**State of Minnesota ** LEGISLATIVE COMMISSION ON PENSIONS AND RETIREMENT

TO: Members of the Legislative Commission on Pensions and Retirement

FROM: Lawrence A. Martin, Executive Director

RE: Commission Interim Topic: Review of Current Minnesota Defined Benefit Public Employee Retirement Plan Interest Rate Actuarial Assumptions; Third Consideration

DATE: January 21, 2014

Introduction

As topics designated by Commission Chair Senator Sandra Pappas for consideration during the 2013-2014 Interim, the Commission has scheduled a review of the interest rate actuarial assumption to be used by the various Minnesota defined benefit public employee retirement plans and a review of Minnesota defined benefit public employee retirement plan post-retirement adjustment mechanisms.

Previously, the Commission considered the topics at the August, September, and November 2013 Commission meetings, reviewing current practices in Minnesota defined benefit public employee retirement plan interest/investment performance actuarial assumptions, post-retirement adjustment mechanisms, and the recognition of downsized post-retirement adjustment rates in adjusted interest rate actuarial assumptions.

Past consideration of the topics by the Commission represented an opportunity for the Commission to ascertain its comfort level with the 2012 revision in the Minnesota defined benefit public employee retirement plan interest rate assumption and with the 2010-2013 downsizings, revisions, and modifications of the various post-retirement adjustment mechanisms utilized by the statewide and major local defined benefit public employee retirement plans. Additionally, initiated by the administrators of the Minnesota State Retirement System (MSRS), the Public Employees Retirement Association (PERA), and the Teachers Retirement Association (TRA), the Commission considered a request for an amendment to the Commission's Standards for Actuarial Work for a formal recognition of the adjustment method used by the consulting actuaries of the various retirement plans to recognize the presumably temporary current downsizing of post-retirement adjustments by modifying the post-retirement interest rate assumptions. The retirement plan administrators indicated that further review of their request and the response options identified by the Commission staff was necessary, although no additional information or materials on the topic has been forthcoming from the retirement plan administrators since November 7, 2013.

In the issue memoranda prepared by the Commission staff for the interest/investment performance rate assumption, the commission staff indicated its conclusion that replacing the current implicit post-retirement adjustment actuarial assumption with an explicit post-retirement adjustment actuarial assumption would be more accurate, would be more understandable, and consequently would be better public pension policy. Subsequent to that meeting and topic consideration, the major statewide defined benefit public employee retirement system administrators have raised the question of the appropriate post-retirement adjustment rate assumption determination process and this consideration would permit the Commission to begin resolving the issue. This Commission staff issue memorandum consolidates the applicable portions of past Commission staff issue memoranda relevant to the topic of the appropriate determination and specification of the Minnesota defined benefit public employee retirement plan post-retirement adjustment rate actuarial assumptions and adds some additional background information and policy analysis.

Comparison of Interest Rate/Investment Performance Rate Assumptions for Minnesota Defined Benefit Public Employee Retirement Plans

Minnesota Statutes, Section 356.215, Subdivision 8, specifies the interest rate assumptions for the various defined benefit public employee retirement plans in Minnesota, as follows:

	Pre-Retirement			Post-Retirement		
Retirement Plan	Select *	Ultimate	Single Rate Equiv.	Select *	Ultimate	Single Rate Equiv.
MSRS General State Employees Retirement Plan	8.00%	8.50%	8.37%	5.50%	6.00%	N/R
PERA General Employees Retirement Plan	8.00	8.50	8.37	5.50	6.00	N/R
Teachers Retirement Association	8.00	8.50	8.38	5.50	6.00	6.38%
MSRS Correctional State Employees Retirement Plan	8.00	8.50	8.39	5.50	6.00	N/R
State Patrol Retirement Plan	8.00	8.50	8.37	5.50	6.00	N/R
Public Employees Police and Fire Retirement Plan	8.00	8.50	8.38	5.50	6.00	N/R
Local Government Correctional Service Retirement Plan	8.00	8.50	8.41	5.50	6.00	N/R

