Title: The Role of Retirement Plan Design in Risk Management

Moderator: Casey Srader
Budget Manager, City of Plano, TX

Speakers:
- Leslie Thompson
  Senior Consultant, Gabriel, Roeder, Smith & Company
- Barry Faison
  Chief Financial Officer, Virginia Retirement System
- Marcus Wu
  Partner, Pillsbury Winthrop Shaw Pittman
Plan Sponsor Perspective

- Budgetary Pressures – They’re Real!!
Plan Sponsor Perspective

- Texas Municipal Retirement System (TMRS):
  - “Hybrid” cash-balance defined benefit plan with statutory regulations in place that ensure oversight and responsible funding
  - To help mitigate risks, several changes have been made since 2007 to ensure long-term, advance funding of all benefits, except Ad Hoc adoptions of Updated Service Credit Credit (USC) and COLA’s
  - All changes have also helped reduce volatility of city contributions from year to year
Plan Sponsor Perspective

- Texas Municipal Retirement System (TMRS):
  - Each participating city controls **employer** costs by choosing its own options:
    - City of Plano, TX: Employer Matching Rate is 200%
      - (Can be 100% or 150%)
    - City of Plano, TX: Employee Deposit Rate is 7%
      - (Can be 5% or 6%)
Plan Sponsor Perspective

- Texas Municipal Retirement System (TMRS):
  - Each city is funded as a separate entity
  - The city’s employer contribution determined annually under this funding policy is called the Actuarially Determined Employer Contribution (ADEC)
  - Cities must pay the ADEC every year, or reduce benefits if the ADEC is not sustainable
  - No pension contributor “holidays”
  - All city plans are funded over a closed period of no more than 25 or 30 years
Plan Sponsor Perspective

• Average contribution rate for all cities for 2017 is 13.24%
  ➢ City of Plano, TX: 18.11%

<table>
<thead>
<tr>
<th>Year</th>
<th>Pension Cost</th>
<th>Total Budget</th>
<th>% of Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2016</td>
<td>$26.4M</td>
<td>$478.8M</td>
<td>5.5%</td>
</tr>
<tr>
<td>FY 2015</td>
<td>$25.3M</td>
<td>$451.9M</td>
<td>5.6%</td>
</tr>
<tr>
<td>FY 2014</td>
<td>$24.2M</td>
<td>$429.7M</td>
<td>5.6%</td>
</tr>
<tr>
<td>FY 2013</td>
<td>$22.7M</td>
<td>$407.4M</td>
<td>5.6%</td>
</tr>
<tr>
<td>FY 2012</td>
<td>$21.2M</td>
<td>$398.6M</td>
<td>5.3%</td>
</tr>
<tr>
<td>FY 2011</td>
<td>$19.9M</td>
<td>$385.7M</td>
<td>5.2%</td>
</tr>
<tr>
<td>FY 2010</td>
<td>$19.3M</td>
<td>$385.5M</td>
<td>5.0%</td>
</tr>
<tr>
<td>FY 2009</td>
<td>$18.7M</td>
<td>$385.7M</td>
<td>4.8%</td>
</tr>
<tr>
<td>FY 2008</td>
<td>$16.5M</td>
<td>$364.7M</td>
<td>4.5%</td>
</tr>
<tr>
<td>FY 2007</td>
<td>$15.4M</td>
<td>$355.2M</td>
<td>4.3%</td>
</tr>
</tbody>
</table>
Plan Sponsor Perspective

- Long Term Planning vs. Short Term Needs
  - Don’t sacrifice full pension funding for short term budgetary needs!!
  
