA Convention
  Retirement 101 (Bismarck & Grand Forks)
  Spring Business Managers Workshop (Minot, Grand Forks, Valley City, Mandan)
  NDCEL Conferences
  SBA Convention – School Board Members

- **Conferences and Conventions**

  ND Retired Teachers Convention – Grand Forks
  ND School Board Convention - Bismarck
  ND Career and Technical Education Convention – Bismarck
  NDCEL Annual Conference – Bismarck

- **Member/Employer Communications**

  Report Card non-retired newsletter (2 publications)
  Retirement Today retiree newsletter (2 publications)
  Briefly employer newsletter (4 publications sent electronically)
  Updated Employer Guide
  Updated TFFR Member Handbook
  GASB 68 Q & A and Talking Points added to website
  GASB 68 Sample Journal Entry document added to website

- **Member Statements**

  Mailed 12,408 annual benefits statements to non-retired members in August
  Mailed 7,752 annual statements to retired members in December

- **Other**

  NDRIO web site was visited by 11,361 people a total of 24,933 times. The average length of each visit was three minutes.

Ends Policy: **Account Claims**

Ends: Ensure the payment of claims to members of TFFR.

- **Annuity Payments**

  Distributed annuities to 7,869 retired members and beneficiaries as of June 30, 2015. For the year, pension benefits totaled $168.3 million. Of the total, about 99% of the payments were deposited via electronic funds transfer.

- **Monthly Payroll Deductions** (July 1, 2015 payroll – total 7,988)

Federal tax withholding	6,107	76%
ND state tax withholding	4,933	62%
PERS health insurance	745	9%
PERS dental insurance	404	5%
PERS vision insurance	177	2%
PERS life insurance	34	<1%

- **Refunds, Rollovers & Transfers**

  Distributed refund and rollover payments of $3.9 million to 224 participants during the fiscal year. Approximately 43% of the refunding members rolled over their refund payment to an IRA or another eligible plan.

- **Processed Claims for Benefits**

Refunds	127
Rollovers	97
Retirements	415
Disabilities	5
Survivor annuitants	5
Continuing annuitants	38

- **Member Account Activity**

New members	1,059
Deaths	203
Pop ups	38
Purchase requests	151

Ends Policy: **Trust Fund Evaluation/Monitoring**

Ends: Ensure actuarial consulting and accounting services are provided to the retirement program. The TFFR Board of Trustees will select the independent actuary for consulting and actuarial purposes and direct a contract to be executed.

- **Actuarial Services**

  The annual actuarial valuation for July 1, 2015 was presented to the TFFR Board by Segal on October 22, 2015.

- **External Audit**

  An unqualified opinion was issued by independent auditors, Clifton Larson Allen, LLP, regarding RIO's financial statements for the year ending June 30, 2015. Clifton Larson Allen, LLP presented the report to the SIB Audit Committee on November 19, 2015.

- **Internal Audit**

  The annual Internal Audit report was presented to the TFFR Board on October 22, 2015.

- **Other**

  Received Certificate of Achievement in Financial Reporting from GFOA for June 30, 2014, Annual Financial Report.

  Received 2015 recognition award for pension plan funding and administration from the Public Pension Coordinating Council.

TFFR Retirement Statistics

>Participation in Outreach Programs

>Service Purchase Statistics

>Active Membership Tier Statistics

>Service Retiree History & Option Usage

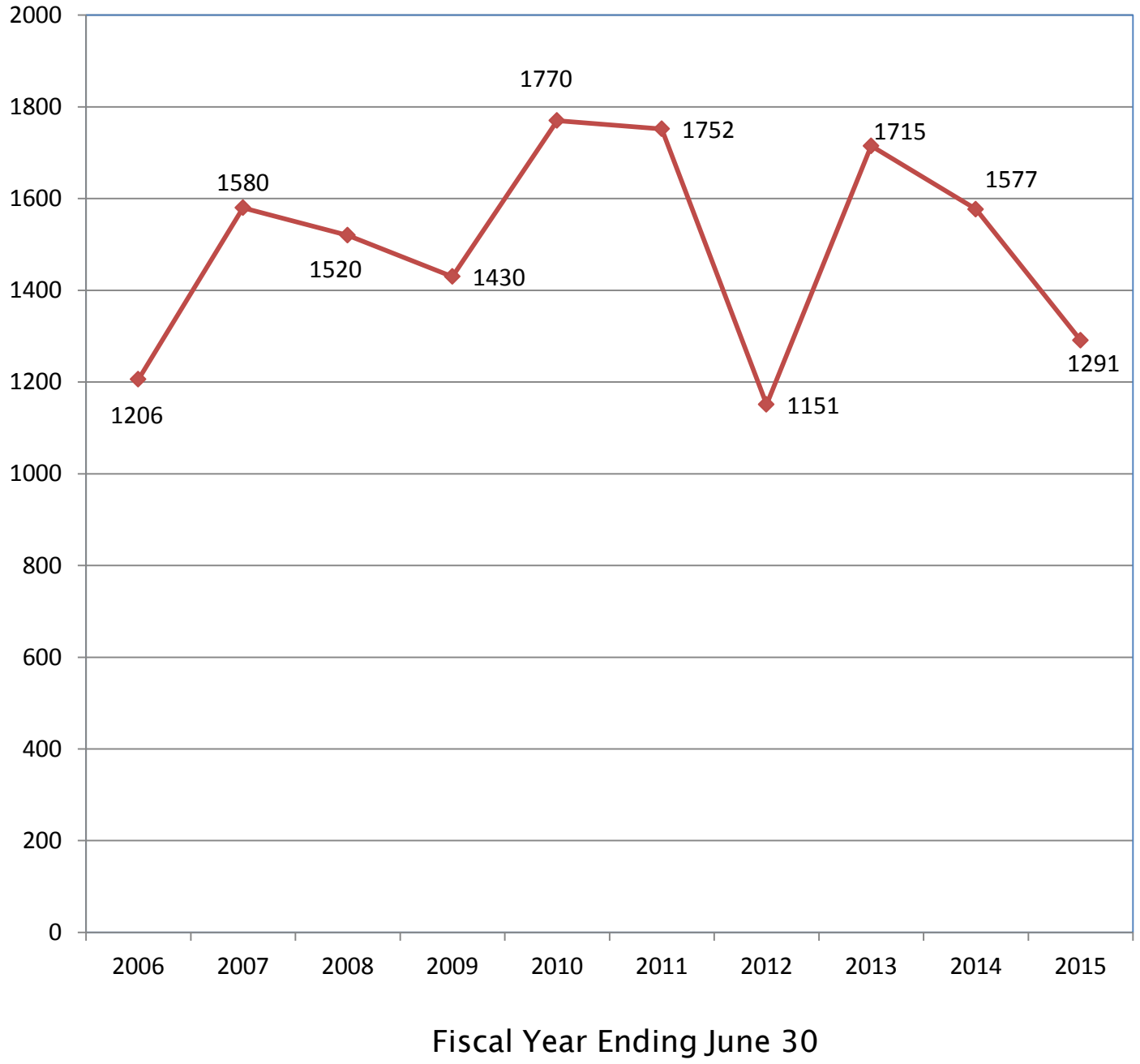
>Retiree Statistics

>Disability Retirements

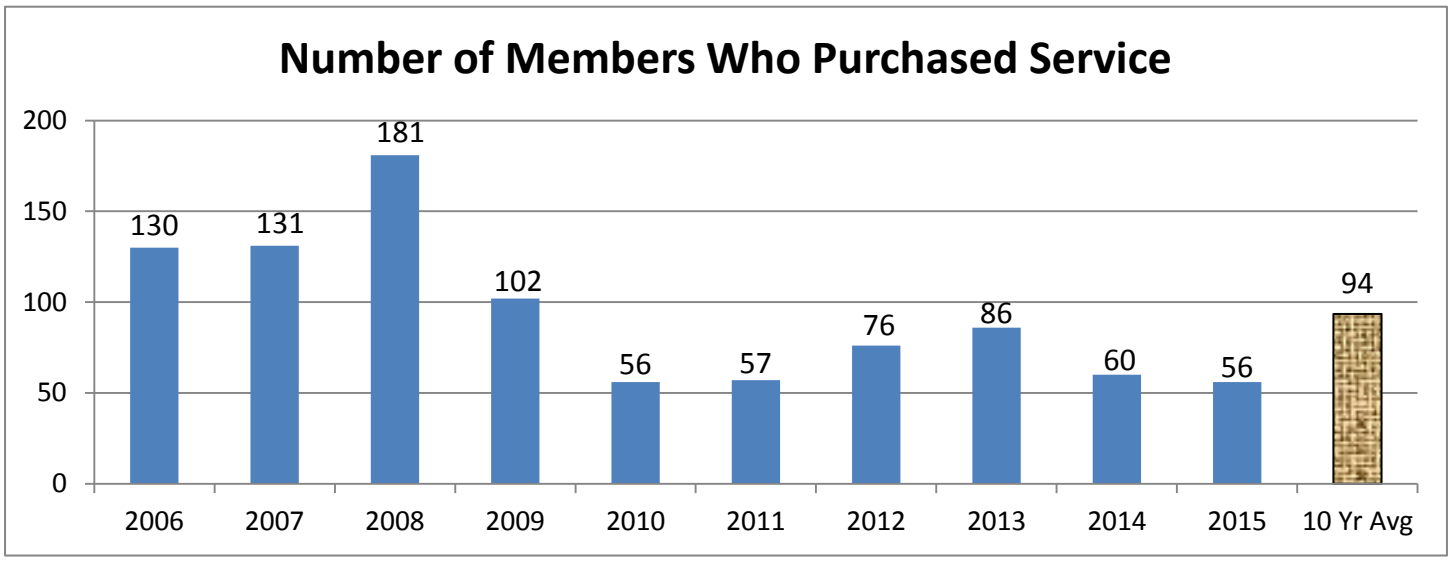
>Re-Employed Retirees

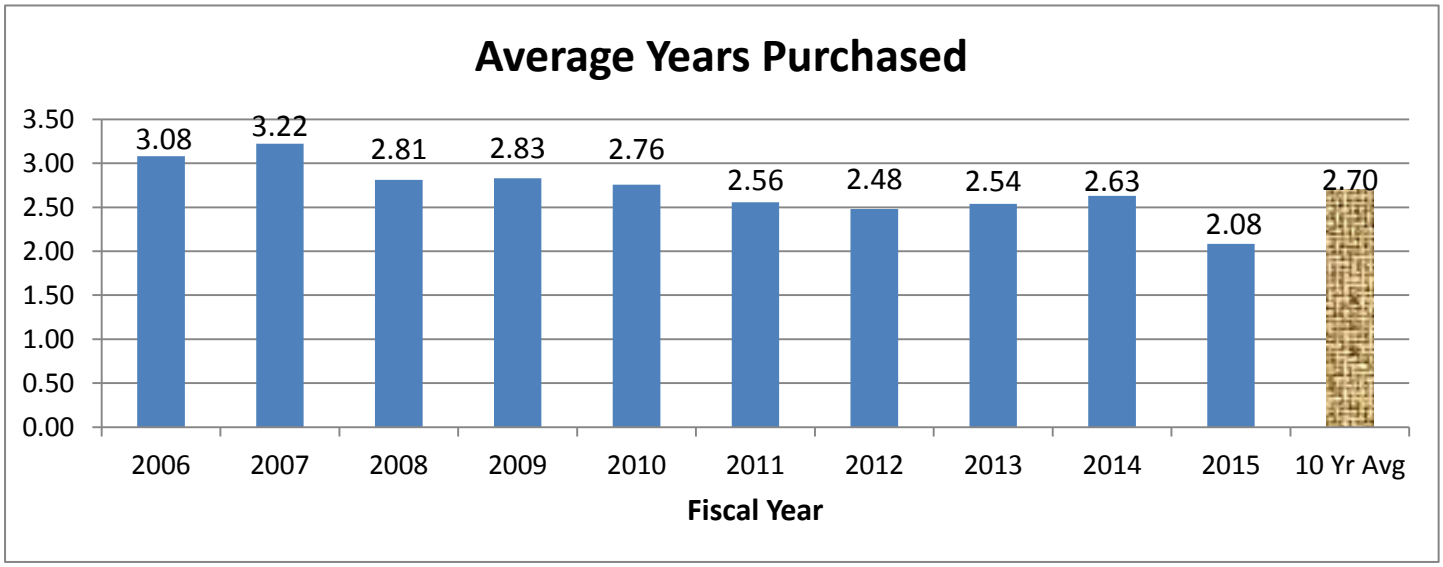
>Employer History & Current Employer Payment Model Statistics

