Appendix B

LONG-TERM PLANNING GOALS & FRAMEWORK FOR ANALYSIS

Prepared by Sheri Scurr and Dave Bohyer, Legislative Services Division

June 2012

In review

The report presents analyses of five hypothetical Scenarios to possibly meet the Actuarially Required Contributions or "ARC" for the state's defined benefit (DB) retirement plans and, ultimately, to extinguish unfunded pension liabilities. The legal analysis emphasizes that with certain benefit and funding changes, contract impairment issues arise and that before the legislature enacts legislation that raises contract impairment issues, non-impairing alternatives should be thoroughly analyzed and considered, if not enacted. The policy analysis compares benefit and funding changes to policy principles adopted by SAVA and, regarding Scenario 5, the wholesale shift in state retirement policy. The fiscal analyses assume a goal of immediately achieving a 30-year amortization period using ARC funding for the state's DB retirement plans' unfunded liabilities and illustrates the fiscal and financial consequences and implications for state and local governments. The fiscal analyses also point out that there are inherent risks when relying on actuarial assumptions and that new GASB standards offer an alternative way to view the fiscal health of DB retirement plans. Taken together, the analyses offered in the report highlight the indication that the legislature should consider establishing short-term and long-term goals to use as benchmarks against which legislative proposals can be measured in ways that more fully inform the legislature and stakeholders about whether a particular proposal helps or hinders in reaching the goals.

Purpose

The purpose of this appendix is to present actuarial funding and benefit policy benchmarks as a starting point for further analysis and discussion. This appendix is also designed to provide the legislature with the opportunity to thoroughly analyze benefit changes and funding alternatives that do not raise contract impairment issues and to ensure that legislative consideration and discussion of the non-impairing alternatives is part of the public record. Finally, this appendix can provide a framework to help SAVA complete its statutorily required analysis of and report on proposed retirement legislation reviewed prior to the session.

Guiding principles

The material presented in this appendix is framed by the following two policy principles adopted by the State Administration and Veteran's Affairs Interim Committee (SAVA) pursuant to section 5-5-228, MCA:

1. A retirement plan should provide a foundation for financial security in retirement.
2. Pension funding should be a contemporary obligation.

Organization

This appendix is organized as follows:

Tables B1 through B7 - Amortization goals by retirement plan

Tables B8 and B9 - Minimum benefit parameters for new hires

Table B10 - Benefit change alternatives for new hires only

Table B11 - Template for funding source analysis

Next Steps

The last page of this appendix presents questions that, if answered by committee action, would allow legislators and other to pursue further analysis of benefit and funding alternatives that do not raise contract impairment issues.

HYPOTHETICAL AMORTIZATION GOALS AND TABLES B1 THROUGH B7

Policy Principle Adopted by SAVA: Pension Funding Should Be a Contemporary Obligation.

Purpose: Tables B1 through B7 were created based on the pension funding policy principle adopted by SAVA that funding should be a contemporary obligation. To begin the discussion, the tables set out for each retirement plan a 15-year schedule for reaching a 30-year amortization period and a 30-year plan for achieving 100% funding with a 15% cushion for actuarial fluctuations and the ultimate goal of a 100% or better funded ratio. To be considered "contemporary" in a 30-year retirement plan, the benefits for a new hire should be fully paid for within 30 years of the member's hire date. Contemporary funding of unfunded liabilities means:

(1) a short-term goal of not overburdening current taxpayers which could be caused by having too short a schedule for achieving actuarial soundness while maintaining the longer-term goal of full funding;
(2) not pushing funding obligations too far into the future by having too long of a schedule; and
(3) ensuring plan assets that are sufficient to pay benefits and that keep the plan's funded ratio at 80% or better.

The information in Tables B1 - B7 illustrate how the legislature could approach establishing a long-term funding plan to reach a policy goal of 100% funded, by setting hypothetical target amortization periods. After target amortization periods are set, then the legislature can request actuarial analysis to determine funding needs and how the plan's funded ratio will be affected.

