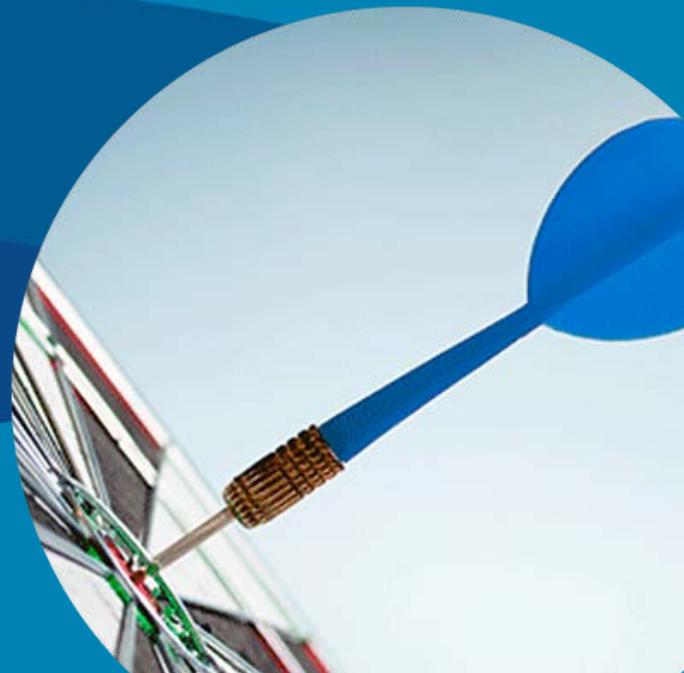


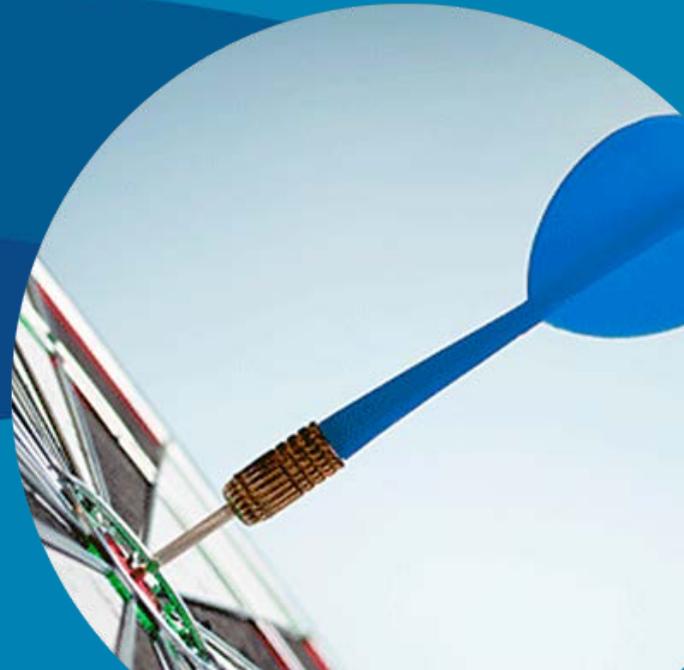
Supplemental Death Benefits Fund and Ad Hoc Benefits Review

Leslee Hardy, ASA, FCA, EA, MAAA
TMRS, Director of Actuarial Services

Mark Randall, EA, FCA, MAAA
GRS, Chief Executive Officer



Supplemental Death Benefits Fund (SDBF)



Supplemental Death Benefits (SDB)

- Cost-sharing group term life insurance plan; contribution rate based on one-year term cost expressed as a percentage of payroll
 - Actives – one year's salary
 - Retirees – \$7,500
- Assets pooled and benefits paid from SDBF
- Pay-as-you-go, no pre-funding over working career
- Cities: 3 active only; 761 active and retiree; 111 no SDB coverage

Retiree Death Benefit

- The retiree death benefit was originally \$2,500 and was increased to \$5,000 in 1994 and \$7,500 in 2004
- Surplus assets generated by favorable mortality experience and investment earnings
- To draw down assets, retiree rate valued at \$2,500 even after increases
- Mortality tables updated in 2010, 2013 and 2015
- As a result:
 - SDBF asset balance declined from \$25.7M (2012) to \$18.9M (2017)
 - Not sustainable long term
- 2019 Actuarial Experience Study will include a review of the:
 - Mortality rates
 - Timeframe for valuing the full \$7,500 retiree benefit
 - Appropriate level of SDBF reserves going forward

