2016 REGULAR SESSION
ACTUARIAL NOTE HB 65

House Bill 65 HLS 16RS-4 **Original** **Author: Representative Barry Ivey** **Date: April 19, 2016** **LLA Note HB 65.01** **Organizations Affected:** **State Retirement Systems** **OR INCREASE APV**	**This Note has been prepared by the Actuarial Services Department of the Office of the Legislative Auditor. The attachment of this Note to HB 65 provides compliance with the requirements of R.S. 24:521** Paul T. Richmond, ASA, MAAA, EA Manager Actuarial Services

<u>Bill Header:</u> RETIREMENT/STATE-STWIDE: Establishes a new hybrid retirement benefit structure for members of state retirement systems first hired on or after July 1, 2018.

<u>Cost Summary:</u>

The estimated actuarial and fiscal impact of the proposed legislation is summarized below. Actuarial costs pertain to changes in the ***actuarial present value of future benefit payments***. A cost is denoted by "Increase" or a positive number. Savings are denoted by "Decrease" or a negative number.

Actuarial Cost to Retirement Systems	Increase
Total Five Year Fiscal Cost	
Expenditures	Increase
Revenues	Increase

<u>Estimated Actuarial Impact:</u>

The chart below shows the estimated change in the ***actuarial present value of future benefit payments***, if any, attributable to the proposed legislation. A cost is denoted by "Increase" or a positive number. Savings are denoted by "Decrease" or a negative number. Present value costs associated with administration or other fiscal concerns are not included in these values.

Actuarial Cost to:	**Change in the Actuarial Present Value**
All Louisiana Public Retirement Systems	Increase
Other Post Retirement Benefits	Decrease
Total	Increase

<u>Estimated Fiscal Impact:</u>

The chart below shows the estimated fiscal impact of the proposed legislation. This represents the effect on cash flows for the retirement systems and other government entities. Fiscal costs include estimated administrative costs and costs associated with other fiscal concerns. A fiscal cost is denoted by "Increase" or a positive number. Actuarial or fiscal savings are denoted by "Decrease" or a negative number.

EXPENDITURES	**2016-17**	**2017-18**	**2018-19**	**2019-2020**	**2020-2021**	**5 Year Total**
State General Fund	$ 0	$ 0	Increase	Increase	Increase	Increase
Agy Self Generated	0	0	0	0	0	0
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	Increase	Increase	Increase	Increase
Annual Total	$ 0	$ 0	Increase	Increase	Increase	Increase

REVENUES	**2016-17**	**2017-18**	**2018-19**	**2019-2020**	**2020-2021**	**5 Year Total**
State General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Agy Self Generated	0	0	Increase	Increase	Increase	Increase
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	0	0	0	0
Annual Total	$ 0	$ 0	Increase	Increase	Increase	Increase

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Bill Information:

Current Law

Under current law, members of the state retirement systems − the Louisiana State Employees' Retirement System (LASERS), the Teachers' Retirement System of Louisiana (TRSL), the Louisiana School Employees' Retirement System (LSERS), and the State Police Retirement System (STPOL) – first employed on or after July 1, 2018, will participate in a traditional defined benefit (DB) pension plan.

The benefit payable to a future non-hazardous duty employee will generally be equal to 2.5% x years of service x the member's final average compensation. In addition to the 2.5% accrual rate, judges will receive an additional 1.0% for each year of service as a judge. For hazardous duty personnel, the accrual rate will generally be equal to 3 1/3% per year of service.

The current plan provides disability benefits that are based on the same accrual rates as those that will apply at retirement. Survivor benefits under current law are roughly similar to the benefits a survivor would have received had he participated in Social Security.

Participation in the state retirement systems are generally a condition of employment and will require an 8.00% contribution from non-hazardous duty personnel and a 9.50% contribution from employees working in positions classified as hazardous. Under current law, a future non-hazardous duty employee of the state will be a member of the Rank and File sub plan of LASERS, a member of TRSL, or a member of LSERS and will be entitled to benefits based on provisions that apply to members of these systems first employed on or after July 1, 2015. Future hazardous duty personnel will become members of the Hazardous Duty sub plan of LASERS or a member of STPOL.

Proposed Law

Under HB 65, new employees of the state will participate in a hybrid retirement plan. Each retirement system, LASERS, TRSL, LSERS, and STPOL will have a hybrid sub plan for members first employed on or after July 1, 2018. Provisions of the hybrid DB plan will differ depending on whether it applies to non-hazardous duty or to hazardous duty personnel.

The hybrid program consists of a traditional DB plan and a defined contribution (DC) plan. Member contributions toward the hybrid program will be allocated to the normal cost of the hybrid DB plan and toward amortization of unfunded accrued liabilities. Members will also contribute to the hybrid DC plan. Employee contribution toward amortization of the UAL will consist of the following components.

1. Amortization of UALs created by benefit improvements. Members of the hybrid plan will be required to pay for 50% of any such cost increase attributable to Post 2018 members.

2. Amortization of UALs resulting from actuarial gains or losses relative to Post 2018 members. Hybrid plan members will pay for 50% of any such increase.

3. Amortization of UALs resulting from assumption changes and changes in actuarial methods relative to Post 2018 members. Hybrid plan members will pay for 50% of any such increase.

4. Amortization of UALs resulting from investment gains or losses relative to Post 2018 members. Hybrid plan members will be responsible for 50% of any such increase in the UAL.

All system assets relative to Pre and Post 2018 defined benefit structures will be pooled for investment purposes. A notational DB plan account will be established for Pre 2018 (current) plan and a notational DB plan account will be established for hybrid DB plan. Notational accounts are needed to determine separate employee and employer contribution requirements for the Pre-2018 sub plans and the hybrid sub plans. The notational accounts will not be treated as separate trusts. Assets in the notational account for the Pre 2018 DB plan will be available to pay benefits to members of the hybrid DB plan and assets in the notational account for the hybrid DB plan will be available to pay benefits for members of the Pre 2018 DB plan.

Key provisions of the hybrid plan are summarized in Table 1.