Definition: For the purposes of Tables B1 - B7, the term "Required Additional Funding" or RAF is the amount of money (as a percent of salary) needed **in addition to** all actuarially assumed contributions to pay off unfunded liabilities by the end of the target amortization period.

Investment return assumption: At the national level, actuaries, economists, and government finance officers are debating what investment return assumptions to use when calculating funding needs. The actuarial analysis required to determine the RAF can be based on any investment return assumption SAVA or the legislature wants to consider. However, as a starting point for discussion, the RAF should be calculated using the current rate of return assumption of 7.75% because it is the rate set (constitutionally) by the retirement board as of the latest actuarial valuation, June 30, 2011. If, however, the FY 2012 actuarial valuation determines that a lower investment return assumption should be used for the next 30-year period or a legislator, a legislative committee, or another stakeholder wishes to adopt a funding schedule shorter than 30-years, the investment rate of return assumption used to perform the actuarial analysis for Tables B1 - B7 should be adjusted accordingly.

Notes: In Tables B1 through B7:

** means actuarial analysis is needed to match the RAF with the target amortization period
x % means actuarial analysis is needed to determine what the plan's funded ratio will be if the RAF is met

march data
5 yrs ago
no longer 30 yrs

Table B1

TRS	2011 Valuation	2015	2020	2025	2030	2035	2040
Target Amortization Period	71 yrs	65 yrs	45 yrs	30 yrs	20 yrs	10 yrs	0 years -- no unfunded liabilities
Required Additional Funding (RAF)	not applicable	**	**	3.53% (2011 valuation)	**	**	** (for 15% cushion and stabilization fund)
Funded Ratio (market value)	61.5%	x %	x %	x %	x %	x %	100% or more

Table B2

PERS	2011 Valuation	2015	2020	2025	2030	2035	2040
Target Amortization Period	does not amortize	70 yrs	45 yrs	30 yrs	20 yrs	10 yrs	0 years -- no unfunded liabilities
Required Additional Funding (RAF)	not applicable	**	**	6.36% (2011 valuation)	**	**	** (for 15% cushion)
Funded Ratio (market value)	70%	x %	x %	x %	x %	x %	100% or more

Table B3

SRS	2011 Valuation	2015	2020	2025	2030	2035	2040
Target Amortization Period	does not amortize	70 yrs	45 yrs	30 yrs	20 yrs	10 yrs	0 years -- no unfunded liabilities
Required Additional Funding (RAF)	not applicable	**	**	5.22% (2011 valuation)	**	**	** (for 15% cushion)
Funded Ratio (market value)	79.4%	x %	x %	x %	x %	x %	100% or more

Table B4

GWPORS	2011 Valuation	2015	2020	2025	2030	2035	2040
Target Amortization Period	does not amortize	70 yrs	45 yrs	30 yrs	20 yrs	10 yrs	0 years -- no unfunded liabilities
Required Additional Funding (RAF)		**	**	3.8% (2011 valuation)	(**)	(**)	** (for 15% cushion)
Funded Ratio (market value)	75%	x %	x %	x %	x %	x %	100% or more

Table B5

HPORS	2011 Valuation	2015	2020	2025	2030	2035	2040
Target Amortization Period	48.2 yrs	40 yrs	35 yrs	30 yrs	20 yr	10 yrs	0 years -- no unfunded liabilities
Required Additional Funding (RAF) *(see note)*	not applicable	**	**	**	**	**	** (for 15% cushion)
Funded Ratio (market value)	61%	x %	x %	x %	x %	x %	100% or more

Note: The Highway Patrol Officers Retirement System (HPORS) receives contributions from driver's license fees that amount to about 10.18% of salary. To conform to best practices, license fee revenue should be credited to the state general fund. If that change is made, either: (1) the employer contribution rate should be increased sufficiently to replace the foregone license fee revenue; or (2) each legislature should appropriate sufficient general fund revenue to replace the foregone license fee revenue.