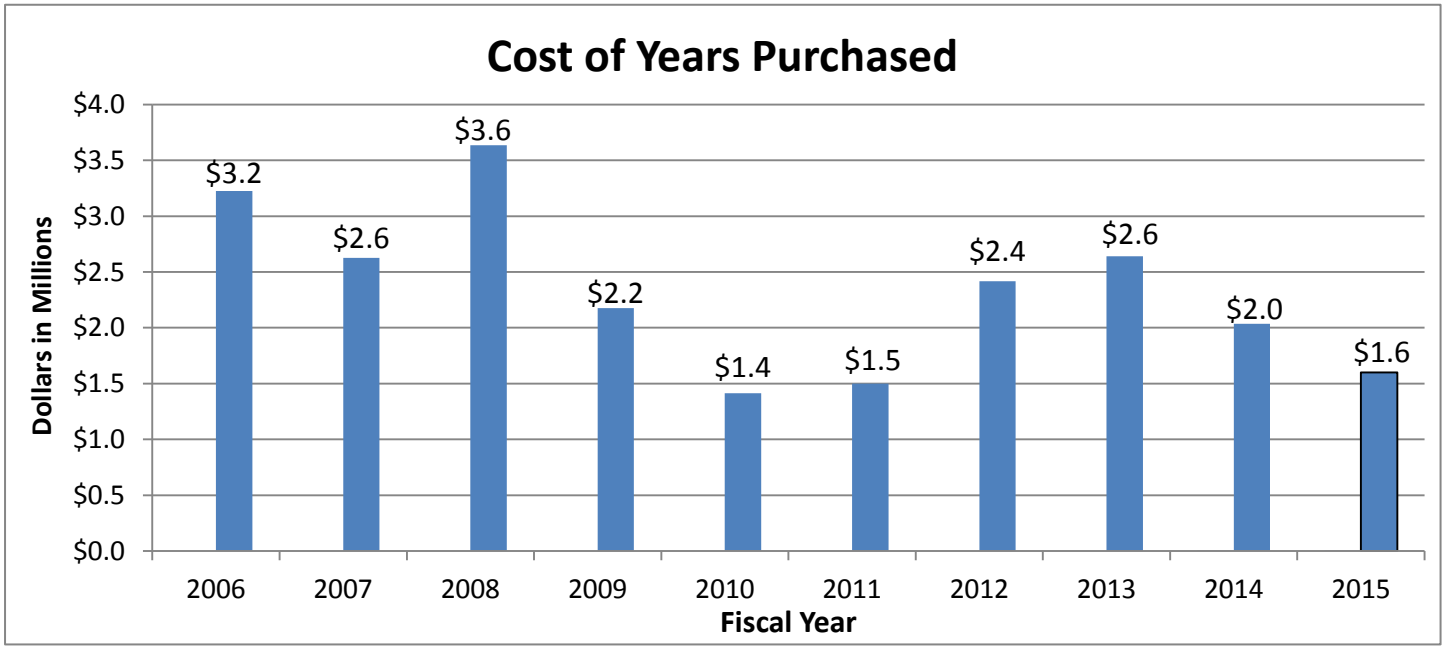
Participation in Outreach Programs

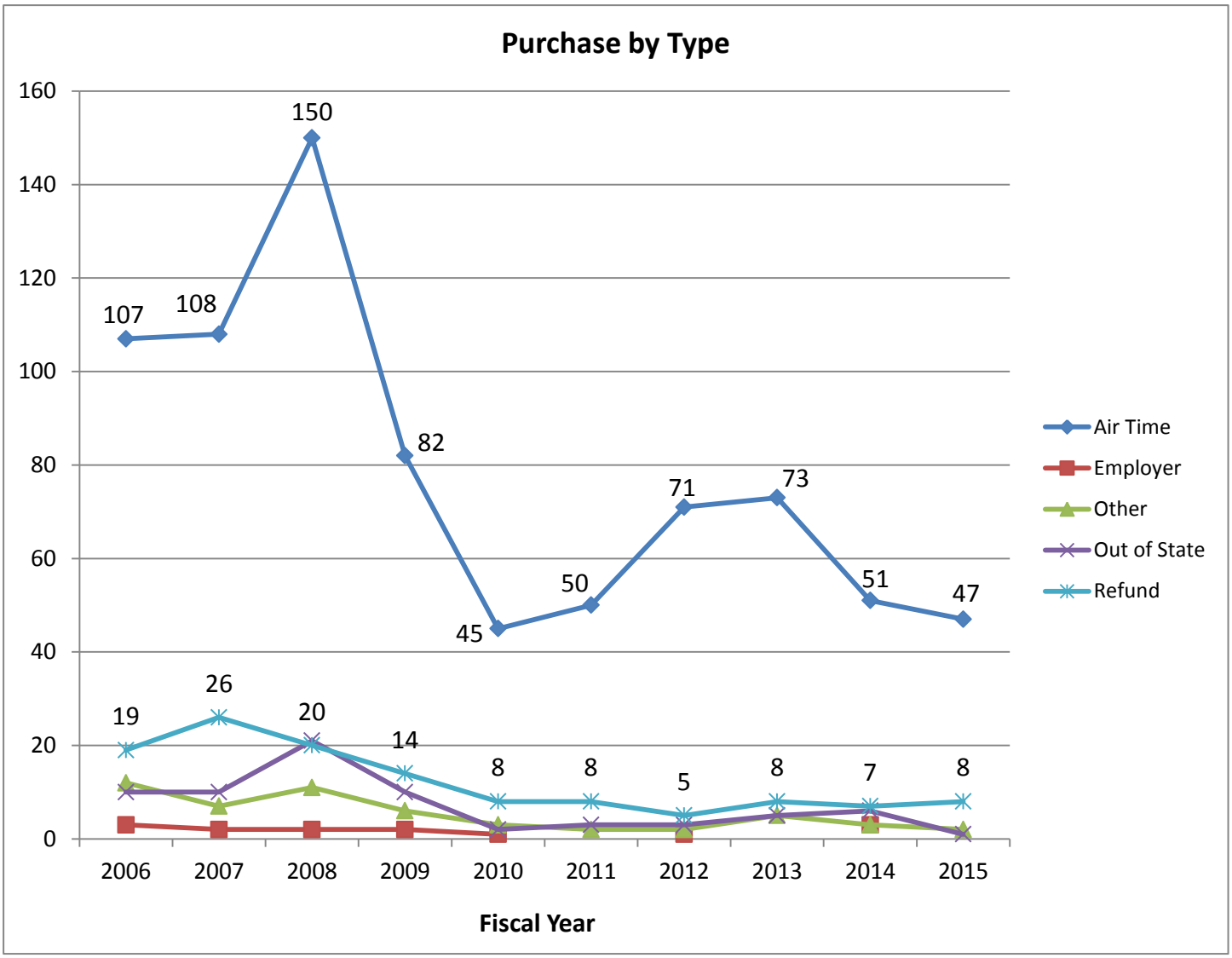


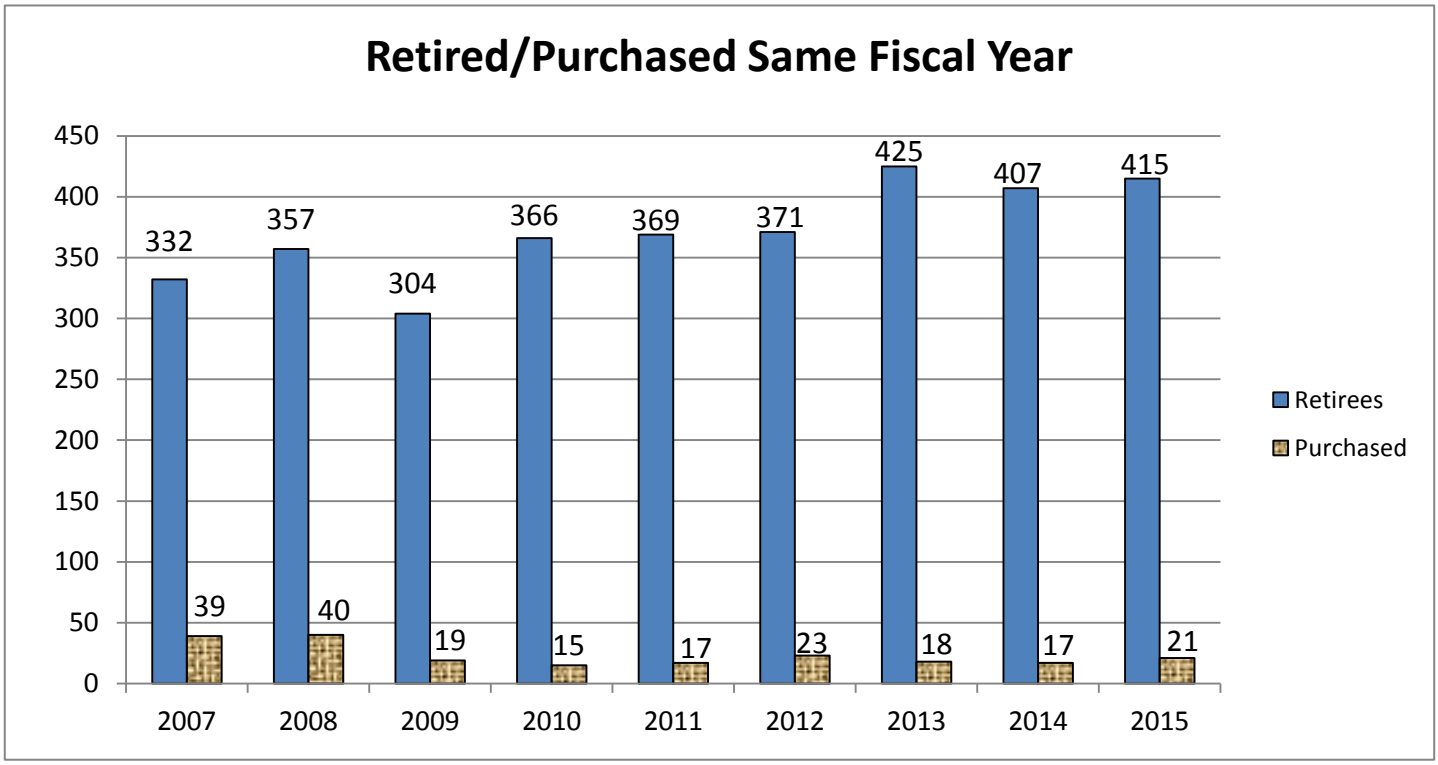
Service Purchase Statistics - 2015



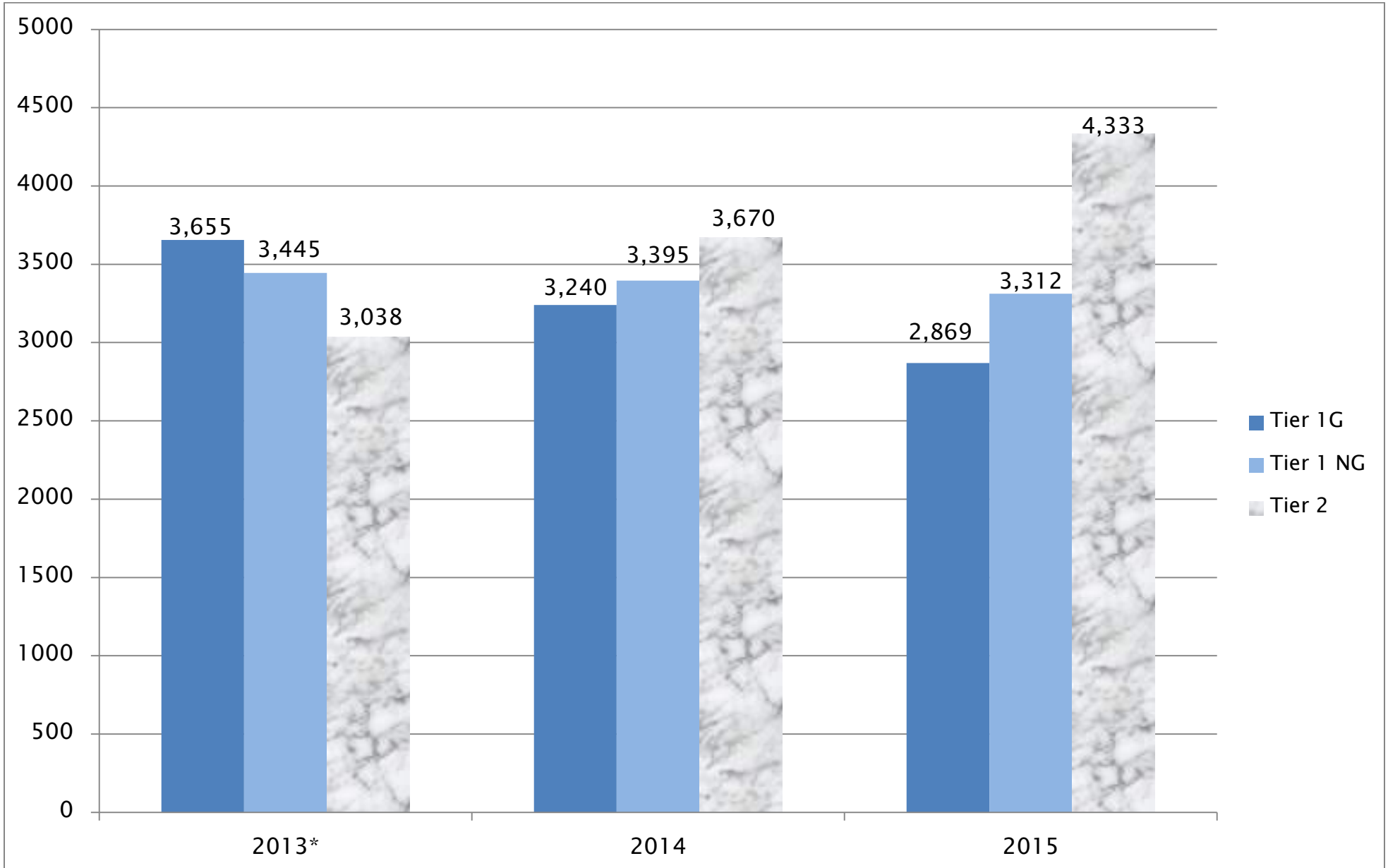




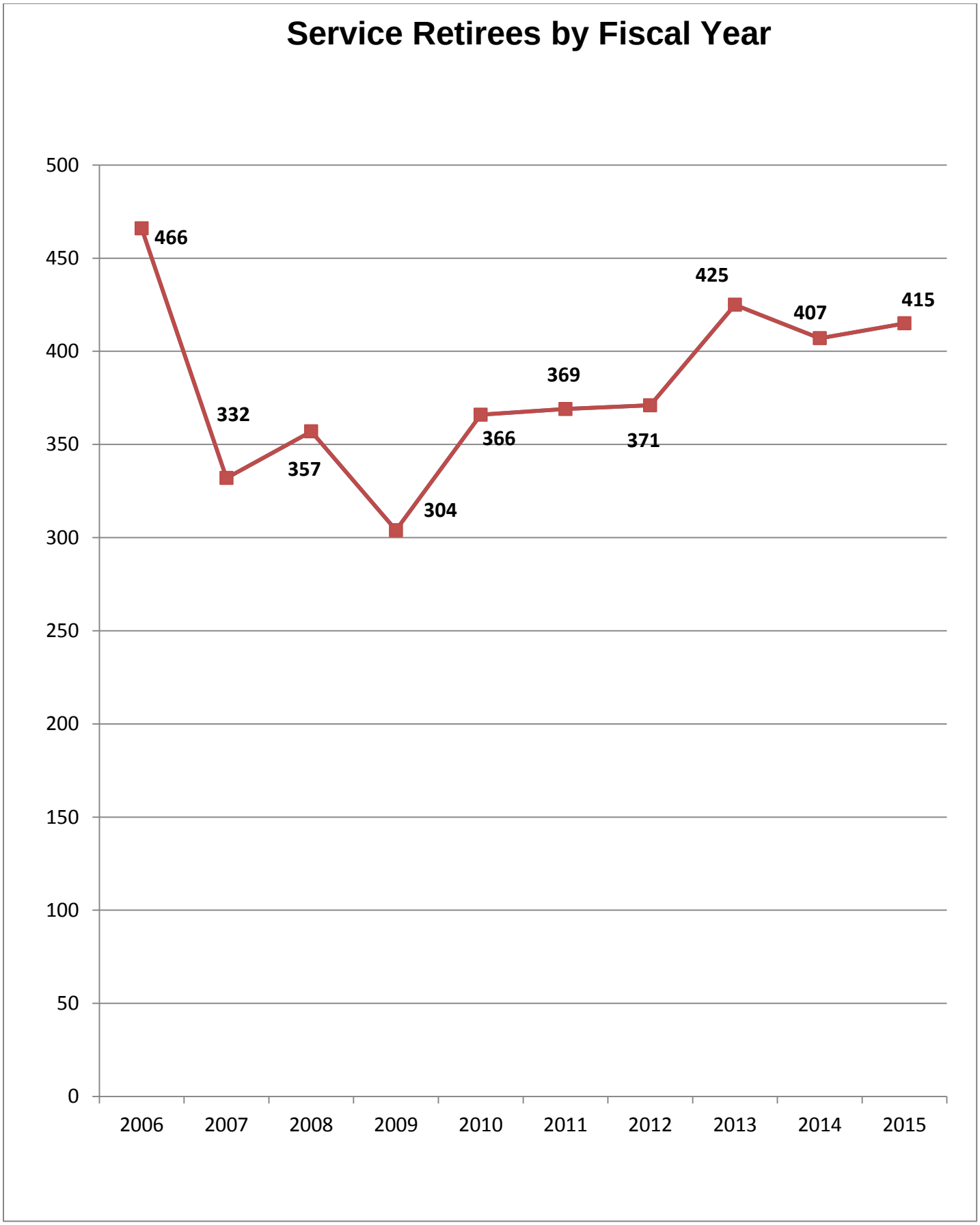

Purchase by Type
160
140
120
100
80
60
40
20
0
107
108
150
82
45
50
71
73
51
47
19
26
20
14
8
8
5
8
7
8
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Fiscal Year
Air Time
Employer
Other
Out of State
Refund


Retired/Purchased Same Fiscal Year
450
400
350
300
250
200
150
100
50
0
332
357
304
366
369
371
425
407
415
39
40
19
15
17
23
18
17
21
2007
2008
2009
2010
2011
2012
2013
2014
2015
Retirees
Purchased

ACTIVE MEMBERSHIP
TIER STATISTICS



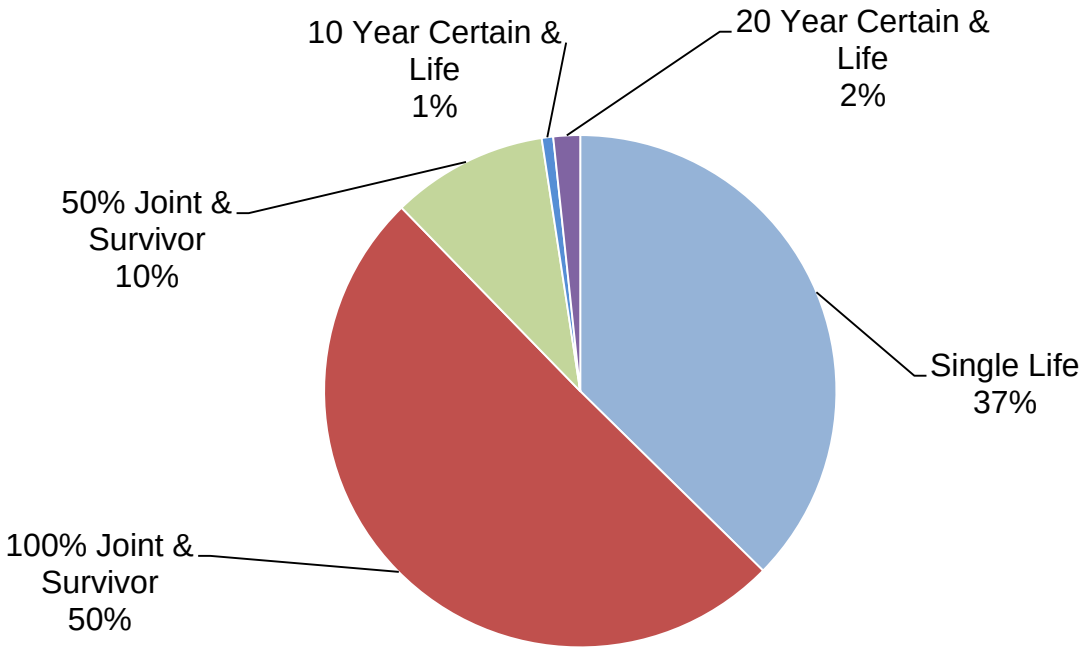
* Tier 1 Grandfathering became effective 6/30/2013


Service Retirees by Fiscal Year
500
450
400
350
300
250
200
150
100
50
0
466
332
357
304
366
369
371
425
407
415
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015

Service Retirement Options

2014-15

Retirement Option	Number
Single Life	155
100% Joint & Survivor	209
50% Joint & Survivor	41
10 Year Certain & Life	3
20 Year Certain & Life	7
Total	**415**



Note: Of total, 1 member (<1%) selected level income option.

Of total, 20 members (5%) selected partial lump sum option.

TFFR RETIREE STATISTICS
OCTOBER 2015

Data Selection

- 8,025 retired members and beneficiaries as of July 2015 based on data from the valuation file.

- Selected various categories of retiree data and grouped data 3 ways.

TFFR Retiree
Statistics by Fiscal Year

Fiscal Year of Retirement Ending June 30	Avg Monthly Pension	Avg Annual Salary	Avg Service Credit	Avg Retirement Age of Member	Avg Current Age of Recipient	Number of Retirees
pre-1979	$ 497	$ 7,969	23.7	58.4	89.6	130
1980	$ 637	$ 12,751	29.0	60.2	92.4	25
1981	$ 659	$ 14,837	27.4	60.1	93.6	28
1982	$ 703	$ 19,009	26.6	61.2	93.1	33
1983	$ 450	$ 11,526	21.2	58.5	88.7	16
1984	$ 849	$ 20,702	30.5	62.2	92.0	68
1985	$ 865	$ 22,727	29.3	60.0	87.3	19
1986	$ 1,030	$ 25,588	32.1	61.9	90.0	94
1987	$ 833	$ 23,549	25.3	59.7	87.5	22
1988	$ 1,056	$ 26,177	29.5	60.9	87.1	116
1989	$ 919	$ 26,273	25.6	58.5	84.2	29
1990	$ 1,110	$ 27,489	29.6	59.6	84.1	233
1991	$ 982	$ 27,770	26.4	60.1	83.4	86
1992	$ 1,223	$ 30,735	30.0	59.3	81.6	169
1993	$ 1,123	$ 32,180	25.4	58.6	79.7	75
1994	$ 1,275	$ 31,874	28.3	59.6	81.0	263
1995	$ 1,273	$ 32,571	27.7	59.1	78.3	195
1996	$ 1,263	$ 32,804	27.1	58.5	77.5	160
1997	$ 835	$ 27,257	20.0	58.2	76.5	77
1998	$ 1,497	$ 34,326	29.0	59.0	76.3	328
1999	$ 1,086	$ 33,187	21.0	58.6	74.6	92
2000	$ 1,675	$ 37,658	29.0	58.9	74.3	408
2001	$ 1,388	$ 38,050	23.2	57.3	71.6	81
2002	$ 1,744	$ 39,266	28.3	58.3	71.8	483
2003	$ 1,736	$ 40,563	27.2	58.2	70.4	281
2004	$ 1,797	$ 41,529	27.6	58.3	69.4	351
2005	$ 1,917	$ 43,235	27.7	58.4	68.7	354
2006	$ 1,945	$ 44,693	27.5	58.9	68.0	369
2007	$ 2,075	$ 47,571	27.5	58.9	66.7	358
2008	$ 1,994	$ 45,969	26.3	59.5	66.7	363
2009	$ 2,149	$ 49,357	27.1	59.2	65.4	341
2010	$ 2,154	$ 50,070	26.2	60.5	65.6	334
2011	$ 2,209	$ 51,246	26.1	60.5	64.8	400
2012	$ 2,337	$ 53,903	26.7	60.7	63.8	369
2013	$ 2,622	$ 58,102	27.7	60.5	62.8	461
2014	$ 2,653	$ 59,230	28.0	61.2	62.5	414
2015	$ 2,591	$ 59,370	27.5	60.7	61.0	346
2016	$ 4,086	$ 87,318	29.8	61.1	61.1	54
All FY	**$ 1,842**	**$ 42,784**	**27.5**	**59.5**	**71.1**	**8,025**

Note: 2016 is a partial year (54 retirees) and includes July 1, 2015 retirees. Therefore, averages are higher, since count includes primarily administrators, with some summer school, deferred, disability, and survivors.

TFFR Retiree
Statistics by Formula

Fiscal Year of Retirement Ending June 30	Avg Monthly Pension	Avg Annual Salary	Avg Service Credit	Avg Retirement Age of Member	Avg Current Age of Recipient	Number of Retirees
Old formulas	$ 497	$ 7,969	23.7	58.4	89.6	130
1979-1983 or 1.00%	$ 635	$ 15,156	26.6	60.2	92.4	102
1983-1985 or 1.05%	$ 852	$ 21,144	30.2	61.7	91.0	87
1985-1987 or 1.15%	$ 992	$ 25,201	30.8	61.4	89.5	116
1987-1989 or 1.22%	$ 1,028	$ 26,196	28.7	60.4	86.5	145
1989-1991 or 1.275%	$ 1,075	$ 27,565	28.7	59.8	83.9	319
1991-1993 or 1.39%	$ 1,192	$ 31,179	28.6	59.1	81.0	244
1993-1997 or 1.55%	$ 1,223	$ 31,772	26.9	59.1	78.9	695
1997-1999 or 1.75%	$ 1,407	$ 34,076	27.2	58.9	75.9	420
1999-2001 or 1.88%	$ 1,627	$ 37,723	28.0	58.6	73.9	489
2001-present or 2.00%	$ 2,169	$ 49,443	27.3	59.6	66.2	5,278
All Formulas	**$ 1,842**	**$ 42,784**	**27.5**	**59.5**	**71.1**	**8,025**

TFFR Retiree Statistics
By Retirement Type

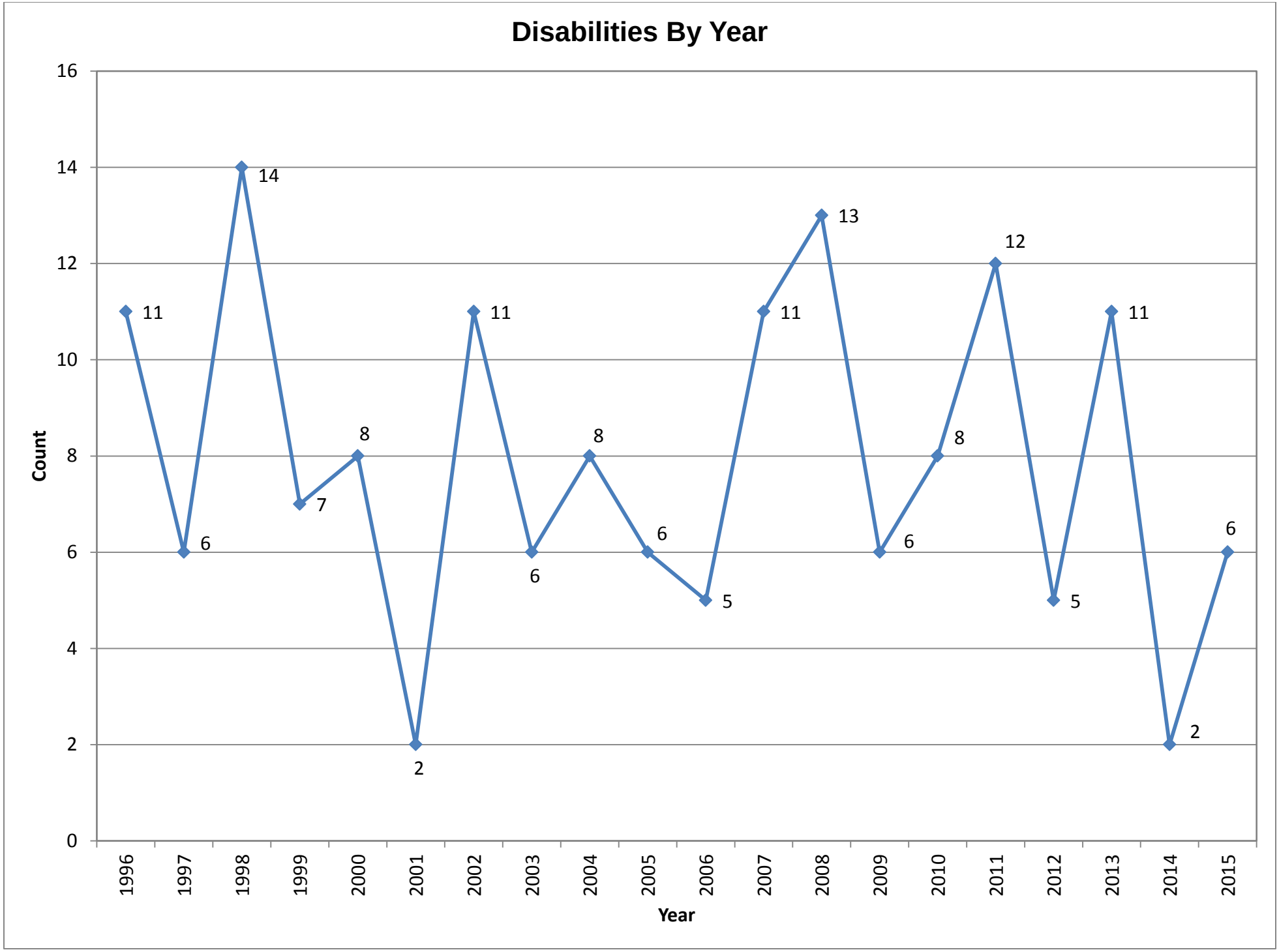
Type	Avg Monthly Pension	Avg Annual Salary	Avg Service Credit	Avg Retirement Age of Member	Avg Current Age of Recipient	Number of Retirees
Death	$ 1,174	$ 34,020	27.9	58.9	74.1	625
Disability	$ 1,217	$ 36,884	15.0	50.0	61.9	127
Early	$ 655	$ 32,248	14.8	60.1	71.9	932
Normal	$ 2,101	$ 45,320	29.6	59.7	70.9	6,316
QDRO	$ 716	$ 43,988	11.1	57.5	68.2	25
All Types	**$ 1,842**	**$ 42,784**	**27.5**	**59.5**	**71.1**	**8,025**

Disability Summary -- 1996 - 2015

• Total disabilities approved since 1996 - 2015	158*
Of 158, number of physical disabilities:	135
Of 158, number of emotional disabilities:	23
• Average number of disabilities approved per year:	8
• Of 158, number that are living and drawing benefits:	108
Of 158, number that are living and returned to work:	5
Of 158, number that are deceased:	45
• Of 158, option selected was:	
Count of Single Life:	106
Count of 100% Joint & Survivor:	32
Count of 50% Joint & Survivor:	14
Count of 5 Year Certain & Life:	1
Count of 10 Year Certain & Life:	4
Count of 20 Year Certain & Life:	1
• Of 108 living and drawing benefits:	
Average service credit in years:	15.2
Average age in years:	61
Average monthly benefit:	$1,312
Average years benefit was received:	10
Number of physical disabilities:	88
Number of emotional disabilities:	20
• Of 5 living and returned to work:	
Average service credit in years:	15.5
Average age in years:	58
Average monthly benefit:	$1,284
Average years benefit was received:	4.3
Number of physical disabilities:	3
Number of emotional disabilities:	2

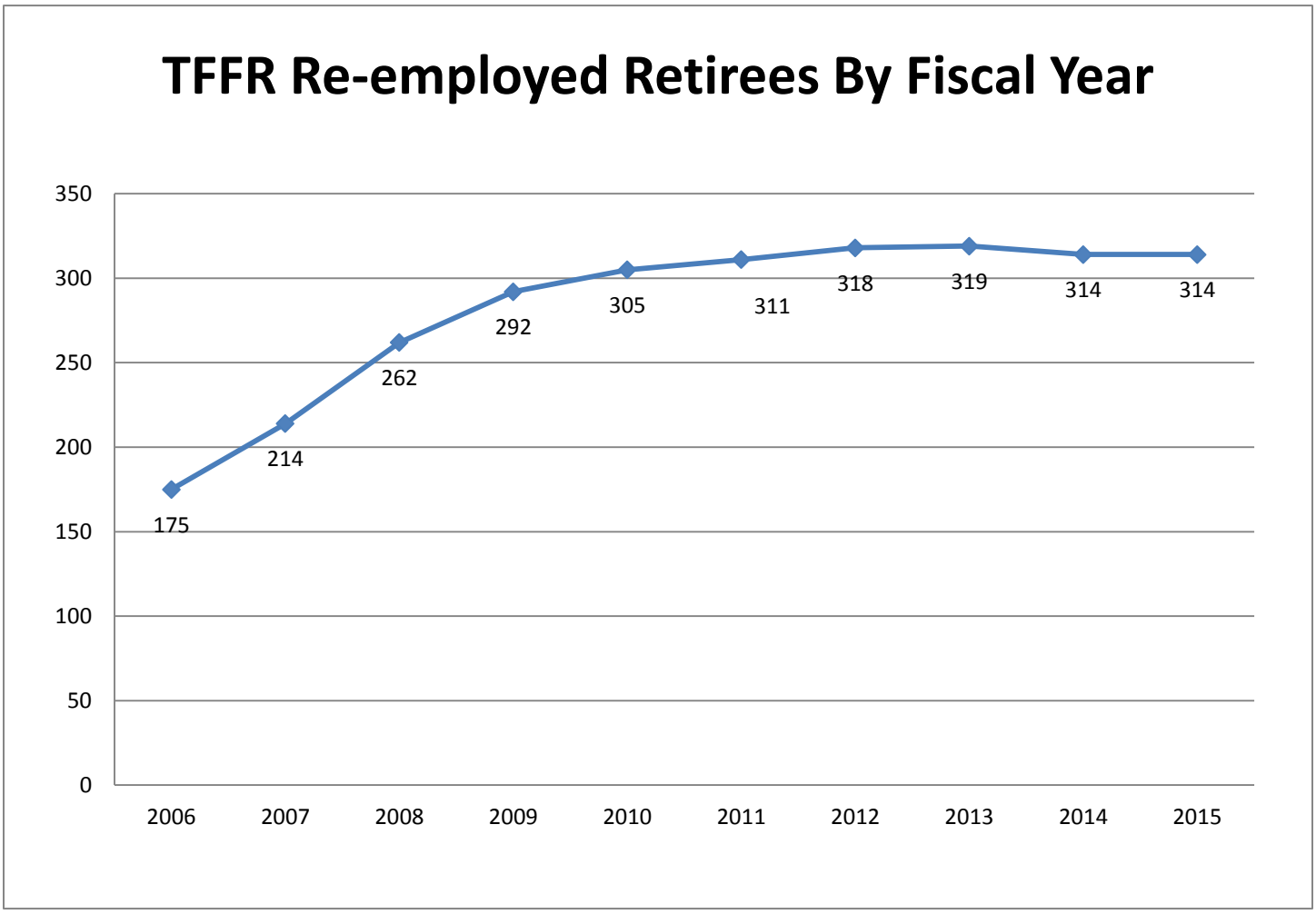
*Approved disabilities removed from total if they returned to employment then Refunded or retired.

