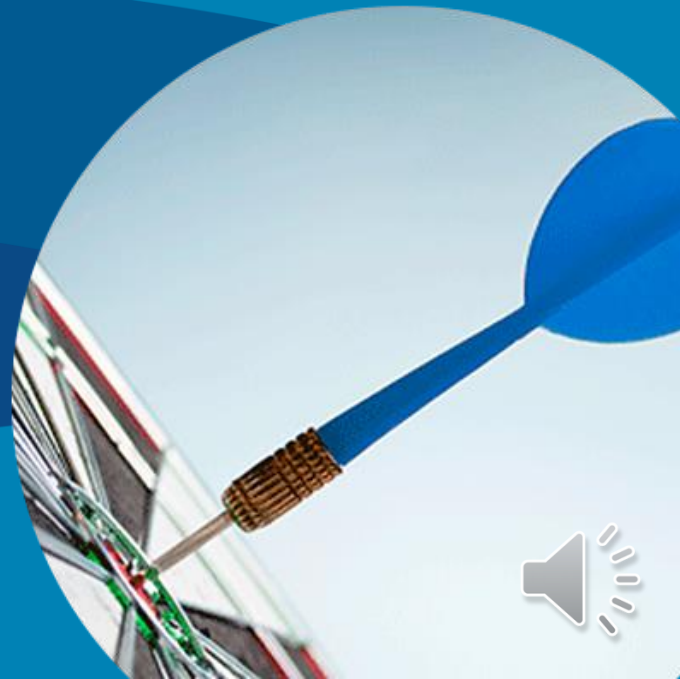




Reading Old Hire Actuarial Reports

Dana Woolfrey, FSA, MAAA



Old Hire Reports

- Each Department has individual liabilities, assets, and funding policy
- Purpose of Valuation:
 - Determine funded level of plan – how do assets compare to obligations?
 - Determine required contribution



The Actuarial Terms we will define

- Actuarial Accrued Liability (AAL)
- Actuarial Value of Assets (AVA)
- Unfunded Actuarial Accrued Liability (UAAL)
- Funded Ratio
- Required Contribution (RC)

**Examples assume no investments are available, earnings = \$0.*



Closed Plan Dynamic

- Last Old Hire member was hired in 1978
- No active members
- Vast majority of members are in payment phase
- Generally fund benefits over active career so, in theory, would like to have benefits fully funded at this point



Actuarial Accrued Liability (AAL)

- Because Plans are closed, the accrued liability simply represents the total present value of the annuities over the member's life expectancies.
 - Assume plan has two retirees, age 70 and 75.
 - Assume life expectancy 80 (or 10 and 5 years remaining respectively).
 - Both receive benefits of \$10,000 per year
 - Total liability =
$$10 * \$10,000 + 5 * \$10,000 = \$150,000$$



Actuarial Accrued Liability (AAL)

- The Actuarial Accrued Liability also represents the *target value of assets* at the valuation date



Actuarial Value of Assets (AVA)

- Investment returns are volatile
- Don't want all that volatility to flow through to contribution requirements
- Smooth any deviation from investment return assumption (above or below expectation) over 5 years
- Smoothed value is the actuarial value of assets



Unfunded Accrued Liability

- Accrued liability is representative of desired amount in the bank, but...
- That doesn't always mean that's what's in the bank
- Example:
 - Accrued Liability: \$50,000
 - Assets: \$40,000
 - **Unfunded Accrued Liability:** \$10,000
- Flip flopped situation “surplus”
- **Funded ratio** = $\text{Assets}/\text{Liability} = 40000/50000 = 80\%$



How did we end up with an unfunded liability?

- Improving Benefit Provisions
 - Ad Hoc COLAs without funding to cover the up front increase in liabilities
- Contributed less than actuarially determined amount
- Asset losses
 - Don't earn as much as assumption
- Demographic losses
 - Mortality – members live longer than expected
 - Less terminations than expected
 - Members retire sooner than expected



How did we end up with an unfunded liability?

- Other reasons:
 - Assumption changes
 - Mortality assumptions changed based on most recent experience study
- Can have flip side gains and end up with a surplus



Providing for Unfunded Benefit Payments

- New funding policy does not focus on amortization
- In plans with unfunded liabilities, focus on spreading assets available over remaining payments
 - Use portion of assets to pay current benefits
 - Portion based on funded status
 - Use minimum contribution to fund the rest
- Focus on level funding where possible
 - Margin will help reduce contribution volatility in the future

Why did my Required Contribution change?

- Benefit modification
- Administrative expense
 - Floating assumption
- Investment experience
 - Poor investment experience during 2022
 - Asset losses



Why did my Required Contribution change?

- Salary/rank experience
- Contributions more/less than expected
- Mortality and Other

This concludes the
Reading Old Hire Actuarial Reports
Presentation.

If you wish further information
or have questions please call

FPPA
Fire and Police
Pension Association

(303) 770-3772 in the Denver Metro area or
(800) 332-3772 toll free Statewide.

