



TO: Legislative Commission on Pensions and Retirement
FROM: Susan Lenczewski, Executive Director
RE: Fire Relief Association Pension Assumption Changes
DATE: November 3, 2015

The Commission is being asked to approve actuarial assumption changes for 14 fire relief associations. Attached for the Commission's consideration are the following:

- Letter from Van Iwaarden Associates, the actuary for the relief associations, dated October 30, 2015, explaining the need for the assumption changes and requesting Commission approval;
- Chart providing asset, liability, funding and contribution information and specifying the current and proposed actuarial assumptions for each of the 14 relief associations; and
- Proposed resolution LCPR15-R2 for adoption by the Commission of the proposed actuarial assumption changes for the 14 relief associations.

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October 30, 2015

Ms. Susan Lenczewski
Executive Director
Legislative Commission on Pensions and Retirement
100 Rev. Dr. Martin Luther King Jr. Blvd.
State Office Building, Room 55
St. Paul, MN 55155

Re: Fire Department Relief Associations – Request for Pension Assumption Changes

Dear Ms. Lenczewski,

Van Iwaarden Associates is currently engaged as the plan actuary by several annuity defined benefit pension plans sponsored by Volunteer Fire Relief Associations (VFRAs) in Minnesota. This letter and attached exhibits describe our request for the Legislative Commission on Pensions and Retirement (LCPR) to approve changes to some of the actuarial assumption we use in the biennial actuarial valuation reports.

Background

As pension plan actuaries, one of our responsibilities is to review the actuarial assumptions used to develop plan liabilities and statutory contribution requirements. Based on this analysis, we recommend potential assumption changes and request LCPR approval.

Over the past two years, we've completed an in-depth assumption review for all of our VFRA pension assumptions, either as part of their GASB 67/68 accounting implementation or in the normal course of our statutory funding work. All of our assumption reviews are guided by relevant Actuarial Standards of Practice (ASOPs).

As a result of these analyses, we're proposing some demographic assumption changes for most of our VFRA clients. These requested assumption updates include:

- Adjusting several of the demographic assumptions (mortality, turnover, and disability incidence) to be uniform tables that automatically update when PERA changes its assumptions;
- Updating the retirement assumption based on specific plan designs and experience.

Note that we are not requesting any economic assumption changes because the discount rate is set by statute (5.0%) and other economic assumptions aren't applicable to VFRA pension valuations.

Request for assumption approval

The attached exhibit summarizes several items for each of our VFRA clients seeking assumption changes, including:

- Comparison of actuarial accrued liability, unfunded liability, and statutory contribution under the current and proposed assumptions;
- Summary of the current assumptions and proposed assumptions.

Note that all results are presented as of the most recently-completed valuation date. Below is a brief description of the rationale for each of the proposed assumption changes.

Assumption	Proposed Changes and Rationale
Mortality	<p>This assumption is primarily used to estimate how long a retiree will receive their pension payments. We believe that the table used in the most recent PERA Police & Fire actuarial valuation report provides a reasonable basis for our calculations.</p> <p>In addition, this table will automatically update in the future as additional PERA Police & Fire actuarial assumption studies are completed. There is insufficient VFRA plan-specific data to develop a custom mortality table.</p>
Turnover	<p>This assumption is used to project whether an active employee will terminate employment prior to reaching full retirement eligibility. There is insufficient data to determine VFRA plan-specific assumptions, so we propose to use the PERA Police & Fire table as a reasonable estimate.</p> <p>Because the PERA Police & Fire rates are based on the experience of career public safety professionals, it’s likely that the PERA rates are lower than the actual experience for VFRAs (part-time employees with lower benefit levels). However, this difference should provide a margin of conservativeness to our calculations since lower-than-expected turnover rates will produce higher liabilities. This table will also automatically update in the future as additional PERA Police & Fire actuarial assumption studies are completed.</p>
Disability	<p>This assumption is used to project whether an active employee will become disabled in the line of duty and eligible for a special disability benefit (if any). There is insufficient data to determine VFRA plan-specific assumptions, so we propose to use the PERA Police & Fire table as a reasonable estimate for valuation purposes.</p> <p>Because the PERA Police & Fire rates are based on the experience of career public safety professionals with potentially higher exposure to disability events, it’s likely that the PERA tables are higher than the actual experience for VFRAs (part-time employees with lower disability exposure). However, the PERA disability rates are relatively modest and do not increase substantially until after the age 50 retirement eligibility for VFRA pensions. This means that the disability assumption has a minor impact on VFRA pension liabilities. The table will also automatically update in the future as additional PERA Police & Fire actuarial assumption studies are completed.</p>