Retirement Plan	Pre-Retirement Select *	Pre-Retirement Ultimate	Pre-Retirement Single Rate Equiv.	Post-Retirement Select *	Post-Retirement Ultimate	Post-Retirement Single Rate Equiv.
PERA-MERF Division	8.00	8.5	8.29	5.50	6.00	N/R
Duluth Teachers Retirement Fund Association	8.00	8.50	N/R	8.00	8.50	N/R
St. Paul Teachers Retirement Fund Association	8.00	8.50	8.37	8.00	8.50	N/R
Legislators/Elected State Officers Retirement Plan	0.00	0.00	0.00	0.00	0.00	0.00
Judges Retirement Plan	8.00	8.50	8.35	5.50	6.00	N/R
Bloomington Fire Department Relief Association	6.00	6.00	N/R	6.00	6.00	N/R
Monthly benefit volunteer firefighter relief associations	5.00	5.00	N/R	5.00	5.00	N/R

** Where the select assumption differs from the ultimate assumption, the select period is 6/30/2012-6/30/2017.*

Creation of Differential Pre-Retirement and Post-Retirement Interest Rate Actuarial Assumptions

For Minnesota defined benefit public employee retirement plans other than local police, local paid fire, or volunteer fire plans, from 1957 until 1984, three was a single interest rate actuarial assumption for both active members (pre-retirement) and retired members (post-retirement), set at 3.0% from 1957 until 1969, set at 3.5% from 1969 until 1973, and set at 5.0% from 1973 until 1984.

Although a statewide retirement plan post-retirement adjustment mechanism, the Minnesota Adjustable Fixed Benefit Fund, was established in 1969 (Laws 1969, Ch. 485, Sec. 32, and Ch. 914, Sec. 10), the adjustment mechanism was funded solely from investment gains on the actuarial required reserves for retiree benefits (i.e., investment returns in excess of the interest rate actuarial assumption) without any promise that future adjustments would be paid. The 5.0% interest rate assumption was the threshold for investment actuarial gains and the payment of post-retirement adjustments.

In 1984, after a controversy over both actuarial reporting practices and over public employee defined benefit retirement plan funding adequacy and after a study by an outside pension consultant initiated by the Department of Finance, there was a desire by the executive branch to reset the interest rate actuarial assumption from 5.0%. Because a change in the interest rate actuarial assumption applicable to retired life retirement fund assets would reduce their future post-retirement adjustments, still funded from investment actuarial gains, and would impose an undeserved benefit reduction, when the interest rate actuarial assumption was increased to 8.0%, it was increased only for the actuarial reserves for active members, leaving the interest rate actuarial assumption for the assets in the Minnesota Post Retirement Investment Fund (the 1980 renaming of the Minnesota Adjustable Fixed Benefit Fund) at 5.0%. This 1984 legislation (Laws 1984, Ch. 564, Sec. 43) was the creation of the practice of a pre-retirement interest rate actuarial assumption and a post-retirement interest rate actuarial assumption. Because the post-retirement adjustment mechanism still was a "defined contribution" styled mechanism, triggered solely by an actuarial gain related to the interest rate actuarial assumption, there was no actuarial or policy need for an explicit post-retirement adjustment rate assumption.

In 1989 (Laws 1989, Ch. 319, Art. 13, Sec. 90-91), the pre-retirement interest rate actuarial assumption was increased from 8.0% to 8.5%, with the post-retirement interest rate left at 5.0%.

In 1992 (Laws 1992, Ch. 350), the Minnesota Post Retirement Investment Fund shifted from a "defined contribution" type of post-retirement adjustment mechanism to a hybrid type of post-retirement adjustment with the addition of a "defined benefit" cost-of-living-based component of annual post-retirement adjustments, replacing inflation annually up to 3.5%, and, if investment performance on invested retired life actuarial reserves were in excess of 8.5%, an investment-performance-related component with a five-year smoothing period. However, for whatever reason, the designers of the post-retirement adjustment change, the statewide retirement plan administrators, did not propose creating a post-retirement adjustment rate actuarial assumption and returning to a single interest rate actuarial assumption, but retained the 5.0% post-retirement interest rate actuarial assumption with the differential representing an implicit actuarial assumption for the inflation component of the post-retirement adjustment.

