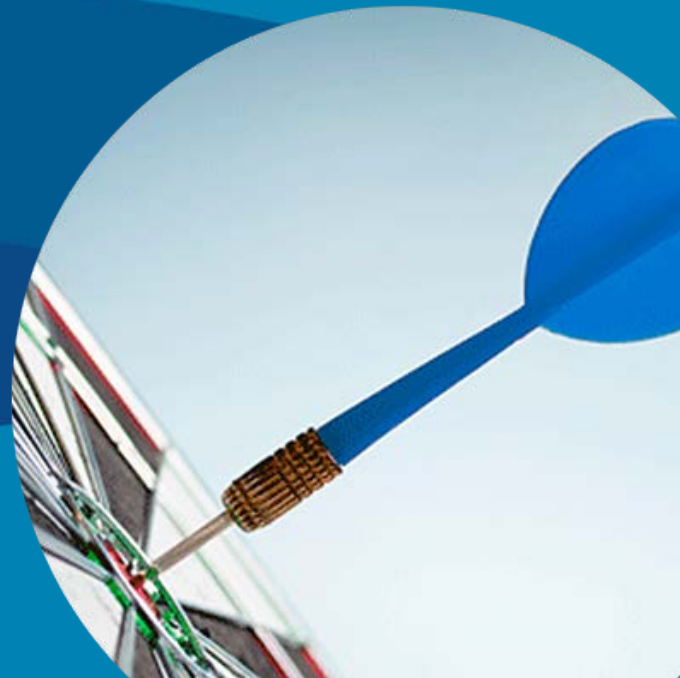


Benefit Accumulation Fund Interest Rate Credit Recommendation for 2017

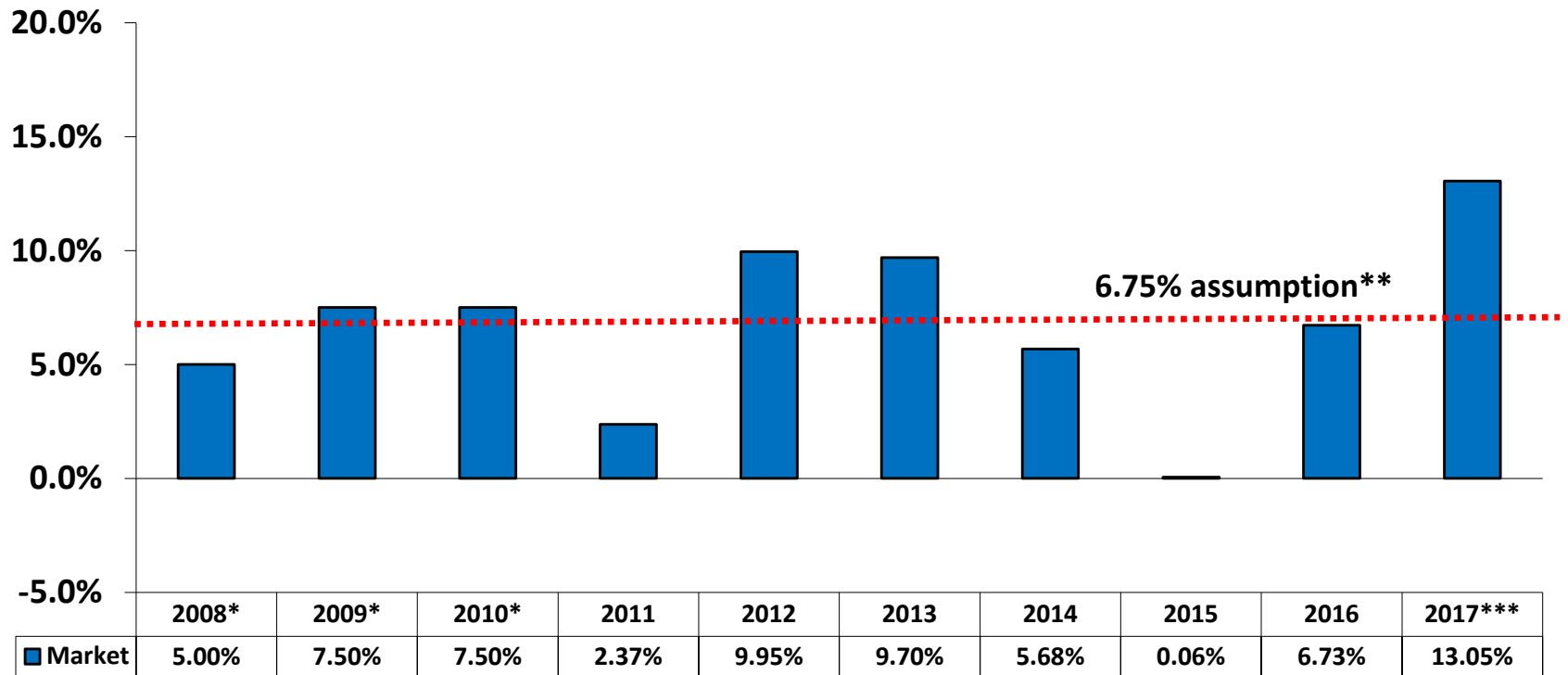
Leslee Hardy
Mark Randall
Joe Newton
March 22-23, 2018



