2021 Actuarial Valuation Results

City of Panama City Beach

September 2, 2021

Prepared by Aon
Retirement and Investment

Empower Results®

Agenda

- Actuarial 101 - Developing the Present Value of Projected Benefits
- How is the Plan funded?
- What is the Unfunded Accrued Liability?
- Valuation Updates
- Vesting Study
- Funding Risk Assessment

Actuarial Present Value of Projected Benefits

46 55

$500 $1,000

$25,000 50 People x $1,000 = $50,000

$22,500 45 People x $1,000 = $45,000

How much money would you need today, assuming you can earn an 8.0% per year investment return, to do the following:

- Pay a person who is currently age 46 a check for $1,000 at age 55?
- Pay 50 people who are all age 46 each a check for $1,000 at age 55?
- What if only 45 of the people are expected to retire, because of death or termination?

Do the same calculations for:

- Payments in subsequent months (not all 45 will survive)
- Other Retirement Dates
- Other benefit events (Death, Disability, Vested Termination)
- Estimates of monthly benefits (Based on expected future salary growth and credited service)

How is the Plan Funded

- Three sources of funding
  - Asset Returns
  - Employee Contributions
  - City Contributions

- City Contribution
  - Developed annually, the method was updated this year.
  - The current method looks at the expected benefit accrual (normal cost) for the year and amortizes any remaining unfunded liability.
  - The initial unfunded accrued liability is amortized over a period of 15 years
  - Subsequent increases/decreases in the unfunded liability (losses/gains) will be funded over a 10 year period each year.

- Past Excess Contributions
  - The City's required contribution is increased or reduced by this figure to make up for shortfalls/excess contributions in prior years

Actuarially Determined Contribution

	Firefighters	General Employees	Police Officers
Dollar Value			
2020	$379,169	$177,099	$411,507
2021	$524,393	$873,407	$230,162
Percent of Payroll			
2020	16.24%	2.68%	10.41%
2021	18.44%	11.76%	6.38%

- 2020 contribution amounts are calculated at 7.75% return on assets for Police and Firefighters and 7.8% for General Employees. 2021 contribution amounts are calculated at a 7.00% return on assets for all plans
- 2021 contributions are also calculated using the updated funding method (Entry Age Normal Cost method)

Funded Status

- Funded status or funded ratio generally compares the accrued liability to the assets
  - Market Value of Assets
  - Actuarial Value of Assets

- GASB 68 mandates using Entry Age Normal liability with a Market Value of Assets
  - State requirements currently require showing this ratio, as well as the same ratio with a liability 200bp lower than the valuation assumption
  - The valuation report currently shows this ratio as well as a ratio using a rate 200bp higher than the valuation assumption to provide a more balanced comparison

- Funded Ratio Comparisons
  - Based on Florida DMS information as of September 30, 2020, the plans fall within the top third of plans in the state.

Funded Status

	Firefighters	General Employees	Police Officers
2020	91.5%	102.1%	93.7%
2021	88.0%	100.4%	101.4%

- Funded Status shown is the funded ratio under GASB 68
- The ratios compare Entry Age Normal accrued liability to Market Value of Assets
- 2021 figures are calculated at the new 7.0% rate of return, 2020 figures were calculated using 7.8% for General Employees and 7.75% for Firefighters and Police Officers

Valuation Updates

An assumption study was completed and presented to the Boards in March of 2019. There were a number of recommended demographic changes at that point. Changes in the current year are related to economic assumptions and the funding method.

- Funding method was updated to the Entry Age Normal Cost method.
- The Expected Rate of Return was updated for all three plans:
    - All three of the Boards decided to lower the expected rate of return to 7.0%.

Vesting Study

- Currently All three plans have a 10 year vesting period for most employees.
- This study looked at two potential vesting scenarios:
  - Full vesting at 7 years of service
  - Phased vesting, starting with 70% vesting at 7 years, grading up 10% per year to 100% at 10 years of service
  - Phased vesting, starting with 50% vesting at 5 years, grading up 10% per year to 100% at 10 years of service

Annual Required Cont.	Firefighters	General Employees	Police Officers
Percent of Payroll			
Current Vesting	18.44%	11.76%	6.38%
5 Year Phased Vesting	18.68%	12.86%	6.47%
7 Year Phased Vesting	18.63%	12.70%	6.43%
7 Year Full Vesting	18.73%	12.91%	6.60%
Additional Estimated Contribution			
Current Contribution	$524,393	$873,407	$230,162
5 Year Phased Vesting	+$6,825	+$40,725	+$3,247
7 Year Phased Vesting	+$5,403	+$29,195	+$1,804
7 Year Full Vesting	+$8,408	+$44,387	+$7,821

Police Officer’s Plan Change

- The Police Officer’s Pension Board requested looking at adding a “20 and out” option. This would allow normal retirement at 20 years of service, regardless of age.