TABLE 1

Hybrid Plan for Post 2018 Employees		
Plan Provisions	**DB Plan**	**DC Plan**
Participation	Mandatory participation on or after July 1, 2018.	Mandatory participation on or after July 1, 2018.
Contributions for Non-Hazardous Duty Personnel	Shared equally between employer and employee.	5% of pay for the employee 5% of pay for the employer
Contributions for Hazardous Duty Personnel	Shared equally between employer and employee.	6% of pay for the employee 6% of pay for the employer

TABLE 1 (Continued)

Hybrid Plan for Post 2018 Employees		
Plan Provisions	**DB Plan**	**DC Plan**
Individual Accounts	Not Applicable	1. Administered and maintained by third-party provider 2. Three or more DC providers must be selected by each system's board of trustees 3. 10 to 25 funds must be made available 4. Investments are self-directed by the member 5. Member may contribute up to the IRS limit
Borrowing or withdrawing from the Individual Account	Not Applicable	Not Allowed
Final Average Compensation	Average of the highest 60-consecutive months with 15% anti-spiking rule	Not Applicable
Retirement Benefits for Non- Hazardous Duty Personnel	1% x Years of credited service x final average compensation	1. 75% or more of the DC account at retirement must be annuitized. 2. No more than 25% of the DC at retirement may be rolled over or paid as a lump sum
Retirement Benefits for Hazardous Duty Personnel	1 1/3% x years of credited service x final average compensation	1. 75% or more of the DC account at retirement must be annuitized. 2. No more than 25% of the DC at retirement may be rolled over or paid as a lump sum
Retirement Eligibility for Non-Hazardous Duty Personnel	1. 65 and 5 years of service. 2. 55 and 20 years of service with actuarial reduction.	Upon retirement from the DB plan.
Retirement Eligibility for Hazardous Duty Personnel	1. 57 and 12 years of service. 2. At any age and 20 years of service with actuarially reduced benefits.	Upon retirement from the DB plan.
Payment Form	Same as under Pre 2018 plan.	Annuity contract purchased from third-party provider.
DROP or Back-DROP	Not Allowed	Not Applicable
Termination, death or disablement with less than 5 years of service	Return of employee contributions without investment earnings	Return of employee contributions without investment earnings
Termination with 5 years of service.	Benefits payable upon retirement or death, or Return of employee contribution without interest.	1. Employer and employee contributions accumulated with investment earnings are 100% vested. 2. Account balance will always be credited with interest. 3. Benefits are payable only upon retirement or death.
Eligibility for Disability Benefits	Same as Pre 2018 plan: 10 years of service.	Same as Pre 2018 plan: 10 years of service.
Disability Benefits	1. Same as Pre 2018 plan 2. Benefit is based on the accrual rate for the hybrid DB plan without actuarial reduction	Distribution of individual account balance in the same manner as under regular retirement.
Eligibility for Death Benefits	Same as Pre 2018 plan: 1. 5 years of service for spouse with qualifying children. 2. 5 years of service for minor children and to handicapped children or adults 3. 10 years of service for spouse without qualifying children.	Same as Pre 2018 plan: 1. 5 years of service for spouse with qualifying children. 2. 5 years of service for minor children and to handicapped children or adults 3. 10 years of service for spouse without qualifying children.

TABLE 1 (Continued)

Hybrid Plan for Post 2018 Employees		
Plan Provisions	**DB Plan**	**DC Plan**
Death Benefits	1. Same as Pre 2018 plan. 2. Benefit is based on the accrual rate for the hybrid DB plan without actuarial reduction	Distribution of individual account balance in the same manner as under regular retirement.
Retired Member Is Reemployed	DB plan benefits are suspended while member is reemployed	DC plan benefits continue to be paid
Disability Retiree Returns to Work before Normal Retirement Age.	1. Benefit is suspended 2. Member accrues service under the DB plan 3. If employed 3 or more years after disability ceases, periods on disability is used only for retirement eligibility	1. Annuity payments from DC plan stop 2. Annuity is converted to lump sum value and is deposited into the member's DC plan account
COLA Eligibility	1. Regular retiree: Age 65 with at least one year of retirement 2. Beneficiary or survivor: The member would have attained 65 with at least one year of benefit payments had he not died 3. Disability retiree or beneficiary of disability retiree: Benefits have been payable for at least one year.	Not Applicable
COLA Benefit	1. Automatic adjustment every odd-numbered year after becoming eligible 2. Lesser of 2% and CPI-U for the South over the last 12-month period. 3. COLA applies to first $50,000 of benefits.	Not Applicable
Assets	1. Commingled with Pre 2018 plan assets. 2. Nominal accounts for Pre 2018 and Post 2018 plans	Administered and maintained by third-party provider
Determination of Unfunded Accrued Liabilities (UAL)	Nominal accounts for Pre 2018 and Post 2018 plans are maintained to determine UAL associated with the Pre 2018 plan and the UAL for the DB portion of the hybrid plan	Not Applicable
Discount Rate for Valuation Purposes	1. As specified by law: 6.00% 2. Note: the discount rate for the PRS 2018 plan is set by the board of trustees	Not Applicable

A comparison of the key provisions of the current DB plan with the key provisions of the proposed hybrid DB plan is given below in Table 2.

TABLE 2

DB Plan Comparison		
Plan Provisions	**Current Law** **DB Plan for Post 2015 Members**	**HB 65** **Hybrid DB Plan**
Employee Contributions	LASERS Non- Hazardous Duty: 8.00% LASERS Hazardous Duty: 9.50% TRSL: 8.00% LSERS: 8.00% STPOL: 9.50%	1. Actuarially determined percentage of pay based on the normal cost for the hybrid plan and UAL amortization payments allocated to the hybrid plan. 2. Employer and employee contribute equal amounts.
Employer Contributions	1. Total normal cost less employee contributions 2. Payments to amortize the UAL	Shared equally between employer and employee

TABLE 2 (Continued)