In 1997 (Laws 1997, Ch. 233, Art. 1, Sec. 5), as part of an active member benefit increase proposal, the inflation component of the post-retirement adjustment was reduced by 1.0%, to 2.5% annually, to fund a benefit accrual rate increase used in calculating the initial retirement annuity, and the post-retirement interest rate actuarial assumption was increased from 5.0% to 6.0%, retaining the differential between the pre-retirement interest rate actuarial assumption and the post-retirement interest rate actuarial assumption as the post-retirement adjustment implicit actuarial assumption.

In 2008 (Laws 2008, Ch. 349, Art. 1-2), provision was made for the dissolution of the Minnesota Post Retirement Investment Fund if its funded condition dropped too low, with a replacement 2.5% annual flat rate unconditional post-retirement adjustment payable if there was a dissolution. The funded ratio of the Minnesota Post Retirement Investment Fund met the dissolution trigger as of June 30, 2008.

In 2010 (Laws 2010, Ch. 359, Art. 1, Sec. 75-82), the 2.5% annual post-retirement adjustment rate enacted in 2008 was reduced or suspended for a period of time based on the financial difficulties of the various statewide defined benefit public employees retirement plans following the Great Recession of 2008, with the return to the full 2.5% post-retirement adjustment rate dependent upon a future achievement of a certain percentage funded ratio based on the market value of pension fund assets. The "financial sustainability" legislation included a provision requiring an adjustment to the post-retirement interest rates based on the amount of the downsizing in the post-retirement adjustment rate applicable to each retirement plan.

<u>Current Actuarial Reporting Law and Standards Provisions on Post-Retirement Adjustments</u>

Minnesota Statutes, Section 356.215, is the basic Minnesota law governing actuarial reporting on defined benefit retirement plans.

Minnesota Statutes, Section 356.215, Subdivision 6, requires that the actuarial accrued liability for each Minnesota defined benefit retirement plan be calculated under the Entry Age Actuarial Cost Method by calculating the present value of future benefits payable from the retirement fund and subtracting from that figure the present value of future normal cost contributions to the retirement fund. Under Minnesota Statutes, Section 356.215, Subdivision 5, normal cost under the Entry Age Actuarial cost method is calculated as the present value of future benefits of the active membership of the retirement plan expressed as a level percentage of the present value of the future expected payrolls of the active membership of the retirement plan as of the valuation date. The present value calculations are made using a combination of statutory (under Minn. Stat. Sec. 356.215, Subd. 8) actuarial assumptions (pre-retirement interest, post-retirement interest, and salary scale (increase)) and Commission-approved non-statutory actuarial assumptions (mortality, retirement age, turnover/withdrawal, disablement, family composition, and optional annuity form utilization).

A pension plan's unfunded actuarial accrued liability is calculated under Minnesota Statutes, Section 356.215, Subdivision 1, Paragraphs (f) and (g), and Subdivision 11, as the actuarial accrued liability of the retirement plan after subtracting the actuarial value of assets. The actuarial value of assets is a smoothing technique over five years.

The amortization requirement for most Minnesota defined benefit retirement plans under Minnesota Statutes, Section 356.215, Subdivision 11, is the level percentage rate for the covered payroll of the active membership of the retirement plan increasing at a specified rate, under Minnesota Statutes, Section 356.215, Subdivision 8, (generally 3.5% per year) necessary to fully pay off the current unfunded actuarial accrued liability of the retirement plan by the specified amortization target date (ranging from 2031 to 2040 or, for the St. Paul Teachers Retirement Fund Association (SPTRFA), as a date reset annually 25 years hence. The full actuarial requirements of the retirement plan is a combination of the normal cost of the retirement plan, the current year's administrative expenses expressed as a percentage of the current year's covered payroll, and the amortization requirement.