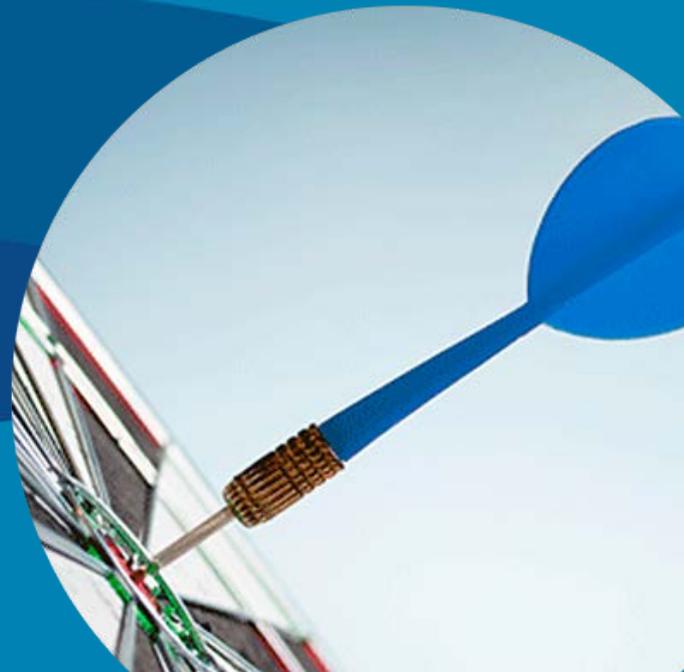
Retiree Death Benefit Rates

- Increasing the retiree SDB to \$10,000 has been considered as part of the possible benefits bill
 - If based on the full \$7,500 benefit, the retiree SDB rate would triple
 - If based on \$10,000 benefit, the retiree SDB rate would quadruple
 - If the retiree SDB increased to \$10,000 with no change in the current funding policy, the SDBF balance would deteriorate even more rapidly

SDB Benefit Valued	\$2,500	\$7,500	\$10,000
Active Rate	0.15%	0.15%	0.15%
Retiree Rate	0.05%	0.15%	0.20%
Total SDB Rate	0.20%	0.30%	0.35%
Increase Over Current Policy		0.10%	0.15%

- Board may consider postponing any retiree SDB increase to a future legislative session to allow time for SDBF funding policy analysis as part of the 2019 Experience Study

Ad Hoc Benefits Summary



Ad Hoc Benefits – Updated Service Credits (USC) and COLAs

- Ad hoc benefit increases are one-time enhancements which:
 - Impact past accruals only
 - Are not accrued as the services are rendered
 - Must be financed through future amortization payments
- **Repeating** USC and COLAs are financed as benefits accrue over the active working career of each employee

Funding Ad Hoc Benefits

- Prior to the December 31, 2009 valuation, all benefit enhancements, including ad hoc benefit increases, were amortized over a period of either 25 or 30 years determined as a level percentage of payroll
- In accordance with Actuarial Standards of Practice (ASOP) No. 4, GRS recommended the Board shorten the amortization period for ad hoc benefit increases to 15 years, with a level dollar approach
 - Funding of these benefits should be sustainable over time as a “stand alone” financial arrangement
 - Contributions received before benefit payments are made and never “under water”
- The recommended funding policy was adopted at the June 2009 Board meeting
- There has been no discussion since 2009 regarding changes to the financing of ad hoc benefits; current policy meets all standards set forth in ASOP No. 4
- The ad hoc funding policy will be reviewed in the 2019 Experience Study along with all other actuarial assumptions

Consistent Ad Hoc Benefit Adoptions

- TMRS' criteria for valuing ad hoc benefits as repeating for GASB 68 financial reporting purposes is:
 - Adopted in 1 of the last 2 years, AND
 - Adopted in 2 of the last 5 years
- In 2018, 16 cities met this criteria for USC and/or COLAs
 - 3 USC only
 - 7 COLAs only
 - 6 both USC and COLAs