9/28/2015


Disabilities By Year
Count
Year
16
14
12
10
8
6
4
2
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
11
6
14
7
8
2
11
6
8
6
5
11
13
6
8
12
5
11
2
6

TFFR RE-EMPLOYED RETIREE STATISTICS

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Number of Re-employed Retirees	175	214	262	292	305	311	318	319	314	314
Average Age	60	59	60	60	61	61	62	62	62	63
Average Salary	$21,000	$22,000	$22,151	$21,000	$23,400	$24,700	$24,500	$24,500	$24,200	$25,600
General Rule	163	199	246	273	278	290	298	299	295	290
Critical Shortage	9	11	11	15	20	15	13	13	14	22
Suspend & Recalc	3	4	5	4	7	6	7	7	5	2
Foundation Donation	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Superintendents	27	26	32	26	24	24	26	24	23	24
Other Administrators	27	32	35	32	40	42	44	37	25	22
Teachers	121	156	195	234	241	245	248	258	266	268
Number of Employers	101	117	135	132	132	127	132	132	133	135



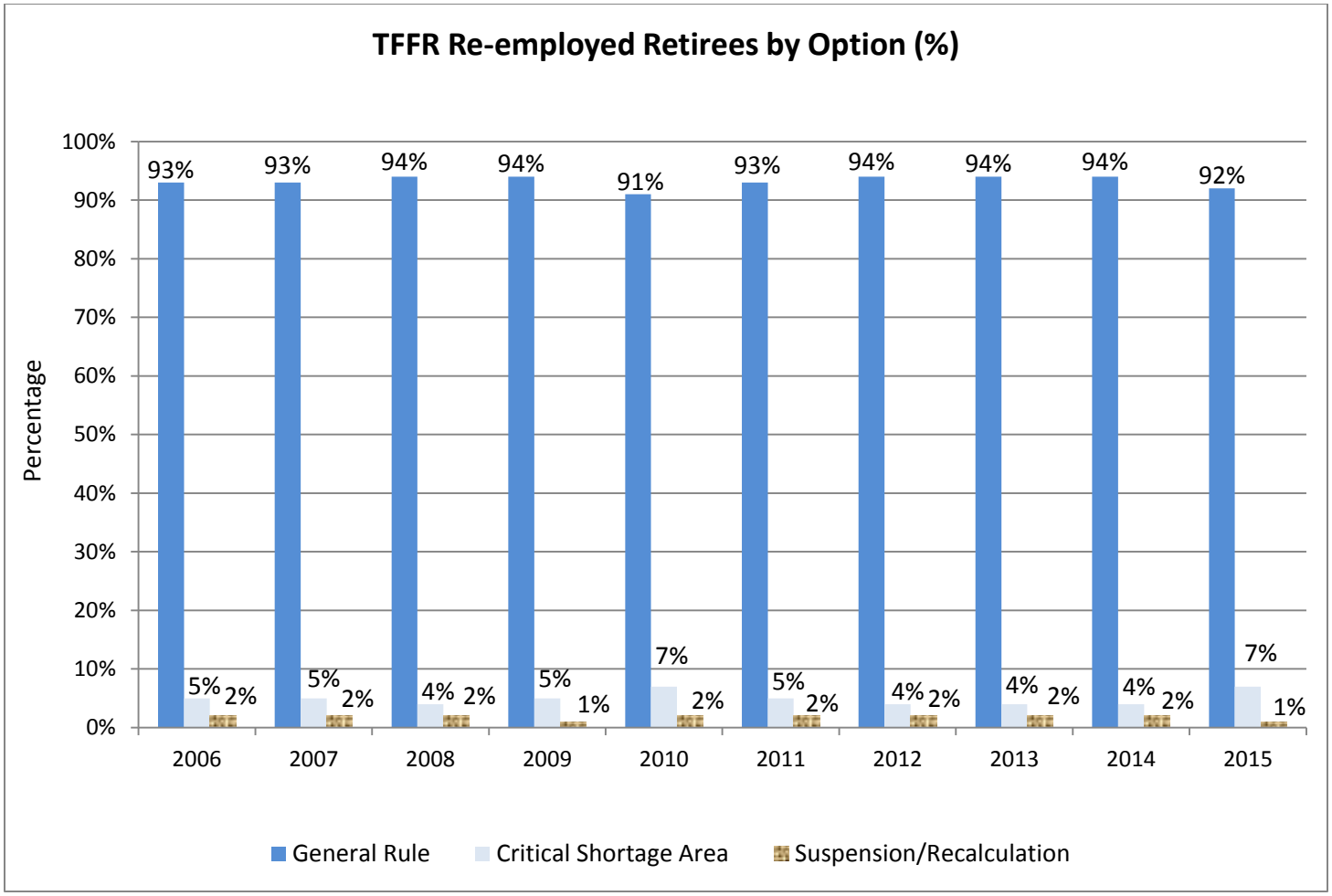
TFFR RE-EMPLOYED RETIREES
BY SUBJECT/POSITION (2014-2015)

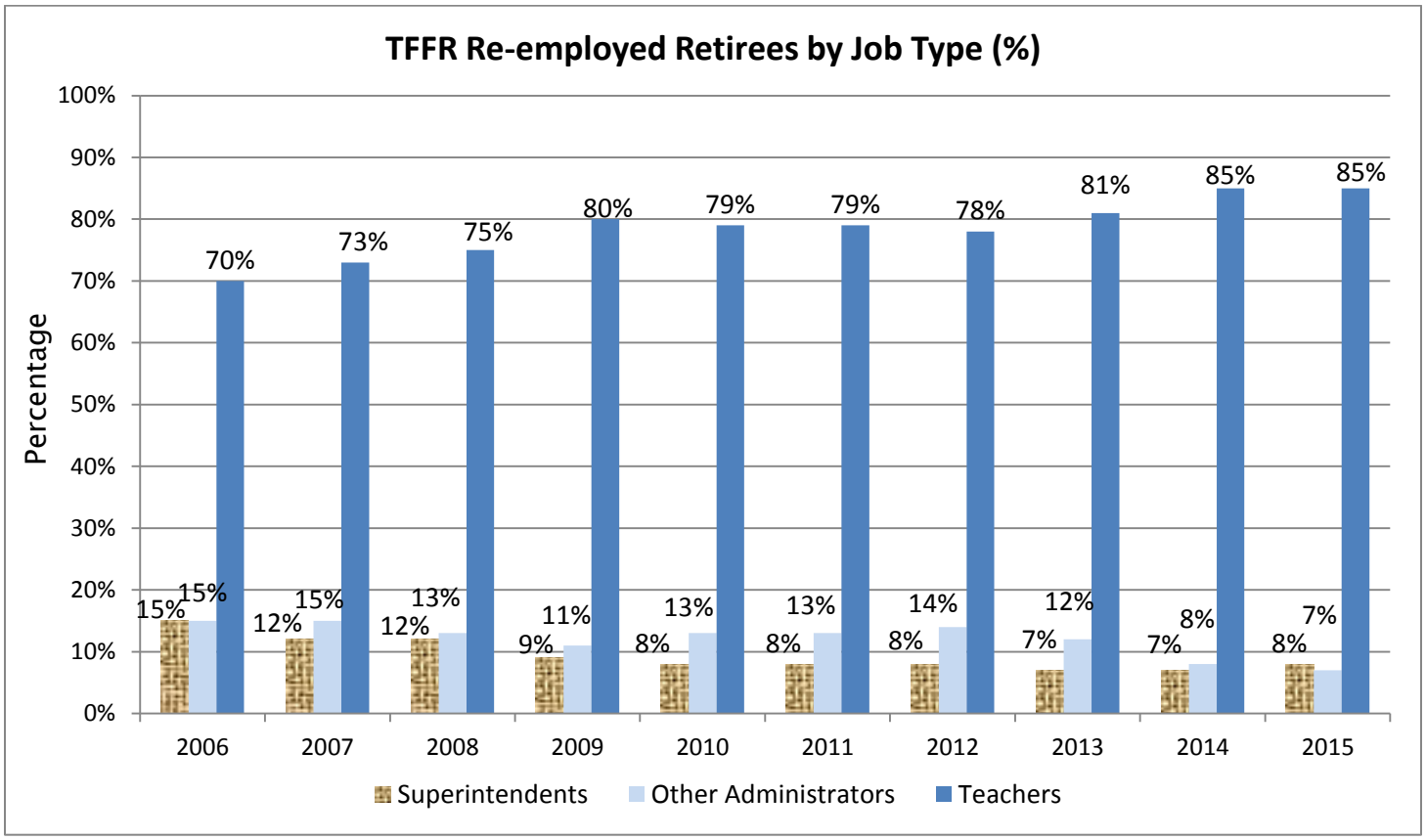
Subject or Position	Re-employed Retirees		
	Full Time CSA/SR	Part Time Gen Rule	Total
Art	1	6	7
Business	1	13	14
Counseling	3	9	12
Elementary Ed	5	16	21
English/Reading	2	12	14
Extra-Curricular		23	23
FACS		7	7
Foreign Language	1	5	6
Health/Phy Ed		5	5
Library/Media		11	11
Math		9	9
Mentors, Strategists, Prof. Dev.		17	17
Music		8	8
Science	2	11	13
Social Studies/History		7	7
*Special Ed/Title/LD/Speech	4	42	46
Summer School/Driver's Ed		23	23
Tech Coordination/Tech Ed	1	4	5
Voc Ed/Adult Ed		8	8
Other Teachers	2	10	12
Total Retired Teachers	22	246	268
Superintendent	1	23	24
Principal/Asst Supt	1	13	14
Director/Coordinator		8	8
Total Retired Admin	2	44	46
Total Re-Employed Retirees	**24**	**+ 290**	**= 314**

(9 teaching in 2 school districts)

*Special Ed:	
LD	1
Psychologist	1
Speech Path/Ther	10
Spec Ed	15
Title	14
Vision Impair	4
Autism	1

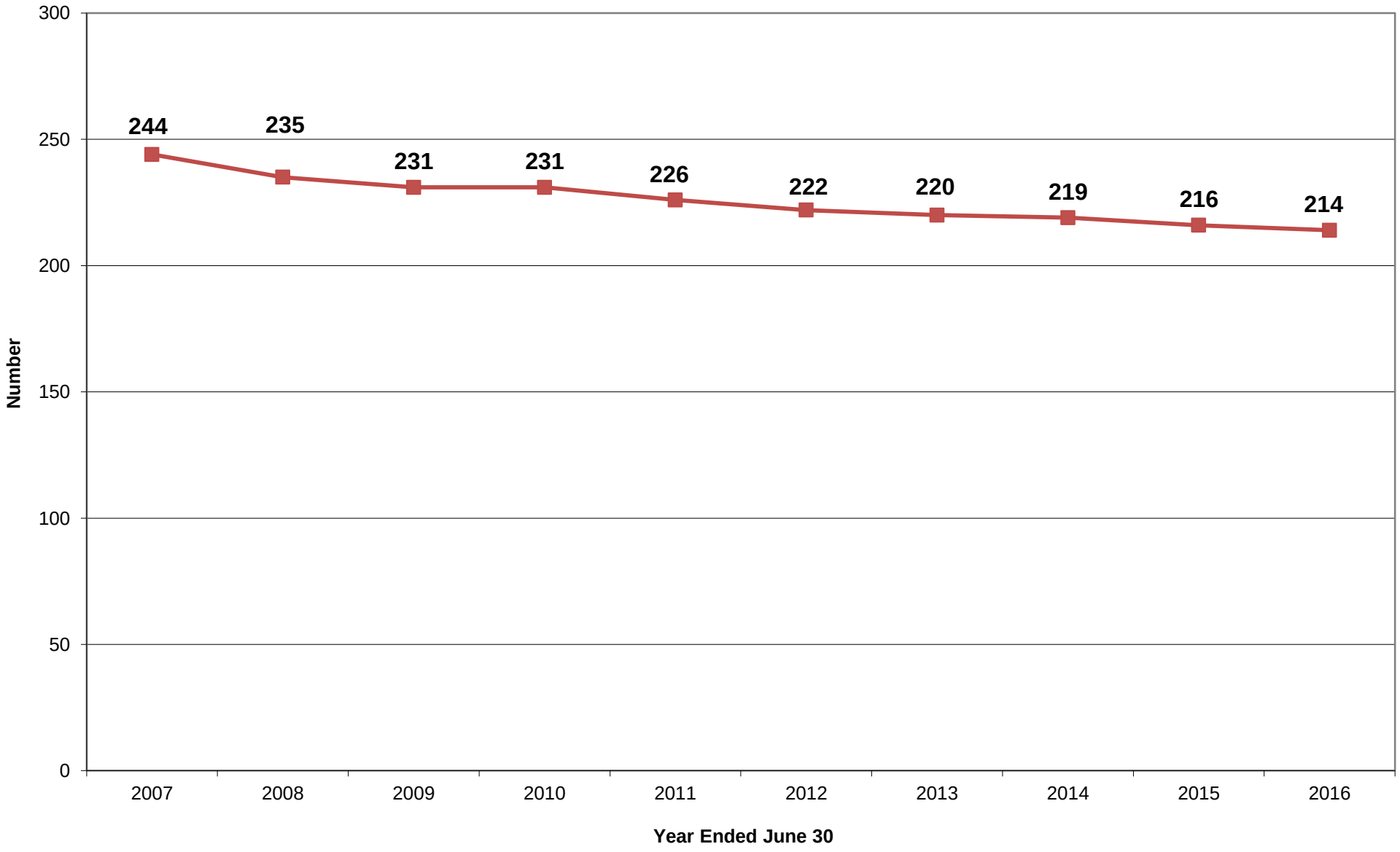
CSA = Critical Shortage Area
SR = Suspend & Recalc


TFFR Re-employed Retirees by Option (%)
Percentage
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
93% 93% 94% 94% 91% 93% 94% 94% 94% 92%
5% 2% 5% 2% 4% 2% 5% 1% 7% 2% 5% 2% 4% 2% 4% 2% 4% 2% 7% 1%
2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
General Rule
Critical Shortage Area
Suspension/Recalculation


TFFR Re-employed Retirees by Job Type (%)
Percentage
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
70% 73% 75% 80% 79% 79% 78% 81% 85% 85%
15% 15% 12% 15% 12% 13% 9% 11% 8% 13% 8% 13% 8% 14% 7% 12% 7% 8% 8% 7%
2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Superintendents
Other Administrators
Teachers

TFFR Participating Employers

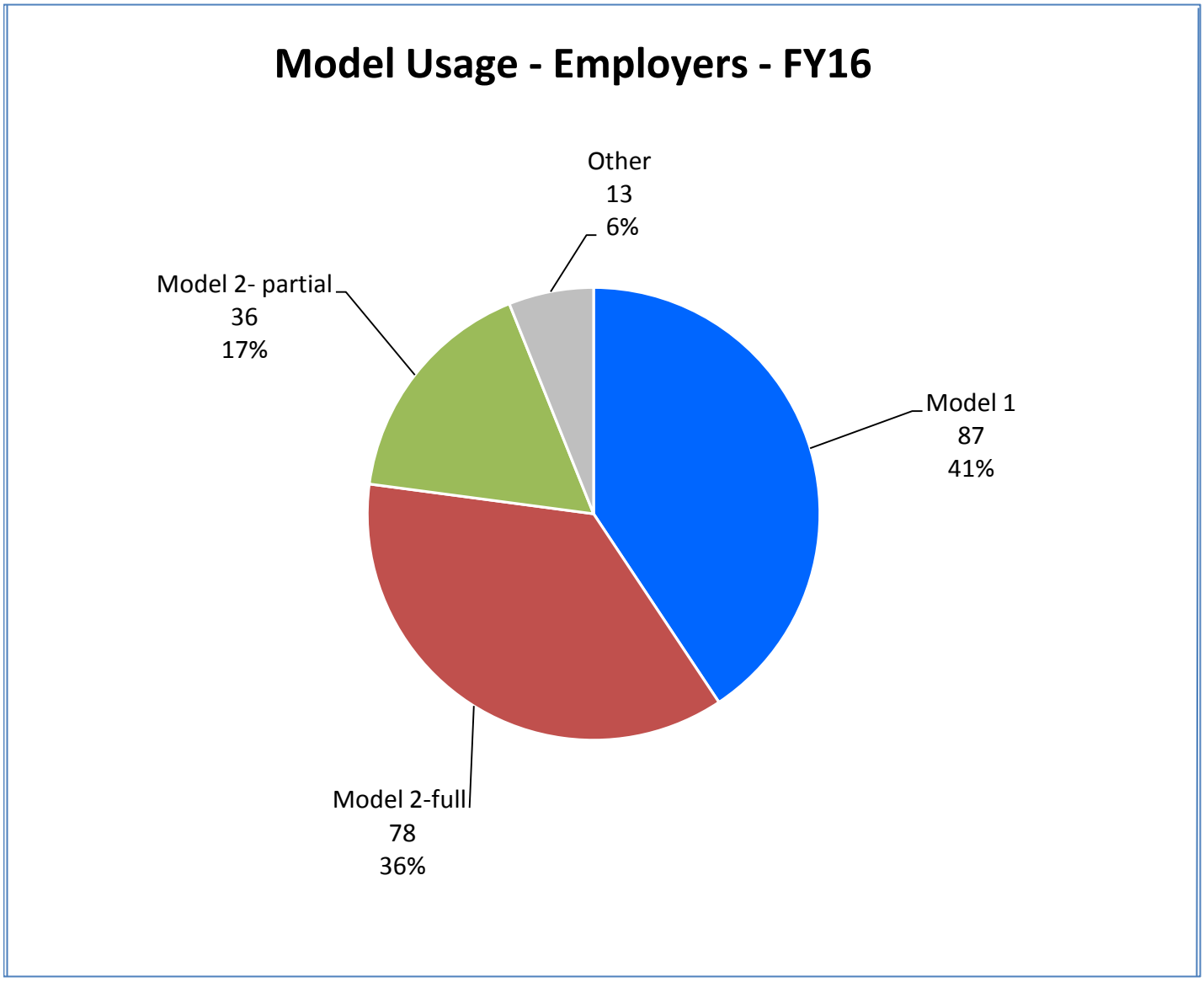
2007 - Present



Model Usage 2015-2016

	Employers	
Model 1	87	41%
Model 2-full	78	36%
Model 2-partial	36	17%
Other	13	6%
Total	214	100%

Other includes Model 0, 3, 4



North Dakota Teachers' Fund for Retirement

Retirement Trends and Projections

January 2016

Retirement: Now or Later?

The decision to retire is intensely personal and prompted by both non-financial and financial reasons.

- **Non-financial considerations:**
  - Health of teacher (and spouse)
  - Family issues (spouse, children, parents)
  - Personal reasons (job satisfaction vs. job stress)
  - Federal regulations
  - State and local issues (school closings, school consolidations)
- **Financial considerations:**
  - Salary vs. Retirement benefits
  - Health insurance benefits – rising cost of medical care
  - Employment in retirement
  - Inflation

TFFR Members

- TFFR member count includes number of people, not FTE's.
- TFFR members may be full time, part time, or temporary teachers, but must be licensed and contracted. Noncontracted substitute teachers are not TFFR members.