  - Pension problems may include:
    - *Required contributions that are not being made*
    - Benefits that are not sustainable
    - Unrealistic assumptions may understate pension costs and lead to long term problems
Responses to Dealing with Risk – A Legislative Perspective
The Virginia Experience
Perceived Risks

- Concerns about funding the plan
  - Negative investment returns in FY 2008 and FY 2009
  - Impact of investment performance on Funded Ratios
  - Impact of investment performance on Employer Contribution rates

- Constituent feedback about existing DB Plan
  - Member contributions were paid by the employer
  - Most non-government employees are in DC plans

- Other Issues
  - Portability
  - Employee control over Pension Plan assets
Pension Reform: 2010 & 2011

- 2010 – VA General Assembly established new plan for new employees hired on or after July 1, 2010 (Plan 2)
  - Normal retirement age changed to Social Security normal retirement age
  - Unreduced benefits commencing at Rule of 90
  - Employees paid member contribution on a pre-tax basis
  - Reduced retirement moved to age 60 with at least 5 years of service
  - Five-year AFC formula
  - Revised COLA formula

- 2011 – VA General Assembly enacted 5/5 program for Plan 1 state employees with offsetting salary increase
Pension Reform: July 1, 2012

Pension Reform passed by the 2012 Virginia General Assembly, effective July 1, 2012 (FY 2013)

- Local governments and school systems required to begin imposing the 5 percent member contribution with an offsetting salary increase:
  
  - 83 percent of local government employers opted to impose a 5 percent member contribution with a 5 percent offsetting salary increase – increased to 83 percent July 1, 2013.
  
  - 60 percent of school board employers opted to impose a 5 percent member contribution with a 5 percent offsetting salary increase – increased to 73 percent July 1, 2013.
  
  - Remaining employers elected a phase-in schedule with full implementation no later than July 1, 2016
Pension Reform passed by the 2012 Virginia General Assembly, effective July 1, 2012 (FY 2013)

- General Assembly proposes to phase-in contribution rates for state employee and teacher plans to achieve full funding of the VRS Board-certified rates

<table>
<thead>
<tr>
<th></th>
<th>July 1, 2012</th>
<th>July 1, 2014</th>
<th>July 1, 2016</th>
<th>July 1, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>67.02%</td>
<td>78.02%</td>
<td>89.01%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Teachers</td>
<td>69.53%</td>
<td>79.69%</td>
<td>89.84%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

- Local governments allowed to elect either the VRS Board-certified employer contribution rate or an alternate rate:
  - 90 percent of the local governments elected the VRS Board-certified employer contribution rate
  - Phase-in employers had an NPO under GASB Statement No. 27
Pension Reform: July 1, 2013

Pension Reform passed by the 2012 Virginia General Assembly, effective January, 2013 (FY 2013)

- Non-vested Plan 1 members became VRS Plan 2 members
- Benefit multiplier on new service for Plan 2 members was reduced from 1.70% to 1.65%
- Cost of living Adjustment (COLA):
  - No COLA until a member who retires with less than 20 years of service has received an allowance for one full calendar year after reaching unreduced retirement age. All Plan 1 and Plan 2 members within 5 years of eligibility for an unreduced benefit as of 1/1/13 were grandfathered
  - COLA capped at 3% (first 2% of the CPI-U plus one-half of the next 2%, for a maximum total of 3%) for Plan 2 members.
Pension Reform: January 1, 2014

Pension Reform passed by the 2012 Virginia General Assembly, effective January, 1, 2014 (FY 2014)

- Hybrid Plan becomes the retirement plan for all general public employees hired on or after January 1, 2014
- Hybrid Plan members also covered by VRS-administered VLDP or similar employer-elected disability insurance benefit
- Current general public employees in Plan1 and Plan 2 were given the option to elect by April 30, 2014 to move to the Hybrid Plan on July 1, 2014
- Hazardous duty members were excluded from membership in the Hybrid Plan
Pension Reform: January 1, 2014

Hybrid Plan Features

**Eligibility**
- Those that participate in regular VRS (state employees, JRS, Teachers and local government employees) automatically enrolled in Hybrid Plan from date of hire
- Public safety employees without hazardous duty coverage were enrolled in Hybrid Plan from data of hire
- One-time election for current employees
- New ORP employees may elect the Hybrid Plan or ORP
- Current ORP employees were not eligible to participate in Hybrid Plan
- Public safety employees with hazardous duty coverage were not allowed to participate in Hybrid Plan and retained current plan provisions (VaLORS, SPORS, local enhanced hazardous duty coverage)

**Disability**
- Provides a new optional disability program for localities. The localities were enrolled in the VRS-administered program unless they provided a disability program with comparable coverage from another source
Hybrid Plan Features

Multiplier

- DB component has a 1.00% multiplier to produce approximately a 30% salary replacement rate after 30 years of service