Minnesota Statutes, Section 356.215, does not include an express actuarial assumption as to future post-retirement adjustments, but instead includes expected future post-retirement adjustments by utilizing a reduced interest rate assumption rate for post-retirement than is used for pre-retirement, with the differential set at the generally applicable annual post-retirement adjustment rate of 2.5% under Minnesota Statutes, Section 356.415, Subdivision 1.

To recognize the actuarial liability and total actuarial financial requirements reductions arising from the 2010 Financial Sustainability Legislation (Laws 2010, Ch. 359, Art. 1), Minnesota Statutes, Section 356.415, Subdivision 3, provides that the differential between the pre-retirement interest rate and the post-retirement interest rate will be adjusted by the difference between the post-retirement adjustment rate under the 2010 legislation and the full 2.5% post-retirement adjustment rate for the period until the retirement plan achieves a 90% funded ratio (assets expressed as a percentage of actuarial accrued liability) on a market value of assets is achieved.

Since 2010 and the enactment of Minnesota Statutes, Section 356.415, Subdivision 3, the trigger for the return to the pre-2010 post-retirement adjustment rate has been modified for the St. Paul Teachers Retirement Fund Association (SPTRFA) to an 80% funded ratio for a 2% annual post-retirement adjustment and to a 90% funded ratio for a return to the pre-2010 post-retirement adjustment rate (1st Spec. Laws 2011, Ch. 8, Art. 2, Sec. 3-5, 22), for the State Patrol Retirement Plan, where the 90% funded ratio was changed to an 85% funded ratio (Laws 2013, Ch. 111, Art. 9, Sec. 10), for the General Employees Retirement Plan of the Public Employees Retirement Association (PERA-General), the Public Employees Police and Fire Retirement Plan (PERA-P&F), and the Local Government Correctional Service Retirement Plan (PERA-Correctional), where the 90% funded trigger must be maintained for two consecutive years before a resumption and the reduced rate if in a subsequent year after the trigger was attained the funded ration falls to 85% for two consecutive years or to 80% in one year (Laws 2013, Ch. 111, Art. 11, Sec. 13-14), for the Duluth Teachers Retirement Fund Association (DTRFA), where a two-trigger (80% funded ratio and 90% funded ratio) provision was scrapped in favor of a 90% funded ratio trigger, and for the Judges Retirement Plan, where the 90% funded ratio trigger and a 2% annual reduced post-retirement adjustment rate was modified with the addition of a 1.5% annual post retirement adjustment rate until the retirement plan is at least 70% funded on a market value basis (Laws 2013, Ch. 111, Art. 14, Sec. 2-3).

The Commission's Standards for Actuarial Work, last amended by the Commission on August 11, 2010, generally parallels the requirements of Minnesota Statutes, Section 356.215, provides specific detailed requirements for various actuarial calculations, and requires a projection of the actuarial condition of the retirement plan over time assuming that future experience matches the applicable actuarial assumption. The Standards do not reflect the provisions of Minnesota Statutes, Section 356.415, and do not specify how the annual actuarial valuations are to handle the uncertainty of when the annual post-retirement adjustment rate returns to 2.5% because the retirement fund became at least 90% funded on a market value of assets basis.

<u>Retirement Plan Administrators Actuarial Standards Amendment Request</u>

On October 16, 2013, the executive directors of the Minnesota State Retirement System (MSRS), the Public Employees Retirement Association (PERA), and the Teachers Retirement Association (TRA), sent a letter to Commission Chair Senator Sandra Pappas, requesting that the Commission take action before early December 2013 on an amendment to its Standards For Actuarial Work relating to the calculation of actuarial accrued liability, normal cost, amortization contribution, and full actuarial funding cost for their retirement plan(s) for varying post-retirement adjustment rates in future years.