TFFR Member Categories

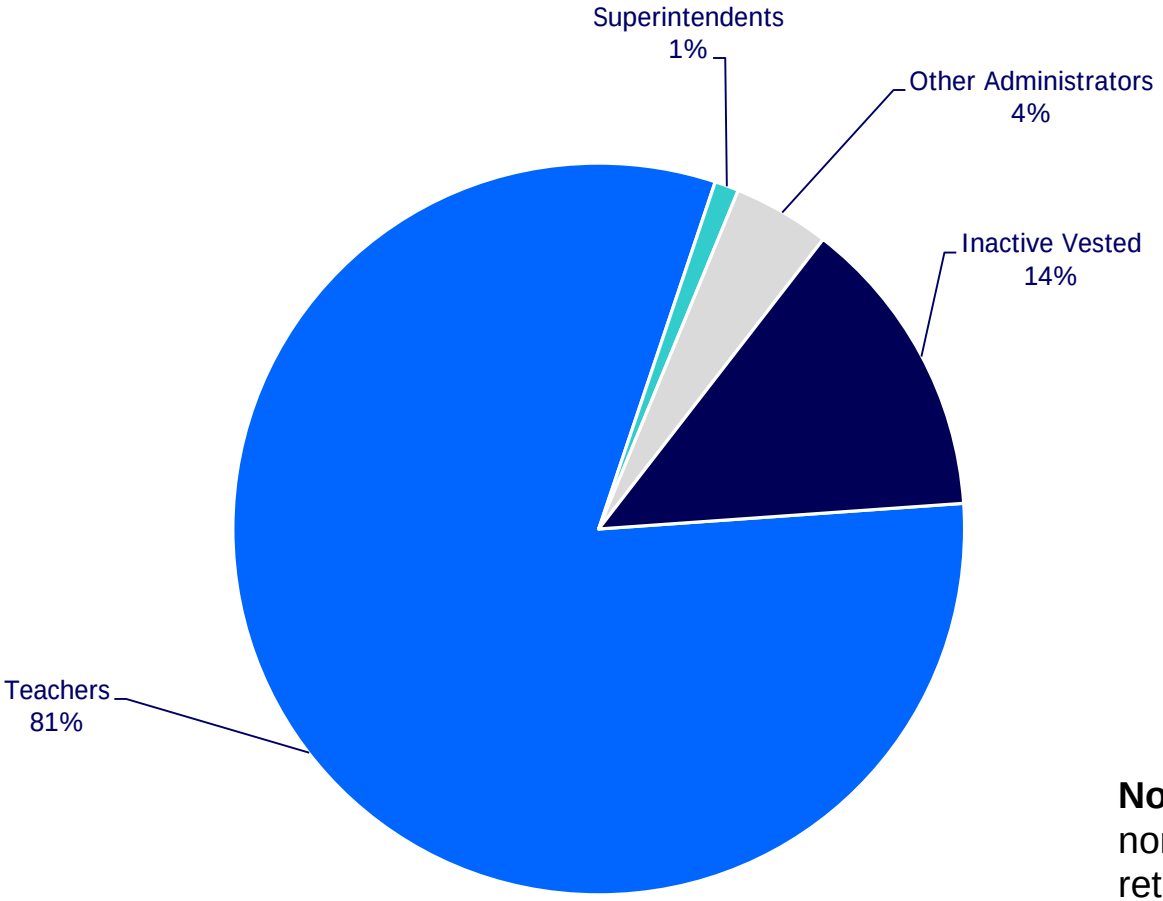
TFFR member categories are based on DPI title codes and presented according to teacher and administrator categories defined in NDCC 15.1-02-13.6.

- “Teacher” includes positions of teacher, special ed teacher, career advisor, coordinator, strategist, counselor, instructional coach, library media specialist, pupil personnel, psychologist, and speech/language pathologist.
- “Superintendent” includes only school superintendents.
- “Other Administrators” includes positions of assistant superintendent, director, assistant director, principal, assistant principal, county superintendent, and other administrative positions.

Today

Current TFFR Membership

There are 12,551 active and inactive vested TFFR members in January 2016.



Teachers	10,200
Superintendents	133
Other Administrators	537
Inactive Vested	1,681
Total	12,551

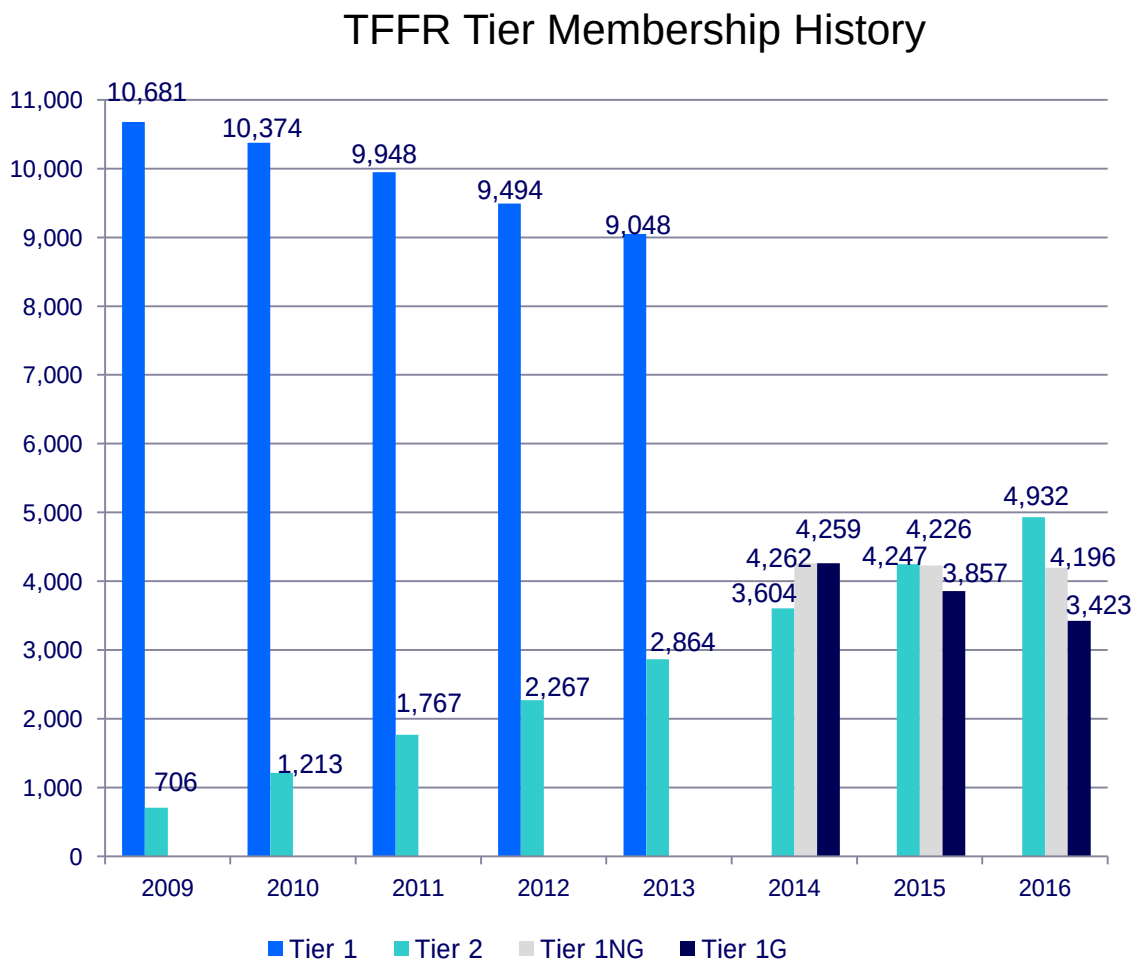
Note: There are also 878 inactive non-vested TFFR members and 8,028 retired members and beneficiaries.

Today

TFFR Tier Membership

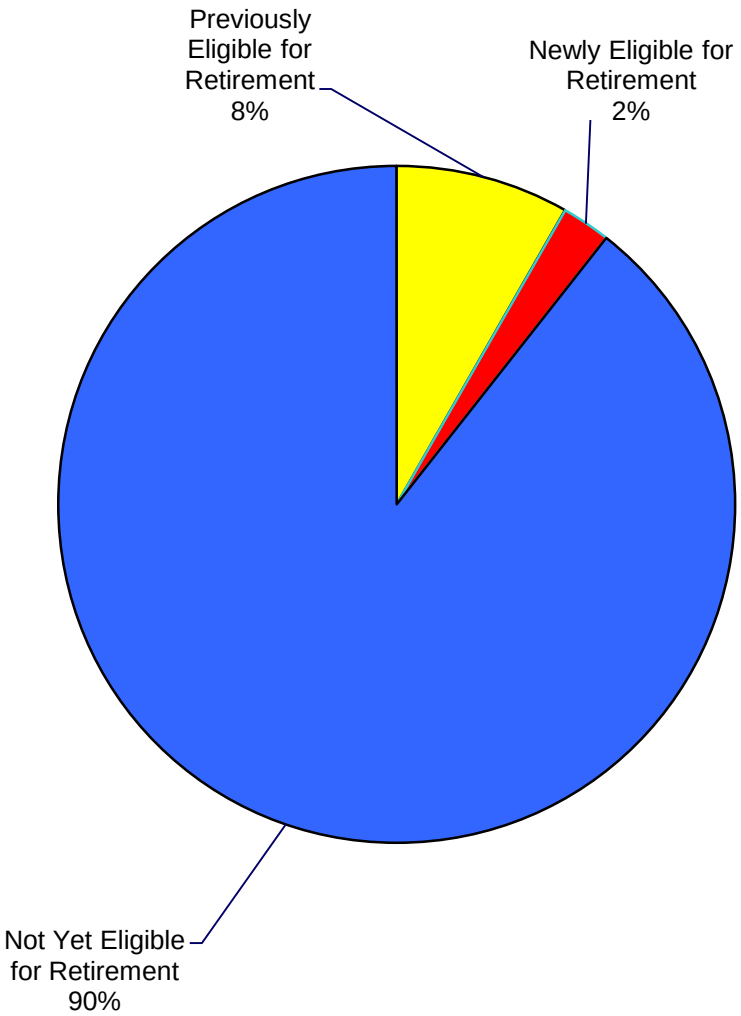
Active and inactive vested Tier membership in January 2016.

TFFR Members	Tier 1G	Tier 1NG	Tier 2	Total
Teachers	2,547	2,992	4,661	10,200
Superintendents	68	38	27	133
Other Administrators	192	230	115	537
Inactive Vested	616	936	129	1,681
Total	3,423	4,196	4,932	12,551



Today

Current Active TFFR Membership Eligible for Retirement



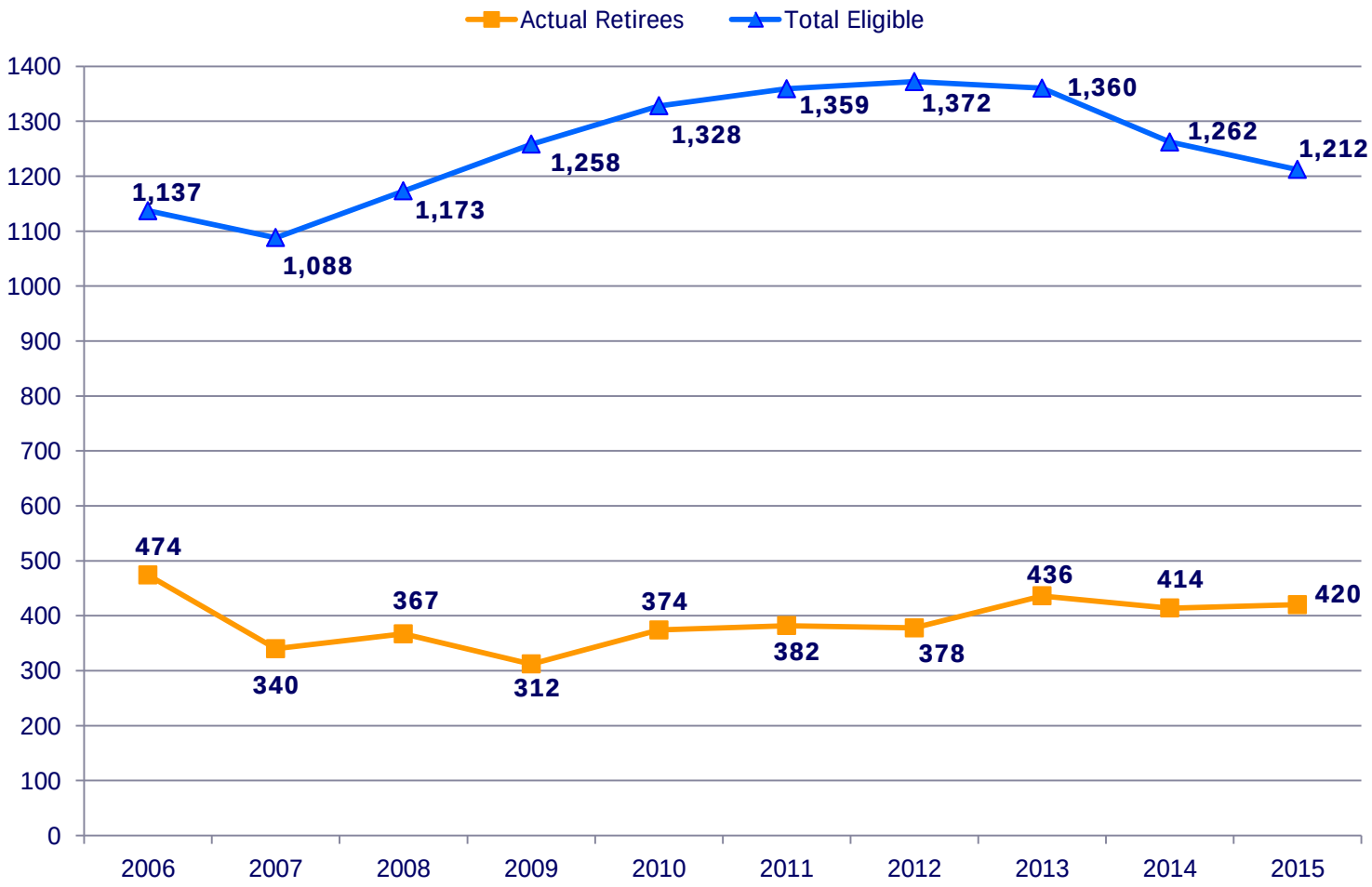
Of the 10,870 active TFFR members, 1,152 members are currently eligible to retire (10%) either under the Rule of 85, Rule of 90/Min age 60, or age 65.

Of the 1,152 active TFFR members eligible to retire, 78% are previously eligible and 22% are newly eligible in 2015-16.

Previously Eligible	900
Newly Eligible in 2015/16	252
Not Eligible	9,718
Total	10,870

Yesterday

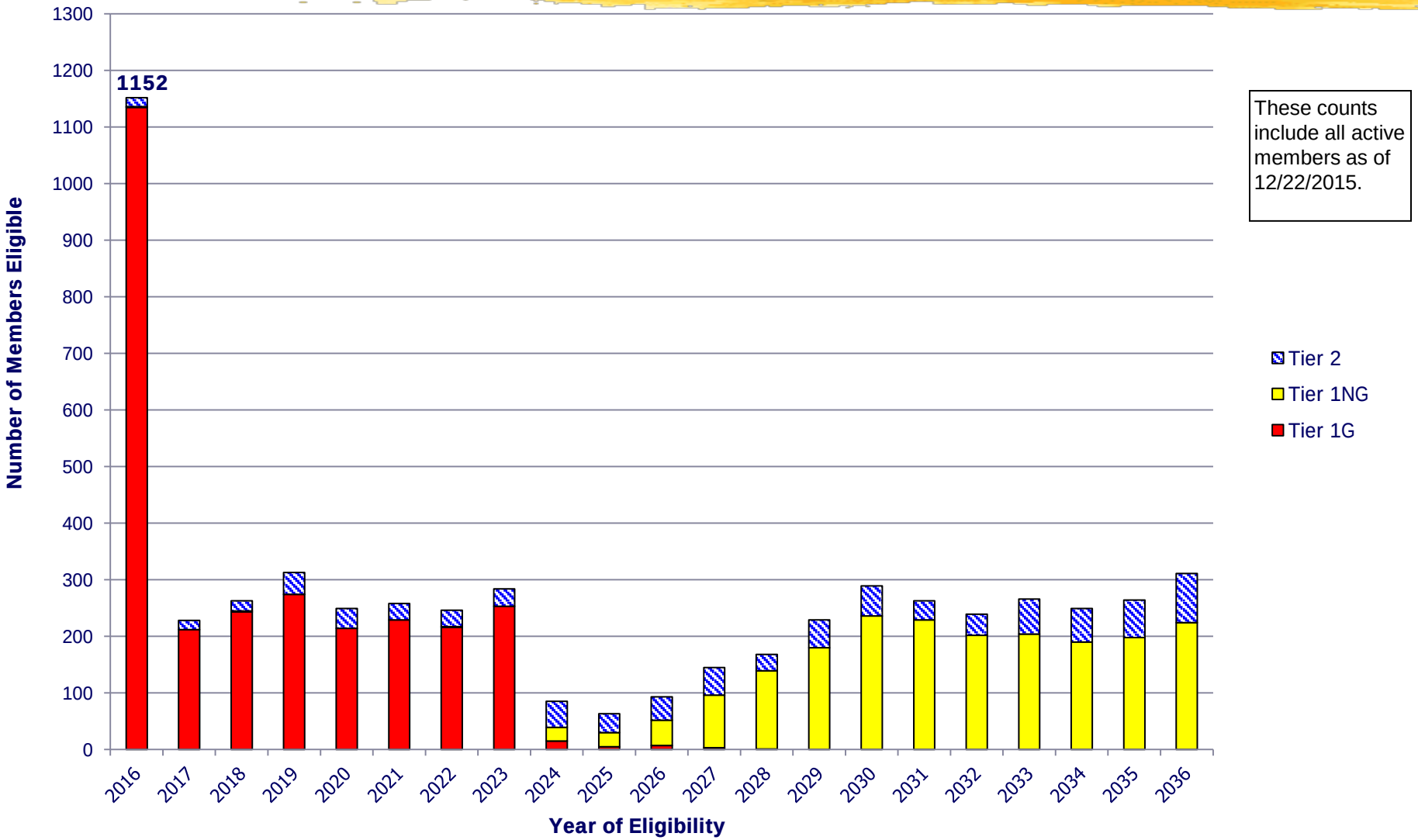
Actual Retirees and Total Eligible



10 Year History 2006-2015

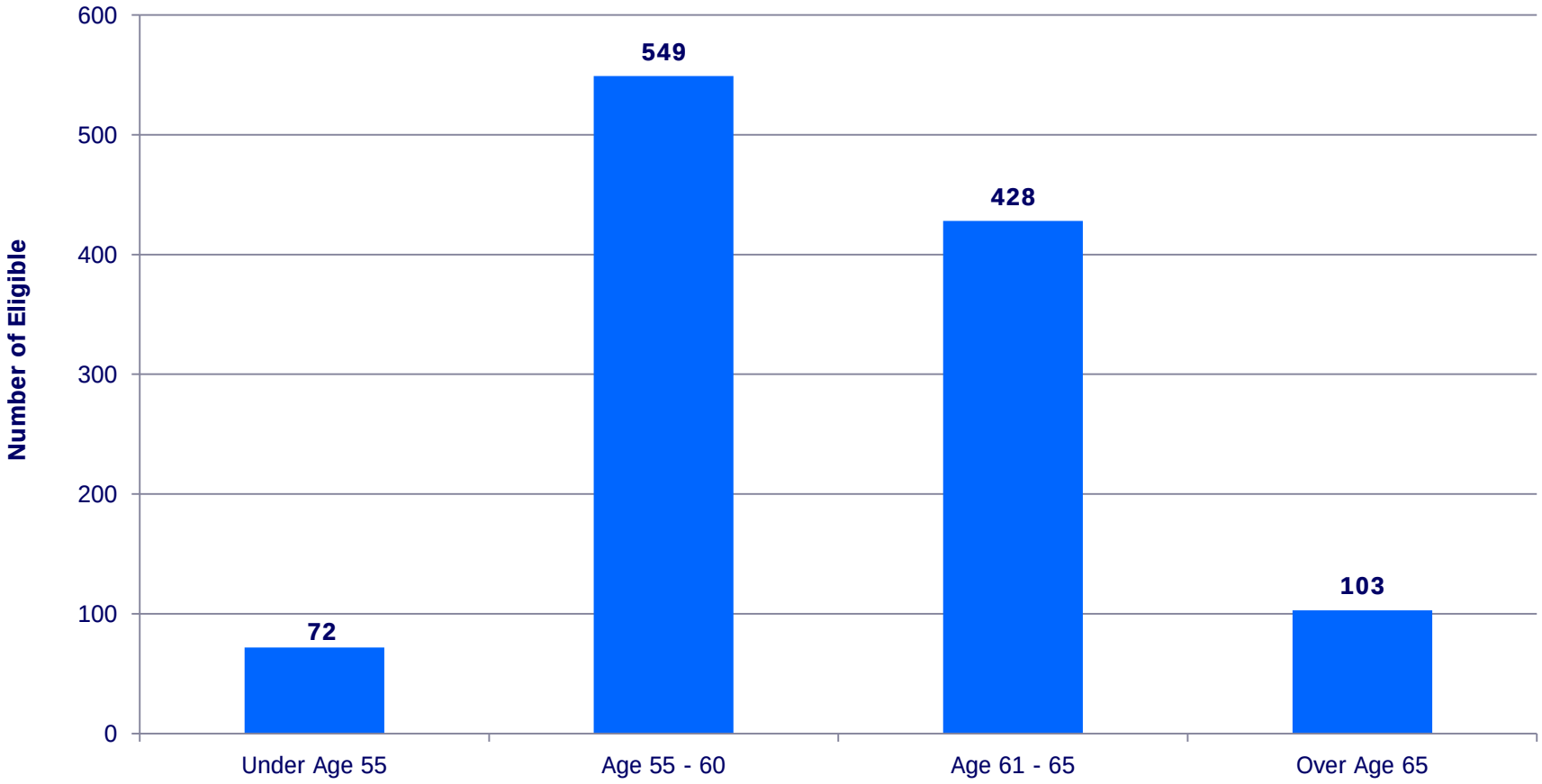
- On average, 1,250 teachers have been eligible to retire each year over the last 10 years.
- On average, 390 teachers actually retired each year, or total of over 3,900 for 10 year period.
- Approximately 31% of eligible members actually retired over the past 10 years.

TFFR Active Member Retirement Eligibility Profile
20 Year Projection



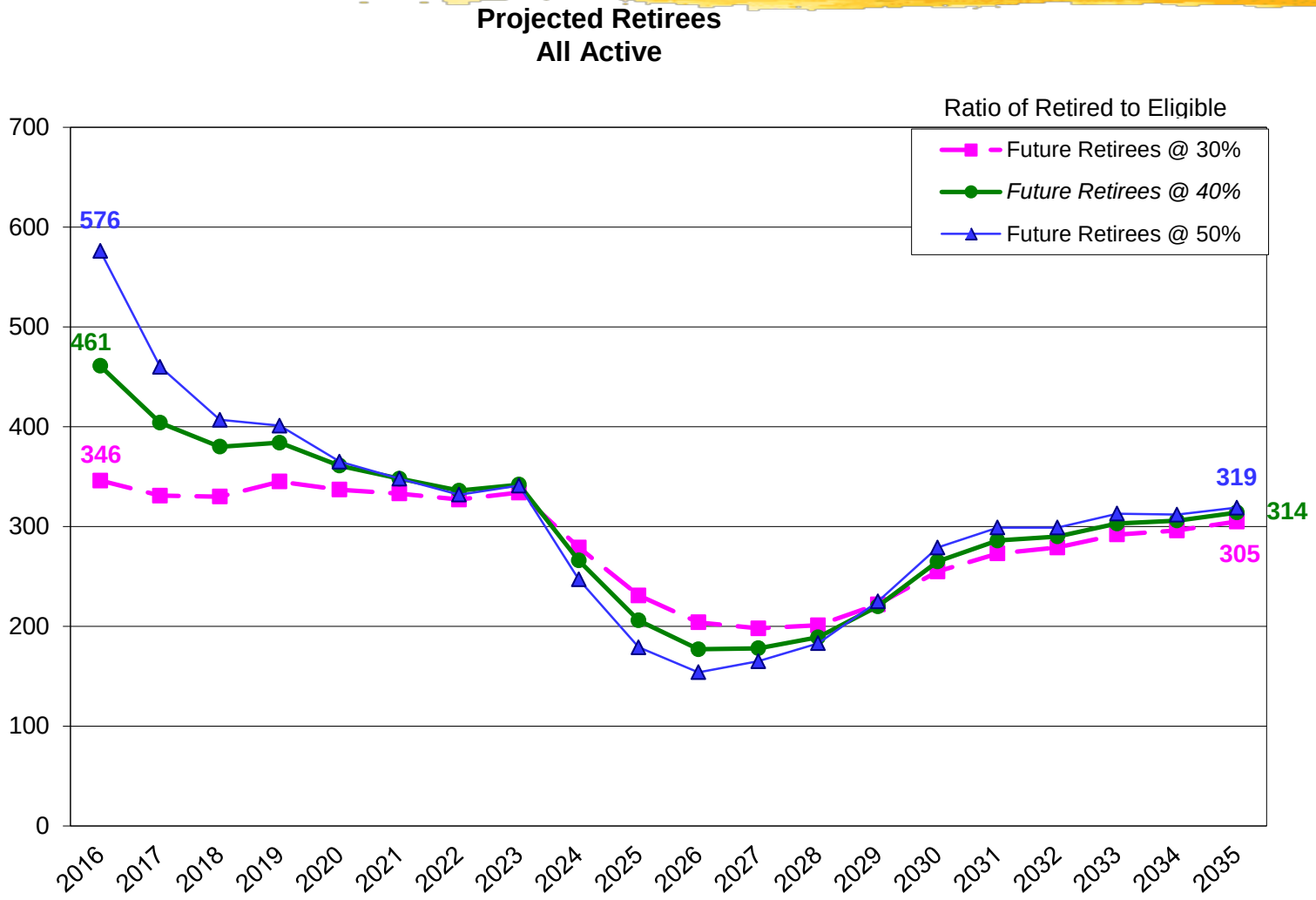
These counts include all active members as of 12/22/2015.