Overall Fund Return for 2017

- GRS recommends crediting the Benefit Accumulation Fund (BAF) interest equal to approximately 13.05%
- This will be credited based on the beginning of year market value BAF balance for each city
- This amount was determined after all administrative and investment expenses have been paid and the statutory requirements have been fulfilled
- This will increase the initial Interest Reserve Account from \$100M to approximately 1% of the total trust value (\$290M), to allow for unanticipated changes in the market values as all investments are finalized

Historical BAF Interest Credits



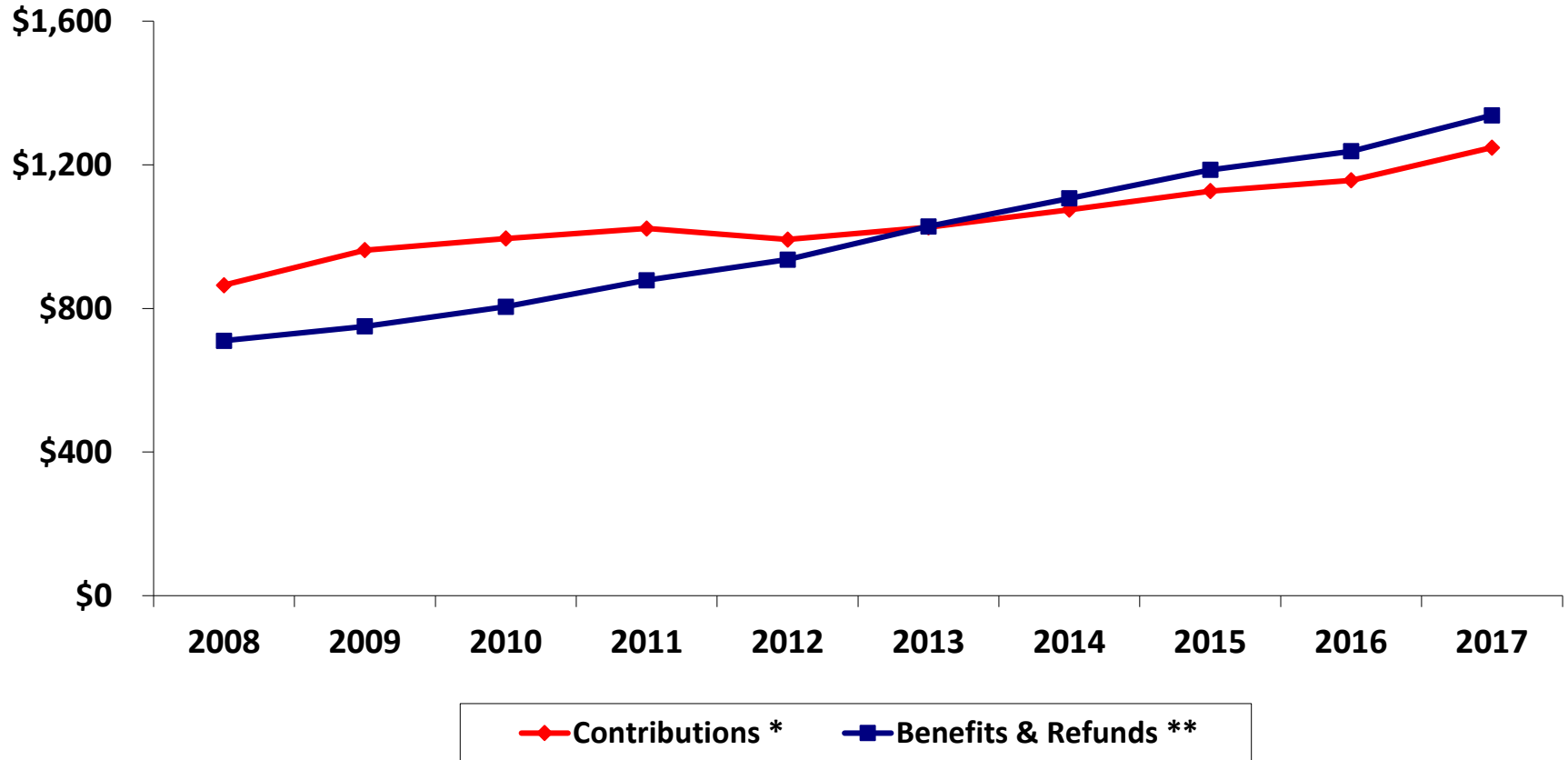
6.69% average compound credit over last 10 years