- The change would increase the 2020/2021 contribution by approximately $35,000.

	Contribution	Contribution with the plan change	Difference
City Contribution	$230,162	$265,573	$35,411

- This change could be offset by increasing employee contributions from 11% to 13% for the participants expected to benefit from the change.
  – It is assumed that those already eligible for normal retirement and those who would reach age 50 before 20 years of service would remain at the 11% contribution rate.
  – This could be a voluntary election as well

	Contribution	Contribution with 13% Employee Contribution	Difference
City Contribution	$230,162	$230,849	$687

Funding Risk Assessment

Panama City Beach Employees’ Retirement Plans

Prepared by Aon

Presentation to Panama City Beach

Aon
Empower Results®

Executive Summary

How well funded are the pension plans?

As of October 1, 2020

A. Market Value of Assets:	$86.5M
B. Liabilities:	$84.8M
C. Funded Ratio: (A/B)	97.8%
2020 Actuarially Determined Contribution:	$1.6M

What key risks does the plan face?

Key Risks

Salary Increases
High probability of unexpected liability due to pension spiking

Legislative and Regulatory
Plan funding may be impacted by changes to funding rules

Why pension risk management matters?

Downside plan performance due to economic and/or demographic factors can have undesirable consequences

- Bond Ratings
- Headline Risk
- Increased Cash Funding
- Balance Sheet Reporting
- Second Guessing

What is the plans' maturity profile?

As of October 1, 2020

19.9 year duration of plan liabilities

30% of plan participants are currently in-pay

49% of plan liability is for in-pay participants

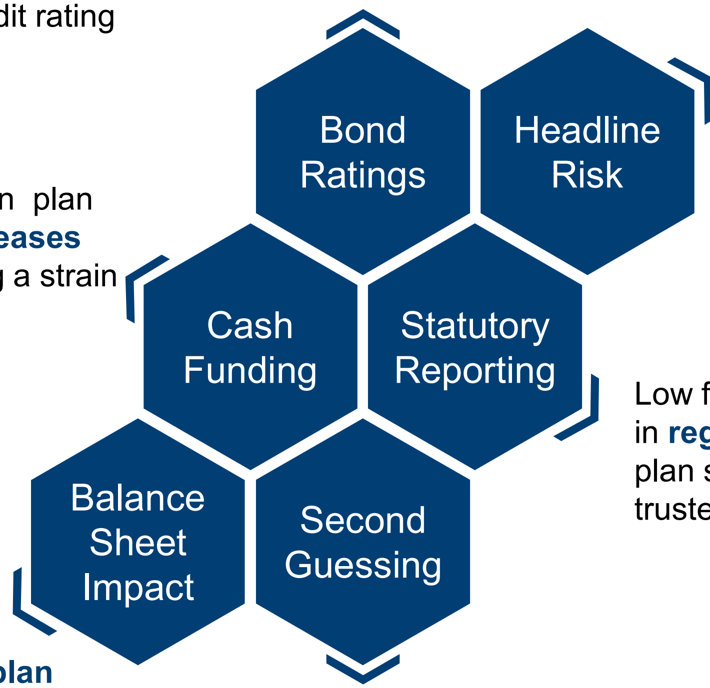
Expected 2020/2021 benefit payments amount to 5.3% of plan assets

Why Risk Management Matters to Public Plan Sponsors

Downside pension plan performance due to adverse movements in investment, economic, and/or demographic factors can result in a deterioration of the plan's funded status, which can have numerous undesirable consequences

Cost of borrowing increases when rating agencies reduce credit rating

Creates **challenging environment** to satisfy taxpayers



An increase in plan shortfall **increases ADC** creating a strain on budgets

Low funded ratio can result in **regulatory scrutiny** on plan sponsor and plan trustees

Higher pension plan liabilities reflected on accounting statements

Unmanaged risks and volatility provide **fodder for special interest groups**

Risk Management Strategies Impact Valuation Results

Risk Management	*Inputs*	*Outputs*
Plan Design	Benefit Provisions	Benefit Obligations
	Census Data	Asset Values
Management and Actuary Selections	Assumptions and Methods	Funded Position
Investment, Settlement *and* Funding Strategies	Plan Assets	Annual Cost

Funding valuation

- Cash contributions

Accounting valuation

- Financial disclosures
- P/L impact
- Plan reporting

Risk Assessment Scorecard

Risk Identification and Assessment

Salary Increases
High probability of unexpected liability increase due to pension spiking.

