Retirement Income Plan for
General Employees of City of
Pembroke Pines
4-27083

Actuarial valuation report

for the plan year beginning 10/01/2021
and ending 09/30/2022

Principal®

Table of contents

Click on topic below to link to that information. Short on time? Go to Summary of results.

This report is for the defined benefit retirement plan named on the report cover. It may only be provided to other parties in its entirety and should not be altered. Employee data and other information you provide, along with benefits described in your plan document are used for the basis of this report. This report includes your actuarial determined contribution. Amounts in this report are not meant for your financial statements or to terminate your plan. Upon request, we will prepare other reports for these purposes.

Summary of results

Current year plan costs

The following is a synopsis of your plan costs for the current year, including the actuarially determined contribution (ADC). For a complete schedule of the cash due and received by the plan, see the Contribution schedule.

The actuarially determined contribution is

$384,846

- See Funding calculations for details.
- We have received $0 in employer contributions for the current plan year.
- Contributing less than the actuarially determined contribution amount may increase your next year's amount.

Factors impacting current year costs

While completing this valuation, we reviewed the actuarial assumptions. The assumption changes we made are disclosed in the Assumptions and methods section of this report.

Your actuarially determined contribution increased from $364,567 in 2021/ to $384,846 for 2022. This is primairly due to the net effect of the assumption changes.

You can compare your contributions to the actuarially determined contribution for each year in the Historical results section at the back of this report.

Contact your pension actuarial analyst, Gary R Peffer, at

- Peffer.Gary@principal.com
- 800-557-6627 extension 49379
- 412-394-9379

Understanding your plan's funded status

While it is important to know the actuarially determined contribution level, it is also important to understand your plan's funded status. The funded status determines contribution levels and can help you make informed decisions about plan funding, investment policies and benefit changes.

Measures of plan funded status

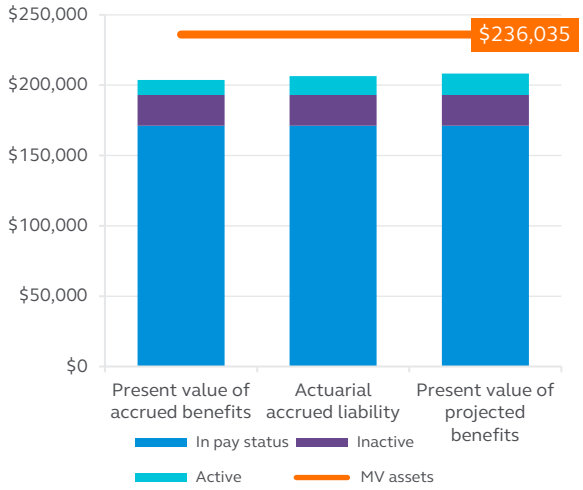
The table below compares the plan's 10/01/2021 market value of assets (the solid line) to 10/01/2021 plan liabilities measured using the assumptions we have made about future events. The liabilities assume:

- No one will enter the plan after the valuation date.
- Your asset allocation will remain the same with a return of 5.75% each year into the future.
- Plan participants will retire, die, terminate, and become disabled based on our assumptions.
- Annual pay per person will increase based on the salary increase assumption.

Three liability measures are shown:

1. **Present value of accrued benefits** - benefits already earned through the valuation date.
2. **Actuarial accrued liability** (AAL) - represents the targeted asset level under your plan's cost method.
3. **Present value of projected benefits** - all benefits expected to be earned through assumed retirement date.

Compare your plan's assets to each of the three liability measures to determine the funded status.



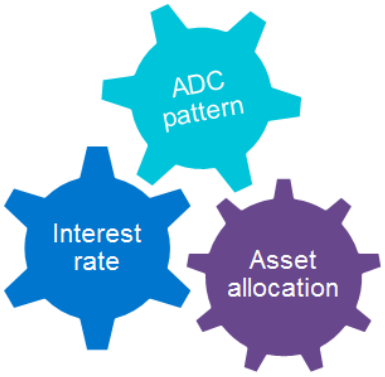
Considerations

These funded status measurements should be evaluated when making decisions about your plan. The goal of the plan's cost method is to accumulate assets equal to the AAL. As long as your AAL is fully funded, you will only need to contribute the plan's normal cost each year. Otherwise, you'll also need to contribute amortization payments toward funding this liability.