* Credits to City MAF accounts (pre-restructuring)

** Assumption was 7% from 2011 – 2015, 7.50% from 2009-2010. 2008 was pre HB-360.

*** Estimated

Contributions vs. Benefits and Refunds



* Includes member and employer contributions

** Includes administrative and investment expenses

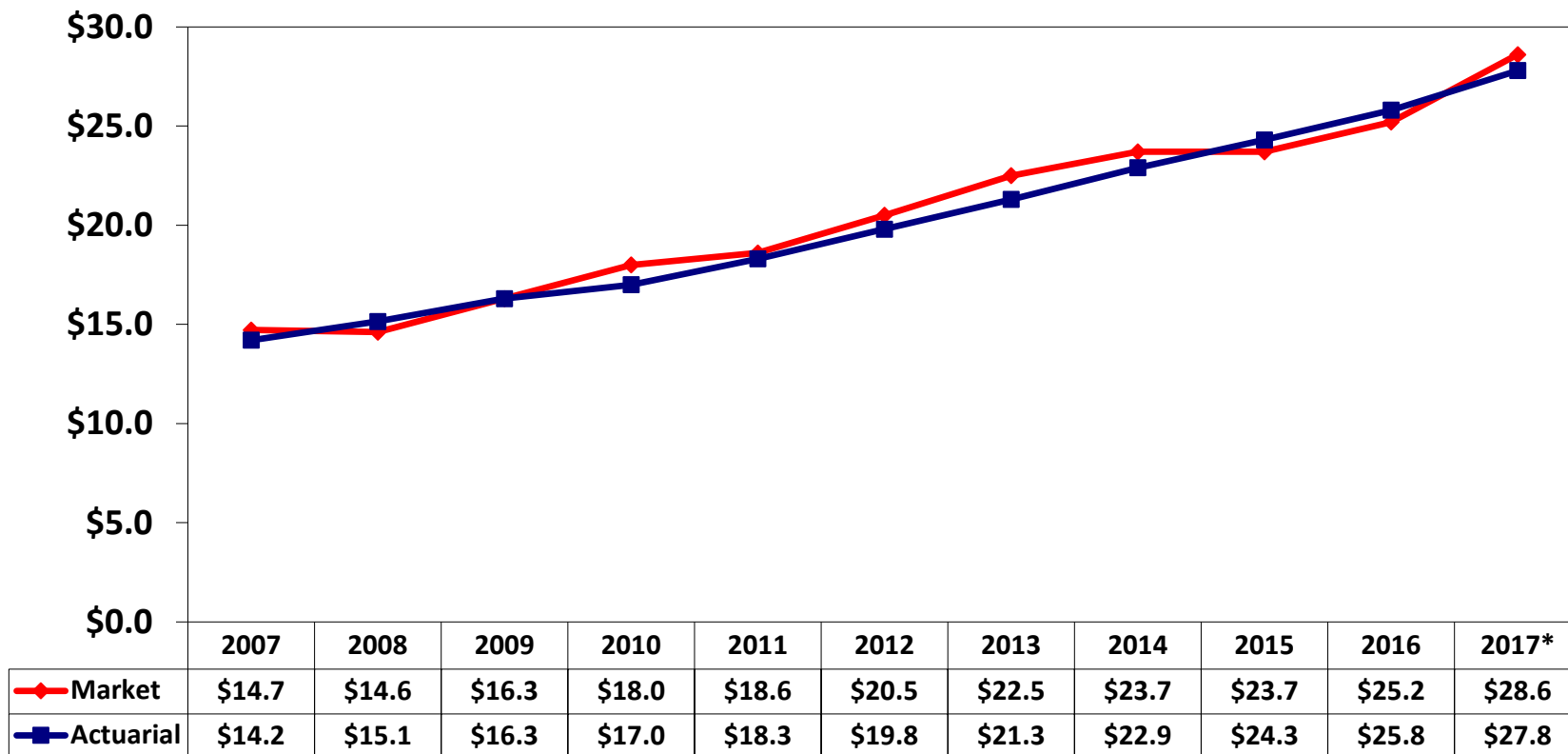
Current Smoothing and Amortization Policy