Legislative & Regulatory
Plan funding may be impacted by changes to funding rules.

Fiscal Risk Exposure
Plan is adequately funded and benefit payments plus contributions are not a substantial portion of the entity's budget.

Conservatism of Discount Rate
Low probability of adverse actuarial experience for EROA.

COLA
Retiree benefits do not include a guaranteed increase.

Risk Identification and Assessment

Contribution Discipline
Plan Sponsor has made contributions at least equal to the ADC for past five years.

Benefits Valued
All future benefits are reflected in liabilities and actuarially determined contribution calculations.

Participant Longevity
Mortality used in funding valuation is based on most recent SOA public sector mortality guidelines.

Withdrawal Rates
Plan assumptions have recently been reviewed.

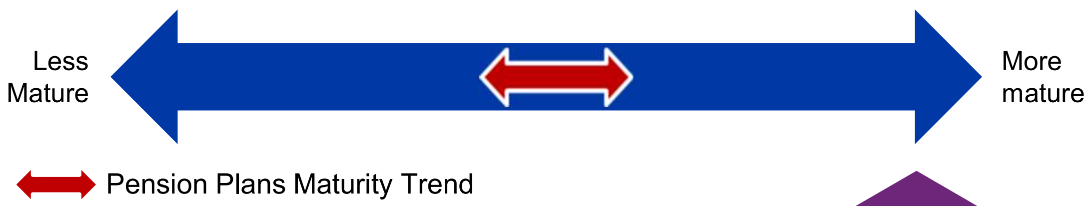
Commencement Rates
Benefit commencement assumptions have been recently reviewed.

Low Impact Risk | Moderate Impact Risk | High Impact Risk

Plan Maturity Metrics

- Maturity measures are a significant consideration when developing a long-term pension risk management strategy
- Plan maturity trends can help sponsors understand the evolution of key plan risk factors over time

Firefighters Plan has retained similar maturity over the past 2 years



Observations

- Plan liability duration represents the approximate expected % change in liabilities due to a 1% change in interest rate (i.e., 19.9%)

19.9
Overall duration of plan liabilities

30%
Of plan participants are currently in-pay

5.3%
Expected benefit payments as a percent of assets

44%
Of the plan liability is attributable to in-pay participants

Historical Plan Results

Combined Plan Assets

Market value of assets generally reflects the fair value of assets as of the measurement date including any contributions made for the preceding fiscal year but after the first day of the current fiscal year. The Plan uses an actuarial value of assets that smooths asset gains and losses over a 4-year period, while remaining within a 10% corridor of the market value of assets.

$ in millions	2016	2017	2018	2019	2020
1) Market Value of Assets	$65.1	$73.4	$77.1	$79.6	$86.5
2) Actuarial Value of Assets	$64.6	$69.7	$74.2	$78.5	$84.0
3) Impact of Asset Smoothing as a percent (2) / (1)	99.3%	94.9%	96.3%	98.5%	97.9%
4) Prior Year Actual Return on Assets	8.7%	12.9%	8.3%	4.1%	10.5%

Commentary

- Assets have increased over the period from $59.5M to $86.5M
- As a result of the actuarial smoothing, actuarial values of assets have generally trailed market values of assets
- Overall, assets have returned 8.8% over the 4-year period

Combined Pension Liabilities and Funded Ratio

The normal cost reflects the benefits expected to be accrued during the current year. The discount rate is used to discount future plan cashflows to develop the pension liabilities. The funded ratio is determined as the ratio of the actuarial values of assets over the pension liabilities.