Contributions

- Employee voluntary contributions automatically increased every three years by one-half a percentage point, unless the employee opts out or the employee is already at the maximum voluntary contribution of 4.00%
- Employee mandatory contribution of 4.00% to the DB component
- Employer contributions to the DB component based on actuarial valuations
- Employer contributions to the DC component consist of the 1.00% match on the mandatory employee contribution, plus 100% match on the first 1.00% of voluntary contributions elected by the employee, plus 50% match on the next 3.00% of voluntary contributions elected by the employee
- Maximum contribution to the DC component is 5.00% from the employee (1.00% mandatory and 4.00% voluntary) and 3.50% from the employer (1.00% on the mandatory and 2.50% on the voluntary)
2017 Pension Reform Activities

Commission on Employee Retirement Security and Pension Reform

- Study and make recommendations relating to the financial soundness of retirement plans
- Look at the suitability of retirement plans for employees and the attributes of retirement plans for future employees
- Examine the impact of anticipated retirement of experienced employees between 2016-2016 and replacement strategies
- Study compensation and benefits packages to attract and retain a highly productive workforce

Hybrid Retirement Plan Modifications

- Increase employee mandatory DC contribution from 1.00% to 2.00%
- Change auto-escalation to every two years
- Auto-enroll with 0.50% voluntary contribution
- Did not pass
For Further Information

Barry C. Faison
Chief Financial Officer
Virginia Retirement System
804-344-3128
bfaison@varetire.org
Government Finance Officers Association
May 22, 2017  4:15 to 5:30

Good News…We’re Living Longer: Pension Policy, the Aging Population and Risk Management
We are living longer!

- Since 1900 life expectancy from birth has increased over 32 years
- Factors contributing include Social Security; Medicare and Medicaid; Vaccinations
- Life expectancy improves with each decade
  - Not the maximum life span
  - Thus, more of us live to advanced ages
## Life expectancy from birth

<table>
<thead>
<tr>
<th>Year</th>
<th>Life expectancy from birth</th>
<th>Life expectancy from birth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>1900</td>
<td>46.3 years</td>
<td>48.3 years</td>
</tr>
<tr>
<td>1950</td>
<td>65.6 years</td>
<td>71.1 years</td>
</tr>
<tr>
<td>1970</td>
<td>67.1 years</td>
<td>74.7 years</td>
</tr>
<tr>
<td>1990</td>
<td>71.8 years</td>
<td>78.8 years</td>
</tr>
<tr>
<td>2000</td>
<td>74.1 years</td>
<td>79.3 years</td>
</tr>
<tr>
<td>2010</td>
<td>76.2 years</td>
<td>81.0 years</td>
</tr>
</tbody>
</table>
Once we make it to retirement...

- Data shows once we make it to age 65 we live longer
  - The “survivorship” benefit
  - The increase in expectancy has been about 1 year for every decade
  - Big question- will this continue?
## Life expectancy at age 65

<table>
<thead>
<tr>
<th>Year</th>
<th>Life expectancy from age 65 Males</th>
<th>Life expectancy from age 65 Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1950</td>
<td>77.8 years</td>
<td>80.0 years</td>
</tr>
<tr>
<td>1970</td>
<td>78.1 years</td>
<td>82.0 years</td>
</tr>
<tr>
<td>1990</td>
<td>80.1 years</td>
<td>83.9 years</td>
</tr>
<tr>
<td>2000</td>
<td>81.0 years</td>
<td>84.0 years</td>
</tr>
<tr>
<td>2010</td>
<td>82.7 years</td>
<td>85.3 years</td>
</tr>
</tbody>
</table>
...and the longer you live, the longer you live!

<table>
<thead>
<tr>
<th>Year</th>
<th>Life Expectancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>At birth</td>
<td>76.2 years</td>
</tr>
<tr>
<td>Age 65</td>
<td>82.7 years</td>
</tr>
<tr>
<td>Age 75</td>
<td>86.0 years</td>
</tr>
</tbody>
</table>
…so actuaries developed a projection model for future life expectancy

<table>
<thead>
<tr>
<th>Year</th>
<th>Life Expectancy for an age 60 male*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>86.8 years</td>
</tr>
<tr>
<td>2020</td>
<td>87.3 years</td>
</tr>
<tr>
<td>2025</td>
<td>87.9 years</td>
</tr>
<tr>
<td>2030</td>
<td>88.4 years</td>
</tr>
<tr>
<td>2035</td>
<td>88.9 years</td>
</tr>
</tbody>
</table>

*Colorado FPPA 2015 experience study; fire and police public safety members
...how does this compare to Colorado general population?

