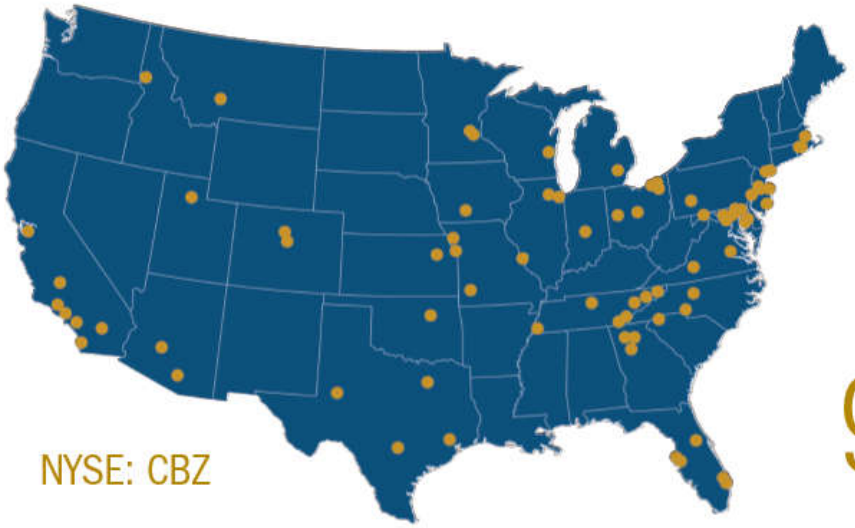
CBIZ Retirement Plan Services

Charlotte Firefighters' Retirement System Comprehensive Review

July 26, 2018

About CBIZ

National Resources; Personal Service



NYSE: CBZ

100+ | offices

4,600+ | associates

90,000+ | clients

85 Workplace Awards

Commitment to Community including 5 Million+ Lbs. of Food Donated

Connect with us! www.cbiz.com

CBIZ CBZ CBIZServices CBIZSolutions

CBIZ Retirement Plan Services

Project Scope

- CBIZ RPS was engaged to complete a comprehensive review of the Charlotte Firefighters Retirement Act and to make recommendations to the CFRS Board of Trustees related to *closing the unfunded liability gap* and *preventing pension spiking*
- As part of the project, the following information was collected and reviewed:
  - Annual actuarial valuation reports (July 2014 – July 2017)
  - Valuation census data was provided by Cavanaugh McDonald
  - Sample retirement calculations, the 2014 experience study, and overtime and vacation information were provided by the Plan Administrator

CBIZ Retirement Plan Services

Project Process

- Replicated the latest actuarial valuation (July 1, 2017) prepared by your current actuary
- Prepared 40-year forecasts under alternative investment return assumptions from 6.00%-7.50%
  - Level active population
- Evaluated the effect of overtime on retiree benefits versus overall contributions over the past five years
- Evaluated other potential cost drivers
  - Accumulation of sick leave and vacation
  - Purchase of past service for prior government and/or military service

CBIZ Retirement Plan Services

Initial Observations

- Current funding method for determining the ADEC is not actuarially sound
  - Amortization payment is determined as the level percentage of pay needed to fund the Unfunded Accrued Liability (UAL) over 30 years
  - Produces an increasing payment stream where the initial year amortization payment does not pay the interest on the UAL
  - By restarting the 30-year amortization period each year, the ADEC will never pay down the unfunded liability
- To make the method sound, you must close the amortization period over which the UAL is being paid off

CBIZ Retirement Plan Services

Current ADEC Open 30-Year Amortization

Unfunded Accrued Liability expected to grow with interest

1. July 1, 2016 UAL: $73,681,887
2. Interest on UAL: [7.5% x (1)] **$5,526,142**

ADEC UAL amortization does not pay the interest on the UAL

3. Valuation payroll for active employees: $68,800,497
4. UAL contribution: [6.668% x (3)] **$4,587,560**

By restarting the 30-year amortization period each year, the UAL is expected to grow indefinitely