Understanding how your assets compare to your present value of accrued benefits is important. At a minimum you want to have enough assets in the plan to cover the present value of the benefits accrued to date.

Funding in excess of the present value of projected benefits may not be the best use of your organization's funds. However, having excess assets may provide funding and plan design flexibility.

Asset allocation, interest rates and actuarially determined contribution (ADC)



Three key factors are linked in the determination of the pattern and level of the ADC for your plan: your asset allocation, the assumed funding interest rate and the pattern of your ADC. This section discusses how these three factors are related, illustrates the impact of interest rates on measures of benefit liability, and provides information to consider as you review your funding and asset allocation decisions.

The liability measures shown on the previous page and used to calculate your actuarially determined contribution (ADC) reflect assumptions about future investment returns and on your asset allocation. However, future investment returns are not guaranteed, and will fluctuate. To make informed decisions about funding policy, benefit design, and asset allocations, you need to understand the effect of the liability interest rate assumption.

The only sources of funding for your benefits are your cash contributions and asset earnings. The present value of benefits (liability measure) is less than the benefits payable because it is reduced for assumed future asset earnings. When asset earnings fall below expectations, additional cash will be needed to allow payment of all your benefits. Your cost method is used to budget the expected total cost of your plan, and determines the ADC for each plan year.

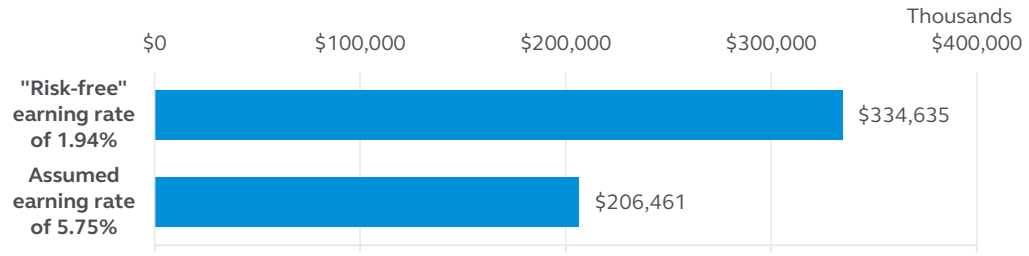
Asset allocations and interest rates

To help understand how the level of ADC can change over time, a best practice is to evaluate the benefit liability ignoring the plan's asset allocation. A recommended approach is to use a conservative "risk-free" interest rate such as U.S. Treasury instruments.

	Diversified asset allocation	"Risk free" return
Expected future returns (interest rates) based on	Your plan's asset allocation	Conservative interest rates such as U.S. Treasury instruments (not your plan's investment allocation)
Current effect	Lower ADC	Higher ADC
Later effect	Potentially higher ADC if returns fall below that assumed	Potentially lower ADC if greater returns are earned

The chart below shows your plan's Actuarial Accrued Liability used in the ADC calculation compared to the liability determined using a "risk-free" interest rate. This chart indicates how much impact asset earnings can have on the cash required to fund benefits over the life of the plan.

Actuarial accrued liability



As you can see above, higher expected returns generate a lower benefit liability. The additional assumed returns between funding basis (5.75%) and risk-free basis (1.94%) are referred to as "risk premium". The $128,174,080 difference in the two liability amounts is the assumed risk premium to be earned over the life of the plan.

The Risk-free results section later in this report shows additional liability comparisons.

Asset allocation and ADC

The interest return assumption we use to measure benefit liabilities for funding is based on your asset allocation. As a result, your asset allocation choices impact your ADC:

- More volatile asset classes may reduce the current ADC for your plan, but will cause both future ADC and funded status to fluctuate more. There is the potential for severe declines in funded status and increases in ADC when markets perform poorly.
- More conservative asset classes may result in a higher ADC, but provide a more stable basis for planning and budgeting.

The more volatile the value of your asset classes, the greater the range of the potential ADC. You can evaluate the potential impact of alternative asset allocations - and how you could balance your long-term cost and the volatility of your annual ADC - through forecasting studies.