<table>
<thead>
<tr>
<th>Life Expectancy for an age 60 male, Colorado FPPA*</th>
<th>Life expectancy for an age 60 male, Colorado PERA**</th>
</tr>
</thead>
<tbody>
<tr>
<td>86.8 years</td>
<td>84.3 years</td>
</tr>
</tbody>
</table>

* Colorado FPPA 2015 experience study; fire and police public safety members

** Colorado PERA December 31, 2013 actuarial valuation
...a side note on pre-retirement death

<table>
<thead>
<tr>
<th>State</th>
<th>Avg. Annual Rate per 50K officers</th>
<th>5-Year Total</th>
<th>2012 Deaths</th>
<th>2011 Deaths</th>
<th>2010 Deaths</th>
<th>2009 Deaths</th>
<th>2008 Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Dakota</td>
<td>11.5</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Montana</td>
<td>10.8</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Alabama</td>
<td>8.5</td>
<td>19</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Mississippi</td>
<td>8.2</td>
<td>12</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>North Dakota</td>
<td>7.3</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>7.2</td>
<td>13</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Georgia</td>
<td>6.8</td>
<td>38</td>
<td>8</td>
<td>10</td>
<td>9</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>
Miscellaneous observations

- Medicare and Medicaid greatly increased life expectancy
- ACA will not increase as significantly
- Health care expenditures must stop their rapid growth; it is unclear the impact this will have on life expectancy
- There is no evidence that the maximum age has changed
Miscellaneous observations

- The past may not be a good predictor of the future
- Must consider
  1. Future changes in technology
  2. Human behavior
  3. National capacity for increased spending
Inferences drawn about life expectancy

- Life expectancy appears to be improving
- Public safety, once they reach retirement age, may have as long expectancy as non-public safety
Improved mortality is an improved lifetime benefit

- As life expectancy lengthens, retirees can expect to receive more income from their retirement plan than originally expected
  - This creates a strain in the actuarial balance
  - Mortality losses are not known until members start not dying!
  - This creates the need to fund for a benefit that is immediately earned
Cost implications

- As an example, assume the age 60 retiree is going to live to be 90, instead of 87.
- Today, that is a 11 percent increase in benefits (30 years of payments vs 27 years).
- Could be twice as much if there is a cost of living adjustment.

_The accumulation years have remained the same, but the payout years are increasing._
Plan and Policy Considerations

- The right tool for the right job
- Use a defined benefit plan for a non-decreasing lifetime annuity
  - Protecting employees from outliving their money
  - Protecting employees from investment risk while retired
- Use a defined contribution plan for variable income needs
Plan and Policy considerations

- Create a clear focus on the protection of the base annuity benefit
  - May wish to examine using a DC plan for more variable income needs such as cola’s, retiree medical subsidies and early retirement
Plan and Policy considerations

Keep the mortality tables updated

- Use generational mortality tables that account for future improvements
- Annually analyze the liability gains and losses on mortality
Plan and Policy considerations

- Link the period of contributions to the period of payout
  - To offset increases in life expectancy, increase the retirement age by about three to seven years (each plan is unique)
Plan and Policy considerations

- Reduce multipliers, but have the similar lifetime benefit
  - The lower multiplier will apply to a longer period of service-delivering the same lifetime benefit
Plan and Policy considerations

- Review the funding policy to eliminate inter generational transfers
  - Monitor annually the changes in the unfunded liability and its principle pay-off
  - Use multi-year projections to monitor the effects of amendments and gains/losses on the anticipated date for full funding
Contribution Rate Redesign
in response to managing rate risk

- Sharing cost increases
  - Tactic-split Total Contribution increases/decreases
  - Tactic-split Normal Cost increases/decreases
- Maintenance of portion of normal cost
  - Value normal cost for each tier
- Capping employer rates
Managing volatility in employee rates