DB Plan Comparison		
Plan Provisions	**Current Law DB Plan for Post 2015 Members**	**HB 65 Hybrid DB Plan**
Retirement Benefits for Non Hazardous Duty Personnel	1. 2.50% x years of service x final average compensation 2. Judges receives an additional 1% for each year of service as a judge	1. 1.00% x years of service x final average compensation 2. Judges receives an additional 1% for each year of service as a judge
Retirement Benefits to Hazardous Duty Personnel	3 1/3% x years of service x final average compensation	1 1/3% x years of service x final average compensation
COLAs, Gain Sharing and the Experience Account	COLAs are provided under a gain sharing arrangement. A portion of investment gains are deposited into the Experience Account. COLA benefits are funded by amounts in the Experience Account. A COLA grant depends on: 1. The increase in the CPI-U. 2. Whether a COLA was granted in prior year. 3. COLA is tied the funded level of each system 4. Investment performance 5. Availability of funds in the Experience Account. 6. Approval of the legislature. Other COLA rules: 1. COLAs apply to the first $60,000 of benefits; the cap is indexed annually by the CPI-U. 2. Must be at least age 62 to be eligible for a COLA.	A COLA will be automatically paid in every odd-numbered year COLA rules: 1. The benefit will be the lesser of 2.0% or the CPI-U applicable to the South region. 2. COLA pertain to the first $50,000 of benefits. 3. Must be at least age 65 to be eligible for a COLA.
Death and Disability	1. Benefit accrual rate is 2.5% for Non-Hazardous Duty Personnel 2. Benefit accrual rate is 3 1/3% for Hazardous Duty Personnel	1. Benefit accrual rate is 1.0% for Non-Hazardous Duty Personnel 2. Benefit accrual rate is 1 1/3% for Hazardous Duty Personnel 3. Otherwise, benefit provisions are the same as for the Pre 2018 plan.
Termination of service after 5 years	Member has the option to a refund of employee contributions without interest, or an annuity beginning at age 62.	An annuity beginning at age 65.
Discount Rate for Valuation Purposes	The discount rate is set by the board of directors. Current rates are: LASERS: 7.75% TRSL: 7.75% LSERS: 7.25% STPOL: 7.00%	6.00%

Implications of the Proposed Changes

HB 65 establishes a hybrid plan for employees of the state first employed on or after July 1, 2018. The hybrid plan consists of a DB plan and a DC plan. The hybrid plan will have no effect on normal costs or the UAL associated with the Pre 2018 plan.

<u>Cost Analysis:</u>

Analysis of Actuarial Costs

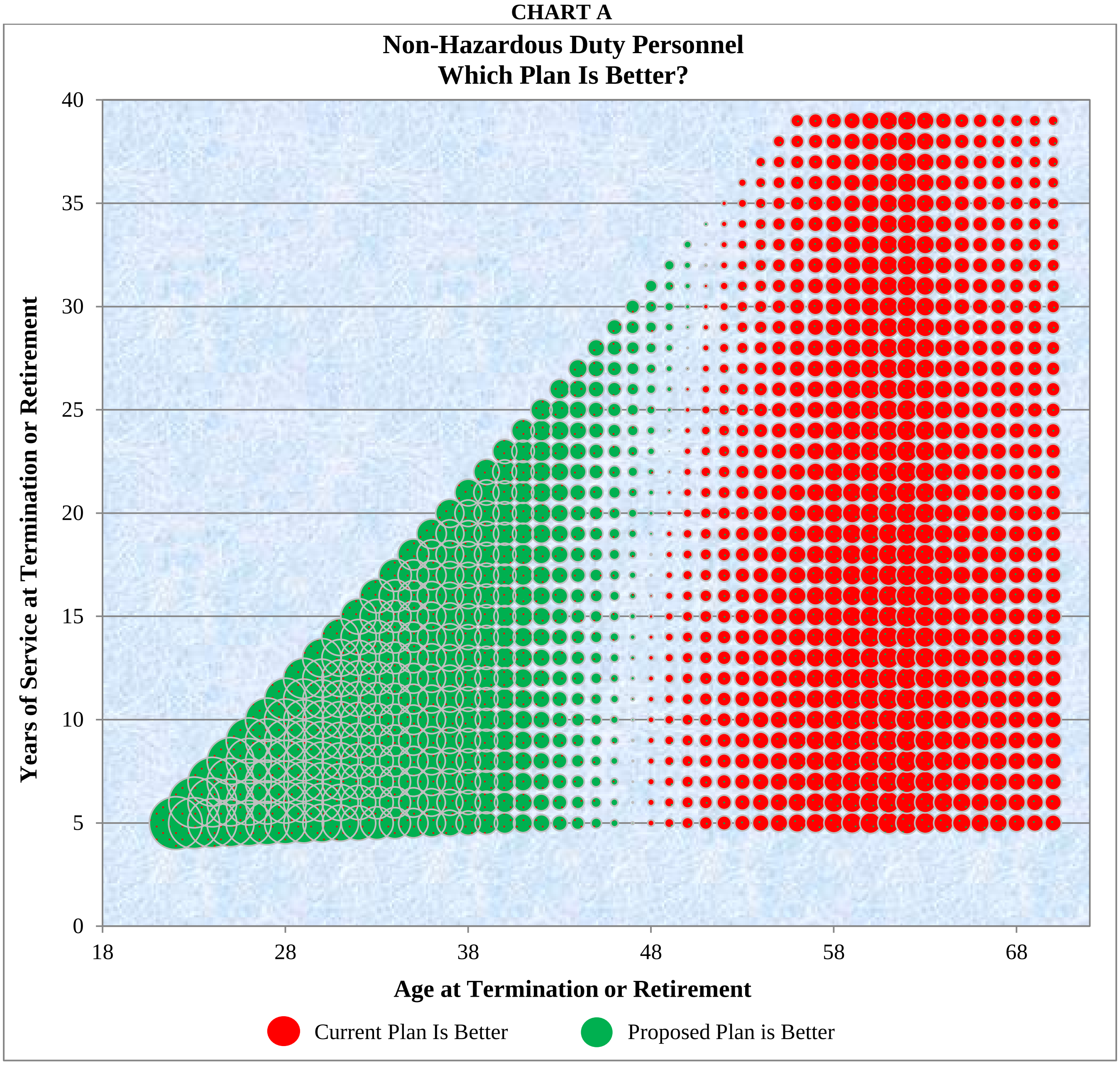
HB 65 contains benefit provisions having an actuarial cost. Chart A below shows that benefits will be larger under the proposed program than under the current program for most individuals who terminated employment before age 48.

Retirement Systems

Benefit Comparison

A DB plan tends to favor a participant who has earned a significant amount of service or who joins the plan in the second half of his career. A DC plan tends to favor a participant who joins the plan in the first part of his career or who terminates employment before retirement age. Therefore, it is virtually impossible to replace a traditional DB plan with a hybrid program containing a DC component without shifting benefit delivery from one group of employees to another. This is demonstrated in Chart A below relative to the replacement of the current program with the hybrid program proposed under HB 65.