Retirement This assumption has a significant impact on VFRA pension liabilities because retirement age affects the level of benefits (service) and how long benefits will be paid. Based on uniform pension eligibility requirements (age 50 with 20 years of service) and VFRA pension plans' experience, we developed a custom table to be used for our VFRA pension valuation reports.

We do not believe that the PERA Police & Fire retirement tables are appropriate for VFRA's because of the significant difference in benefit levels, eligibility requirements, and nature of their employment (career full-time vs. part-time).

Other considerations

We want to highlight that it is difficult to develop plan-specific demographic assumptions for VFRA pension plans due to the small number of participants in each plan and the lack of sufficient historical experience data. We believe that it is most practical to use general demographic assumptions which are reasonable estimates of future experience. These assumptions should produce accurate results and are more pragmatic than developing complicated assumptions that are more precise but do not improve accuracy.

As stated above, the turnover and disability assumptions do not have a substantial impact on the plans' liabilities. The mortality and retirement tables are more significant and we would like to update all of our plans so that they use a consistent basis. Details are shown in the attached exhibit.

As required under Minnesota statute 356.215 Subd.18(b), we are requesting the approval of the Legislative Commission on Pensions and Retirement to make the changes summarized in the attached exhibit.

Please feel free to contact me with any questions you may have.

Sincerely,



Mark W. Schulte, FSA
Consulting Actuary

Cc: Sandra Bruns – Van Iwaarden Associates
Brenda Hardy – Van Iwaarden Associates

L/D/C/R: 3/ms/sb

VFRA Proposed Assumption Changes
Summary of Liability and Contribution Impact

	Apple Valley		Brooklyn Center		Chaska	
	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions
Actuarial Accrued Liability (AAL)	\$ 7,673,653	\$ 7,423,497	\$ 3,084,717	\$ 2,992,360	\$ 5,761,734	\$ 5,765,004
Special fund assets	6,427,084	6,427,084	3,508,210	3,508,210	4,856,570	4,856,570
Unfunded AAL	1,246,569	996,413	(423,493)	(515,850)	905,164	908,434
Funded status	83.8%	86.6%	113.7%	117.2%	84.3%	84.2%
Statutory contribution	404,811	388,535	71,203	76,125	267,302	266,751
Most recent valuation date	1/1/2015	1/1/2015	1/1/2015	1/1/2015	12/31/2013	12/31/2013

Current assumptions by plan	Proposed for all plans			
Mortality	RP-2014 fully generational using scale MP-2014.	RP-2014 fully generational using scale MP-2014.	RP-2000 fully generational using scale AA.	The mortality assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Withdrawal	Rates varying by age. Sample rates shown in the January 1, 2015 actuarial valuation.	7% from ages 20 to 30, decreasing uniformly to zero at age 45.	Rates varying by age. Sample rates shown in the December 31, 2013 actuarial valuation.	The withdrawal assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Retirement	The later of age 53 or 20 years of service.	The later of age 52 or 20 years of service.	The later of age 50 or 20 years of service.	50% at age 50 with 20 years of service, then 50% each subsequent year until 100% at the earlier of 65 or 30 years of service.
Disability	None.	None.	Rates from the Railroad Retirement Board 12th Valuation.	The disability assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.