The executive directors of MSRS, PERA, and TRA requested Commission guidance, through an amendment to the Commission's Standards for Actuarial Work by early December 2013, on determining when the various Minnesota defined benefit retirement plans will attain the funded ratio trigger figure or figures return to the payment of 2.5% annual post-retirement adjustments and a discontinuation of the adjustment to the post-retirement interest rate assumption to account for the actuarial liability release from the downsized post-retirement adjustment rate. The requested amendment, although not reduced to the required amendatory language by the retirement system administrations, would capture the procedure used by the various consulting actuaries in past actuarial valuations.

The following is an example of the future post-retirement adjustment rate valuation procedure that the executive directors forwarded, drawn from the July 1, 2010, actuarial valuation of the Local Government Correctional Service Retirement Plan:

Actuarial Valuation Report Local Government Correctional Service Retirement Plan

Effects of Changes *(continued)*

Valuation of Future Post-Retirement Benefit Increases

A very important assumption affecting the valuation results is the expectation of future post-retirement benefit increases. The plan's accrued liability funding ratio (on a market value of assets basis and assuming 1. 0% benefit increases for the first four years and 2.5% thereafter) is currently 84.9%. If the plan reaches a funding ratio of 90% (on a market value of assets basis) in the future, post-retirement increases will revert to 2.5%.

We performed a projection of liabilities and assets, using the 2010 valuation results as a baseline and assuming future experience follows the valuation assumptions (including future investment returns of 8.5%). In addition, the projection utilized the following methods and assumptions:

- Liabilities and normal cost assume future COLAs at 2.5% level payable for all years
- Cash flow assuming future COLAs at current 1% level
- Level normal cost as a percent of pay (assuming total payroll increases as assumed in the valuation for purposes of amortizing the unfunded liability)
- Current statutory contribution levels (i.e. not including potential contribution increases under the contribution stabilizer statutes)

Based on these assumptions and methods, the projection indicates that the funded status of this plan is expected to reach 90% in four years.

The liabilities in this report are based on the assumption that the post-retirement benefit increase will be 1.0% for the first four years and 2.5% thereafter. We relied on direction from PERA, including PERA's interpretation of applicable Minnesota Statutes, on this issue. If we assumed future post-retirement benefit increases of2.5% for all years, the actuarial accrued liability would be approximately $252 million instead of approximately $249 million, resulting in an actuarial accrued liability funded ratio of 83.9% (on a market value basis).

Need for Explicit Post-Retirement Adjustment Actuarial Assumptions

In Minnesota defined benefit public pension plans, implicit actuarial assumptions have been rare, limited to an inflation assumption and a post-retirement adjustment assumption.

The implicit post-retirement adjustment assumption in Minnesota for most statewide and major local retirement plans is a function of the difference between the pre-retirement interest rate and post-retirement interest rate assumptions and further adjusted, under Minnesota Statutes, Section 356.415, Subdivision 3, based on the post-retirement adjustment downsizing under the 2010 financial sustainability legislation (Laws 2010, Ch. 359, Art. 1, Sec. 76-82).

All of the statewide and major local Minnesota public employee defined benefit retirement plans have downsized their post-retirement adjustment rates until their funding ratios, generally on a market value of assets basis, improve to a designated level, meaning that the actuaries preparing the annual actuarial valuation must project future funding ratios in order to determine how long an adjusted margin or differential between the pre-retirement interest rate actuarial assumption and the post-retirement interest rate actuarial assumption would continue.

If transparency in the actuarial work for Minnesota public employee defined benefit retirement plans is a valuable attribute, the implicit post-retirement adjustment actuarial assumption underlying the differential interest rate actuarial assumptions used in those actuarial valuations and the additional interest rate differential adjustment introduced in 2010 mask any transparency and are beyond the likely understanding of many plan members and all but the most actuarially sophisticated outside readers of Minnesota actuarial work.