CHART A



Note: The larger the circle the greater the difference between the benefit that will be earned under the current and proposed programs.

Observations about Chart A:

1. The proposed program will provide a better benefit than the current program for those who are age 48 and younger when they terminate employment.

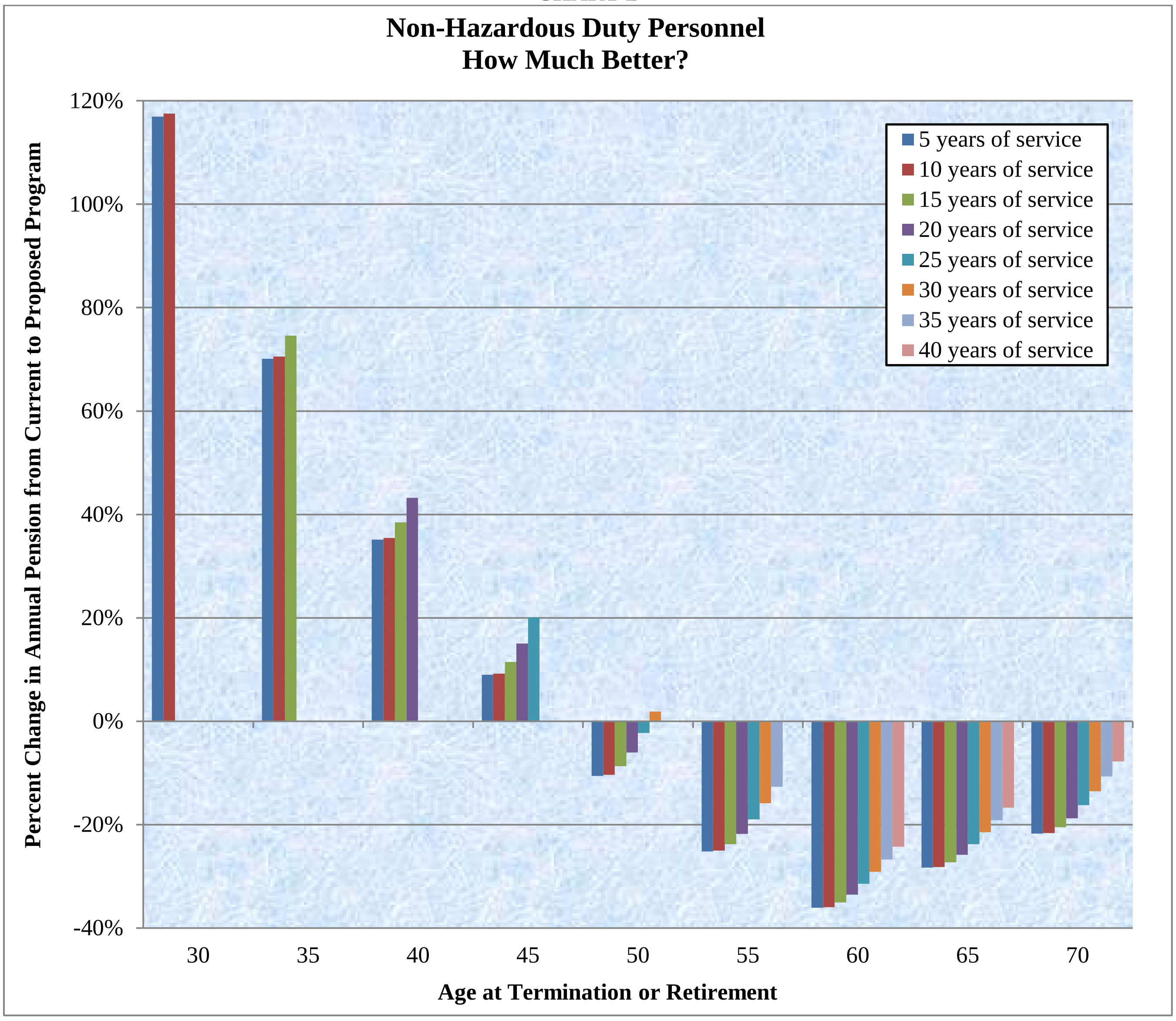
2. The proposed program tends to favor participants who join at the youngest ages. Note that the largest green dots follow the diagonal, which reflects those who join at age 18.

3. The current program is more favorable to those who retire during the prime retirement ages – ages 58 to 62.

4. Although the current program is more favorable for those who retire at age 65 and later, the benefit difference between the two programs becomes smaller as age and service increase.

Chart A helps determine which program provides a better benefit, the current program or the proposed one. Chart B provides information about how much better one program is than the other.

CHART B



Observations about Chart B:

1. The proposed program is significantly better for a participant who terminates employment at age 30 with 5 or 10 years of service. The benefit under the proposed program is more than double the benefit that would be available under current law. In either case however, the value of the benefit is quite small. Under the proposed program, the terminating member will have accumulated retirement wealth that includes his own contributions, his employer's contributions, and investment earnings on all contributions. Under the current program, the terminating participant's wealth accumulation toward retirement will be limited to his own contributions without interest.

2. At age 60, a participant will receive a benefit from the proposed program that is only about 70% of the benefit that he would have received from the current program. Notice that the more service the member has earned, the smaller the differential between the two programs.