VFRA Proposed Assumption Changes

Summary of Liability and Contribution Impact

	Fairmont		Glencoe		Hutchinson	
	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions
Actuarial Accrued Liability (AAL)	\$ 1,947,101	\$ 1,901,034	\$ 1,059,295	\$ 1,030,321	\$ 2,580,597	\$ 2,617,560
Special fund assets	1,450,370	1,450,370	1,125,331	1,125,331	1,948,400	1,948,400
Unfunded AAL	496,731	450,664	(66,036)	(95,010)	632,197	669,160
Funded status	74.5%	76.3%	106.2%	109.2%	75.5%	74.4%
Statutory contribution	134,935	138,231	37,703	39,105	144,183	151,880
Most recent valuation date	1/1/2014	1/1/2014	1/1/2015	1/1/2015	1/1/2015	1/1/2015

Current assumptions by plan	Proposed for all plans			
Mortality	RP 2000 Blue Collar fully generational using Scale BB.	RP-2000 Combined annuitant and non-annuitant mortality table.	RP-2000 fully generational using scale AA.	The mortality assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Withdrawal	6% at age 20, decreasing uniformly to zero at age 45.	7% from ages 20 to 30, decreasing uniformly to zero at age 45.	Rates varying by age. Sample rates shown in the January 1, 2015 actuarial valuation.	The withdrawal assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Retirement	The later of age 50 or 20 years of service.	The later of age 50 or 20 years of service.	The later of age 53 or 20 years of service.	50% at age 50 with 20 years of service, then 50% each subsequent year until 100% at the earlier of 65 or 30 years of service.
Disability	Rates from the Railroad Retirement Board 12th Valuation.	75% of the Railroad Retirement Board 12th valuation rates.	None.	The disability assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.

VFRA Proposed Assumption Changes

Summary of Liability and Contribution Impact

	Lake Johanna		Minnetonka		Mound	
	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions
Actuarial Accrued Liability (AAL)	\$ 4,421,700	\$ 4,243,080	\$ 14,468,677	\$ 14,189,184	\$ 5,169,854	\$ 5,639,144
Special fund assets	5,008,532	5,008,532	15,084,489	15,084,489	4,973,694	4,973,694
Unfunded AAL	(586,832)	(765,452)	(615,812)	(895,305)	196,160	665,450
Funded status	113.3%	118.0%	104.3%	106.3%	96.2%	88.2%
Statutory contribution	148,141	125,568	190,887	182,776	111,734	165,249
Most recent valuation date	12/31/2013	12/31/2013	1/1/2015	1/1/2015	12/31/2013	12/31/2013

Current assumptions by plan	Proposed for all plans			
Mortality	RP-2014 fully generational using scale MP-2014.	RP 2000 Blue Collar fully generational using Scale BB.	1971 Group Annuity Mortality Table.	The mortality assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Withdrawal	6% at age 20, decreasing to zero at age 45.	10% at age 20, decreasing 0.625% each year with no withdrawal after age 45.	Based on 50% of the SOA Basic Age Turnover and 50% of PERA Police and Fire. Sample rates shown in the December 31, 2013 actuarial valuation.	The withdrawal assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Retirement	The later of age 50 or 20 years of service, but no later than age 70.	The later of age 50 or 20 years of service.	50% at age 50 and 20 years of service, then 5% until the earlier of 50 and 30 years of service or age 65, then 100%.	50% at age 50 with 20 years of service, then 50% each subsequent year until 100% at the earlier of 65 or 30 years of service.
Disability	None.	75% of the Railroad Retirement Board 12th valuation rates.	None.	The disability assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.

VFRA Proposed Assumption Changes

Summary of Liability and Contribution Impact

	New Ulm		Pipestone		Plymouth	
	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions
Actuarial Accrued Liability (AAL)	\$ 2,218,106	\$ 2,210,870	\$ 863,245	\$ 841,849	\$ 6,428,618	\$ 6,267,388
Special fund assets	2,301,583	2,301,583	683,683	683,683	8,361,785	8,361,785
Unfunded AAL	(83,477)	(90,713)	179,562	158,166	(1,933,167)	(2,094,397)
Funded status	103.8%	104.1%	79.2%	81.2%	130.1%	133.4%
Statutory contribution	80,212	83,151	58,587	57,346	108,897	93,415
Most recent valuation date	1/1/2015	1/1/2015	1/1/2014	1/1/2014	1/1/2014	1/1/2014