Current Eligible in 2016 by Age



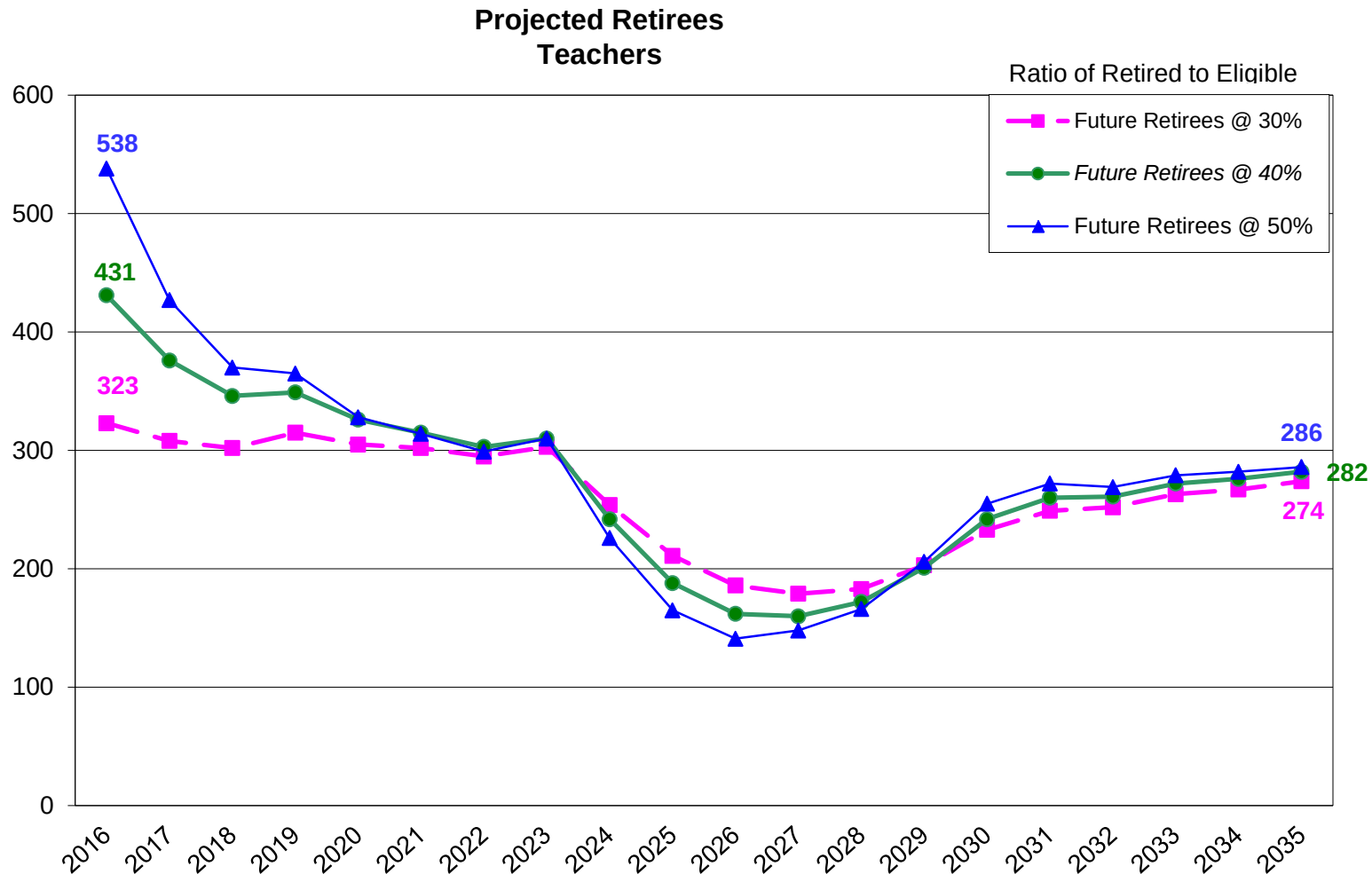
Note: Of the 1,152 total eligible, the youngest is age 52 and the oldest is age 80.

Tomorrow???



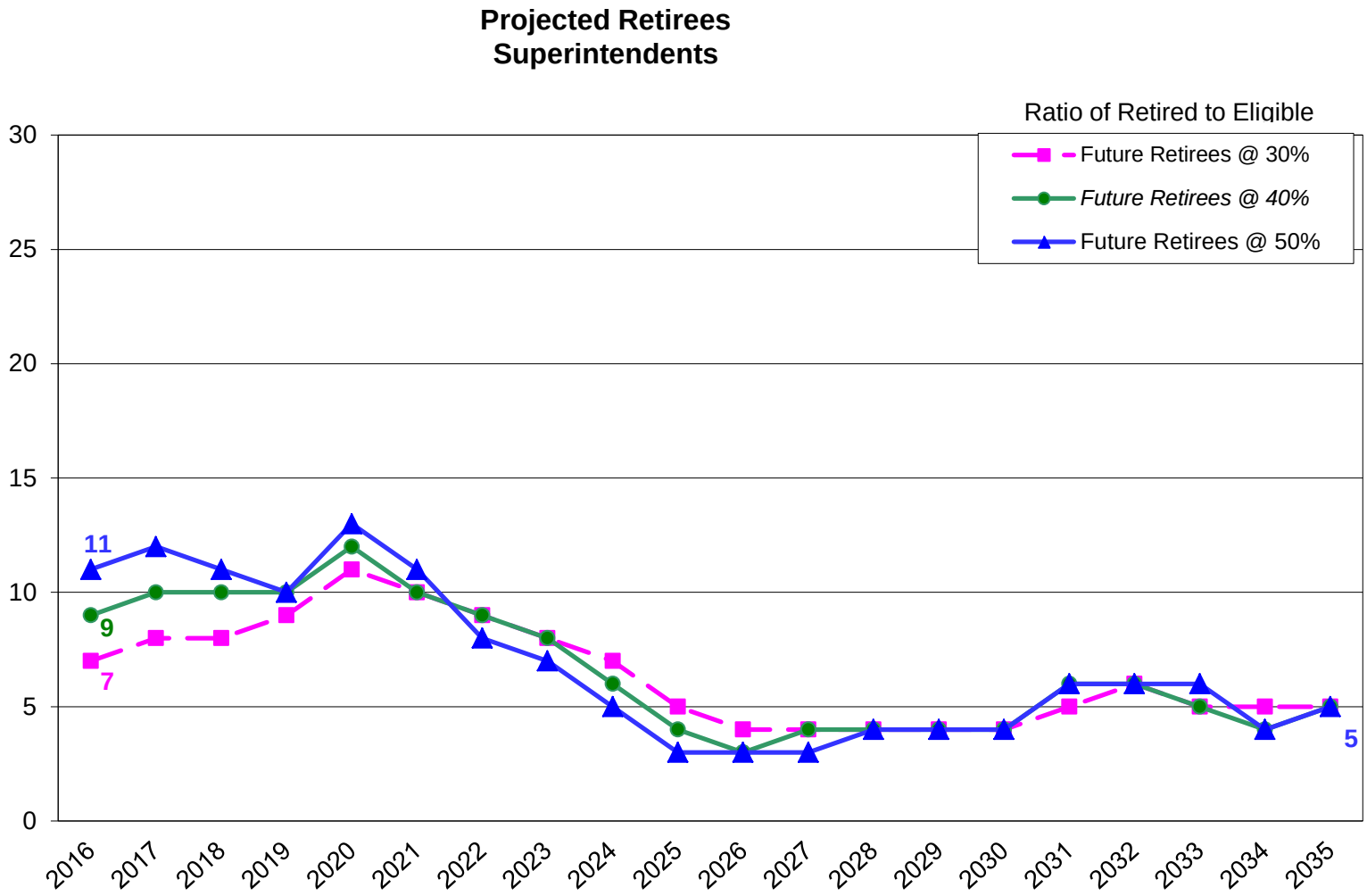
Based on ratios of 30%, 40%, and 50% of actual retirements to eligible retirements, the number of active members projected to retire in the next 20 years.

Tomorrow???



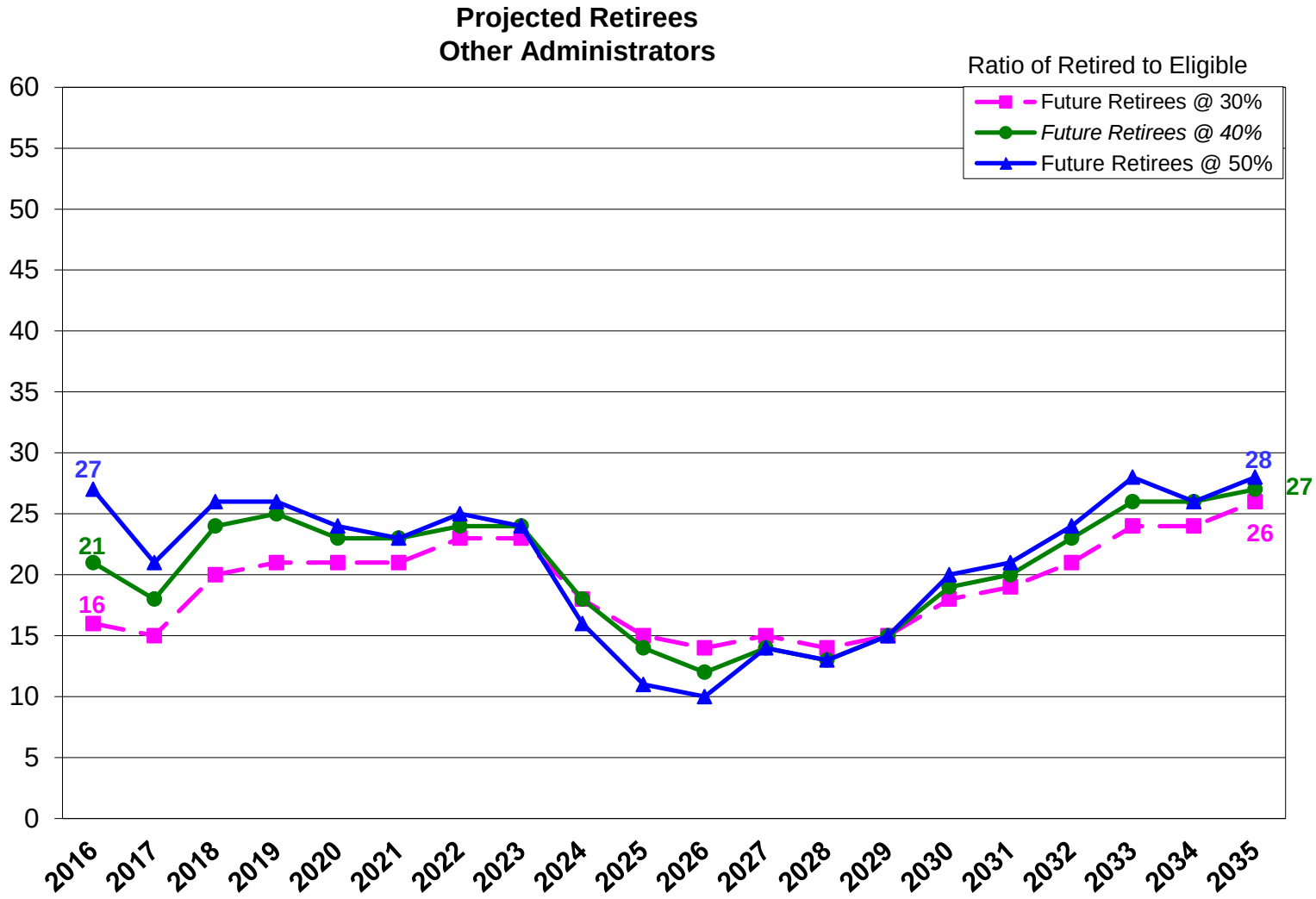
Based on ratios of 30%, 40%, and 50% of actual retirements to eligible retirements, the number of teachers projected to retire in the next 20 years.

Tomorrow???



Based on ratios of 30%, 40%, and 50% of actual retire-ments to eligible retirements, the number of superintendents projected to retire in the next 20 years.

Tomorrow???



Based on ratios of 30%, 40%, and 50% of actual retire-ments to eligible retirements, the number of other administrators projected to retire in the next 20 years.

Summary

Based on ratios of 30% and 40% of actual retirements to eligible retirements, approximately 3,200 to 3,500 active members are projected to retire in the next 10 years which averages about 340 per year.

	Members	# Retire		Avg/Yr	
		30%	40%	30%	40%
Teachers	10,200	2,918	3,186	292	319
Superintendents	133	82	88	8	9
Other Administrators	537	193	214	19	21
Total Active Members	10,870	3,193	3,488	319	349

Note: All retirement projections are estimates only.

RETIREMENT AND INVESTMENT OFFICE
AUDIT SERVICES
2015 - 2016 1st Quarter Audit Activities Report
July 1, 2015 – September 30, 2015

The audit objective of Audit Services is twofold: first, to provide comprehensive, practical audit coverage of the Retirement and Investment Office (RIO) programs; second, to assist RIO management and the State Investment Board (SIB) by conducting special reviews or audits.

Audit coverage is based on the July 1, 2015 through June 30, 2016 work plan approved by the SIB Audit Committee. The audit activities undertaken are consistent with the Audit Services charter and goals, and the goals of RIO. To the extent possible, our audits are being carried out in accordance with the International Standards for the Professional Practice of Internal Auditing. Audit effort is being directed to the needs of RIO and the concerns of management and the SIB Audit Committee.

Retirement Program Audit Activities

- **TFFR Compliance Audits and Not In Compliance (NIC) Reviews**

We examine employer reporting to the Teachers' Fund for Retirement (TFFR) to determine whether retirement salaries and contributions reported for members of TFFR are in compliance with the definition of salary as it appears in NDCC 15-39.1-04(9). Other reporting procedures reviewed during the audit process are calculation of service hours and eligibility for TFFR membership. A written report is issued after each audit examination is completed.

Six employer audits were completed in the first quarter including five TFFR Compliance Audits and one Not In Compliance (NIC) review. Eight TFFR Compliance Audits were in progress and two TFFR Compliance Audits were pending but not yet started. Seven employers were recently notified of upcoming TFFR Compliance Audits. All employers remaining in the third audit cycle have been notified of an upcoming TFFR Compliance Audit. At the end of the first quarter seventeen employers had yet to be audited in the third audit cycle.

This is an area that requires special emphasis due to the level of risk identified through previous audit results. Our long-range plans include auditing each employer over a five year period.

- **TFFR File Maintenance Audits**

Audit Services tests changes made to TFFR member account data by RIO employees on a quarterly basis. Audit tables are generated and stored indicating any file maintenance changes made to member accounts. The TFFR File Maintenance Audit for the fourth quarter of fiscal year 2015 was completed and no exceptions were noted.

- **Benefits Payments Audit**

A review of deaths, purchases of service, refunds, long outstanding checks, and long term annuitants was completed to determine that established policy and procedures were being followed by the staff of Retirement Services. The 2014-2015 Benefit Payments Audit was completed and one exception was noted.

- **Regional Education Association (REA) Audits**

Preliminary work was completed on the creation and implementation of an audit program which addresses REAs. The audit program which will be utilized to audit REAs will be modeled after the audit program currently used for TFFR Compliance Audits. REA Audits will require the sending of two separate audit notifications. The initial notification will be sent to the REA with the intent of gathering preliminary information and identifying the fiscal agent. The second notification will be sent to the fiscal agent to obtain the necessary payroll information. Audit Services anticipates notifying an REA of a forthcoming audit in the 3rd quarter of the current fiscal year.

Administrative and Investment Audit Activities

- **Executive Limitation Audit**

Each year the SIB conducts a customer satisfaction survey. The purpose of this annual survey is to determine how well the SIB, through the staff of the RIO, is meeting the expectations of its clients. This survey is part of the SIB's ongoing effort to be more responsive to the needs of their clients and to continually improve the services that are provided. Audit Services facilitated the survey beginning in July 2015 and results were provided to the SIB in October 2015.

- **External Audit Support**

Audit Services provided support to our external audit partners, CliftonLarsonAllen (CLA), during the annual financial audit of the RIO and the GASB 68 Census Data Audits. Audit Services notified seventeen employers of upcoming GASB 68 Census Data audits in August 2015. The GASB 68 Census Data Audits did not require onsite fieldwork this year, additional testing was performed remotely in September 2015. CLA verified date of birth, eligibility, salary, and service credit/hours for 204 employees with no exceptions noted.

- **Audit Services Procedure Manual**

Work began on the Audit Services Procedure Manual. The procedures for the TFFR File Maintenance Audit have been documented and are currently being reviewed and refined. Audit Services hopes to have procedures for at least 3 audits and/or administrative activities documented by the end of the fiscal year.

Professional Development Activities

Audit Services continues to pursue networking and professional development opportunities via the IIA's local chapter, Central Nodak, by attending monthly meetings. Topics of discussion have included retirement planning and the banking industry in North Dakota.

Summary

Audit effort is directed to activities that are of greatest concern to the SIB Audit Committee, RIO Management, and our external audit partners. Audit Services will continue to work closely with the SIB Audit Committee, RIO Management, and our external audit partners to continue to improve overall efficiency, effectiveness, and economy of total audit activity.

NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE
AUDIT SERVICES
TFFR EMPLOYER COMPLIANCE AUDITS
JULY 1, 2015 TO JUNE 30, 2016

		EMPLOYER		FISCAL YEARS	TOTAL MEMBERS	REPORT DATE	EMPLOYER CONTRIB'S DR(CR)	MEMBER SALARY ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
	✕	Audit Pending - (6)					In Compliance		8	
	&	Audit in Progress - (8)					Generally in Compliance		6	
	✔	Audit Completed - (14)					Not in Compliance (NIC)		1	
	✔	NIC Review Completed - (1)							15	
		Audits Carried Over From 2014/15 - (15)								
		NIC Audits Carried Over From 2014/15 - (1)								
		Audit Notifications Sent 2015/16 - (13)								
		NIC Notifications Sent 2015/16 - (0)								
		Carry Forward From 2014/15								
		Notifications 2014/15								
1	✔	TMB	Billings County School District	6/30/2014, 13	18	8/12/2015	($172.63)	1	1	Generally in Compliance The District reported summer salary in the wrong fiscal year and reported service hours incorrectly.
2	✔	TMB	Dickinson	6/30/2014, 13	332	8/21/2015	($203.25)	2	8	Generally in Compliance The District reported contract salary and hours without a written agreement, summer salary was reported in the wrong fiscal year, service hours were reported incorrectly, summer agreements were not issued for one member, and the hours of retired teachers who have returned to covered employment are not monitored.
3	✔	TMB	Emerado	6/30/2014, 13	22	7/17/2015	$4,449.16	3	3	Generally in Compliance The District reported contract salary incorrectly, did not report eligible teachers salary/service, and reported service hours incorrectly.
4	✔	DT	Fordville-Lankin	6/30/2014, 13	12	12/31/2015	($73.43)	1	0	In Compliance Did not report eligible in-staff subbing and after school salary, overpaid driver's education salary, and did not monitor hours for a retired teacher who returned to covered employment.
5	✔	TMB	Fargo	6/30/2014, 13	1333	10/19/2015	($640.89)	3	2	Generally in Compliance The District reported ineligible salary- cell phone payment, reported salary in the wrong fiscal year, did not report eligible salary - continuing education, reported salary without a written agreement; reported summer salary without a written agreement for Administrators, and reported service hours incorrectly.

NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE
AUDIT SERVICES
TFFR EMPLOYER COMPLIANCE AUDITS
JULY 1, 2015 TO JUNE 30, 2016

			EMPLOYER	FISCAL YEARS	TOTAL MEMBERS	REPORT DATE	EMPLOYER CONTRIB'S DR(CR)	MEMBER SALARY ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
	✕		**Audit Pending - (6)**				**In Compliance**		**8**	
	&		**Audit in Progress - (8)**				**Generally in Compliance**		**6**	
	✔		**Audit Completed - (14)**				**Not in Compliance (NIC)**		**1**	
	✔		**NIC Review Completed - (1)**						**15**	
			Audits Carried Over From 2014/15 - (15)							
			NIC Audits Carried Over From 2014/15 - (1)							
			Audit Notifications Sent 2015/16 - (13)							
			NIC Notifications Sent 2015/16 - (0)							
6	&	DT	Fort Totten	6/30/2014, 13	36					Primary test disclosed a reporting procedure used by the employer that would affect a large portion of the population therefore the audit has been expanded to include 100% of the members. Audit currently in progress.
7	✔	TMB	James River Multi-District	6/30/2014, 13	20	8/12/2015	$0.00	0	0	In Compliance The District reported an insurance reimbursement in error.
8	✔	TMB	Kulm	6/30/2014, 13	22	10/2/2015	$187.87	1	1	In Compliance The District did not report the correct contract salary and reported service hours incorrectly.
9	✔	DT	Litchville-Marion	6/30/2014, 13	28	12/17/2015	$0.00	0	1	In Compliance Service hours reported incorrectly
10	✔	TMB	Maple Valley	6/30/2014, 13	38	10/21/2015	($23,475.67)	2	1	Generally in Compliance The District reported salary without a written agreement, reported an ineligible member, and reported service hours incorrectly.
11	✔	TMB	New Public School	6/30/2014, 13	57	8/21/2015	($2,310.02)	1	2	In Compliance The District reported salary and service hours with a written agreement; service hours reported incorrectly, and did not issue written agreements for part-time and summer school teachers.
12	&	DT	North Valley Area Careers	6/30/2014, 13	11					Two errors noted to date, TFFR Board decision required prior to proceeding. Audit currently in progress. Anticipate a March report date.
13	&	DT	Southeast Region Career and Tech	6/30/2014, 13	32					Audit information received, TFFR Board decision required prior to proceeding. Audit currently in progress. Anticipate a March report date.

NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE
AUDIT SERVICES
TFFR EMPLOYER COMPLIANCE AUDITS
JULY 1, 2015 TO JUNE 30, 2016

			EMPLOYER	FISCAL YEARS	TOTAL MEMBERS	REPORT DATE	EMPLOYER CONTRIB'S DR(CR)	MEMBER SALARY ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
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	&		**Audit in Progress - (8)**				**Generally in Compliance**		**6**	
	✔		**Audit Completed - (14)**				**Not in Compliance (NIC)**		**1**	
	✔		**NIC Review Completed - (1)**						**15**	
			Audits Carried Over From 2014/15 - (15)							
			NIC Audits Carried Over From 2014/15 - (1)							
			Audit Notifications Sent 2015/16 - (13)							
			NIC Notifications Sent 2015/16 - (0)							
14	✔	DT	West Fargo	6/30/2014, 13	875	11/12/2015	($523.81)	5	9	Generally in Compliance Reported summer salary in the wrong fiscal year, did not issue written agreements for summer salary, and reported service hours incorrectly.
15	✔	TMB	Wilmac Special Education	6/30/2014, 13	58	10/19/2015	$0.00	0	0	In Compliance Did not issue written agreements for summer salary.
			Notifications 2015/16							
16	✕	DT	Barnes County North	6/30/2014, 15	31					Received requested information. Audit pending not yet started.
17	✕	TMB	Bowman	6/30/2014, 15	53					Received requested information. Audit pending not yet started.
18	✕	DT	Eight Mile	6/30/2014, 15	23					Received requested information. Audit pending not yet started.
19	✕	TMB	Ft. Yates	6/30/2014, 15	32					Received requested information. Audit pending not yet started.
20	✕	TMB	Halliday	6/30/2014, 15	12					Received requested information. Audit pending not yet started.
21	&	TMB	Parshall	6/30/2014, 15	35					Received requested information. Audit in progress.
22	&	TMB	St. John	6/30/2014, 15	42					Received requested information. Audit in progress.
23	&	TMB	Solen-Cannonball	6/30/2014, 15	29					Received requested information. Audit in progress.
24	✔	TMB	Starkweather	6/30/2014, 15	14	12/3/2015	($730.84)	2	1	In Compliance The District reported salary/service hours without a written agreement, reported contract salary after deductions, and reported service hours incorrectly.
25	✕	DT	Velva	6/30/2014, 15	47					Received requested information. Audit pending not yet started.

NORTH DAKOTA RETIREMENT AND INVESTMENT OFFICE
AUDIT SERVICES
TFFR EMPLOYER COMPLIANCE AUDITS
JULY 1, 2015 TO JUNE 30, 2016

			EMPLOYER	FISCAL YEARS	TOTAL MEMBERS	REPORT DATE	EMPLOYER CONTRIB'S DR(CR)	MEMBER SALARY ADJUSTED	MEMBER SERVICE CREDIT ADJUSTED	STATUS
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	✔		**Audit Completed - (14)**				**Not in Compliance (NIC)**		**1**	
	✔		**NIC Review Completed - (1)**						**15**	
			Audits Carried Over From 2014/15 - (15)							
			NIC Audits Carried Over From 2014/15 - (1)							
			Audit Notifications Sent 2015/16 - (13)							
			NIC Notifications Sent 2015/16 - (0)							
26	&	DT	Warwick	6/30/2014, 15	31					Received requested information. Audit in progress.
27	&	TMB	White Shield	6/30/2014, 15	28					Received requested information. Audit pending not yet started. Anticipate fine will be issued for failure to comply with audit request.
28	✔	DT	Wing	6/30/2014, 15	19	12/17/2015	$0.00	0	0	In Compliance Did not have written agreements for summer salary and service hours reported incorrectly for a retired member who returned to covered employment.
				Totals	3,290		($23,493.51)	21	29	

Not in Compliance (NIC) Reviews

23	✔	TMB	Minnewaukan		36	8/10/2015	$903.52	4	0	Not in Compliance The District reported summer salary in the wrong fiscal year, did not report extra-curricular salary, reported contract salary incorrectly, did not issue written agreements for summer salary, did not monitor hours for retired teachers who returned to covered employment and one teacher had a license that had lapsed.
					3,326		($22,589.99)	25	29	

MEMORANDUM

TO: **TFFR Board**

FROM: **Fay Kopp**

DATE: **January 14, 2016**

SUBJ: **2015 CAFR and PPCC Award**

In December 2015, our office sent TFFR board members a link to the 2015 NDRIO Comprehensive Annual Financial Report (CAFR) which is posted on the NDRIO website.

The report provides a detailed look at investment, financial, actuarial, and statistical information about the TFFR and SIB programs.

Please notice that the Government Finance Officers Association (GFOA) has awarded a Certificate of Achievement for Excellence in Financial Reporting to RIO for 15 years. In order to receive the award, the CAFR must satisfy both generally accepted accounting principles and applicable legal requirements. The 2015 report has been submitted to GFOA for review, and we expect it to meet the requirements for receiving the award again this year.

Also, TFFR has once again received the 2015 Public Pension Standards Award for Funding and Administration from the Public Pension Coordinating Council (PPCC). To receive the award, the retirement system must certify that it meets specific standards for a comprehensive benefit program, actuarial valuations, financial reporting, investments, communications to members, and funding adequacy. TFFR has received a PPCC Award since 1992.

If you have any questions, or would like to have a bound paper copy of the 2015 CAFR, please let us know and we will bring to the meeting. Thanks.

CENTER for RETIREMENT RESEARCH at BOSTON COLLEGE

September 2015, Number 15-16

HOW HAS SHIFT TO DEFINED CONTRIBUTION PLANS AFFECTED SAVING?

By Alicia H. Munnell, Jean-Pierre Aubry, and Caroline V. Crawford*

Introduction

Many commentators – ourselves included – assert that people are saving less for retirement as a result of the shift from defined benefit to defined contribution plans. To support such an assertion, it would be nice to have counterfactual data showing what the world would look like today in terms of retirement saving if workers were still covered by defined benefit plans and compare that saving with actual contributions to defined contribution plans. But these data do not exist. Furthermore, even if these data did exist, today's more mobile workforce would make defined benefit plans a less effective way to save than they were in the past. So such an exercise simply is not feasible.

Interestingly, it is possible to get some idea about what is going on by looking at the National Income and Product Accounts (NIPAs). These data used to show annual contributions to both defined benefit and defined contribution plans. Contributions to defined benefit plans, however, provided little information about pension saving because, when the stock market booms, employers' contributions can drop to zero as they rely on investment returns to fund accruing benefits. In 2013, the government changed accounting for defined benefit plans from a cash basis to an accrual basis. That is, instead of reporting how much an employer contributes to a defined benefit plan, the NIPAs now report how much participants in a plan are accruing in benefits. This *brief* uses these new data to provide some insight on how pension saving has changed over time.

The discussion proceeds as follows. The first section describes the new NIPA data and how they allow for a more direct comparison of pension saving between defined benefit plans and defined contribution plans. The second section focuses on defined benefit accruals and makes some adjustments to standardize for interest rates over time and to reflect the fact that the benefits are based on final earnings. The third section turns to the defined contribution data to better understand the pattern over time. The final section puts the two sides together.[1]

The conclusion is that after various adjustments, the percentage of salary going towards retirement saving has declined slightly. On the other hand, if returns on accumulations are included, the annual change in pension wealth appears to have remained relatively steady. In short, the NIPA data suggest that people are not accumulating less as the result of the shift from defined benefit to defined contribution plans. What has changed is not the amount of saving going on, but rather who is bearing the risk.

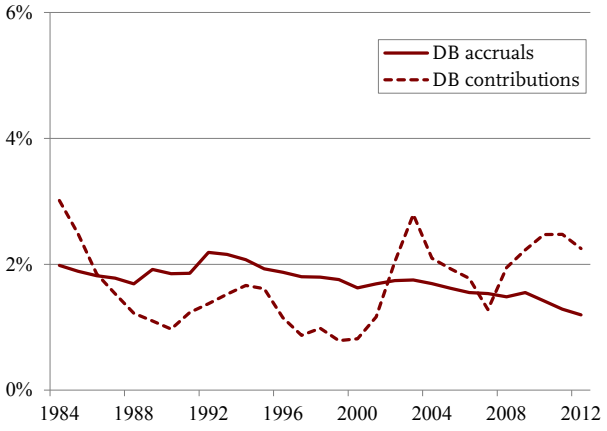
* Alicia H. Munnell is director of the Center for Retirement Research at Boston College (CRR) and the Peter F. Drucker Professor of Management Sciences at Boston College's Carroll School of Management. Jean-Pierre Aubry is assistant director of state and local research at the CRR. Caroline V. Crawford is a research associate at the CRR. The authors thank Dylan G. Rassier at the U.S. Bureau of Economic Analysis for providing guidance on the NIPA data and for helpful comments.

The New NIPA Data

A defined benefit pension is an employer retirement plan that promises employees lifelong monthly retirement benefits based on years of service and final salary. Historically, the NIPAs measured the income that households received from this source during a working year by reporting actual employer contributions to the plan.[2] That is, household income and saving attributable to defined benefit plans reflected a "cash-based" measure. In 2008, the NIPA framework moved away from cash flows and toward a measure of accrued benefits. Specifically, the contribution to household income was set equal to the change in the net present value of future benefits.

The NIPAs introduced the new methodology in 2013 and made conforming numbers available retroactively. As shown in Figure 1, the NIPA accruals follow a much smoother path than contributions, which tend to vary widely over time in response to market swings. More importantly, defined benefit accruals are conceptually similar to contributions to a defined contribution plan. This comparability makes it possible to see what has happened to total pension saving over time.

Figure 1. NIPA Defined Benefit (DB) Accruals and Contributions as a Percentage of Private Wages and Salaries, 1984-2012



Sources: Authors' calculations from the U.S. Department of Commerce, *National Income and Product Accounts Tables* (NIPAs), 1984-2012.

A Closer Look at the Defined Benefit Numbers

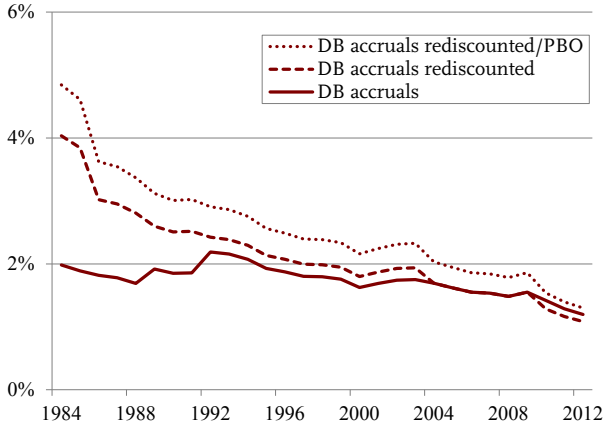
While the calculations of defined benefit accruals are carefully done by NIPA analysts and are consistent with the national account structure, the pattern in Figure 1 does not square with what we know about the evolution of these plans in the private sector.[3] In the early 1980s, most private sector workers covered by an employer-sponsored plan had a defined benefit plan; by 2013 the share relying solely on a defined benefit plan had declined to less than 20 percent.[4] Yet, Figure 1 suggests only a slight decline in accruals across the three decades. A couple of factors may help explain what is going on.

One issue is interest rates. As noted, accruals are the change in the net present value of future benefits, so the rate used to discount future benefits is very important. Rates were very high in the 1980s and are now very low, which means that the same pension plan would show very low levels of accrual in the 1980s and much higher levels now. The NIPA analysts make some adjustment for this problem. Using the AAA corporate rate, they adopt four decision criteria that dampen fluctuations.[5] We take the dampening one step further and assume a constant discount rate of 5.5 percent, the average AAA corporate rate for 2000-2012.[6] Making this adjustment shows a steeper decline in defined benefit accruals, as shown by comparing the middle line in Figure 2 on the next page with the published NIPA measure.

A second issue is the measure of benefits that is used. The NIPAs use the accumulated benefit obligation (ABO), which represents the present value of benefits due to participants if the plan were to terminate. Although sponsors are not required to give plan participants future opportunities to accrue benefits, the ABO provides a lower bound on pension accruals. In the private sector, the Financial Accounting Standards Board requires plans to report their expense and funded ratios using the projected benefit obligation (PBO). The PBO includes not only benefits earned to date but also *the effect of future salary increases on the value of pension rights already earned by active workers*. We think the PBO is a better measure for our purposes, especially in the earlier years when workers had longer tenures, and adjust accordingly; see the top line in Figure 2 (on the next page).[7]

While both the interest rate and benefit adjustments require a judgement call, they seem to result in a more intuitive picture of how much workers were putting aside for retirement through their defined benefit plans. Now let's look at retirement saving through defined contribution plans.

Figure 2. Defined Benefit (DB) Accruals as a Percentage of Private Wages and Salaries by Type of Accrual Measure, 1984-2012



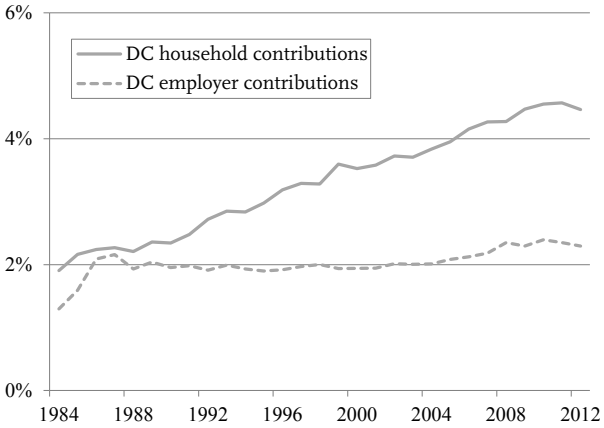
Note: See endnote 8.
Sources: Authors' calculations from NIPAs (1984-2012); and Gold and Latter (2009).

A Closer Look at the Defined Contribution Numbers

Figure 3 shows household and employer contributions to defined contribution plans as a percentage of private sector wages and salaries. The NIPA numbers raise two issues. The first is the flat pattern of employer contributions in the face of the explosive growth of 401(k) plans. The second is that the household contributions measure consists of more than employee contributions. Let's take these issues one at a time.

The flat employer-contribution pattern seems surprising given that 401(k) plans began to spread rapidly in 1981. Although the NIPAs do not separate 401(k) activity from that of other defined contribution plans, the Department of Labor provides data on 401(k) plans from Form 5500 back to 1989.[9] We

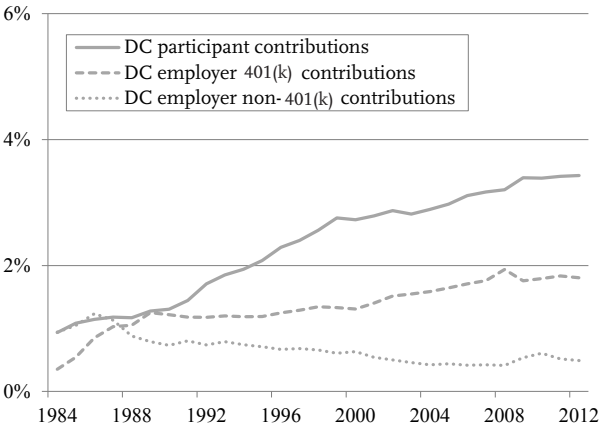
Figure 3. NIPA Defined Contribution (DC) Plan Contributions as a Percentage of Private Wages and Salaries, 1984-2012



Source: Authors' calculations from NIPAs (1984-2012).

used these data and the fact that 401(k) contributions only began in 1981[10] to estimate the 401(k) contribution component of the NIPA employer contributions back to 1984.[11] This exercise shows that employer contributions are steady, because, while contributions to 401(k) plans increased, contributions to non-401(k) defined contribution plans declined (see the bottom two lines in Figure 4).

Figure 4. DC Plan Contributions as a Percentage of Private Wages and Salaries by Type, 1984-2012

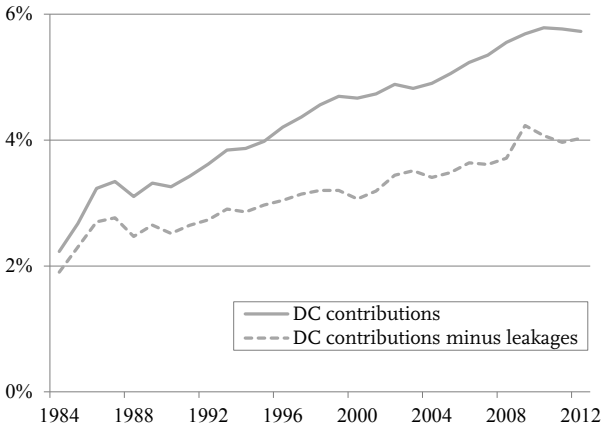


Sources: Authors' calculations from NIPAs (1984-2012); and U.S. Dept. of Labor, *Abstracts of Form 5500 Annual Reports* (1989-2012).

The second issue is that the NIPAs report household contributions. These data come from the Form 5500 and include rollovers in addition to participant contributions. Since the rollovers overstate the amount contributed, we replaced NIPA's household figure with Form 5500 participant contributions for 1989-2012. Then we used a variety of information to back-cast to 1984 (see the top line in Figure 4).

Adding up the three lines in Figure 4 provides a measure of total contributions to defined contribution plans (see the top line in Figure 5). The next step is to consider any adjustments that might be required before comparing defined contribution savings with that in defined benefit plans. One obvious issue is the question of pre-retirement withdrawals, or leakages. A recent study concluded that at least 1.5 percent of assets leak out of defined contribution plans each year.[12] Subtracting that amount from gross contributions yields net annual saving in defined contribution plans (the bottom line in Figure 5).

Figure 5. Participant and Employer DC Plan Contributions as a Percentage of Private Wages and Salaries with and without Leakages, 1984-2012

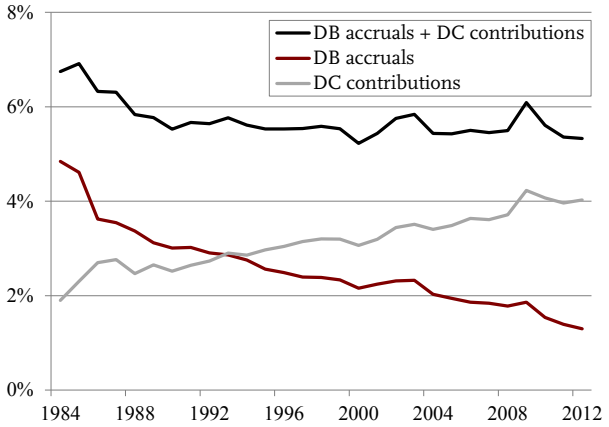


Sources: Authors' calculations from NIPAs (1984-2012); Form 5500 (1989-2012); U.S. Board of Governors of the Federal Reserve System, *Flow of Funds* (2014) and *Survey of Consumer Finances* (SCF) (1989-2013); and Munnell and Webb (2015).

Comparing Saving through DB and DC Plans

Figure 6 shows our estimated activity in defined benefit and defined contribution plans for 1984-2012. Defined benefit plan accruals decline sharply, and defined contribution plan contributions rise commensurately as 401(k) plans spread. The top line combines these data to show the total amount of saving in private sector employer-sponsored plans. On balance, the decline in defined benefit plan accruals has not been fully offset by rising contributions to defined contribution plans, leading to a slight overall decline in retirement saving.

Figure 6. Annual DB Accruals and DC Plan Contributions as a Percentage of Private Wages and Salaries, 1984-2012

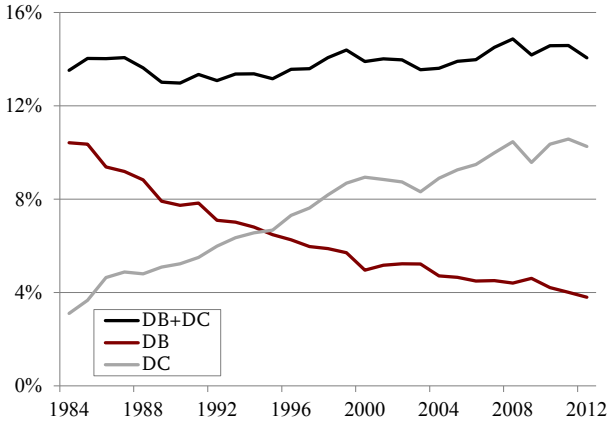


Sources: Authors' calculations from NIPAs (1984-2012); Form 5500 (1989-2012); *Flow of Funds* (2014); and SCF (1989-2013).

Contributions, however, do not tell the whole story. Pension wealth also goes up by the return on accumulations. Calculating the return on accumulations involves two steps. Our focus is on current workers, so the first step is to determine the share of defined contribution assets and defined benefit accumulated accruals attributable to them.[13] The second step is to apply a rate of return to the accumulations. We assumed 5.5 percent for both types of plans and applied that rate to accrued liabilities in defined benefit plans and to reported assets in defined contribution plans.

The results show that, when returns on accumulations are added to contributions, the annual change in pension wealth appears to have been relatively steady over time (see Figure 7 on the next page). This pattern, which contrasts with the decline in pension contributions shown in Figure 6, reflects the large defined contribution accumulations as a result of the prolonged bull stock market during the 1990s and the strong rebound since the financial crisis. Individuals covered by 401(k) plans have taken more risks than participants in defined benefit plans, and the high returns associated with risky investments have produced substantial asset accumulation.

Figure 7. Annual Change in DB and DC Pension Wealth as a Percentage of Private Wages and Salaries, 1984-2012



Sources: Authors' calculations from NIPAs (1984-2012); Form 5500 (1989-2012); *Flow of Funds* (2014); and SCF (1989-2013).

The importance of asset performance underscores the fact that the type of retirement wealth that workers hold has changed significantly. In defined benefit plans, the employer guarantees a fixed amount of final earnings for life. That is, the employer bears the investment and mortality risks. In contrast, in defined contribution plans, the employee bears the investment risk and must figure out how to make accumulated assets last for a lifetime. So while the aggregate data suggest that accumulations have not declined, the pattern of outcomes among individuals may have changed substantially.

Conclusion

The introduction of defined benefit plan accrual data in the National Income and Product Accounts offers an opportunity to explore the patterns of retirement saving in defined benefit and defined contribution plans over the last 30 years. Our reading of the data, after our adjustments, is that the accumulation of retirement assets has not declined as a result of the shift from defined benefit to defined contribution plans. We are going to have to change our story! Of course, the nature of the accumulation process and the distribution of risks have shifted dramatically. The effect of these shifts, however, can be identified only by looking at data on individuals as opposed to those from our national accounts.