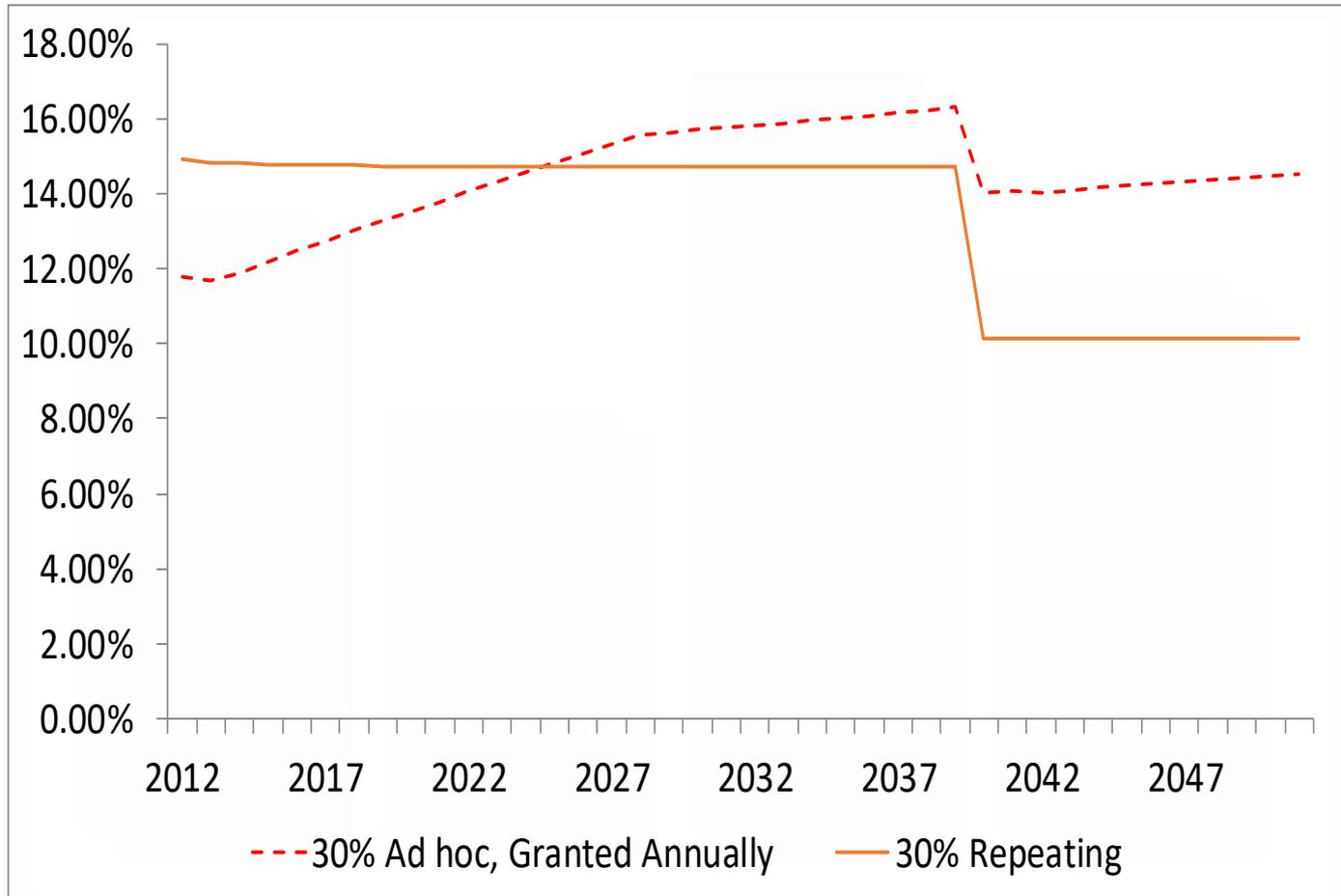
Short Term Analysis

- Ad hoc rates lower in short run, but costs increase with each adoption; repeating rates are stable, but higher initially
- After 10-15 years (varies by city), rate for a plan granting ad hocs is similar to the repeating rate and will continue to increase thereafter; repeating rate drops to the normal cost when UAAL fully amortized
- New UAAL is created every time an ad hoc is granted; UAAL decreases over time for repeating
- Funded ratio may decline or show little improvement with ad hocs; trends to 100% with repeating
- GASB 68 requires consistent ad hoc adoptions to be reflected as repeating in financial statements