If accuracy in the actuarial work for Minnesota public employee defined benefit retirement plans is important, the current differential interest actuarial assumption rates fail. In the June 30, 2013, actuarial valuations for seven of the Minnesota public employee defined benefit retirement plans, the preparing actuary disclosed that the mathematical impact of the differential in pre- and post-retirement interest assumption rates was less than the applicable downsized post-retirement adjustment rate, as follows:

Retirement Plan	Mathematical Effect of Differential Rates	Current Post-Retirement Adjustment Rate
MSRS-General	1.9%	2.0%
PERA-General	0.9	1.0
MSRS-Correctional	1.9	2.0
State Patrol	0.9	1.0
PERA-P&F	0.9	1.0
PERA-Correctional	2.4	2.5
Judges Retirement Plan	1.64	1.75

Draft LCPR13-042R: Replacement of Implicit Post-Retirement Actuarial Assumption with Explicit Post-Retirement Adjustment Actuarial Assumption

The Commission could consider and act to recommend or decline to recommend an amendment to Minnesota Statutes, Section 356.215, Subdivision 8, that would replace the current utilization of pre-retirement and post-retirement interest rate actuarial assumptions as a mechanism for setting an implicit post-retirement adjustment actuarial assumption with an explicit set of post-retirement adjustment actuarial assumptions for applicable future periods (see Document LCPR13-042R, attached).

A bill for an act

relating to retirement; interest rate and postretirement adjustment rate actuarial assumptions; replacing an implicit postretirement adjustment rate actuarial assumption with an explicit actuarial assumption; amending Minnesota Statutes 2013 Supplement, section 356.215, subdivision 8; repealing Minnesota Statutes 2012, section 356.415, subdivision 3.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. Minnesota Statutes 2013 Supplement, section 356.215, subdivision 8, is amended to read:

Subd. 8. **Interest and salary assumptions.** (a) The actuarial valuation must use the applicable following ~~preretirement~~ interest assumption ~~and the applicable following postretirement interest assumption~~:

(1) select and ultimate interest rate assumption

plan	ultimate ~~preretirement~~ interest rate assumption	~~ultimate postretirement interest rate assumption~~
general state employees retirement plan	8.5%	~~6.0%~~
correctional state employees retirement plan	8.5	~~6.0~~
State Patrol retirement plan	8.5	~~6.0~~
legislators retirement plan, and for the constitutional officers calculation of total plan liabilities	0.0	~~0.0~~
judges retirement plan	8.5	~~6.0~~
general public employees retirement plan	8.5	~~6.0~~
public employees police and fire retirement plan	8.5	~~6.0~~
local government correctional service retirement plan	8.5	~~6.0~~
teachers retirement plan	8.5	~~6.0~~

Duluth teachers retirement plan	8.5	~~8.5~~
St. Paul teachers retirement plan	8.5	~~8.5~~

Except for the legislators retirement plan and the constitutional officers calculation of total plan liabilities, the select preretirement interest rate assumption for the period after June 30, 2012, through June 30, 2017, is 8.0 percent. ~~Except for the legislators retirement plan and the constitutional officers calculation of total plan liabilities, the select postretirement interest rate assumption for the period after June 30, 2012, through June 30, 2017, is 5.5 percent, except for the Duluth teachers retirement plan and the St. Paul teachers retirement plan, each with a select postretirement interest rate assumption for the period after June 30, 2012, through June 30, 2017, of 8.0 percent.~~

(2) single rate ~~preretirement and postretirement~~ interest rate assumption

plan	interest rate assumption
Bloomington Fire Department Relief Association	6.0
local monthly benefit volunteer firefighters relief associations	5.0