$ in millions	2016	2017	2018	2019	2020
1) Pension Liabilities	$71.2	$75.7	$76.1	$81.9	$88.4
2) Normal Cost	$1.8	$1.9	$2.0	$2.1	$3.0
3) Discount Rate	8.00%	8.00%	7.90%/7.75%	7.80/7.75%	7.00%
4) Funded Ratio	91.4%	97.0%	101.2%	97.2%	97.8%

Commentary

- Plan's funding target liabilities have increased from $71.2M to $88.4M
- Overall, the interest rate used to measure the plan's liabilities has remained consistent at 8.00%, until 2018 when it was reduced to 7.90% for General Employees (7.8% in 2019) and 7.75% for Police Officers and Firefighters. It was reduced to 7.00% this year.
- Due to the combined movements of asset values and pension liabilities, the plan's funded ratio has increased from 88.7% to 97.8%

Actuarially Determined Contribution Combined

Cash contributions are made annually to the Plan. The actuarially determined contribution is based on

$ in thousands	2017	2018	2019	2020	2021
1) Actuarially Determined Contribution	$1.3	$1.4	$1.1	$1.0	$1.6
2) Actual Contribution Made	$1.9	$1.7	$1.5	$1.6	TBD
3) Contribution Deficiency (Excess)	($0.6)	($0.3)	($0.4)	($0.6)	N/A

Commentary

- Recommended funding over the 5-year period totals $6.4 M
- The City has consistently contributed at least 100% of the ADC

Appendix

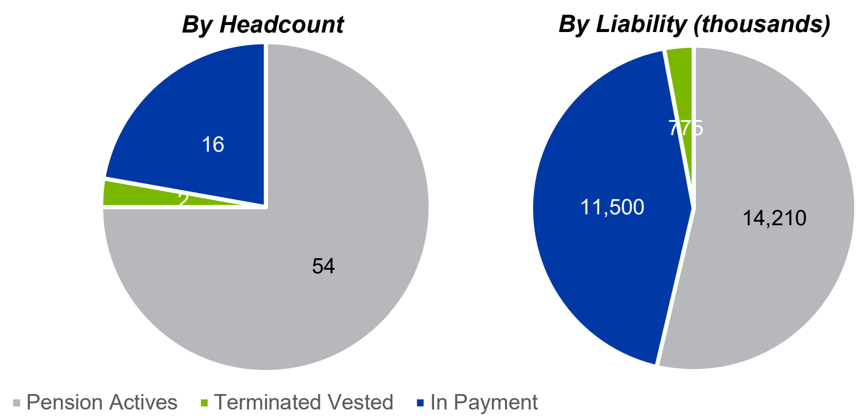
Summary by Plan – Firefighters

Amounts in thousands	10/1/2020	10/1/2019
Actuarially Derived Contribution	$ 525.0	$ 379.0
Actual Cash Paid (Plan Year)	$ 759.0	$ 656.0
Funded Status	88.0%	91.5%
GASB Pension Liability	$18,835.0	$18,743.0
GASB Plan Fiduciary Net Position	$18,308.0	$17,153.0
GASB Expense	$ 391.0	$ 669.0
EROA/Funding Discount Rate	7.00%	7.75%

What happened during 2020?

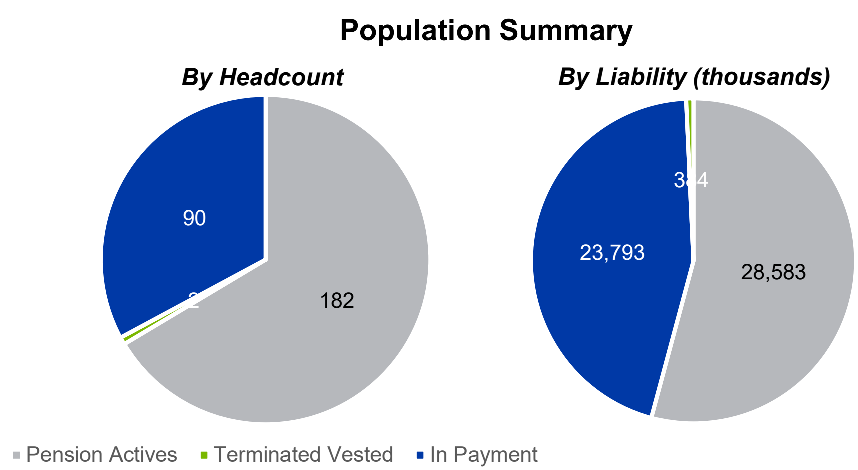
- Assets performed well
- Long term expected asset return declined, driving liabilities higher

Population Summary



Summary by Plan – General Employees

ABC Postretirement Welfare Plan	10/1/2020	10/1/2019
Actuarially Derived Contribution	$ 873.0	$ 177.0
Actual Cash Paid (from plan)	$ 1,485.0	$ 1,389.0
Funded Status	100.4%	102.1%
GASB Pension Liability	$40,650.0	$38,685.0
GASB Plan Fiduciary Net Position	$43,017.0	$39,492.0
GASB Expense	$ (253.0)	$ 431.0
EROA/Funding Discount Rate	7.00%	7.80%



What happened during 2020?