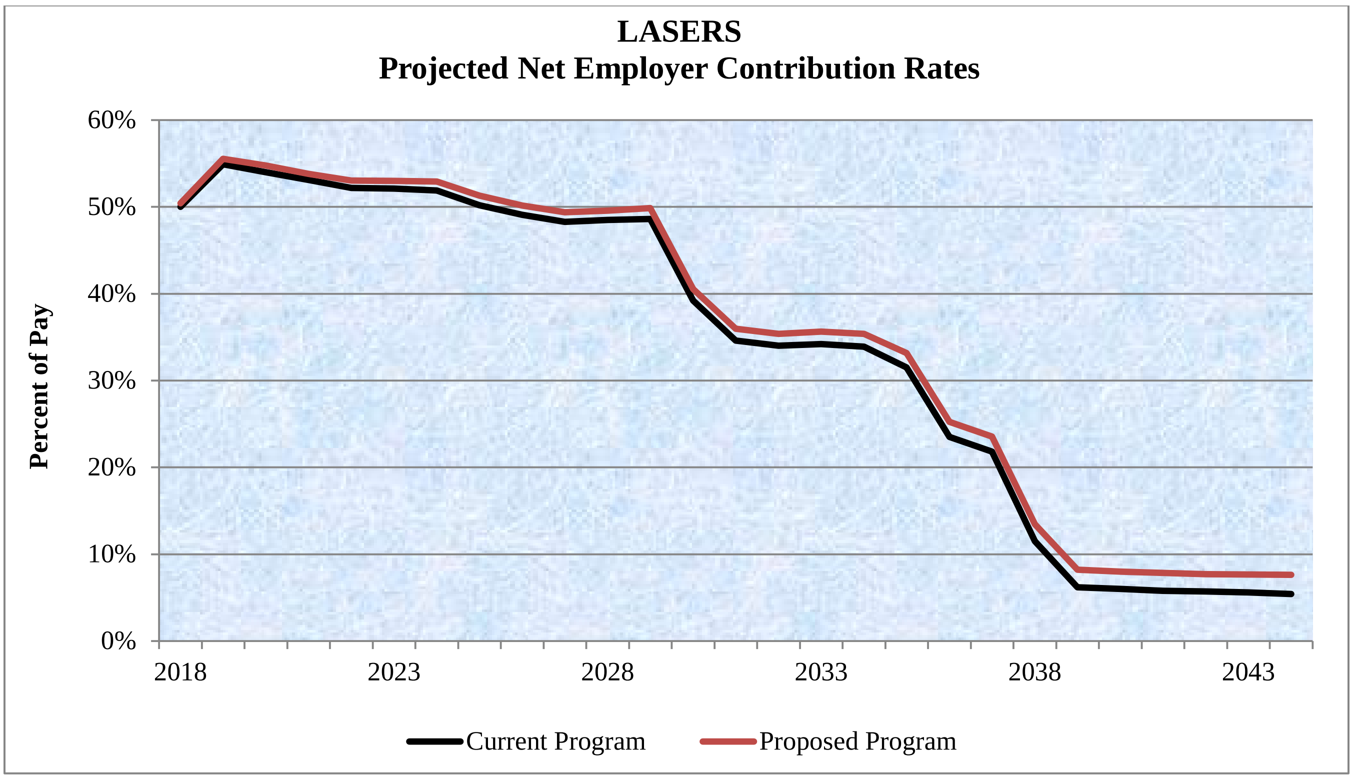
3. At age 65, a participant will receive a benefit from the proposed program that is only about 80% of the benefit that he would have received from the current program.

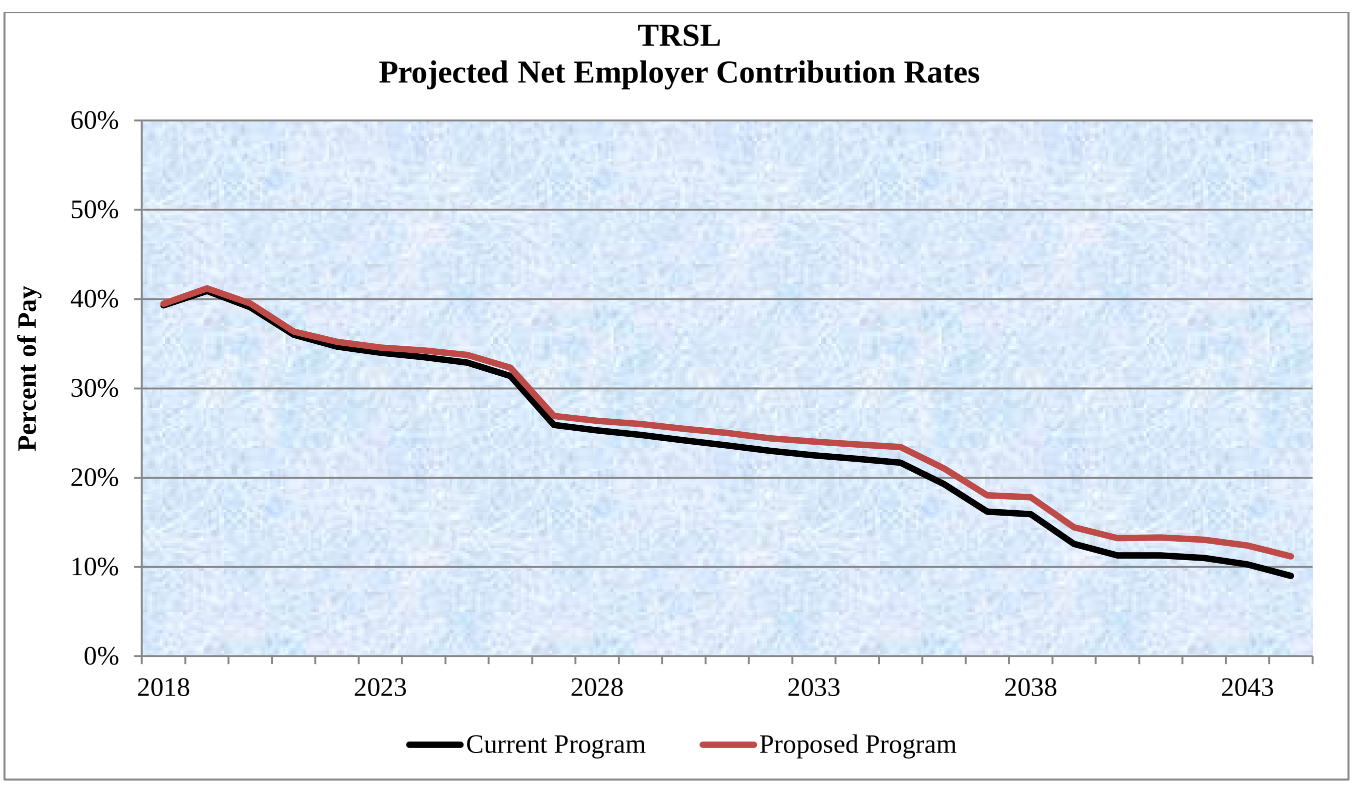
Cost Comparison

Charts C, D, and E have been prepared under the assumption that current laws and laws under the proposed HB 65 will continue to exist indefinitely into the future. However, whether projections are based on current law or proposed law, the retirement systems will reach a point in our projection period where the UAL will be paid off and continuation of the constitutional minimum contribution or the legislative minimum will cease to be realistic. Obviously, this will be "good news". However, the great unknown is how the legislature will respond to the good news. Options that will be available to the legislature at that time are discussed under the observations for Chart E. In our analysis, however, we have continued to recognize minimum contribution requirements because we cannot predict the decisions the legislature will make at that time.