CBIZ Retirement Plan Services

Sample Alternative Funding Policies

- Sample 1: Closed amortization period
  - Initial liability and assumption changes over 30 years
  - Experience losses/(gains) over 15 years
  - Benefit changes over 20 years
- Sample 2: Closed amortization period
  - Initial liability and all changes to the unfunded liability amortized over the future working lifetime of active participants
- Sample 3: Fixed annual contribution
  - Fixed amount for 20-year period needed to prevent depletion of the projected benefits

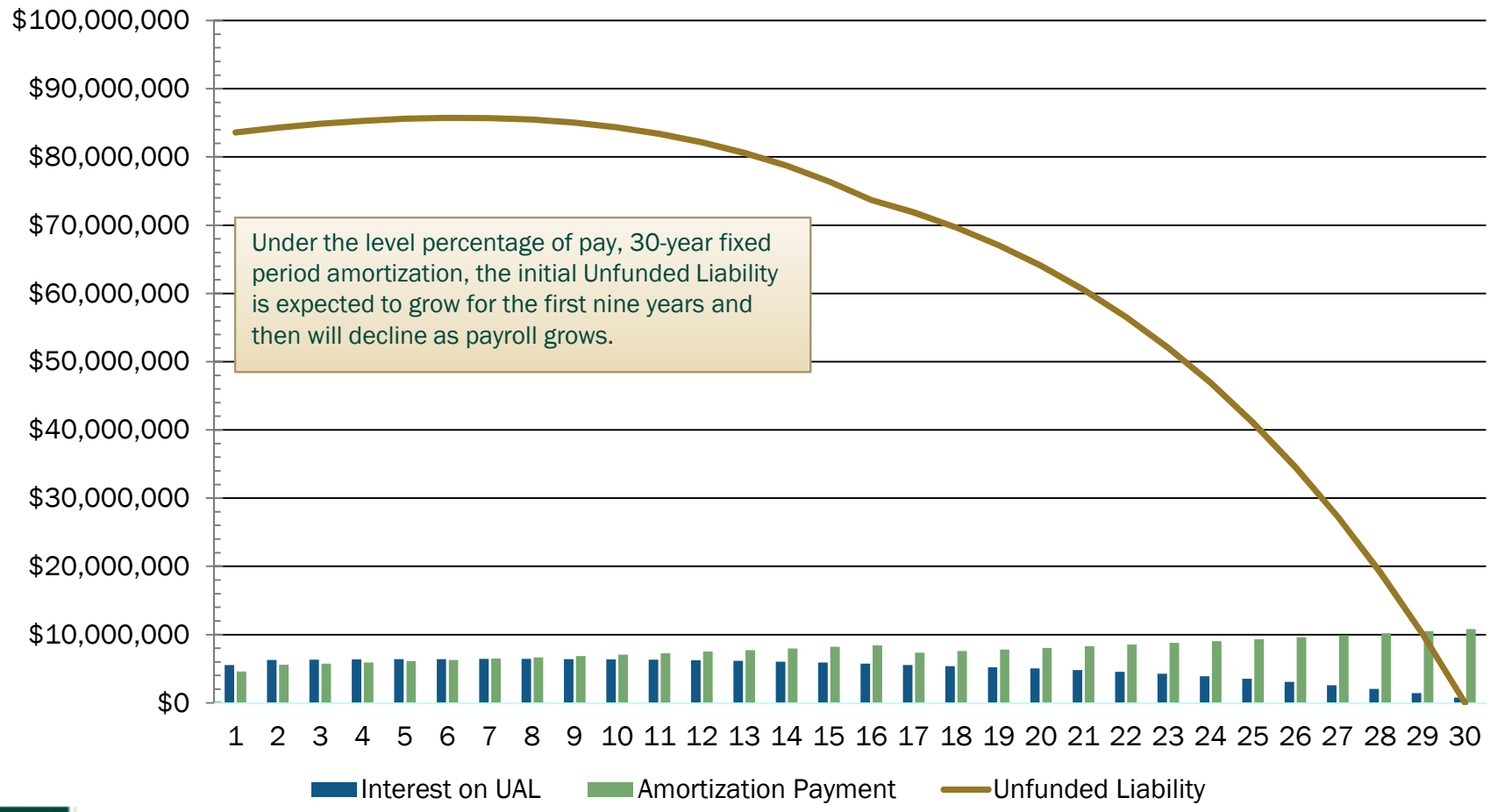
Example of Closed Amortizations

Description		Amount
1. July 1, 2016 Unfunded Liability	$	73,681,887
2. Interest on Unfunded Liability		5,526,142
3. 30-Year amortization of initial Unfunded Liability	$	4,587,560
4. July 1, 2017 expected Unfunded Liability: (1)+(2)-(3)	$	74,620,469
5. July 1, 2017 actual Unfunded Liability	$	83,589,774
6. Loss/(Gain) as of July 1, 2017: (5)-(4)	$	8,969,305
7. Amortization of Loss/(Gain) over 15 years		852,488
8. Total amortization at July 1, 2017: (3)x1.03 + (7)	$	5,577,674

Note: The 30-year amortization of the 2017 unfunded liability under the current method would be $5,207,346.