(b) The actuarial valuation must use the applicable postretirement adjustment rate actuarial assumption for the applicable period or periods:

plan	rate and duration
general state employees retirement plan	2.0% until December 31, 2040, 2.5% thereafter
correctional state employees retirement plan	2.0% until December 31, 2038, 2.5% thereafter
State Patrol retirement plan	1.0% until December 31, 2037, 2.5% thereafter
legislators retirement plan, including constitutional officers	2.0% until December 31, 2040, 2.5% thereafter
judges retirement plan	1.75% until December 31, 2039, 2.5% thereafter
general public employees retirement plan	1.0% until December 31, 2031, 2.5% thereafter
public employees police and fire retirement plan	1.0% until December 31, 2039, 2.5% thereafter
local government correctional service retirement plan	1.0% until December 31, 2015, 2.5% thereafter
MERF division of the Public Employees Retirement Association	1.0% until December 31, 2031, 2.5% thereafter
teachers retirement plan	2.0% until December 31, 37, 2.5% thereafter
Duluth teachers retirement plan	1.0% until December 31, 2039, 2.5% thereafter
St. Paul teachers retirement plan	1.0% until December 31, 2038, 2.5% thereafter

~~(b)~~ (c) The actuarial valuation must use the applicable following single rate future salary increase assumption, the applicable following modified single rate future salary increase assumption, or the applicable following graded rate future salary increase assumption:

(1) single rate future salary increase assumption

plan	future salary increase assumption
legislators retirement plan	5.0%
judges retirement plan	3.0
Bloomington Fire Department Relief Association	4.0

(2) age-related future salary increase age-related select and ultimate future salary increase assumption or graded rate future salary increase assumption

plan	future salary increase assumption
local government correctional service retirement plan	assumption C
Duluth teachers retirement plan	assumption A
St. Paul teachers retirement plan	assumption B

For plans other than the Duluth teachers retirement plan, the select calculation is: during the designated select period, a designated percentage rate is multiplied by the result of the designated integer minus T, where T is the number of completed years of service, and is added to the applicable future salary increase assumption. The designated select period is ten years and the designated integer is ten for the Duluth Teachers Retirement Fund Association and for the local government correctional service retirement plan and 15 for the St. Paul Teachers Retirement Fund Association. The designated percentage rate is 0.2 percent for the St. Paul Teachers Retirement Fund Association. The select calculation for the Duluth Teachers Retirement Fund Association is 8.00 percent per year for service years one through seven, 7.25 percent per year for service years seven and eight, and 6.50 percent per year for service years eight and nine.

The ultimate future salary increase assumption is:

age	A	B	C
16	6.00%	5.90%	9.00%
17	6.00	5.90	9.00
18	6.00	5.90	9.00
19	6.00	5.90	9.00
20	6.00	5.90	9.00
21	6.00	5.90	8.75
22	6.00	5.90	8.50
23	6.00	5.85	8.25
24	6.00	5.80	8.00
25	6.00	5.75	7.75
26	6.00	5.70	7.50
27	6.00	5.65	7.25
28	6.00	5.60	7.00
29	6.00	5.55	6.75
30	6.00	5.50	6.75
31	6.00	5.45	6.50
32	6.00	5.40	6.50
33	6.00	5.35	6.50
34	6.00	5.30	6.25
35	6.00	5.25	6.25
36	5.86	5.20	6.00
37	5.73	5.15	6.00
38	5.59	5.10	6.00
39	5.45	5.05	5.75
40	5.31	5.00	5.75
41	5.18	4.95	5.75
42	5.04	4.90	5.50
43	4.90	4.85	5.25
44	4.76	4.80	5.25
45	4.63	4.75	5.00
46	4.49	4.70	5.00
47	4.35	4.65	5.00
48	4.21	4.60	5.00
49	4.08	4.55	5.00
50	3.94	4.50	5.00
51	3.80	4.45	5.00
52	3.66	4.40	5.00
53	3.53	4.35	5.00
54	3.39	4.30	5.00

55	3.25	4.25	4.75
56	3.25	4.20	4.75
57	3.25	4.15	4.50
58	3.25	4.10	4.25
59	3.25	4.05	4.25
60	3.25	4.00	4.25
61	3.25	4.00	4.25
62	3.25	4.00	4.25
63	3.25	4.00	4.25
64	3.25	4.00	4.25
65	3.25	4.00	4.00
66	3.25	4.00	4.00
67	3.25	4.00	4.00
68	3.25	4.00	4.00
69	3.25	4.00	4.00
70	3.25	4.00	4.00