Table B6

MPORS	2011 Valuation	2015	2020	2025	2030	2035	2040
Target Amortization Period	25 yrs	15 yrs	5 yrs	0 years -- no unfunded liabilities	0 years -- no unfunded liabilities	0 years -- no unfunded liabilities	0 years -- no unfunded liabilities
Required Additional Funding (RAF) *(see note)*	(2.69%)	**	**	**	**	**	** (for 15% cushion)
Funded Ratio (market value)	55%	x %	x %	x %	x %	x %	100% or more

Note: The state general fund supplemental contribution is 29.37%. If actuarial analysis indicates that contributions can be reduced while still meeting these goals, then the supplemental general fund contributions could be reduced.

Table B7

FURS	2011 Valuation	2015	2020	2025	2030	2035	2040
Target Amortization Period	16 yrs	10 yrs	5 yrs	0 years -- no unfunded liabilities	0 years -- no unfunded liabilities	0 years -- no unfunded liabilities	0 years -- no unfunded liabilities
Required Additional Funding (RAF) *(see note)*	(10.51%)	**	**	**	**	**	** (for 15% cushion)
Funded Ratio (market value)	62%	x %	x %	x %	x %	x %	100% or more

Note: The state general fund supplemental contribution is 32.61%. If actuarial analysis indicates that contributions can be reduced while still meeting these goals, then the supplemental general fund contributions could be reduced.

HYPOTHETICAL MINIMUM RETIREMENT PLAN PARAMETERS FOR NEW HIRES AND TABLES B8 AND B9

input on blks detailed

Policy Principle adopted by SAVA: Pensions should provide a foundation for financial security in retirement

Discussion: The purpose of any retirement plan, whether a defined benefit, defined contribution, or hybrid plan, is to provide the member with income in traditionally recognized "retirement". To assess whether a new retirement plan will meet the policy principle, several questions need to be answered: (1) How much income will the member need from the plan? (2) How will the purchasing power of the member's initial benefit be protected against inflation? (3) How many years should the member have to work to receive a full (unreduced) benefit? (4) At what minimum age should the member have to be before receiving a full (unreduced) benefit? The answers to these questions drive the decision about the amounts members and employers would need to contribute to the plan now and through the member's career to accumulate sufficient assets to provide the income in retirement anticipated under the policy principle. As a starting point for discussion, Table B8 sets out policy parameters that an actuary could use to calculate the retirement income prescribed by the policy principle that a pension should provide a foundation for financial security in retirement. The parameters reflected in Table B8 mark the point at which, if benefits for future members are cut below these lines, the plan would fail to sustain SAVA's adopted principle.

Legal note: This table would apply to new hires only. Any benefit reduction or contribution increases without a respective benefit enhancement for current members would raise contract impairment issues and invite litigation.