CBIZ Retirement Plan Services

Projection of Unfunded Liability with Closed Periods

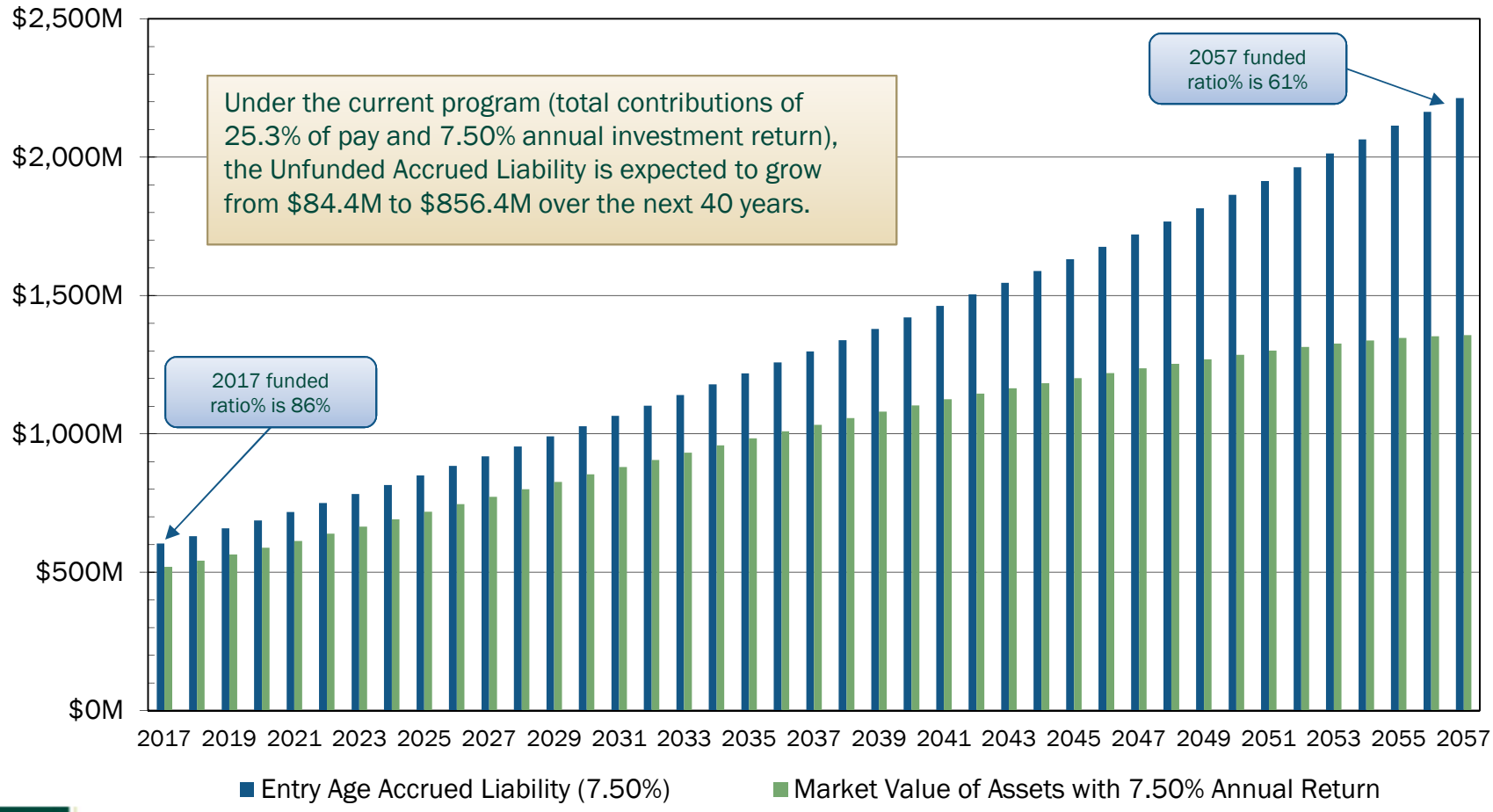


CBIZ Retirement Plan Services

Initial Observations (continued)

- Statutory contribution rates are not sufficient to fund the Actuarially Determined Employer Contribution (ADEC)
  - Employer and employees each contribute 12.65% of pay annually
  - ADEC is the actuarially determined employer contribution, which is determined net of employee contributions
  - For 2017, the statutory employer contribution rate (12.65% of pay) is significantly less than the ADEC (18.15% of pay)