Projected employer contribution rates with the HB 65 program are compared below with projected employer contribution rates with the current plan.

CHART C





Observations about Chart C:

1. Employer contribution rates with the hybrid program will be slightly larger than with the current program.

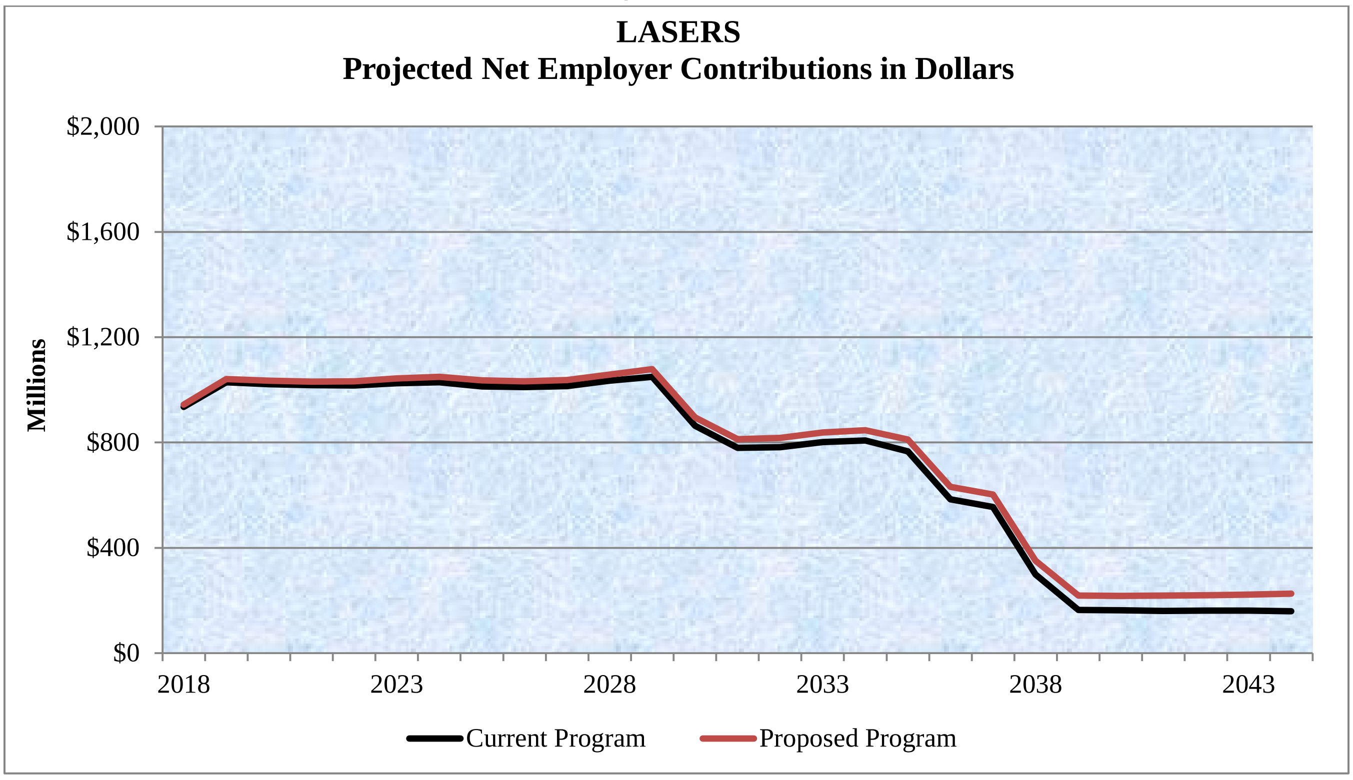
2. Employer contribution rates are virtually the same initially. However, the difference between employer contribution rates with the enactment of HB 65 and rates with continuation of the current program increases as participants in the hybrid program replace members in the current program.

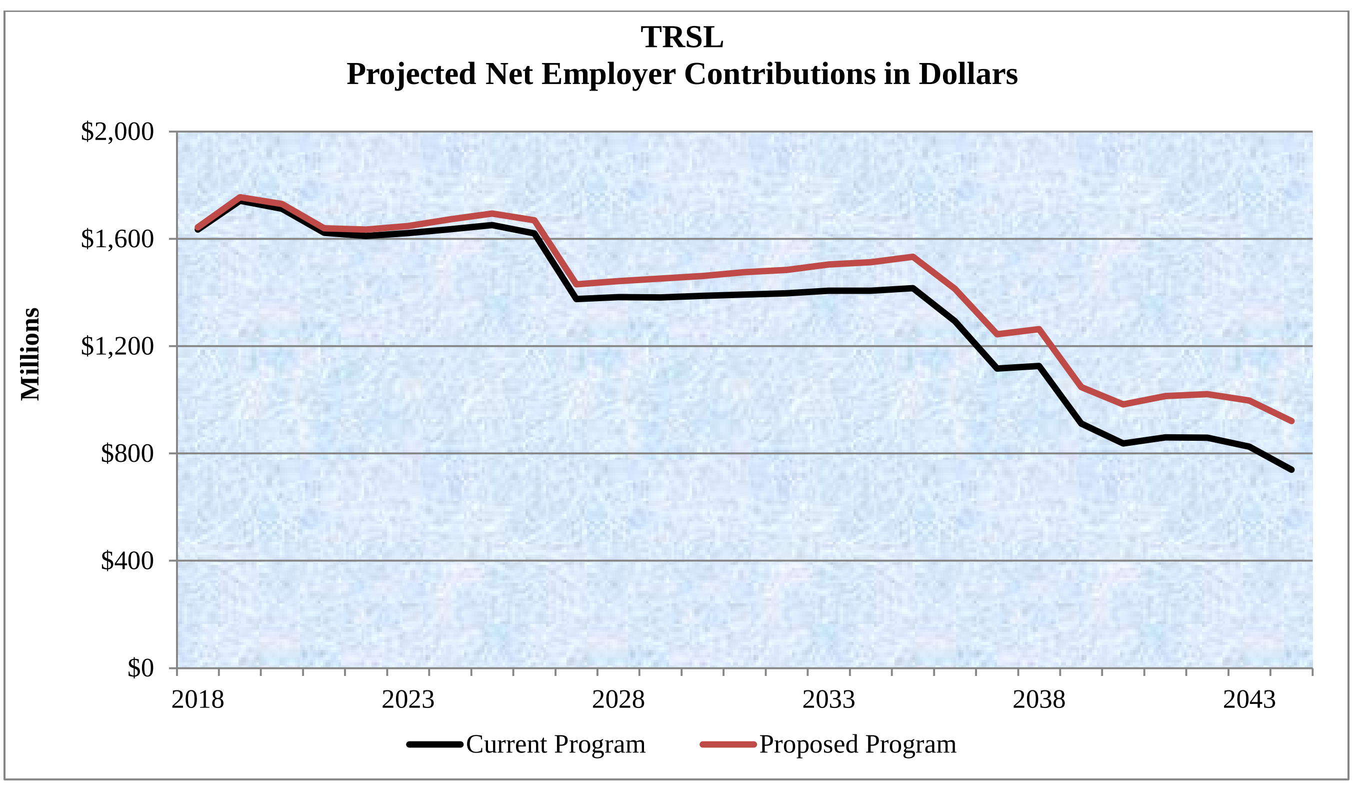
3. By 2043, the employer contribution rate is estimated to be about 9% of pay for LASERS with the hybrid program but only 7% with the current plan. The 2% differential remains essentially the same thereafter.