Endnotes

1 Because others may prefer to make different adjustments, our data are available to interested parties for additional analysis.

2 United Nations Statistical Commission (1993).

3 See Rassier (2014).

4 Munnell (2014).

5 First, the NIPA analysts adopt a target range of 5-7 percent for all long-term trends, because the average AAA corporate bond yield from 1929-2008 is 6.0 percent, the average discount rate used by the Pension Benefit Guaranty Corporation (PBGC) from 1979-2008 is 6.8 percent, and the median discount rate reported by plans on Form 5500 is approximately 6.0 percent from 2000 to 2009. Second, they do not let the rate change more than once in a consecutive three-year period. Third, they adopt a top rate of 9.5 percent based on PBGC's published rates for the early 1980s, because the high bond rates in the 1980s were not sustainable. Fourth, they generally do not let the discount rate change more than 1 percentage point from one year to the next.

6 We then adjust the NIPA accrual numbers by applying a rule of thumb commonly used by actuaries, assuming a 22.5-percent change in accruals for each 1-percentage-point change in the interest rate. This adjustment is based on the premise that a 1-percentage-point change in the interest rate tends to yield a 20-25 percent change in normal cost.

7 To adjust our data from an ABO actuarial method to a PBO method, we multiplied NIPA defined benefit accruals by 20 percent. This adjustment is based on Gold and Latter (2009), assuming that the average worker is age 45.

8 Values are rediscounted using a 5.5-percent adjustment to the NIPA discount rates, and by assuming that DB accruals grow by 22.5-percent for every 1-percentage-point increase in the discount rate. Also, DB accruals are increased by 20 percent to adjust to a PBO estimation.

9 Form 5500 provides data on 401(k) employer contributions for plans with 100 or more participants. To include plans containing fewer than 100 participants, a ratio was calculated using Form 5500's 401(k) employer contributions divided by total private employer DC contributions.

10 As referenced by Munnell and Sundén (2004), the Revenue Act of 1978 included provisions that allowed explicit salary reduction, a key feature of 401(k) plans, but only after the Internal Revenue Service issued clarifying regulations in 1981 did the 401(k) become popular.

11 We then took the ratio of 401(k) to total contributions from Form 5500 and applied that ratio to the NIPA total employer contributions to get estimated NIPA 401(k) contributions. We then subtracted these 401(k) estimated contributions from total NIPA contributions to get employer contributions to non-401(k) defined contribution plans. We then extended these back to 1984.

12 The 1.5 percent, as referenced by Munnell and Webb (2015), was applied to defined contribution and Individual Retirement Account (IRA) assets reported in the Federal Reserve's *Flow of Funds*. IRA assets for current workers are important to include, because most of the money in IRAs represents rollovers from defined contribution accounts. The *Survey of Consumer Finances* estimates that individuals age 65 or older accounted for 24.1 percent to 50.9 percent of IRA assets from 1989-2013. Therefore, in order to separate the assets of active workers and retirees, we excluded the IRA assets of those age 65 or older from this adjustment.

13 As in the case of leakages, it is necessary to consider IRAs on the defined contribution side because most of the money in IRAs comes from defined contribution plan rollovers. Our assumption is that all 401(k) assets belong to current workers, but only the portion of IRA assets held by those under age 65 are included.

On the defined benefit side, Form 5500 reports the percentage of accumulated liability for active workers. This percentage was applied to defined benefit liabilities adjusted to a PBO measure and a constant interest rate.

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Contact Information

Center for Retirement Research
Boston College
Hovey House
140 Commonwealth Avenue
Chestnut Hill, MA 02467-3808
Phone: (617) 552-1762
Fax: (617) 552-0191
E-mail: crr@bc.edu
Website: http://crr.bc.edu

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CENTER for RETIREMENT RESEARCH at BOSTON COLLEGE

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INVESTMENT RETURNS: DEFINED BENEFIT VS. DEFINED CONTRIBUTION PLANS

By Alicia H. Munnell, Jean-Pierre Aubry, and Caroline V. Crawford*

Introduction

Pension coverage in the private sector has shifted from defined benefit plans, where professionals make investment decisions, to 401(k) plans, where participants are responsible for their own investment strategy. The supposition is that individuals are not very good at investing their own money and face high fees. The question is whether this supposition is borne out by the facts. That is, are returns on defined contribution plans markedly lower than those on traditional defined benefit plans?

This *brief* first discusses alternative ways to measure the rate of return. The second section reports, under a variety of definitions, returns on defined benefit and defined contribution plans for 1990-2012 from the Department of Labor's Form 5500. The third section explores the asset allocation of defined benefit and defined contribution plans and its potential impact on returns. The fourth section presents regression results of the relationship between returns and plan type (defined benefit or defined contribution), controlling for plan size and asset allocation. The fifth section discusses the extent to which fees may explain the lower return in defined contribution plans. The final section reports on Individual Retirement Accounts (IRAs) – the assets in these accounts now exceed holdings in either defined benefit or defined contribution plans, largely due to rollovers from employer-sponsored plans.

The bottom line is that, during 1990-2012, defined benefit plans outperformed defined contribution plans by 0.7 percent. Since this differential remains even after controlling for size and asset allocation, the likely explanation is higher fees in defined contribution accounts. The available data suggest that IRAs produce even lower returns than defined contribution plans, which implies trouble ahead given the massive amount of money that is being rolled over into IRAs.

Defining Rate of Return

The first step in assessing investment performance is simply to compare average annual rates of return over the period 1990-2012 for defined benefit and defined contribution plans. The formula for calculating returns is one commonly used by actuaries and relates the change in assets, netting out the impact of cash flows, to the beginning assets plus half of cash flows:[1]

$$\textit{Rate of return} = \frac{\textit{Ending assets} - \textit{Beginning assets} - \textit{Cash flows}}{\textit{Beginning assets} + \tfrac{1}{2}(\textit{Cash flows})}$$

* Alicia H. Munnell is director of the Center for Retirement Research at Boston College (CRR) and the Peter F. Drucker Professor of Management Sciences at Boston College's Carroll School of Management. Jean-Pierre Aubry is associate director of state and local research at the CRR. Caroline V. Crawford is a research associate at the CRR.

Because plans sometimes borrow funds in order to purchase assets, the rate of return is based on the change in *net* assets (financial assets less financial liabilities). Cash flows include total contributions, benefit payments, and transfers to and from the plan.[2] The data come from the U.S. Department of Labor's (DOL) Form 5500. The analysis focuses on the period 1990-2012 because the DOL has cleaned the data for these years and they are consistent with totals published in the *Private Pension Plan Bulletin*.[3]

Aggregate returns can be calculated in a number of ways. One approach is simply to average the rate of return calculated for each plan. In terms of the example shown in Table 1, the average return would be 7 percent. But note that 70 percent of the total assets are in Plan A, which earns 10 percent. So, an alternative measure would weight returns by plan assets and then identify the average. Such an approach would yield a return of 9 percent in this example.

Table 1. Example: Un-weighted versus Weighted

Plan	Assets	Rate of return
Plan A	$70	10%
Plan B	15	8
Plan C	10	6
Plan D	5	4

Source: Authors' example.

Whether the two approaches to calculating returns yield different results depends on the size distribution of plans and the relationship between size and returns. Table 2 (at the bottom of the page) shows that a high percentage of plans and participants generally fall into the "<$100 million" category, while the bulk of assets tend to rest in the larger plans.

Table 3 shows the relationship between asset holdings and the rate of return for both defined benefit and defined contribution plans. In the case of defined benefit plans, returns increase with the size of the plan.

Table 3. Geometric Rates of Return by Plan Size, 1990-2012

Plan size (assets)	Defined benefit	Defined contribution	Difference
< $100m	6.5%	5.9%	0.6%
$100-$500m	7.5	7.2	0.3
$500m-$1b	7.8	7.6	0.2
$1-$5b	8.0	7.4	0.6
>$5b	8.3	6.9	1.4

Source: Authors' calculations based on Form 5500 (1990-2012).

The pattern is somewhat different for defined contribution plans, where returns increase until plans reach $1 billion and then decline thereafter.[4] In both cases, excluding plans with "less than $100 million" will produce higher returns. Weighting by assets will also produce higher returns for both types of plans because it will de-emphasize the low returns earned by small plans.

Table 2. Distribution of Plans, Participants, and Assets by Plan Size, 2012

Plan size (assets)	Plans		Participants		Assets	
	DB	DC	DB	DC	DB	DC
< $100m	74.4%	93.8%	12.6%	43.0%	7.1%	23.2%
$100-$500m	17.2	4.8	19.1	21.7	14.1	20.5
$500m-$1b	3.2	0.7	9.7	8.4	8.6	10.0
$1-$5b	3.9	0.6	32.5	16.7	31.4	26.5
>$5b	0.8	0.1	26.1	10.2	38.8	19.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Total number	9,203	63,762	40.9m	76.9m	$2.4tril	$3.1tril

Source: Authors' calculations based on U.S. Department of Labor (DOL), Form 5500 (2012). The numbers do not match values from DOL's *Private Pension Plan Bulletin* because our sample is restricted to plans with at least 100 participants, as the DOL does not maintain complete data for small plans.

Returns in DB and DC Plans, 1990-2012

The following tables report more comprehensive data on returns from Form 5500 for 1990-2012.[5] While the level of returns varies by unweighted versus weighted and whether the focus is the whole universe or just large plans, defined benefit plans consistently report higher returns than defined contribution plans (see Table 4).[6] This result is not surprising given that, for every asset size, the average return for defined benefit plans exceeds that of defined contribution plans.

Table 4. Geometric Rates of Return, 1990-2012

Plan	Defined benefit	Defined contribution	Difference
All plans			
Unweighted	6.6%	5.9%	0.7%
Weighted	7.9	7.0	0.9
Plans > $100 million			
Unweighted	7.8	7.3	0.5
Weighted	8.2	7.3	0.8

Source: Authors' calculations based on Form 5500 (1990-2012).

Some researchers have suggested that the differential between defined benefit and defined contribution plan returns has declined over time,[7] but the data show that the differential is generally larger after 2002 (see Table 5).

Table 5. Geometric Rates of Return, DB Less DC Plans, 1990-2012 and Sub-periods

Plan	1990-2012	1990-2002	2003-2012
All plans			
Unweighted	0.7%	1.1%	0.3%
Weighted	0.9	0.6	1.3
Plans > $100 million			
Unweighted	0.5	0.4	0.6
Weighted	0.8	0.3	1.5

Source: Authors' calculations based on Form 5500 (1990-2012).

Asset Allocation

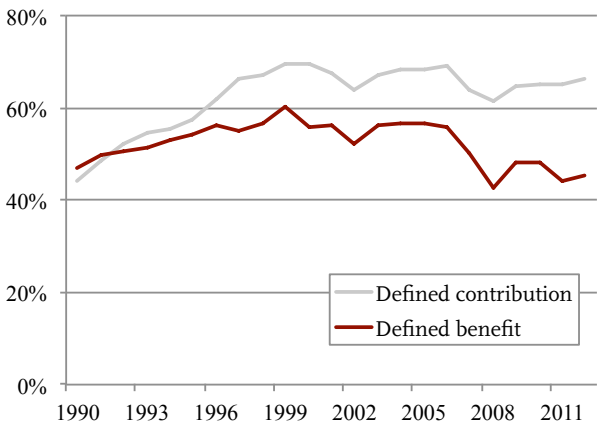
The preceding comparison does not address portfolio differences between defined benefit and defined contribution plans. One might expect that, over the long term, plans invested more in risky assets would produce higher returns. In this case, differences in returns could simply reflect a differential ability to accept risk between the two types of plans, not a failure of defined contribution plans to produce a competitive return.

In the Form 5500, plans must report the total assets held in common stock, preferred stock, corporate bonds, government securities, and real estate, as well as other well-recognized asset classes. In addition to these categories, plans must report assets held in mutual funds and investment trusts.[8] As it turns out, a significant portion of plan assets reported in the Form 5500 is held in mutual funds and trusts, and the challenge is to allocate the balances to conventional asset classes.[9] For the allocation of mutual fund holdings, we use the aggregate asset allocation of mutual funds reported in the Federal Reserve's *Flow of Funds,* which shows about 80 percent allocated to equities. We then confirmed that the aggregate returns were representative by comparing the 2012 aggregate data to mutual fund data from the Center for Research in Security Prices, which covers 3,000 mutual funds.[10]

For trusts, the 5500 provides some information – such as the name of the trust, the employer identification number of the trust, and how much of the plan's money the trust holds. Many of the trusts are dedicated to one asset class, which can be deciphered by the trust's name (e.g., "T. Rowe Price Bond Index Trust").[11] For the remaining unidentifiable trusts, we assume that their annual asset allocation is equal to the aggregate asset allocation of all identified trusts in the given year. Although the process sounds simple, it is extremely time consuming.

Figure 1 (on the next page) shows the percentage of defined benefit and defined contribution plan portfolios held in equities during 1990-2012. Defined benefit plans appear to have rebalanced during the run-up in equities during the bull market of the 1990s and, since the turn of the century, have reduced equity

Figure 1. Equities as a Percentage of Total Portfolio, 1990-2012



Source: Authors' calculations based on Form 5500 (1990-2012).

holdings to match liabilities as companies have frozen their plans.[12] In contrast, in defined contribution plans, the share of assets in equities increased sharply during the 1990s and has more or less stayed at that level since then.[13]

Although the asset allocation of the two types of plans differed significantly over the period 1990-2012, asset allocation would be expected to have only a modest effect on returns. The reason is that the long-run (1926-2014) pattern, where risky equities significantly out-performed less risky long-term corporate bonds, has not held over the past two decades (see Table 6).

Table 6. Geometric Annual Average Returns on Equities and Bonds, Various Periods

Financial investment	1926-2014	1990-2012	1990-2002	2003-2012
Equities	10.1%	8.6%	9.7%	7.1%
Long-term corporate bonds	6.1	8.7	9.5	7.8
Differential	4.0	-0.2	0.2	-0.7

Source: Ibbotson Associates (2015).

Regression Analysis

To account for the differences in allocations to broad asset classes, it is necessary to estimate regression equations in which the dependent variable is the annual return and the explanatory variables include a flag set equal to 1 for a defined benefit plan; a control for the size of the plan (assets and assets^2); the percentage held in equities; and a variable for each year to account for overall fluctuations in the market.

$$\textit{Annual return} = a + b{*}DB + c{*}assets + d\,{*}assets^2 + e{*}\%\ equities + year$$

The results (see Appendix Table A5) show that both fund size and equity share are associated with higher returns, but – after controlling for these factors – defined benefit plans still earned returns at least 0.7 percent higher than defined contribution plans. And these results hold whether returns are weighted by assets or whether plans with less than $100 million are included or excluded (see Table 7). Equations were also estimated for the sub-periods 1990-2002 and 2003-2012, and the coefficient of the defined benefit variable ranged from 0.3 percent to 1.5 percent (see Appendix Tables A6 and A7).

Table 7. Regression Results: Differential between DB and DC Annual Returns, 1990-2012 and Sub-periods

Plan	1990-2012	1990-2002	2003-2012
All plans			
Unweighted	0.7%	0.8%	0.3%
Weighted	1.2	0.9	1.4
Plans > $100 million			
Unweighted	0.7	0.5	0.9
Weighted	1.1	0.7	1.5

Source: Authors' calculations.

Overall, the coefficients of the defined benefit flag in the regression equation were very close to those calculated directly from the Form 5500 data.[14] Thus, neither size nor asset allocation is driving the differences in returns, which must be due to either differences in the performance of specific investments within the broader asset classes or, more likely, to investment fees.

The Role of Fees

Investment fees, which typically account for 80-90 percent of total expenses, are the most likely reason that defined contribution plans earn lower returns than defined benefit plans.[15] The reason for the higher fees is that defined contribution plans invest through mutual funds, while defined benefit plans do not. Mutual funds charge fees for selecting the stocks and undertaking the research that leads to buy and sell decisions. These fees are usually assessed as a percentage of invested assets and are paid by the account holder through lower investment returns.

As shown in Table 8, fees vary significantly not only across fund types – 0.44 percent for the median return in an index equity fund versus 1.18 percent in an equity value fund – but also within fund types – bond funds range from 0.48 percent to 1.65 percent.

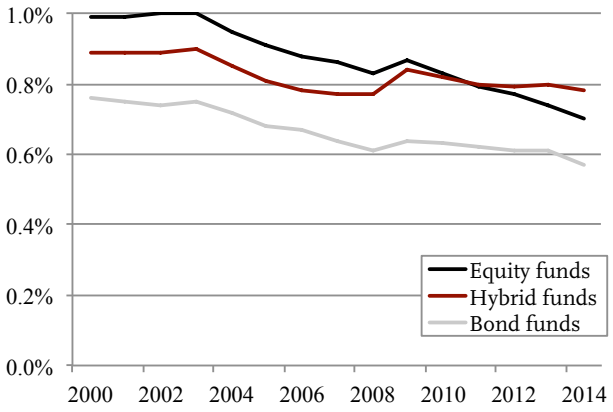
Table 8. Mutual Fund Fees as a Percentage of Assets, 2014

Category	Expense		
	10th percentile	Median	90th percentile
Hybrid fund	0.70 %	1.24 %	2.05 %
Equity value fund	0.73	1.18	1.96
Global fund	0.88	1.39	2.20
Bond fund	0.48	0.86	1.65
Index equity fund	0.08	0.44	1.56
Institutional money market fund	0.06	0.10	0.21

Source: Investment Company Institute (2015a).

While reported fees are interesting, the impact on returns depends on how the money is actually invested. When weighted by assets, fees for equity funds, bond funds, and hybrid funds, while declining over time, accounted for about 0.80 percent of assets under management between 2000 and 2014 (see Figure 2) and were probably substantially higher before that time. Of course, defined benefit plans also have some investment fees, but these are small compared to those associated with defined contribution plans.[16]

Figure 2. Expenses Incurred by Mutual Fund Investors as a Percentage of Assets, 2000-2014

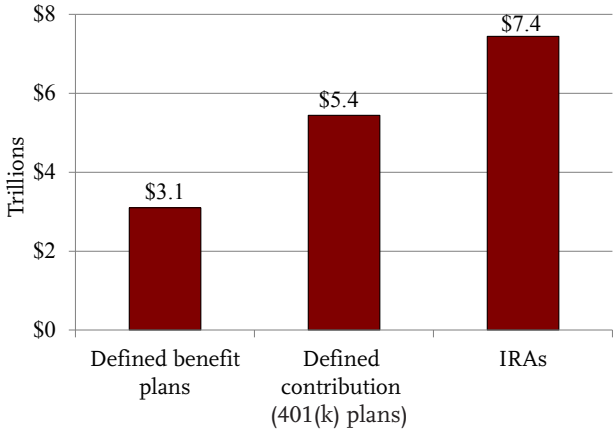


Source: Investment Company Institute (2015a).

IRAs – A Major Component of Retirement Income

IRAs now hold more money than either defined benefit or defined contribution plans (see Figure 3). Even though most IRAs are not sponsored by employers, most of the money in IRAs has been rolled over from employer plans.[17] And the return that IRA holders earn on their assets will have a substantial impact on their retirement security.

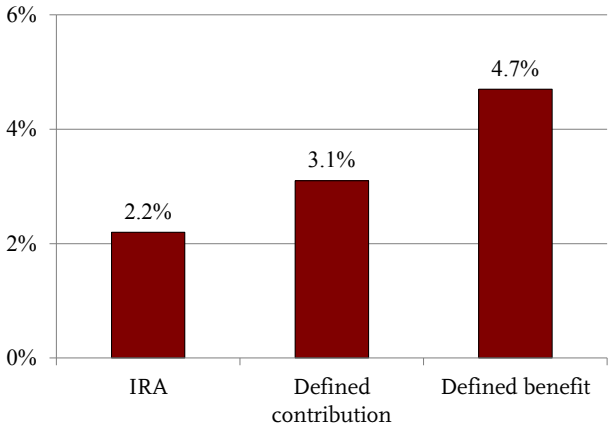
Figure 3. Private Retirement Assets, Trillions of Dollars, 2014 Q4



Source: U.S. Board of Governors of the Federal Reserve System, *Flow of Funds Accounts of the United States*, 2014.

While individuals holding IRAs do not have to fill out a Form 5500, the Investment Company Institute provides data on beginning-year assets, year-end assets, contributions, rollovers, and withdrawals for IRAs that make it possible to calculate the aggregate average return for 2000-2012. Over that period, the results show that IRAs produced substantially lower returns than defined contribution or defined benefit plans (see Figure 4). These lower returns mean that those who rely on IRAs will have substantially lower balances in retirement.

Figure 4. Geometric Rates of Return by Plan Type, 2000-2012



Source: Authors' calculations based on Investment Company Institute (2015b) data and Form 5500 (2000-2012).

The low returns on IRAs may be due to two factors – asset allocation and fees. Indeed, the data suggest that 11 percent of assets in traditional IRAs are invested in money market funds compared to 4 percent for defined contribution plans.[18] Since money market accounts produce safe but low returns, this difference in allocation can be part of the explanation for the low return on IRAs. The rest of the explanation must be that owners of IRAs are being sold many of the high-fee products shown in Table 8.

Conclusion

Three main conclusions emerge from this analysis. First, the Form 5500 shows that defined benefit plans out-performed 401(k) plans over the period 1990-2012 by 0.7 percent. Second, holding size and asset allocation constant, the regression analysis shows a differential between defined benefit and defined contribution plans only slightly larger than that seen in the Form 5500 data, which is likely due – at least in part – to investment fees. Finally, data from the Investment Company Institute show that returns for IRAs, which now hold the bulk of the money, are about 1 percent less than in defined contribution plans. Forgoing returns over long time periods means that assets at retirement will be sharply reduced. Saving is too hard to have fees eat up such a large portion of investment earnings.

Endnotes

1 Including one half of the cash flows assumes that flows occur at an even rate over the year so that, on average, half of the flows are available for investment.

2 Other studies have defined cash flows as only contributions and benefits. Including transfers in the cash flow measure impacts both defined benefit and defined contribution plans similarly and thus does not greatly impact the comparison of returns.

3 U.S. Department of Labor (2015).

4 Other analysts have also noted that small defined contribution plans out-perform larger ones; see Judy Diamond Associates (2014).

5 Note that the unweighted returns look very much like the returns for plans with less than $100 million in assets, because, as shown in Table 2, 74 percent of defined benefit plans and 94 percent of defined contribution plans fall into the smallest asset category.

6 For data on annual returns, see Appendix Tables A1 and A2. Plans with an annual return above 75 percent or below -75 percent were excluded from the analyses of returns. These plans make up less than 0.5 percent of the plans and assets in any given year.

7 See McGee (2015).

8 Investment trusts are separated into 4 groups: common/collective trusts, pooled separate accounts, master trust investment accounts, and 103-12 investment entities.

9 For defined benefit plans, nearly 60 percent of assets are held in trusts (although only about 5 percent in mutual funds). For defined contribution plans, 35 percent of assets are in trusts and 40 percent in mutual funds.