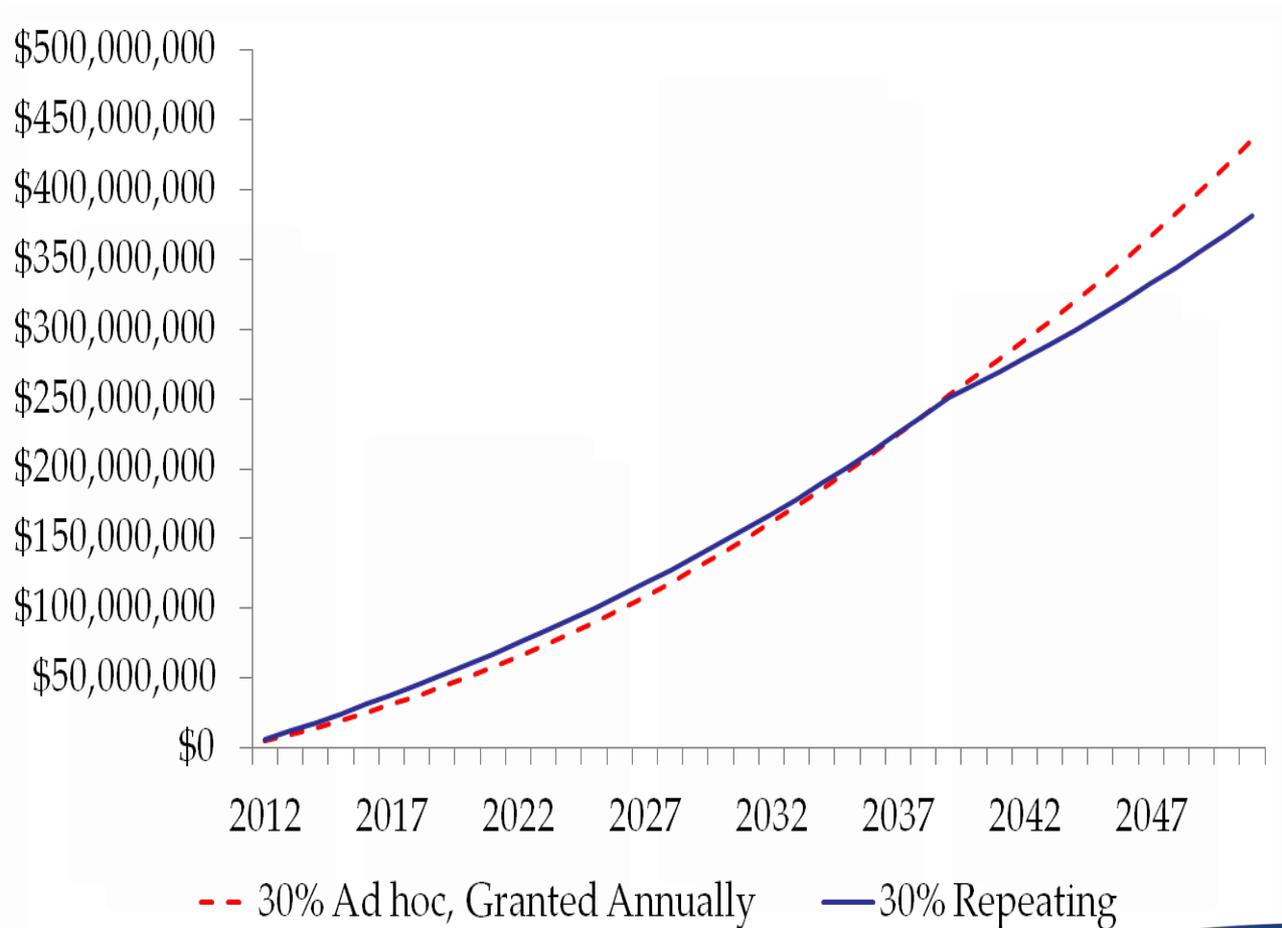
Long Term Analysis

- In the long run, cumulative contributions for ad hoc benefits exceed those for repeating
- Investment earnings accumulated through advance funding accounts for difference in long term costs