- Annually, the difference between actual and expected credits at 6.75% is smoothed over a 10 year period to determine the amount of the excess/shortfall to recognize in a given valuation.
- The recognized excess/shortfall is then amortized over a new amortization base as an actuarial gain or loss.
 - 25 Years for losses
 - Equal to largest loss base for gains
- This process provides substantial dampening in year to year volatility and not overreacting to performance in any one year

“Smoothed” 2017 Rate of Return

- The contribution rates are determined based on a 10-year smoothing process
- The smoothing calculation produces a Smoothed Rate of Return of approximately 7.11% for 2017 on the BAF
 - The excess allocation above 6.75% first offsets the \$611 million in deferred shortfalls as of December 31, 2016
 - Of the remaining excess, \$93 million will be recognized in the 2017 valuation and \$836 million will be deferred for future valuations (roughly 3.0% of Fund), or to protect against future adverse experience
 - The recognition of the \$93 million will produce a decrease in contribution rates of approximately 0.09% for 2019 from investment performance (will vary slightly by city)

Market and Actuarial Values of Assets



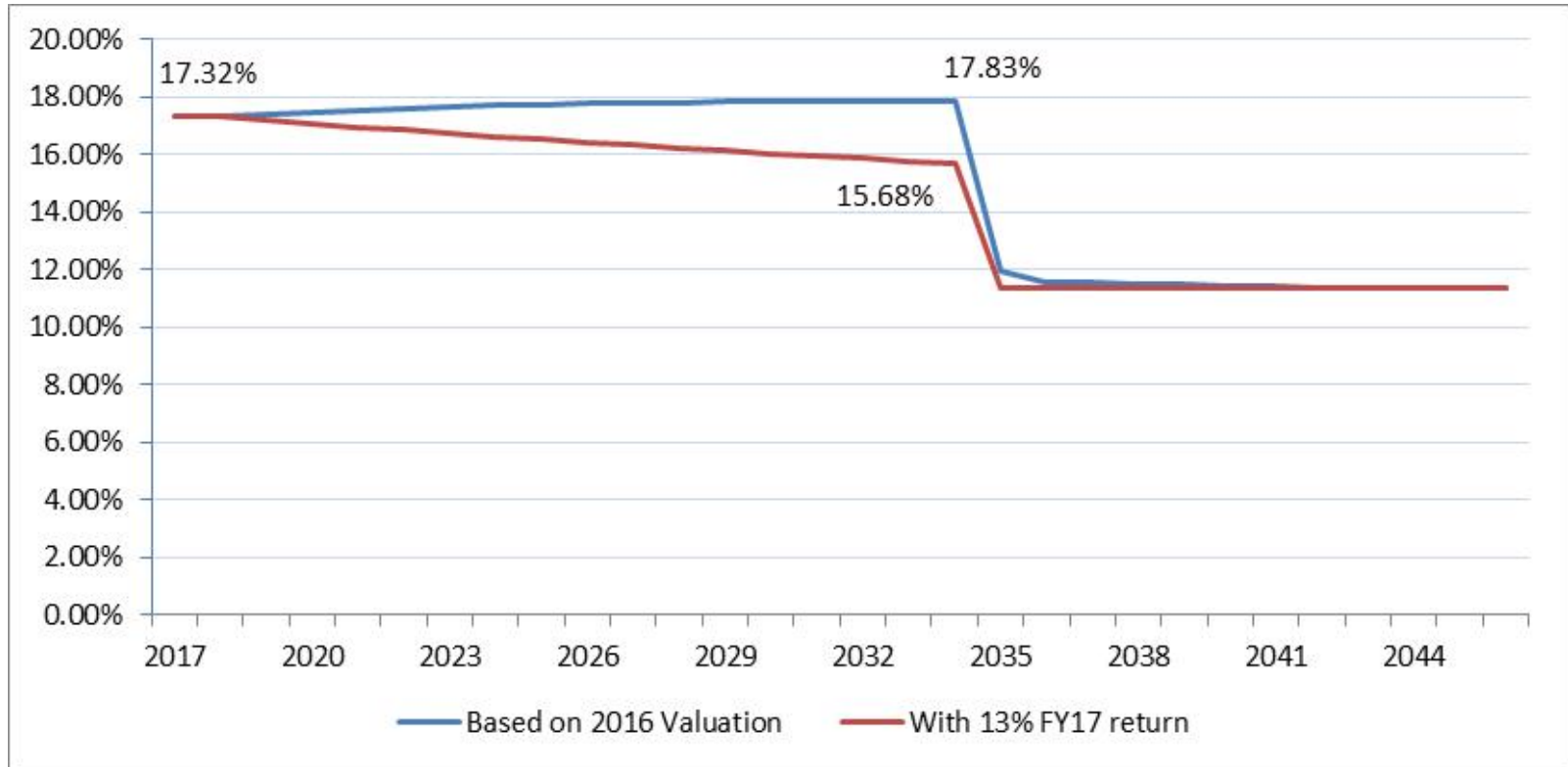
* Estimated

AVA is currently 97.2% of MVA, was 102.4% last year

AVA was Book Value prior to 2009

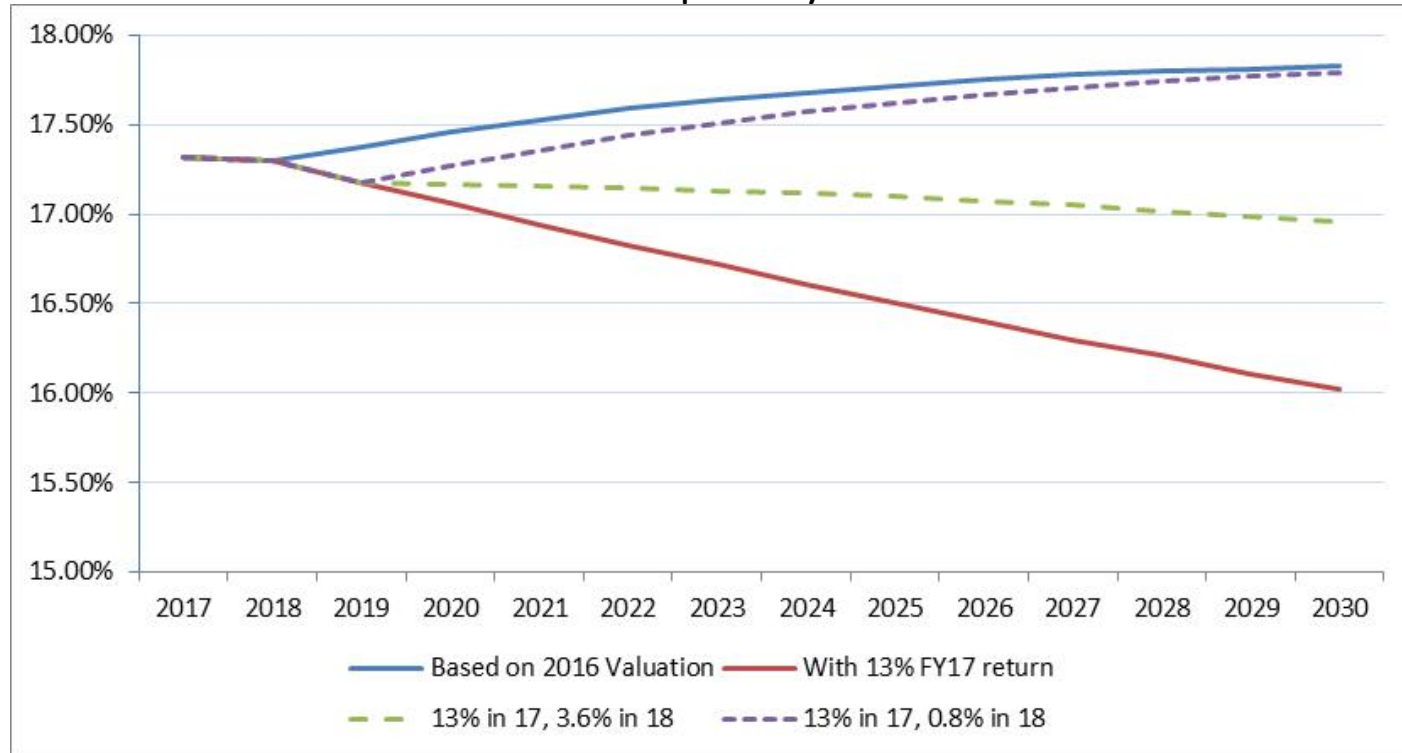
Impact of Strong Performance on Projected Contribution Rates