10 Because the 5500 data provide no details on the mutual funds in which a plan invests, there is no way to link the CRSP mutual fund data to the 5500 data.

11 We first allocate the trust into the following 16 asset categories based on their names: Equities, Corporate Bonds, Government Bonds, Mutual Funds, Cash, Income, Short-Term, Money Market, Real Estate, Hedge Funds, Foreign, Emerging Markets, Stable Value, Life Cycle Funds, Receivables, and Other.

12 For a discussion of plan freezes, see Munnell et al. (2006a).

13 For more on the effect of asset allocation on returns in the 1990s, see Munnell et al. (2006b).

14 The coefficient shows the return differential for defined benefit plans if they had the same assets and the same percentage in equities as defined contribution plans. In fact, defined benefit plans hold less in equities, which should reduce the actual return reported in the Form 5500, and are larger, which should increase it. Since the coefficient is one- or two-tenths greater than the Form 5500 data, the asset allocation effects appear to dominate the size effect as one moves from the coefficient to actual data.

15 Deloitte Consulting LLP and Investment Company Institute (2011).

16 Council of Institutional Investors (2005).

17 Investment Company Institute (2015b) reports that for the period 1996-2012, 95 percent of the inflows in traditional IRAs were rolled over from employer-sponsored plans.

18 Investment Company Institute (2015c) and authors' calculations from Form 5500 (1990-2012).

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APPENDIX

Table A1. Annual Rates of Return for Defined Benefit and Defined Contribution Plans, 1990-2012

Year	All plans							
	Defined benefit				Defined contribution			
	Unweighted		Weighted		Unweighted		Weighted	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
1990	5.3%	4.8%	3.6%	1.4%	5.3%	6.0%	4.7%	5.4%
1991	14.7	13.7	18.5	19.7	12.3	11.3	15.0	13.0
1992	7.4	7.0	7.9	6.9	7.5	7.0	9.6	8.4
1993	7.3	7.4	10.2	11.2	7.3	7.0	9.7	8.7
1994	3.2	0.3	2.4	0.0	3.3	1.8	4.2	2.6
1995	17.9	18.7	21.5	22.3	16.1	16.3	19.6	18.3
1996	12.6	12.4	14.4	14.5	12.5	12.2	15.0	13.7
1997	15.4	16.2	17.0	18.5	15.3	15.8	19.5	18.2
1998	11.9	11.7	13.9	14.0	13.0	13.1	15.4	14.3
1999	10.9	10.2	14.8	15.2	16.5	16.1	11.5	13.2
2000	-0.3	0.0	-0.6	0.2	-6.2	-5.7	-3.5	-3.3
2001	-3.2	-3.6	-4.4	-5.0	-7.4	-8.0	-6.1	-6.3
2002	-7.9	-8.5	-8.7	-9.2	-12.3	-13.1	-11.8	-11.7
2003	13.4	15.5	18.3	20.8	17.3	19.0	17.9	19.1
2004	9.4	9.1	11.6	11.4	9.5	9.3	10.2	9.6
2005	6.0	5.7	8.5	8.0	6.5	6.3	6.5	6.5
2006	9.9	10.3	12.6	12.7	10.7	10.9	12.3	11.7
2007	7.8	7.1	9.7	8.9	7.0	6.8	7.6	7.3
2008	-18.0	-21.4	-19.9	-23.2	-25.6	-28.1	-24.6	-26.1
2009	11.2	16.8	12.2	15.8	18.8	21.3	17.9	20.0
2010	11.7	11.4	12.9	12.9	11.4	11.3	12.1	11.7
2011	3.9	1.4	5.2	4.3	-0.2	-1.4	0.6	-0.3
2012	9.4	10.6	11.2	12.1	10.3	11.1	11.0	11.3

Source: Authors' calculations from Form 5500 (1990-2012).

Table A2. Annual Rates of Return for Defined Benefit and Defined Contribution Plans > $100 Million in Assets, 1990-2012

Year	Plans > $100 million in assets							
	Defined benefit				Defined contribution			
	Unweighted		Weighted		Unweighted		Weighted	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
1990	3.6%	1.8%	3.2%	0.8%	3.9%	5.1%	4.5%	5.0%
1991	18.8	19.6	19.0	19.8	16.3	14.2	15.6	13.4
1992	8.2	7.6	7.9	6.9	9.8	8.5	10.3	8.9
1993	9.8	10.8	10.7	11.7	9.5	8.8	10.4	9.2
1994	2.7	-0.1	2.2	0.0	3.5	2.7	4.6	2.8
1995	21.5	22.4	21.8	22.5	20.8	18.9	20.6	18.6
1996	14.5	14.2	14.5	14.7	14.6	13.3	15.8	14.7
1997	17.6	18.2	17.1	18.6	19.3	18.0	20.8	19.0
1998	13.2	13.3	14.1	14.2	14.2	14.3	16.3	14.6
1999	13.2	12.9	15.2	15.2	12.4	13.7	10.2	12.3
2000	-0.3	0.0	-0.7	0.2	-2.2	-3.0	-3.0	-2.9
2001	-3.7	-3.8	-4.5	-5.2	-5.5	-6.0	-5.9	-5.9
2002	-8.6	-8.9	-8.8	-9.2	-10.7	-11.1	-11.9	-11.3
2003	16.4	18.9	18.8	21.0	18.4	19.2	18.1	19.2
2004	10.9	10.5	11.8	11.6	10.7	9.8	10.2	9.7
2005	7.3	7.0	8.7	8.3	6.9	6.6	6.3	6.4
2006	11.6	11.8	12.8	12.9	11.8	11.5	12.7	12.0
2007	8.5	7.8	9.8	9.0	7.9	7.5	7.6	7.3
2008	-19.6	-22.9	-20.0	-23.4	-24.3	-26.4	-24.5	-25.7
2009	17.4	18.0	15.9	16.1	21.1	21.4	20.1	20.2
2010	12.4	12.1	13.0	12.9	12.2	11.8	12.2	11.7
2011	4.6	2.4	5.3	4.4	0.5	-0.5	0.8	-0.1
2012	10.5	11.5	11.3	12.2	11.2	11.5	11.0	11.3

Source: Authors' calculations from Form 5500 (1990-2012).

Table A3. Summary Statistics of Factors Affecting Rates of Return for All Plans, 1990-2012

	Mean	Standard deviation	Minimum	Maximum
CRR return	6.09	13.18	-74.98	74.97
Defined Benefit	0.20	0.40	0	1
Assets (billions)	$0.05	$0.54	$0	$71.02
Assets squared (billions)	$2.89E+08	$1.81E+10	$0	$5.04E+12
Percent equity	55.09	27.48	0	100
Number of observations	1,470,948			

Note: Assets are reported in billions.
Source: Authors' calculations from Form 5500 (1990-2012).

Table A4. Summary Statistics of Factors Affecting Rates of Return for Plans > $100 Million Assets, 1990-2012

	Mean	Standard deviation	Minimum	Maximum
CRR return	7.12	13.14	-71.39	74.84
Defined benefit	0.45	0.50	0	1
Assets (billions)	$0.71	$2.10	$0.10	$71.02
Assets squared (billions)	$4.90E+09	$7.44E+10	$1.00E+07	$5.04E+12
Percent equity	61.45	18.76	0	100
Number of observations	86,830			

Note: Assets are reported in billions.
Source: Authors' calculations from Form 5500 (1990-2012).

Table A5. Regression Results: Marginal Effect on Rates of Return, 1990-2012

	All plans		Plans > $100 million	
	Unweighted	Weighted	Unweighted	Weighted
Defined benefit flag	0.66***	1.18***	0.71***	1.11***
	(0.02)	(0.01)	(0.05)	(0.05)
Assets	0.46***	0.01***	0.09***	-0.01**
	(0.02)	(0.00)	(0.02)	(0.01)
Assets squared	-9.33E-12***	2.15E-13***	-1.53E-12**	5.68E-13***
	(0.00)	(0.00)	(0.00)	(0.00)
Percent equity	0.02***	0.01***	0.02***	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)
R^2	0.67	0.69	0.66	0.69
Number of observations	1,470,948	1,470,948	86,830	86,830

Note: Statistically significant at 5-percent (**) or 1-percent level (***). Standard errors are in parentheses. The model includes year fixed effects. Assets are reported in billions.
Source: Authors' calculations from Form 5500 (1990-2012).

Table A6. Regression Results: Marginal Effect on Rates of Return, 1990-2002

	All plans		Plans > $100 million	
	Unweighted	Weighted	Unweighted	Weighted
Defined benefit flag	0.84***	0.85***	0.54***	0.67***
	(0.02)	(0.02)	(0.10)	(0.1)
Assets	0.68***	0.08***	0.10**	0.04***
	(0.04)	(0.00)	(0.05)	(0.01)
Assets squared	-1.88E-11***	-2.60E-12***	-3.41E-12**	-1.98E-12***
	(0.00)	(0.00)	(0.00)	(0.00)
Percent equity	0.03***	0.01***	0.02***	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
R^2	0.57	0.57	0.53	0.57
Number of observations	729,116	729,116	36,671	36,671

Note: Statistically significant at 5-percent (**) or 1-percent (***) level. Standard errors are in parentheses. The model includes year fixed effects. Assets are reported in billions.
Source: Authors' calculations from Form 5500 (1990-2012).

Table A7. Regression Results: Marginal Effect on Rates of Return, 2003-2012

	All plans		Plans > $100 million	
	Unweighted	Weighted	Unweighted	Weighted
Defined benefit flag	0.34***	1.42***	0.86***	1.45***
	(0.02)	(0.02)	(0.06)	(0.06)
Assets	0.39***	0.01***	0.11***	0.00
	(0.02)	(0.00)	(0.02)	(0.01)
Assets squared	-6.91E-12***	3.72E-13***	-1.40E-12**	6.15E-13***
	(0.00)	(0.00)	(0.00)	(0.00)
Percent equity	0.02 ***	0.01 ***	0.03 ***	0.01***
	(0.00)	(0.00)	(0.00)	(0.00)
R^2	0.75	0.77	0.75	0.77
Number of observations	741,832	741,832	50,159	50,159

Note: Statistically significant at 5-percent (**) or 1-percent (***) level. Standard errors are in parentheses. The model includes year fixed effects. Assets are reported in billions.
Source: Authors' calculations from Form 5500 (2003-2012).

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Contact Information

Center for Retirement Research
Boston College
Hovey House
140 Commonwealth Avenue
Chestnut Hill, MA 02467-3808
Phone: (617) 552-1762
Fax: (617) 552-0191
E-mail: crr@bc.edu
Website: http://crr.bc.edu

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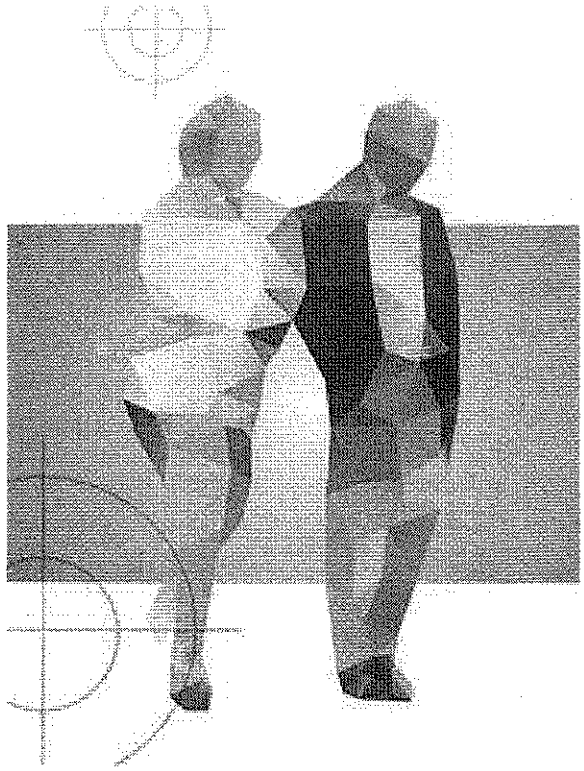
ICMA Publications / PM Magazine / November 2015

Retirement Security: A Moving Target

Local Governments Grapple with Benefit Plans

by Elizabeth Kellar



Local governments have faced fiscal pressures over the past decade, often exacerbated by higher pension and health care costs. They have made significant changes to their benefits, especially for new hires, and have increased employee and employer contributions to their pension and health care plans.

While defined-benefit pensions are still the norm for local government employees, they have become less generous for new hires. When retiree health insurance is offered, it has become more common for governments to shift retirees to Medicare when they become eligible.

Governments also have increased deductibles and copayments for both active and retired employees. In order to have an adequate retirement income, it is important for employees to boost their retirement savings.

VALUES DRIVE LONG-TERM TRENDS

There have been pendulum swings in our society's approach to retirement security, according to Dallas Salisbury, president and chief executive officer, EBRI, who spoke at the June 2015 Retirement Security Summit held by the Center for State and Local Government Excellence (SLGE) in Washington, D.C. (http://slge.org/events/retirement-security-summit-the-evolving-social-contract-video-and-presentations).

"From 1933–1980, defined-benefit plans and social insurance were seen as good public policy," Salisbury said. "An individual's health and financial well-being fit into President Roosevelt's New Deal vision that established Social Security, as well as President Johnson's Great Society push that established Medicare."

Salisbury characterized the era from 1980 to the present as one where the values of individual liberty and choice gained more traction. With the election of President Reagan in 1980, reducing taxes was a priority and the privatization of Social Security was first discussed. This era ushered in a movement toward defined-contribution plans and away from social insurance programs.

As employers grapple with retirement security issues today, they face competing objectives. Is the goal retirement income or portable savings? Should the employer focus on retirement income adequacy for long-service workers or instead, put aside a percentage of pay toward retirement for all workers? Should the employer bear the risk for market fluctuations or should the employee bear the risk? Or both?

Salisbury explained that EBRI did a study for CalPERS to model what the costs would be to shift to a defined-benefit plan with a defined-contribution component. The study found that it would require 16.2 percent of pay every pay period for 40 years to achieve the same outcome as the existing defined-benefit plan, using the same investment assumptions.

If the objective is to provide every employee a percentage of pay, regardless of years worked, decisionmakers come to different conclusions. This approach led the state of Kentucky to move from a defined-benefit plan to a cash-balance plan, Salisbury said.

With more modest defined-benefit pensions in the public sector and relatively small defined-contribution savings in the private sector for lower and middle income workers, the importance of Social Security as part of the nation's retirement system grows, Salisbury noted.

Some 25 to 30 percent of state and local governments are outside of Social Security, so the income from those pension plans and other savings becomes central to retirement security for those workers. "If Social Security is not stabilized, then there will be significant challenges for the public and private sector," Salisbury observed.

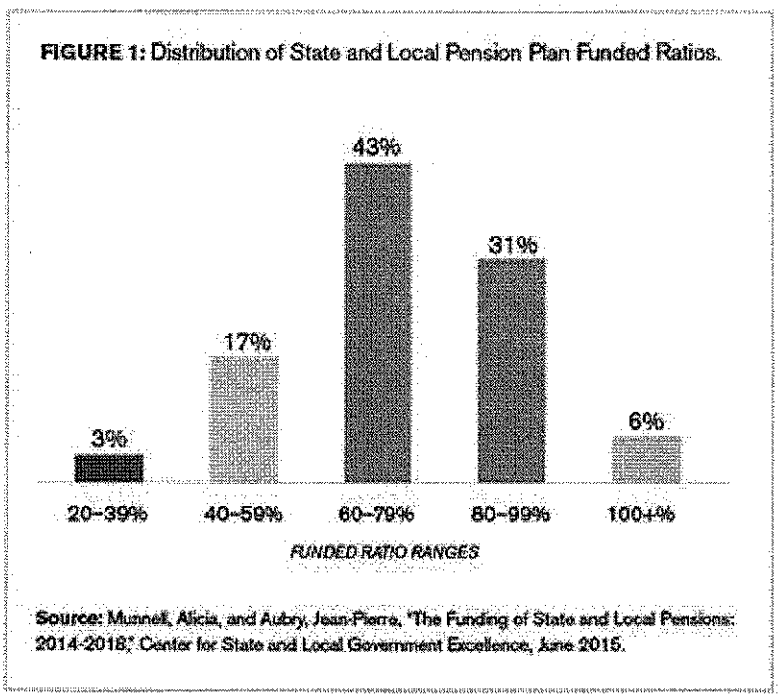
And while private sector employees have become increasingly comfortable with a primary defined-contribution plan, public sector employees still prefer a defined-benefit retirement plan by a ratio of five to one, according to a March 2015 EBRI poll. The survey found that two out of every 10 employees left their job or accepted a new job because of the benefits offered.

"Benefit packages are always important to recruiting," noted Salisbury. Public and private employees rated health insurance as the most important factor, followed by a retirement plan.

PENSION FUNDING

Recognizing the importance of a competitive benefits package, local and state governments have taken steps to shore up, to contain costs, or to make changes in the design of their pension plans, thus reducing costs and employer risks. While the media

has focused considerable attention on defined-benefit pension plan funding, many government and financial analysts would argue that health care costs pose the greater long-term challenge.



After the sharp decline in pension assets in 2009 due to the economic downturn, most governments have increased employee and employer contributions, reduced the benefit for new hires, and increased the retirement age or years required to vest in a plan. A few changed the cost of living adjustment (COLA) and some shifted to a hybrid plan, combining elements of a defined-benefit (DB) plan with those of a defined-contribution (DC) plan.

All of the hybrid plans—whether cash-balance or DB plus DC—have these core features: pooled assets invested by professionals, shared financing between employees and employers, and mandatory participation. The benefit cannot be outlived, and there are survivor and disability protections.

Generally speaking, pension plans that consistently have received their full annual required contribution show improved funded status. In 2014, 31 percent of state and local pension plans were 80 to 99 percent funded compared with 27 percent in 2013.

SAVING FOR RETIREMENT: WHAT WORKS?

Because newer hires will need to work longer and save more to reach their retirement income goals, what can local governments do to make it easier for them to save?

Inertia is a big part of the savings problem. Behavioral economists have found that an effective savings nudge is to automatically enroll people in a retirement savings plan. Instead of having to make an effort to sign up for the organization's deferred-compensation savings plan, the employee is automatically enrolled and has to take action to opt out of the plan.

While automatic enrollment has worked well in the private sector, local and state governments have been slow to adopt it. Some government leaders worry that their employees might object to automatic enrollment or that they can't afford to save.

SLGE partnered with researchers at the University of Georgia to examine the challenges that governments face in offering automatic enrollment to their employees, including legal constraints, perception, labor concerns, and administrative challenges.

Although only 11 states permit automatic enrollment for public sector defined-contribution plans, a few places have found a way forward. The Missouri State Deferred Compensation Plan, for example, uses automatic enrollment for state employees hired after January 1, 2012.

Multnomah County, Oregon, also was able to set up automatic enrollment in its supplemental deferred-compensation plan for new hires because the state's antigarnishment statues allowed automatic enrollment if approved in a labor contract.

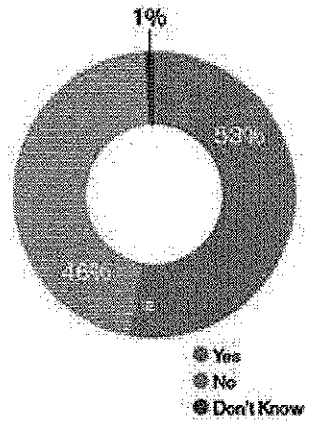
Why did labor leaders support automatic enrollment in Multnomah County? A key reason was that the county had moved new employees into a hybrid pension plan in 2003, yet few of the union members were participating in the county's 457(b) plan.

Recognizing the consequences of insufficient retirement savings when those newer hires reached retirement age, the union agreed during negotiations that automatic enrollment would apply to new unionized employees with the option available to others. Most employees who were automatically enrolled have stayed in the savings plan, rather than opting out.[1]

Similarly, the city of Los Angeles, California, has determined that automatic enrollment programs can be established as long as they are negotiated and included in collective bargaining

FIGURE 2: Health Care Plan Changes.

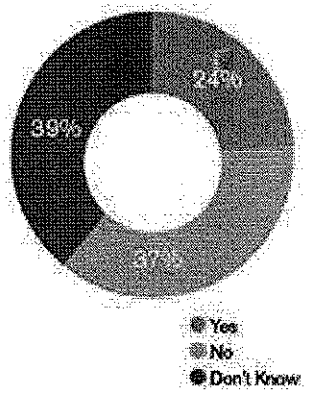
Over the past year, has your government made any changes to the health benefits you offer to your employees and retirees? (n = 332)



Source: "State and Local Government Workforce: 2015 Trends," Center for State and Local Government Excellence, June 2015.

FIGURE 3: Retirement Preparedness.

Do you feel your employees are prepared financially for their retirement? (n = 332)



Source: "State and Local Government Workforce: 2015 Trends," Center for State and Local Government Excellence, June 2015.

agreements. Speaking at the 2015 Retirement Security Summit, Steve Montagna, chief personnel analyst, Los Angeles, raised the provocative question, "What should the retirement income goal be?"

After careful consideration of this question, Los Angeles came up with the concept of "lifestyle income replacement," which is equal to 100 percent of income after adjusting for pension, savings, and Medicare deductions.

The city also created a retirement income calculator that allows participants to see what the gap is between their pension income and their lifestyle income goal. This information can help participants make better-informed decisions regarding their retirement savings strategies.

Preliminary data from participants show that they are making gradual increases in their supplemental savings plan as they gain more years of experience. Most participants start out contributing 5 percent of pay to savings and increase that amount to 9 or 10 percent of pay after 30 years of service.

Reflecting on the goal of 100 percent lifestyle income replacement, Gerri Madrid Davis, director, Financial Security & Consumer Affairs, AARP, remarked, "This is a blockbuster. More people are retiring with a great deal of debt so this [100 percent income replacement goal] is earth-shattering."

Employees will need to adjust their retirement income replacement goals to match their personal financial reality if they want to maintain their standard of living. Local governments can help them reach their retirement goals by giving them the information, tools, and incentives so they can save what they will need.

Endnote

[1]Sanford, Paula, "Using Automatic Enrollment in Local Government Retirement Plans to Increase Savings," Center for State and Local Government Excellence, June 2014.

Links to Publications Cited in This Article:

http://slge.org/publications/the-funding-of-state-and-local-pensions-2014-2018 ("The Funding of State and Local Pensions, 2014–2018," written by Alicia Munnell and Jean-Pierre Aubry).

http://slge.org/publications/state-and-local-government-workforce-2015-trends (Center for State and Local Government Excellence, Washington, D.C.).

http://slge.org/publications/using-automatic-enrollment-in-local-government-retirement-plans-to-increase-savings ("Using Automatic Enrollment in Local Government Retirement Plans to Increase Savings," written by Paula Sanford; cited in Footnote 1).

Elizabeth Kellar is president/CEO, Center

for State and Local Government Excellence, Washington, D.C. (ekellar@slge.org; slge.org).

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