  - Will never pay down the Unfunded Accrued Liability
  - Unfunded Accrued Liability is expected to grow each year
- Increased contributions or plan changes needed for long-term stability of the plan

Current Contribution Rate Not Actuarially Sound



CBIZ Retirement Plan Services

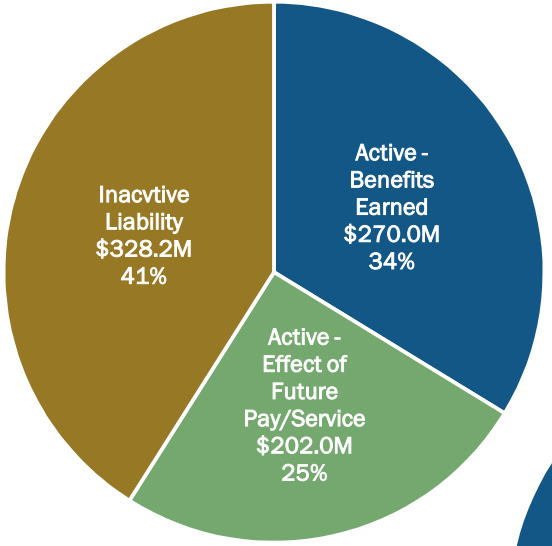
Initial Observations (continued)

- Risk profile for the plan is high
  - Asset/liability mismatch at July 1, 2017
  - Plan has negative cashflow
  - Results do not reflect anticipated mortality table for public plans