Example City



Impact from Illustrated Adverse Experience in 2018

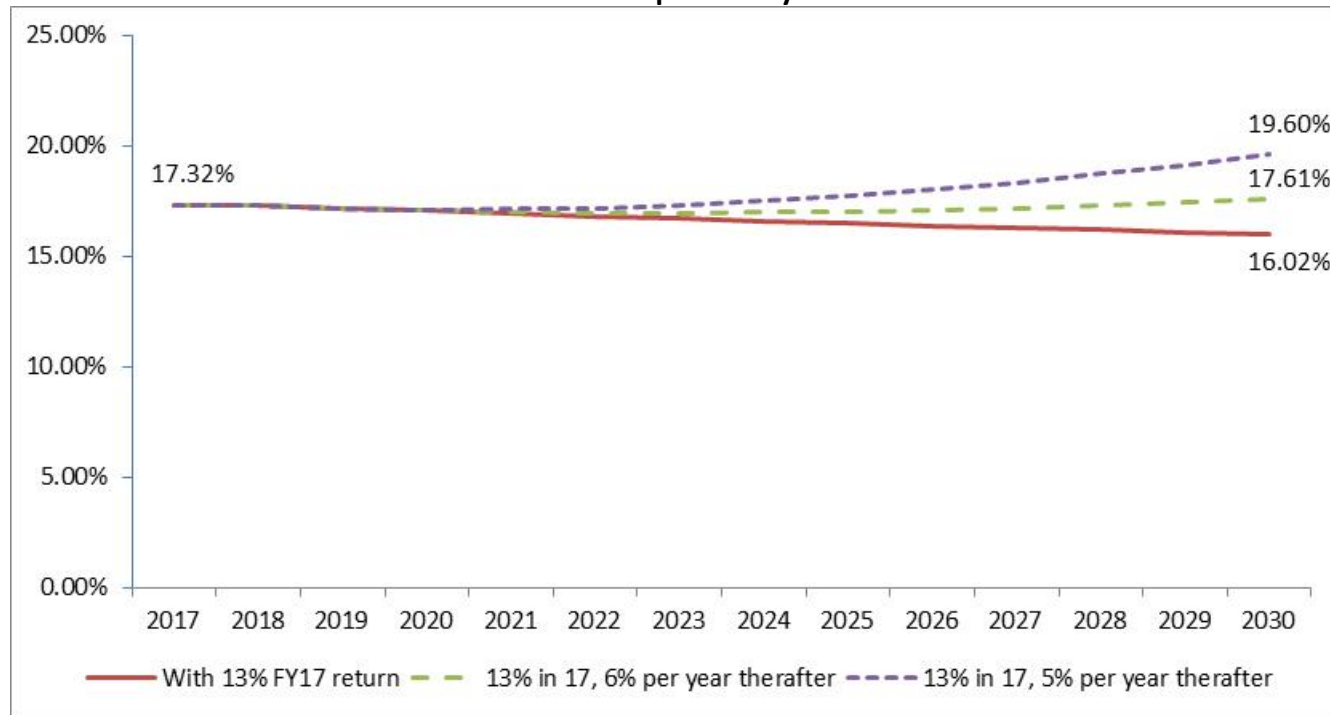
Example City



A 3.6% return in 2018 would offset current deferred excess and hold rates mostly steady throughout the period
A 0.8% return in 2018 would more than push the trajectory back towards last year's projections

Impact from Longer Term Adverse Experience

Example City



GRS' 2017 BAF Interest Credit Recommendation

- GRS recommends crediting the BAF with an interest credit of approximately 13.05% which represents the investment income remaining after all administrative and investment expenses have been paid and the statutory requirements have been fulfilled, includes any estimated 4th quarter private investment fund valuation adjustments and increases the Interest Reserve Account as of December 31, 2017 from \$100M to approximately 1% of the total trust value (\$290M)

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