Table B8

	% of income at retirement needed to provide a foundation of financial security, and the final salary base	Minimize erosion of benefit's purchasing power after retirement	Years of Service for Normal Retirement	Normal Retirement Age	Vesting Period	Employee contributions as share of the normal cost of benefits	Employer contributions as share of the normal cost of benefits
Minimally acceptable benefits for PERS or TRS	50% of pre-retirement income HAC = average of highest 5 years (title to modify) Plan should provide minimum of 50% of pre-retirement income. Assumes Social Security will replace 20% and personal savings will replace 10% of pre-retirement income. In total, the three sources would 80% of pre-retirement income.	1.5% GABA after 3 yrs Benefit increases after retirement are necessary to keep benefits' purchasing power from eroding and should be pre-funded by contributions and investment earnings. A waiting period longer than 3 years could cause a significant benefit erosion.	30 yrs Reflects the traditional working career of non-public safety public employees. Alternative: "Rule of 90"	Age 67 Reflects policy that retirement age should not be higher than the new Social Security eligibility criteria; Age 67 reflects experience of retirees living longer. Alternatives: Age 67 and vested; or "Rule of 90"	7 yrs Reflects a means to reduce the employer's plan funding risks and risk of turnover. A longer time-period until a member vests in the benefit creates or increases a recruitment risk.	65% of normal cost Reflects the idea that employees should contribute a larger proportion of the normal cost of their benefits because the employer, not the employee, bears the financial and actuarial risks	35% of normal cost Reflects the idea that the employer should contribute a smaller proportion of the normal cost of plan benefits because the employer, not the employee, bears the financial and actuarial risks
Minimally acceptable benefits for public safety retirement systems SRS GWPORS HPORS MPORS FURS	70% of HAC at full retirement, if not covered by Social Security, but 50% of HAC if covered by Soc. Sec. Reflects goal of 80% income replacement and assumption that Soc. Sec. and personal savings will make up difference, noting that members of HPORS, FURS, and MPORS are not covered by Soc. Sec.	1.5% GABA after 3 yrs same as above	25 yrs Reflects adjustment upward from traditional 20-year service career for public safety professionals and the employer's need to retain qualified employees and to reduce plan costs. Also reduces employer's risk created by members retiring earlier.	Age 55 Reflects that in public safety systems, most public safety employees start young but because of job stress retire earlier than non-public safety employees. Adding the age criteria reduces plan costs by reducing the number of years the benefit be paid.	7 yrs same as above	65% of normal cost same as above	35% of normal cost same as above

HYPOTHETICAL BENEFIT CHANGES BY PLAN IF MINIMUM POLICY PRINCIPLE BENEFITS WERE PROVIDED TO NEW HIRES

Purpose: The normal cost of the retirement plan benefits is lower for fewer or less valuable retirement benefits as compared to more valuable benefits. If the normal cost of benefits for new members to a retirement plan is less than the normal cost for members eligible for a previous, higher level of benefits and if salary-based contributions are held constant for all members, more of the employer contributions could be used to pay off unfunded liabilities. The purpose of Table B9 is to illustrate benefit changes that could be made for new hires and that would lower the normal cost of benefits going forward. These changes are hypothetical, but reflect a minimum benefit level as set out in Table B9. The reason for analyzing these hypothetical benefit changes is that they represent alternatives that the legislature could and perhaps should consider prior to considering alternatives that raise contract impairment issues for current members. The alternatives conform each of the defined benefit retirement plans, except for the Judges' Retirement System, to the minimum benefit policy parameters set forth in Table B8. The Municipal Police Officers' Retirement System (MPORS) and the Firefighters' Unified Retirement System (FURS) are included in Table B9 because, although they were considered actuarially sound as of the 2011 actuarial report, they are not yet fully funded and their respective could status'. Additionally, the legislature has previously desired to keep benefits for the public safety professions more or less equivalent with each other.

Contribution amounts. An actuarial analysis to determine the normal cost of the hypothetical benefits (altogether) illustrated in Table B9 would allow the legislature to measure any longer-term cost savings the alternatives may provide as a result of a lower normal cost and against the long-term amortization goals for each plan as outlined in Table B1 through B7. If actuarial analysis is conducted, the legislature will have a better idea of how much--and how much more--funding would be needed to reach the hypothetical funding and amortization goals and, consequently, would be in a better position to determine whether or not to consider legislation raising contract impairment issues.