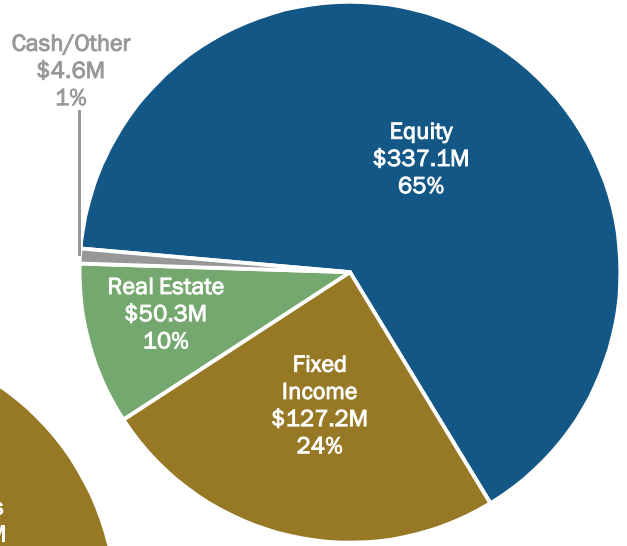
CBIZ Retirement Plan Services

Asset/Liability Mismatch at July 1, 2017

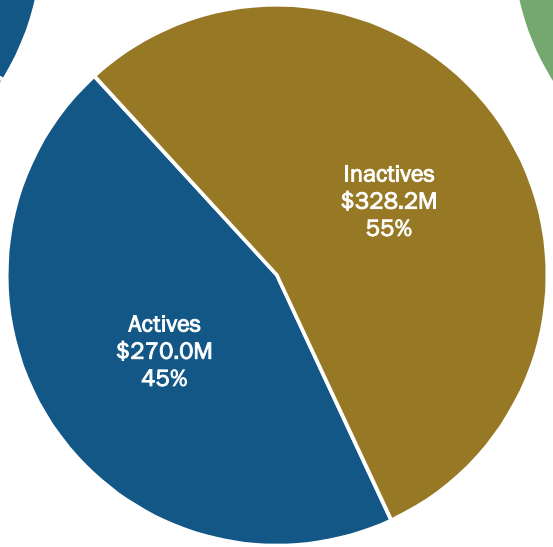
Present Value of Benefits



Asset Allocation

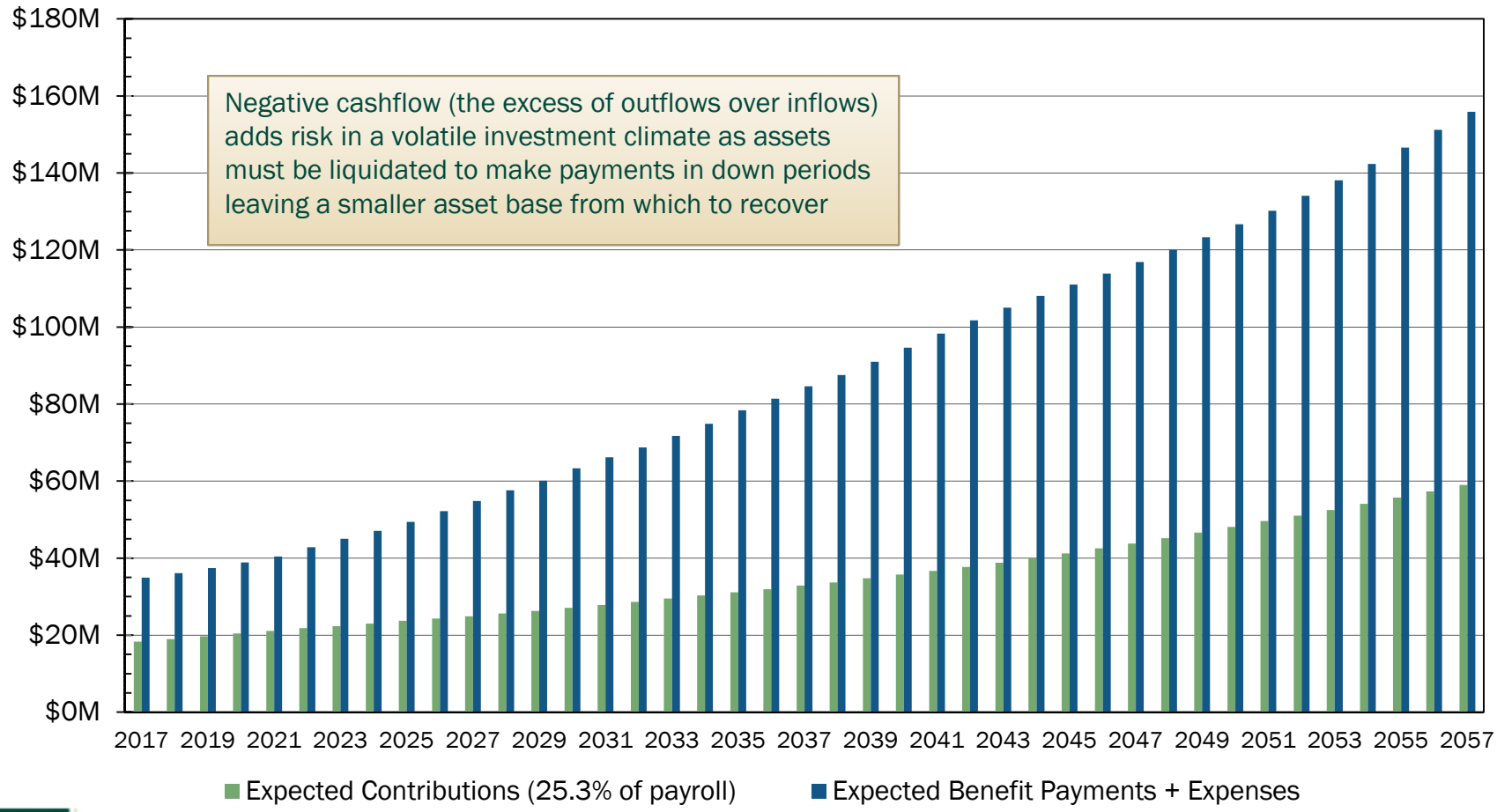


Funding Liability



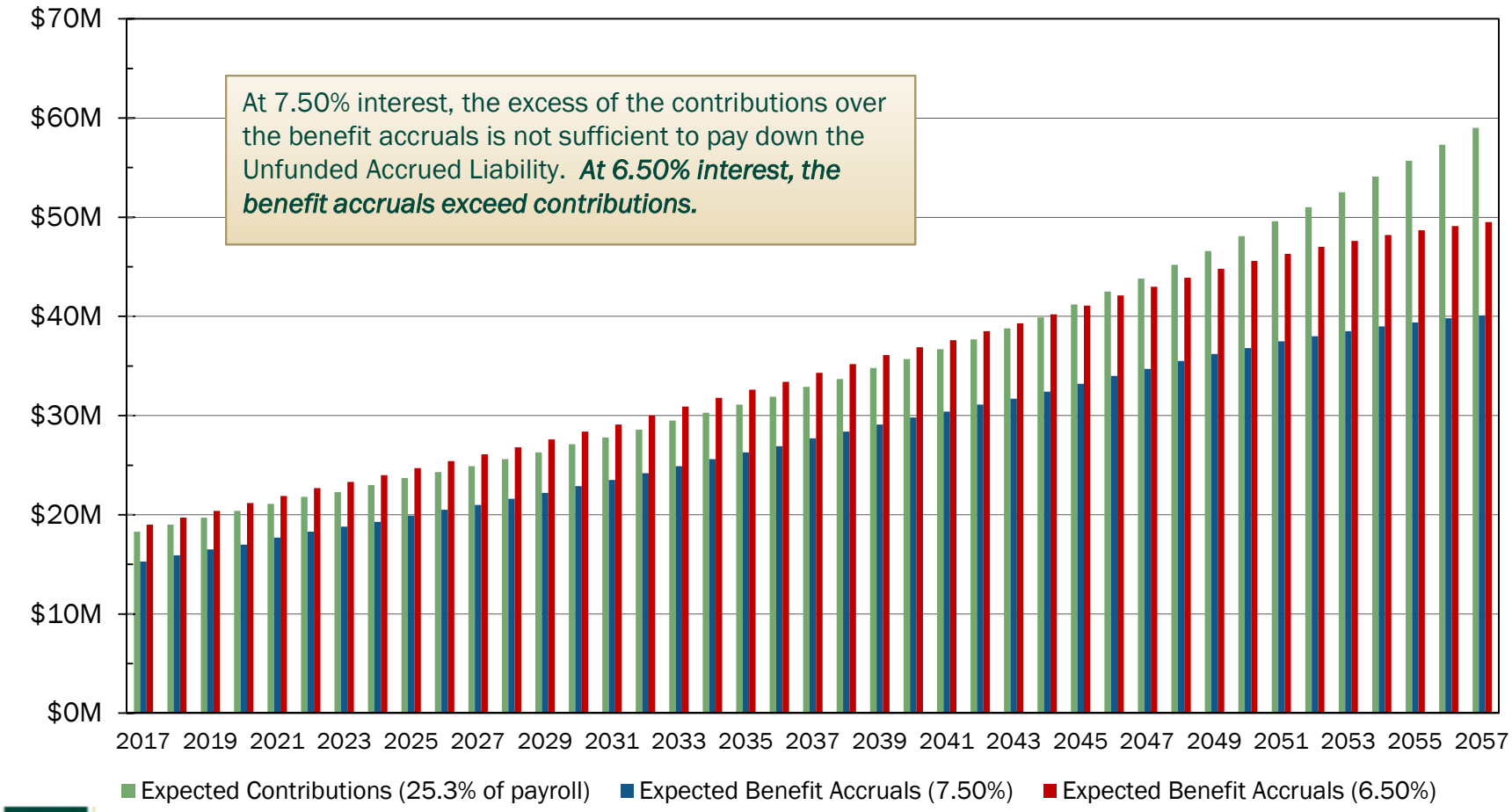
CBIZ Retirement Plan Services

Negative Cashflow Grows Each Year



CBIZ Retirement Plan Services

Contributions Don't Pay for Benefit Accruals at 6.50%



CBIZ Retirement Plan Services

Contribution Rate to Pay Off Unfunded Liability (UL)