4. By 2043, the employer contribution rate is estimated to be about 12% of pay for TRSL with the hybrid program but only 10% with the current plan. The 2% differential remains essentially the same thereafter.

Employer contributions in dollars are compared below. Chart D shows a similar pattern relative to employer contributions as Chart C.

CHART D





Observations about Chart D:

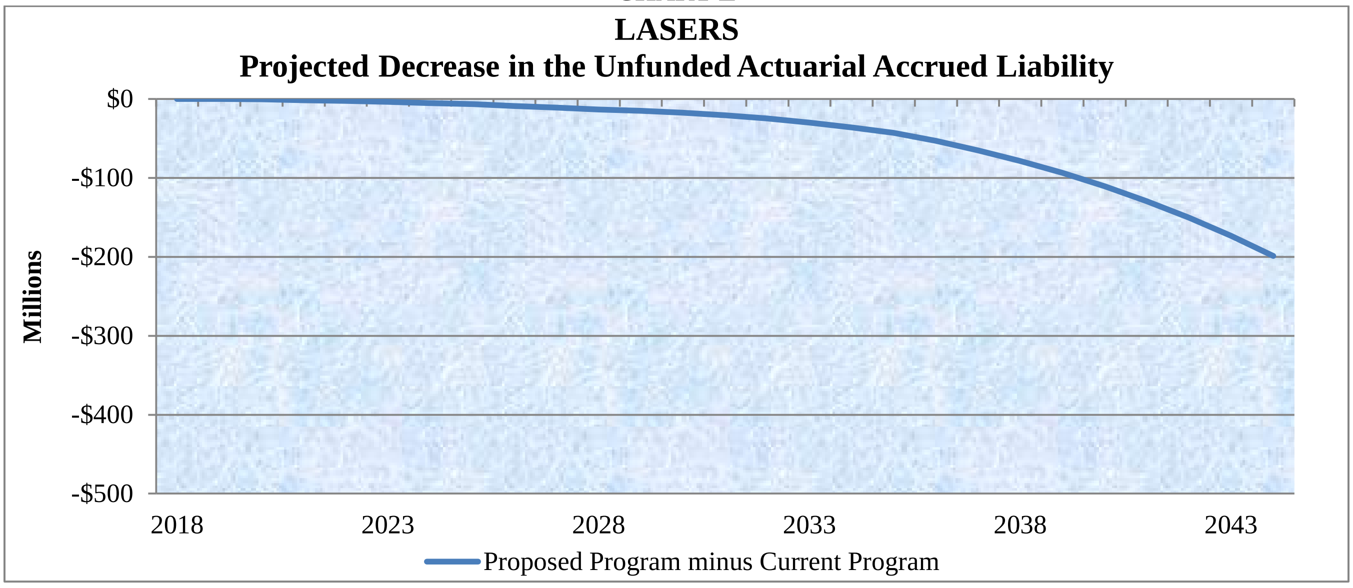
1. For LASERS, projected employer contribution requirements in dollars are virtually the same with the two programs until FYE 2030, although requirements with the proposed program are slightly greater. Thereafter, contribution requirements are close to one another but a more distinctive difference begins to occur. Enactment of the proposed program will result in employer contributions being about $67 million more in 2044 than continuation of the current program. Ultimately, the cost of the proposed program will be about 42% greater than the cost of the current program.