Table B9

Retirement Plan	Benefit multiplier and average salary	Post-retirement benefit adjustments	Years of service for normal retirement	Normal retirement age	Vesting Period	Employee contributions	Employer contributions
PERS	• Each year of service credited at 1.66% • HAC = Average of 5 highest years	GABA is effective after 3 years	30 years of service	Age 67 and vested; or 30 years of service	7 years	When the normal cost of benefits for new hires is known, this block will show the employee contribution rate at (a maximum of) 65% of the normal cost and stated as a percentage of salary	When the normal cost of benefits for new hires is known, this block will show the employer contribution rate at (a maximum of) 35% of the normal cost and stated as a percentage of salary
TRS	• Each year of service credited at 1.66% • HAC = Average of 5 highest years	GABA is effective after 3 years.	30 years of service	Age 67 and vested; or 30 years of service	7 years	Same as above.	Same as above.

50% = 1.66%

Table B9 continues on the following page

Retirement Plan	Benefit multiplier and average salary	Post-retirement benefit adjustments	Years of service for normal retirement	Normal retirement age	Vesting Period	Employee contributions	Employer contributions
HPORS	• 2.8% • *No Social Security* • HAC = average of highest 5 years	1.5% GABA after 3 years	25 years	Age 55	7 years	When the normal cost of benefits for new hires is known, this block will show the employee contribution rate at (a maximum of) 65% of the normal cost and stated as a percentage of salary	When the normal cost of benefits for new hires is known, this block will show the employer contribution rate at (a maximum of) 35% of the normal cost and stated as a percentage of salary
SRS	• 2.5% • *Social Security* • HAC = average of highest 5 years	1.5% GABA after 3 years	25 years	Age 55	7 years	Same as above.	Same as above.
GWPORS	• 2.0% • *Social Security* • HAC = average of highest 5 years	1.5% GABA after 3 years	25 years	Age 55	7 years	Same as above.	Same as above.
MPORS **Actuarially sound as of 2011 valuation*	• 2.8% • *No Social Security* • HAC = average of highest 5 years	1.5% GABA after 3 years	25 years	Age 55	7 years	Same as above.	Same as above.
FURS **Actuarially sound as of 2011 valuation*	• 2.8% • *No Social Security* • HAC = average of highest 5 years	1.5% GABA after 3 years	25 years	Age 55	7 years	Same as above.	Same as above.

POSSIBLE NEXT STEPS

After considering the benefit and funding goal alternatives presented in this report, the LFC, the SAVA, or an individual legislator may want to provide direction to staff by answering the following questions:

1. Does the committee/legislator want to start with the amortization period goals outlined in Tables B1 through B7?
   - If the answer to Question 1. is: (a) "Yes", then go to Question 3; or (b) "No", then go to Question 2.

2. Does the committee/legislator want to start with amortization period goals different from the goals outlined in Tables B1 through B7?
   - If the answer to Question 1. is: (a) "Yes", specify the amortization goal for each plan, then go to Question 3; or (b) "No", stop here and explore other approaches.

3. Does the committee want to ask system actuaries to determine what the "required additional contribution" or RAF would be in order to meet the amortization period goals identified under Question 1.a. or 2.a.?
   - If the answer to Question 3 is: (a) "Yes", then go to Question 4.; or (b) "No", stop here and consider what information is needed to proceed.

4. Provide a specific answer to the following question:

   a. The current rate of return assumption is 7.75% annually. What rate of return does the committee/legislator want to use? _____ (specify)

   For purposes of analysis only.

   b. A hypothetical range of benefits and pension plan criteria is provided in Table B9. What specific changes, if any, to the hypothetical benefits or pension plan criteria provided in Table B9 does the committee/legislator want to use?
      _____ (specify)
      _____ (specify)
      _____ (specify)
      _____ (specify)

Table B10 on the following pages provides a hypothetical time line for amortizing each pension plan's unfunded liability. The line for "required additional funding" is a number, stated as a percentage of salary, that the actuarial valuation by incorporating the answers from the questions above can produce. Once the percentage-of-salary number is known and plugged in to the required additional funding line, the subsequent blocks underneath the percentages can be filled in by identifying the portion of the percentage to be contributed from whatever sources the committee/legislator wants.