Interest Rate	20 Years	30 Years	40 Years
7.50%	31.7%	29.9%*	28.8%
7.25%	34.5%	32.3%	31.0%
7.00%	37.4%	34.8%	33.2%
6.75%	40.4%	37.3%	35.6%
6.50%	43.5%	40.0%	37.9%
6.25%	46.7%	42.7%	40.4%
6.00%	50.0%	45.5%	42.9%

* Lower than 2017 actuarial valuation rate of 30.8% due to higher rate of projected pay increases in our model. For valuation purposes, the actuary assumes a 3% annual pay increase in determining the initial 30-year amortization payment.

Increase in Contribution Rate Needed to Pay Off UL

Interest Rate	20 Years	30 Years	40 Years
7.50%	6.4%	4.6%	3.5%
7.25%	9.2%	7.0%	5.7%
7.00%	12.1%	9.5%	7.9%
6.75%	15.1%	12.0%	10.3%
6.50%	18.2%	14.7%	12.6%
6.25%	21.4%	17.4%	15.1%
6.00%	24.7%	20.2%	17.6%

CBIZ Retirement Plan Services

Review of Pension Spiking

- Spiking occurs when employees increase their overtime hours in the last few years prior to retirement
  - Inequity results as overtime worked in the last 2 years of employment is paid out as lifetime income (~30 years)
- Spiking appears to have increased in recent years
  - Increased liability is approximately $1.0-$2.0M per year