- Rate changes alter take home pay
  - Use a “trigger” to ascertain when a change is warranted
  - Use rounding so changes are not made for small moves in rates
  - May use time periods (i.e. every other year)
Defined benefit plans can be flexible in cost sharing structures

Optimal to determine the risk to be managed; place the risk where it is best managed
Contacts and Credits

Thank You to Paul Wood, ASA, MAAA for reviewing this presentation

Leslie Thompson, FSA, FCA, EA, MAAA

Leslie.thompson@grsconsulting.com

720-274-7271
Perspectives From the Field: Changing Landscape of Retirement Benefits

Government Finance Officers Association

Marcus Wu, May 22, 2017
Overview

- Backdrop
- Rainy Day Pension Fund
- Transition to Defined Contribution Plans
- Retiree Health
Backdrop
California

- Pension funding crisis
  - CalPERS and CalSTRS continual discount rate reductions
  - Leading to increased ER minimum contributions

- Retiree health funding crisis

- California Public Employees’ Pension Reform Act of 2013 (PEPRA)

- Impact on employee retention and attraction
Rainy Day Pension Fund
Pension Funding

- Historically, only permitted option = contribution to plan’s 401(a) trust
- Employer options for increasing reserve
  - Establish reserve in general assets
  - Make excess contributions to retirement system
  - Numerous downsides
New Funding Option for Pension

- IRS-approved separate 115 trust
- Features
  - ER contributions only
  - Trust assets reserved for ER contributions to pension plan
  - IRS private letter ruling
### Pros
- Local control of reserve funds
- Budget stabilization
- Trust assets available for pension contributions
- Exempt from investment restrictions on public moneys
- Investment strategy can deviate from plan’s
- ERs in multiple-ER plans can tailor investments to demographics
- Trust can also fund OPEBs

### Cons
- Start-up cost
- Education
Transition to Defined Contribution Plans
# PEPRA Highlights

<table>
<thead>
<tr>
<th>Plan Feature</th>
<th>Non-PEPRA Employees</th>
<th>PEPRA Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit formulas (non-safety)</td>
<td>2% @ 55, 2% @ 60, 2.5% @ 55, 2.7% @ 55, 3% @ 60</td>
<td>2% @ 62</td>
</tr>
<tr>
<td>Compensation limit</td>
<td>$270,000 (401(a)(17))</td>
<td>SS agencies: $118,775, Non-SS agencies: $142,530</td>
</tr>
<tr>
<td>Employee contributions</td>
<td>7%-9%</td>
<td>50% of normal cost</td>
</tr>
<tr>
<td>Employer payment of EE contributions</td>
<td>Permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>Purchase of “air time”</td>
<td>Permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>Earliest retirement age</td>
<td>50</td>
<td>52</td>
</tr>
</tbody>
</table>
Retirement Plan Types

Defined Benefit Plans

- Pension plans
- Cash balance plans

Defined Contribution Plans

- 457(b) plans
- 401(a) plans
- 403(b) plans
- 401(k) plans (grandfathered only)
<table>
<thead>
<tr>
<th>Employer-directed</th>
<th>Participant-directed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employer selects investments for participant’s assets</td>
<td>Employer selects funds offered under plan’s investment menu, including default fund</td>
</tr>
<tr>
<td>Menu may include self-directed brokerage account</td>
<td>Participants direct the investment of their plan account among funds on the menu</td>
</tr>
<tr>
<td>If no participant direction, amount is allocated to default fund</td>
<td></td>
</tr>
</tbody>
</table>
California Constitution
Article 16, Section 17
(California governmental plans)

Duty of loyalty
Duty of prudence
Duty of diversification
Duty to follow plan documents
ERISA 404(c)

ERISA
(nongovernmental plans)
Retiree Health
Increased Use of Funding Vehicles

- OPEB 115 trusts
- VEBAs (may include risk shifting)
- Rabbi trusts (rare)
Transition to DC Arrangements

- Health Reimbursement Arrangements (HRAs)
- Health Savings Accounts (HSAs)
- Case study: Conversion of DB arrangement to DC