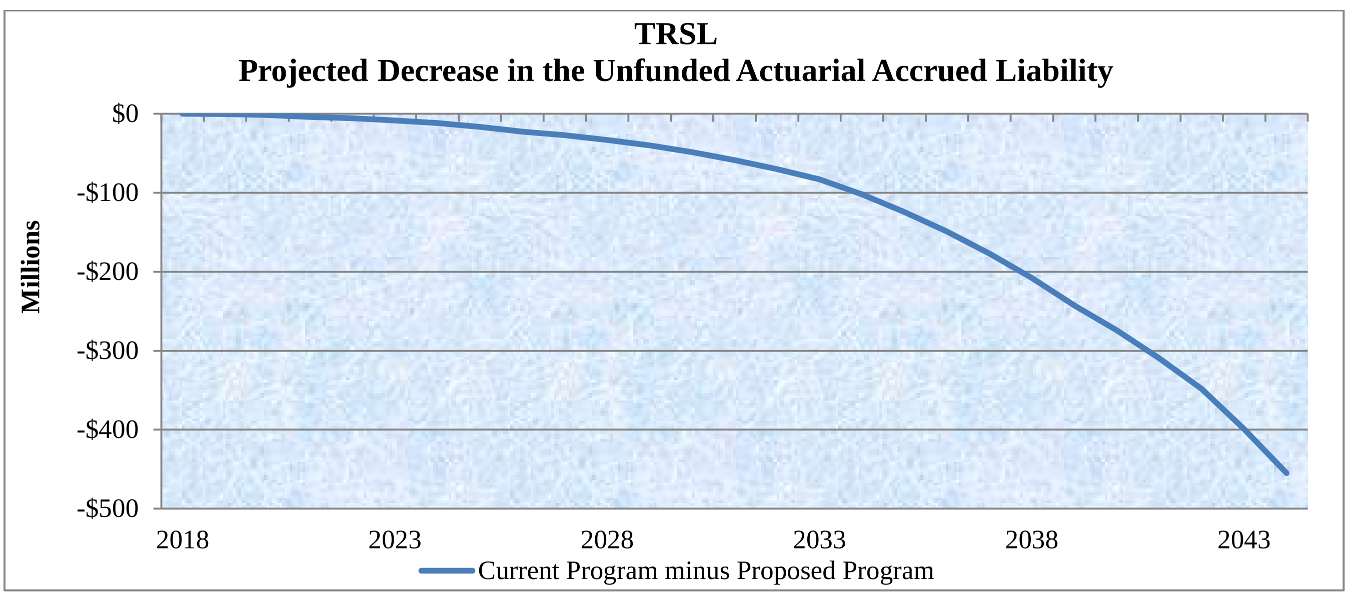
2. For TRSL, projected employer contribution requirements in dollars with the proposed and current programs are close to one another through FYE 2027. Thereafter, requirements begin to diverge. Employer contribution requirement with the proposed program will be about $54 million more for FYE 2027 than with continuation of the

current program. By 2044, the differential increases to about $181 million. Ultimately, the cost of the proposed program will be about 24% greater than the cost of the current program.

Changes in the unfunded accrued liability are shown below in Chart E. The unfunded actuarial accrued liability with the proposed program decreases more rapidly than with the current program.

CHART E





Observations about Chart E and Its Supporting Data:

1. The unfunded accrued liability for LASERS is projected to be paid off by June 30, 2038 with the current program. With the proposed program the UAL is projected to be completely amortized by FYE 2037, one year sooner.

2. Because the UAL will be paid off and an asset surplus will exist, the legislature in the decade of the 2030s will be presented with several policy choices relative to LASERS that will be perceived as "good news." These choices are identified below:

    a. Contribution Holiday: Because either of the programs will have more assets than accrued liabilities, the state could take a contribution holiday by using the interest on the surplus to pay for normal costs.

    b. De-Risking: LASERS could reduce its risk by investing assets in more conservative, less volatile securities. As a result, the assumed rate of return on assets would decrease, the accrued liability would increase, and it may become necessary for the state to annually contribute the normal cost. The end result, however, would be a more secure retirement program that has fulfilled and will continue to fulfill the constitutional mandate to attain and maintain funding on a basis that is actuarial sound.

    c. COLAs: A systematic COLA program could be implemented for existing retirees. Because they bore the brunt of the state and retirement system's financial instability during their working career, the legislature may believe they should perhaps be the first to benefit in the good times.

    d. Other Benefit Improvements: Should it become law, the hybrid DB plan could be improved to help achieve greater equity between the proposed program and the program that would have existed had the law not been changed.

3. The UAL for TRSL is not projected to be paid off until the decade of the 2040s. The system and the legislature will be presented with the same "good new" as LASERS will receive in the 2030s. Its options at that time will be similar.

Other Post-Employment Benefits

The actuarial cost associated with HB 65 relative to post-retirement benefits other than pensions is expected to decrease. Members of the state retirement systems are likely to delay retirement to accumulate additional retirement income in order to replace the income they would have received under the current program.

Analysis of Fiscal Costs

HB 65 will have the following effect on fiscal costs over the 5-year measurement period.

Expenditures:

1. Expenditures from the General Fund are expected to increase because employer contribution requirements are expected to be larger.

2. Expenditures from Local Funds are expected to increase because employer contribution requirements are expected to be larger.

Revenues:

1. State retirement system revenues (Agy Self-Generated) are expected to increase because employer contributions will increase.

Actuarial Data, Methods and Assumptions

This actuarial note was prepared using actuarial data, methods, and assumptions as disclosed in the most recent actuarial valuation report adopted by PRSAC subject to the following exceptions.

1. This analysis has been prepared by explicitly recognizing administrative expenses and gain sharing. The PRSAC valuations were prepared by implicitly recognizing administrative expenses and gain sharing.

2. The discount rate we used in our analysis is based on the average of capital market assumptions for eight leading investment consulting firms. Discount rates used in the PRSAC valuations are based on capital market assumptions developed by LASERS' investment consultant (NEPC) and by TRSL's investment consultant (Aon-Hewitt).

3. The discount rates used in our analysis for LASERS and TRSL were 6.75% and 6.50% respectively for the Pre 2018 plan and 6.00% for the hybrid DB plan as required by the text of HB 65. The actual emerging investment performance for LASERS and TRSL were projected to be 6.75% and 6.50%. The discount rates used for the PRSAC valuations were 7.75% for both systems.

4. We used a 2.50% inflation assumption in our analysis. LASERS used a 3.00% inflation rate for the PRSAC valuation and TRSL used a 2.50% inflation assumption.

5. We assumed investment earnings on account balances for the hybrid DC plan will be 6.00% during the accumulation period. We assumed that DC account balances will be converted into annuities based on a 3.00% discount rate. Annuity conversion rate in the market place have traditionally ranged from 2.00% to 4.00%.

These assumptions and methods are in compliance with actuarial standards of practice.

Actuarial Caveat

There is nothing in HB 65 that will compromise the signing actuary's ability to present an unbiased statement of actuarial opinion.

Actuarial Credentials:

Paul T. Richmond is the Manager of Actuarial Services for the Louisiana Legislative Auditor. He is an Enrolled Actuary, a member of the American Academy of Actuaries, a member of the Society of Actuaries and has met the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein.

Dual Referral:

Senate	House
[x] 13.5.1: Annual Fiscal Cost ≥ $100,000	[ ] 6.8(F)(1): Annual Fiscal Cost ≥ $100,000
[ ] 13.5.2: Annual Tax or Fee Change ≥ $500,000	[ ] 6.8(F)(2): Annual Revenue Reduction ≥ $100,000
	[ ] 6.8(G): Annual Tax or Fee Change ≥ $500,000