Projected Contribution Pattern



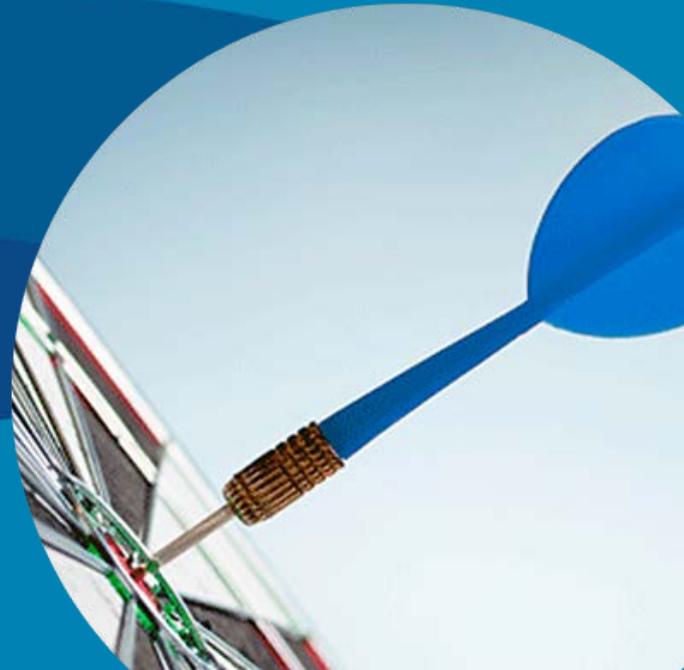
Total Cumulative Contributions



Staff Procedures for Ad Hoc Benefit Adoptions

- With every ad hoc ordinance sent, staff sends a copy of the Grid with projection reports which show impact on contribution rates and funded ratios of yearly ad hoc adoptions versus repeating
- The Actuarial Services Department contacts these cities individually to discuss the long term impact of ad hoc adoptions
- The Actuarial Services Department reaches out via email to each city requesting an ad hoc ordinance to explain the potential impact of ad hoc adoptions on their financial statements

COLAs



TMRS COLA Coverage

- Trends – TMRS Cities
 - Overall
 - The number of cities participating in TMRS has increased from 827 in 2008 to 883 in 2018
 - Cities Adopting COLAs
 - In 2008, 495 of 827 (60%) cities adopted COLAs
 - In 2018, 471 of 883 (53%) cities adopted COLAs
 - Repeating COLAs
 - In 2008, 486 of the 495 (98%) cities adopted repeating COLAs; 467 were 70% repeating COLAs
 - In 2018, 458 of the 471 (97%) cities adopted repeating COLAs; 400 were 70% repeating COLAs
 - Ad Hoc COLAs
 - In 2008, 9 cities adopted Ad Hoc COLAs; the number peaked at 20 in 2013
 - In 2018, 13 cities adopted Ad Hoc COLAs

COLAs are Retroactive

- Current COLA options – 30%, 50% or 70% of CPI
- Increases are calculated as if COLA had always been in effect since date of retirement
 - Typically referred to as “catch up” provision
- Initial COLA or an increase in CPI percent results in large benefit increases for the year adopted; longer retired, the higher the increase
- Reduction in CPI percent results in lower or no increase until cumulative increase at lower percent exceeds current benefit; longer retired, longer until another increase will be granted

Retro versus Non-Retro COLAs

- Since 2009, there has been interest by some stakeholders to file legislation which allows an option to remove the retroactive provision from the COLA
- For cities first adopting a COLA or who increase the CPI percent, a retro COLA is more expensive than a non-retro COLA
- For cities who decrease the CPI percent, a non-retro COLA is more expensive than a retro COLA
- For cities with repeating COLAs or who adopt ad hoc COLAs annually and do not change the CPI percent, there is no cost difference between a retro COLA and non-retro COLA

Comparative Analysis of January 2018 COLA Retro vs Non-Retro (Ad Hoc and Repeating)

City Last Adopted 70% COLA January 2010

	Baseline (No COLA)	70% CPI Ad hoc with Catch-up	70% CPI Ad hoc without Catch-up	70% CPI* Repeating with Catch-up	70% CPI* Repeating without Catch-up
Full Rate	12.40%	14.04%	12.53%	21.02%	19.98%
Rate Increase vs Baseline		1.64%	0.13%	8.62%	7.58%
Cost of Retro Feature			1.51%		1.04%

City Never Adopted a COLA

	Baseline (No COLA)	70% CPI Ad hoc with Catch-up	70% CPI Ad hoc without Catch-up	70% CPI* Repeating with Catch-up	70% CPI* Repeating without Catch-up
Full Rate	7.90%	8.78%	7.95%	13.93%	13.37%
Rate Increase vs Baseline		0.88%	0.05%	6.03%	5.47%
Cost of Retro Feature			0.83%		0.56%

* Assumes CPI will increase 2.5% annually