Current assumptions by plan	Proposed for all plans			
Mortality	RP 2000 Blue Collar fully generational using Scale BB.	RP 2000 Blue Collar Combined fully generational using Scale BB.	1983 Group Annuity Mortality Table.	The mortality assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Withdrawal	6% at age 20, decreasing uniformly to zero at age 45.	3% at age 20, decreasing uniformly to zero at age 45.	10% at age 15, 25% at age 25, 3% at age 30, and 0% at age 40 decreasing uniformly between ages.	The withdrawal assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Retirement	The later of age 53 or 20 years of service.	The later of age 50 or 20 years of service.	The later of age 50 or 20 years of service.	50% at age 50 with 20 years of service, then 50% each subsequent year until 100% at the earlier of 65 or 30 years of service.
Disability	Rates from the Railroad Retirement Board 12th Valuation.	Rates from the Railroad Retirement Board 12th Valuation.	75% of the Railroad Retirement Board 12th valuation rates.	The disability assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.

VFRA Proposed Assumption Changes
Summary of Liability and Contribution Impact

	Robbinsdale		Roseville	
	Current Assumptions	Proposed Assumptions	Current Assumptions	Proposed Assumptions
Actuarial Accrued Liability (AAL)	\$ 2,298,658	\$ 2,235,073	\$ 9,709,587	\$ 9,762,674
Special fund assets	2,105,477	2,105,477	10,171,186	10,171,186
Unfunded AAL	193,181	129,596	(461,599)	(408,512)
Funded status	91.6%	94.2%	104.8%	104.2%
Statutory contribution	124,590	130,748	55,689	91,482
Most recent valuation date	1/1/2014	1/1/2014	1/1/2015	1/1/2015

Current assumptions by plan			Proposed for all plans
Mortality	1983 Group Annuity Mortality Table.	RP 2000 Blue Collar Combined fully generational using Scale BB.	The mortality assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Withdrawal	5.5% at age 20, decreasing uniformly to zero at age 48.	20% for each of the first three years of employment, then 6% from age 20 to 30 grading down to zero after age 50.	The withdrawal assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.
Retirement	The later of age 50 or 20 years of service.	The later of age 55 or 20 years of service.	50% at age 50 with 20 years of service, then 50% each subsequent year until 100% at the earlier of 65 or 30 years of service.
Disability	None.	75% of the Railroad Retirement Board 12th valuation rates.	The disability assumption defined in the most recent PERA Police & Fire Plan actuarial valuation.

-- All results shown in this exhibit are based on the data, assumptions, methods, and plan provisions disclosed in the most recent actuarial valuation reports, except as described above.

PROPOSED RESOLUTION

For adoption by the
Legislative Commission on Pensions and Retirement
At its Meeting on November 3, 2015

Various Volunteer Firefighter Relief Associations

WHEREAS:

1. The Legislative Commission on Pensions and Retirement (“Commission”) has the authority, pursuant to Minnesota Statutes § 356.215, subd. 18, to approve changes to actuarial assumptions, other than postretirement interest and preretirement interest, proposed by the actuary retained by a firefighters relief association, or allow such changes to go into effect one year after receipt of the changes, without action by the Commission;

2. Van Iwaarden Associates, the actuary for the firefighter relief associations set forth below has requested that the Commission approve changes to the actuarial assumptions used in the preparation of actuarial valuations of their respective pension fund, as presented to the Commission in the document prepared by Van Iwaarden Associates entitled “VFRA Proposed Assumption Changes;”

Apple Valley	Minnetonka
Brooklyn Center	Mound
Chaska	New Ulm
Fairmont	Pipestone
Glencoe	Plymouth
Hutchinson	Robbinsdale
Lake Johanna	Roseville

NOW, THEREFORE, BE IT RESOLVED that the Commission hereby approves the changes to the actuarial assumptions, as set forth in the “VFRA Proposed Assumption Changes,” effective beginning with the next actuarial valuation, as applicable to each firefighter relief association.