(3) service-related ultimate future salary increase assumption

general state employees retirement plan of the Minnesota State Retirement System	assumption A
general employees retirement plan of the Public Employees Retirement Association	assumption B
Teachers Retirement Association	assumption C
public employees police and fire retirement plan	assumption D
State Patrol retirement plan	assumption E
correctional state employees retirement plan of the Minnesota State Retirement System	assumption F

service length	A	B	C	D	E	F
1	10.50%	12.03%	12.00%	13.00%	8.00%	6.00%
2	8.10	8.90	9.00	11.00	7.50	5.85
3	6.90	7.46	8.00	9.00	7.00	5.70
4	6.20	6.58	7.50	8.00	6.75	5.55
5	5.70	5.97	7.25	6.50	6.50	5.40
6	5.30	5.52	7.00	6.10	6.25	5.25
7	5.00	5.16	6.85	5.80	6.00	5.10
8	4.70	4.87	6.70	5.60	5.85	4.95
9	4.50	4.63	6.55	5.40	5.70	4.80
10	4.40	4.42	6.40	5.30	5.55	4.65
11	4.20	4.24	6.25	5.20	5.40	4.55
12	4.10	4.08	6.00	5.10	5.25	4.45
13	4.00	3.94	5.75	5.00	5.10	4.35
14	3.80	3.82	5.50	4.90	4.95	4.25
15	3.70	3.70	5.25	4.80	4.80	4.15

16	3.60	3.60	5.00	4.80	4.65	4.05
17	3.50	3.51	4.75	4.80	4.50	3.95
18	3.50	3.50	4.50	4.80	4.35	3.85
19	3.50	3.50	4.25	4.80	4.20	3.75
20	3.50	3.50	4.00	4.80	4.05	3.75
21	3.50	3.50	3.90	4.70	4.00	3.75
22	3.50	3.50	3.80	4.60	4.00	3.75
23	3.50	3.50	3.70	4.50	4.00	3.75
24	3.50	3.50	3.60	4.50	4.00	3.75
25	3.50	3.50	3.50	4.50	4.00	3.75
26	3.50	3.50	3.50	4.50	4.00	3.75
27	3.50	3.50	3.50	4.50	4.00	3.75
28	3.50	3.50	3.50	4.50	4.00	3.75
29	3.50	3.50	3.50	4.50	4.00	3.75
30 or more	3.50	3.50	3.50	4.50	4.00	3.75

~~(c)~~ (d) The actuarial valuation must use the applicable following payroll growth assumption for calculating the amortization requirement for the unfunded actuarial accrued liability where the amortization retirement is calculated as a level percentage of an increasing payroll:

plan	payroll growth assumption
general state employees retirement plan of the Minnesota State Retirement System	3.75%
correctional state employees retirement plan	3.75
State Patrol retirement plan	3.75
judges retirement plan	3.00
general employees retirement plan of the Public Employees Retirement Association	3.75
public employees police and fire retirement plan	3.75
local government correctional service retirement plan	3.75
teachers retirement plan	3.75
Duluth teachers retirement plan	3.50
St. Paul teachers retirement plan	4.00

~~(d)~~ (e) The assumptions set forth in paragraphs (b) and (c) continue to apply, unless a different salary assumption or a different payroll increase assumption:

(1) has been proposed by the governing board of the applicable retirement plan;

(2) is accompanied by the concurring recommendation of the actuary retained under section 356.214, subdivision 1, if applicable, or by the approved actuary preparing the most recent actuarial valuation report if section 356.214 does not apply; and

(3) has been approved or deemed approved under subdivision 18.

EFFECTIVE DATE. This section is effective June 30, 2014, and applies to actuarial valuation reports prepared on or after that date.

Sec. 2. **REPEALER.**

Minnesota Statutes 2012, section 356.415, subdivision 3, is repealed.

EFFECTIVE DATE. This section is effective June 30, 2014, and applies to actuarial valuation reports prepared on or after that date.