TEMPLATE FOR HYPOTHETICAL FUNDING AMOUNTS AND FUNDING SOURCE ANALYSIS

Purpose: When completed, Table B10 can illustrate how various funding sources could be used to meet the amortization period goals outlined in Tables B1 and B2 for each pension plan. (Other amortization period goals could be substituted for the goals listed from Tables B1 or B2.) The table uses PERS and TRS as examples, but will work with any of the pension plans. When the legislature is considering changes to the retirement plans, this type of chart could be created for each pension plan proposed for change and used to show how much money (as a percent of salary or as a dollar amount) would have to come from the funding sources listed to meet amortization period goals. The numbers used in these tables are strictly hypothetical examples. If actuarial analysis is requested as outlined in Tables B1 through B7, actual numbers could be filled in.

** means actuarial analysis needed to match RAF with amortization schedule goals

	PERS	As of FY 2011 Valuation	As of FY 2015 Valuation	As of FY 2020 Valuation	As of FY 2025 Valuation	As of FY 2030 Valuation	As of FY 2035 Valuation	As of FY 2040 Valuation
1	**Funding Goal** (based on a 30-year funding plan and hypothetical targets that would be adjusted after actuarial analysis of benefit and funding policy options outlined in previous tables were adopted)							
2	Target Amortization Period	does not amortize	70 yrs	45 yrs	30 yrs	20 yrs	10 yrs	no unfunded liabilities
3	Required Additional Funding (RAF)	not applicable	** (hypothetically 3%)	** (hypothetically 3.5%)	** (hypothetically 4.0%)	** (hypothetically 3.0%)	** (hypothetically 1.5%)	none
4	**Funding Sources** (does not include employee contributions because employee contributions can only be used to cover normal cost, not unfunded liabilities due to contract impairment issues)							
5	Employer contribution rate increase	not applicable	0% of salary	0.5% of salary	1.0% of salary	0.5% of salary	0.5% of salary	0.5% of salary
6	Supplemental General Fund	not applicable	0.5% of salary	0.5% of salary	0.5% of salary	0.5% of salary	0% of salary	0% of salary
7	Other source A	not applicable	1.0% of salary	1.0% of salary	1.0% of salary	1.0% of salary	0.5% of salary	0% of salary
8	Other source B	not applicable	1.5% of salary	1.5% of salary	1.5% of salary	1.0% of salary	0.5% of salary	0% of salary

	TRS	As of FY 2011 Valuation	As of FY 2015 Valuation	As of FY 2020 Valuation	As of FY 2025 Valuation	As of FY 2030 Valuation	As of FY 2035 Valuation	As of FY 2040 Valuation
9	**Funding Goal** (based on a 30-year funding plan and hypothetical targets that would be adjusted after actuarial analysis of benefit and funding policy options outlined in previous tables were adopted)							
10	Amortization goal	71 yrs	65 yrs	45 yrs	30 yrs	20 yrs	10 yrs	no unfunded liabilities
11	Required Additional Funding (RAF)	not applicable	** (hypothetically 1%)	** (hypothetically 2.0%)	** (hypothetically 3.0%)	** (hypothetically 2.5%)	** (hypothetically 2.0%)	none
12	**Funding Sources** (does not include employee contributions because employee contributions can only be used to cover normal cost, not unfunded liabilities due to contract impairment issues)							
13	Employer contribution rate increase	not applicable	0% of salary	0.5% of salary	1% of salary	1.5% of salary	1% of salary	0.5% of salary
14	Supplemental General Fund	not applicable	0% of salary	0.5% of salary	1.5% of salary	1.0% of salary	1% of salary	0% of salary
15	Other source A	not applicable	0.5% of salary	0.5% of salary	0.5% of salary	0% of salary	0% of salary	0% of salary
16	Other source B	not applicable	0.5% of salary	0% of salary	0% of salary	0% of salary	0% of salary	0% of salary