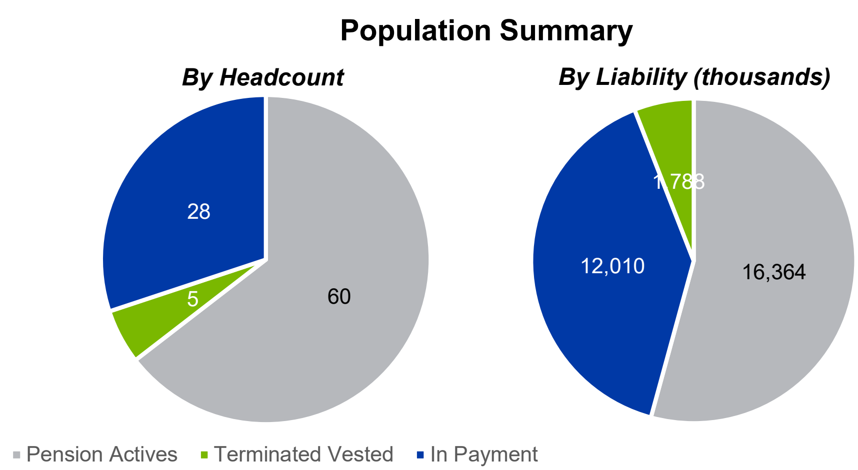
- Assets performed well
- Long term expected asset return declined, driving liabilities higher

Summary by Plan – Police Officers

ABC Postretirement Welfare Plan	10/1/2020	10/1/2019
Actuarially Derived Contribution	$ 230.0	$ 412.0
Actual Cash Paid (Plan Year)	$ 943.0	$ 882.0
Funded Status	101.4%	93.7%
GASB Pension Liability	$24,548.0	$26,314.0
GASB Plan Fiduciary Net Position	$22,998.0	$25,163.0
GASB Expense	$ 723.0	$ 491.0
EROA/Funding Discount Rate	7.00%	7.75%

What happened during 2020?

- Assets performed well
- Long term expected asset return declined, driving liabilities higher



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Assumptions and Methods for Funding

Assumption	2020/2021 Plan Year
Discount Rate	Firefighters – 7.00% General Employees – 7.00% Police Officers – 7.00%
Cost Method	Entry Age Normal Cost
Funding Policy	100% of the Actuarially Determined Contribution
Mortality	Mortality as laid out in the Florida Retirement System Valuation. Regular Risk for General Employees, Special Risk for Police Officers and Firefighters.
Retirement/Termination Rates for Active Participants	Rates vary by age, sex, and service. See valuation report for more details
Form of Payment for Commencements for Active Participants	10 year certain and life
Commencement Age and Form of Payment for Terminated Vested Participants	60 and 10 year certain and life

About This Material

- The funding valuation results are based on our understanding of the applicable laws and regulations under Florida Statutes Title X Chapter 112 (sections 63 and 64) and GASB 68 / 75.

- We believe the methodology used in these calculations conforms to the requirements of those laws, regulations, and accounting statements
- Experience different than anticipated could have a material impact on the ultimate costs of the benefits. In addition, changes in plan provisions or applicable laws could have a significant impact on cost
- A valuation model was used to develop the liabilities for the October 1, 2020 valuation. The valuation model relies on ProVal software, which was developed by Winklevoss Technologies, LLC. Experts within Aon selected this software and determined it is appropriate for performing valuations. We coded and reviewed the software for the provisions, assumptions, methods, and data of the City of Panama City Beach's Pension Plans.
- A model was used to develop the appropriate GASB discount rate. The undersigned relied on experts at Aon for the development of the capital market assumptions and the model underlying the expected rate of return.

About This Material

- The risk analysis on slide 15 was prepared for The City to present a review of the risk factors affecting the Employees' Retirement Plan (the "Plan"). It is intended to highlight to stakeholders how future plan funding requirements may be affected by certain material risk factors. Further, this analysis is intended to comply with Actuarial Standard of Practice (ASOP) 51. This analysis is intended to assist with The City's review of the associated issues and options, and its use may not be appropriate for other purposes.
- Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

About Aon

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