CBIZ Retirement Plan Services

Increase in Retiree Benefits Due to Overtime

Plan Year End (6/30)	0%	<5%	<10%	<25%	<50%	>50%	Number of Retirees	Total Increase ($000's)
2018*	4	9	5	2	2	1	23	$ 1,560
2017	12	22	4	6	2	1	47	2,120
2016	10	22	2	2	2	0	38	1,060
2015	11	29	2	2	2	0	46	1,130
2014	7	27	2	1	0	0	37	490
2013	7	23	3	1	0	0	34	500
Total	51	132	18	14	8	2	225	$ 6,860
Est. Cost Per Retiree ($000's)	N/A	$10	$50	$120	$250	$480		

* Through 5/31/2018

CBIZ Retirement Plan Services

Cost of Overtime

Description		Amount
1. 2017 Liability increase resulting from overtime pay	$	2,120,000
2. 2017 contributions from overtime pay ($3,787,000 x 25.3%)	$	958,000
3. Net cost: (1)-(2)	$	1,162,000

Note: 873 participants worked overtime in 2017

CBIZ Retirement Plan Services

Possible Pension Spiking Solutions

- Manage overtime worked for employees at/near retirement
  - May result in age discrimination claims
- Statutory changes, if available
  - Exclude overtime from Final Average Compensation (FAC) or limit the amount of overtime included in FAC (i.e., 5%)
    - All participants
    - New hires
  - Lengthen the averaging period for determining benefits
    - Also mitigates impact of vacation/sick leave

CBIZ Retirement Plan Services

Vacation and Sick Leave

- Today, vacation and sick leave make-up about 20% of the total retirement system cost
  - Cashout of unused vacation and sick leave at retirement boosts final average pay by about 15%
  - Conversion of accumulated sick leave to service adds an additional 3%-4% to the costs
- Changes to sick leave and vacation rules at the city level will result in higher costs
  - The elimination of the “use it or lose it” policy for vacation will result in higher retirement program costs as these days are accumulated and then converted into service at retirement

CBIZ Retirement Plan Services

Example: Cost of Sick and Vacation Accumulation

	Basic Pension	Increased Pay Sick/Vacation	Increased Pay/Svc Sick/Vacation
1. 2016 Pay	$ 98,000	$ 98,000	$ 98,000
2. 2017 Pay	102,000	102,000	102,000
3. Accumulated sick/vacation	N/A	30,000	30,000
4. Final Average Compensation	$100,000	$ 115,000	$ 115,000
5. Years of Service	25	25	26
6. Annual Benefit: 2.6% x (4) x (5)	$ 65,000	$ 74,750	$ 77,740
7. Present Value of Increase over Basic[1]	N/A	$ 117,000	$ 153,000
8. Employee/city contribution	N/A	7,590	8,750
9. Net cost to plan: (7) - (8)	N/A	$ 109,410	$ 144,250

[1] Assumes a retiree age 50

CBIZ Retirement Plan Services

Reduced Rate to Pay Down Unfunded Liability if Overtime, Vacation and Sick Leave are Excluded

Interest Rate	20 Years	30 Years	40 Years
7.50%	24.5%	23.6%	23.0%
7.25%	27.1%	25.9%	25.1%
7.00%	29.8%	28.2%	27.2%
6.75%	32.6%	30.6%	29.4%
6.50%	35.5%	33.1%	31.6%
6.25%	38.4%	35.6%	33.9%
6.00%	41.5%	38.2%	36.3%

CBIZ Retirement Plan Services

Recommendations

- Adopt a funding method for the ADEC that is actuarially sound
  - Must close the amortization period for paying down the Unfunded Accrued Liability
  - Establish fixed amortization periods for Gains/Losses, Assumption Changes and Benefit Changes
- Revisit the ability to purchase prior military service and prior government service
- Adopt solution(s) to mitigate pension spiking including sick leave/overtime

CBIZ Retirement Plan Services