Benefit changes and risk-free interest rates

A decision to change plan benefits can have long-term funding implications. Plan sponsors should be cautious about spending what appears to be excess assets in a given plan year on benefit increases. Working with your actuary to request a plan design study can help with your decision.

Recognizing the volatility of the ADC (discussed in the paragraph above), you will want to include the value of the proposed benefit change on a more conservative rate (ex. a risk-free rate) and/or a forecast of long-term funding levels. Discussing the study with your plan actuary can help you decide what, if any, benefit changes you can afford over the long term.

Forecasting: a best practice

Industry experts agree that it is a prudent best practice to review the long-term trends of your plan. We provide historical information at the back of this report. But that is like driving using just your rear view mirror: you only see part of the picture.

Short-term

Neither this year's ADC nor funded status is a good estimate of future amounts because they are volatile from year to year. These measures depend on your plan's assets and benefit liability:

- **Plan asset values** increase or decrease with market returns on investments, contributions made, benefit payments and expenses. Using an asset smoothing method also affects the upcoming year asset values.
- **Benefit liability** is impacted by benefit payments, salary experience, census or demographic changes, and assumption changes.

If you need to budget for next year or explore the potential volatility of results over the next few years, consider requesting a short-term forecast.

Long-term

A 10- or 20-year forecast of your plan's ADC and funded status under both expected and adverse economic scenarios is an excellent planning tool and can be a good investment.

- Comparing the results from your current asset allocation to alternative investment options can provide valuable insights to guide asset allocations. Comparing different funding policies can help evaluate whether your policy will meet your goals and fit in your budget.
- Stress-testing based on economic conditions can help you assess plan risk, and to set funding and investment policies.
- Projecting salary experience, census or demographic changes, and the benefits offered can help identify long-term trends.

If you want to explore the potential volatility of results over an extended time period, consider requesting a long-term forecast.

Keep us informed

Please make us aware of any upcoming plan design or significant participant group changes (such as layoffs, increases in staff, or large retirements). Knowing about possible changes gives us the chance to advise you whether further analysis of the cost impact should be considered.

Contribution schedule

The table below shows the contributions received and payments that are due to meet the Actuarially Determined Contribution (ADC) for this year. You can fund more than this schedule.

- The total cash contributions made for the 2020 plan year is $7,500,000.
- No cash contributions have been received yet for the current plan year.
- Employee contributions of $135,762 have been received for the 2020 plan year and $21,818 employee contributions have been received through 12/15/2021 for the 10/01/2021 plan year.

Paid or date due	Plan year beginning 2020	Plan year beginning 2021	Plan year beginning 2022
12/15/2020	$875,000		
03/17/2021	875,000		
06/08/2021	875,000		
09/16/2021	875,000		
12/16/2021	4,000,000		
09/30/2022		$364,567	
09/30/2023			$384,846

Blue shading shows employer contribution due for current plan year.

Funding calculations

Actuarially determined contribution for Fiscal Year ending 09/30/2023

The actuarially determined contribution (ADC) consists of three parts:

1. Normal cost - the cost attributed to the current year (due to the continued accrual of plan benefits for active employees) and plan expenses.

2. Amortization of any unfunded accumulated past costs (unfunded actuarial accrued liability).

3. Interest on 1 and 2 above to the end of the plan year.

Employer normal cost	$363,921*
Plus amortization amounts	0
Plus valuation interest to the end of the plan year	20,925

Your actuarially determined contribution (ADC) is $384,846

* For this Fiscal Year end, the Actuarial Value of Assets exceed the Actuarial Accrued Liability. The ADC represents this year's Normal cost and expected Administrative expenses.

Development of total normal cost for fiscal year ending 09/30/2021

Normal cost is the portion of cost assigned to each year based on the cost method and assumptions shown in this report. The normal cost is shared by the employer and the employees based on plan provisions.

Normal cost (Net)	$265,152
Plus estimated expenses	66,000
Total normal cost	$331,152*
Plus amortization charges	0
Minus amortization credits	0
Employer normal cost	$331,152

Development of total normal cost for fiscal year ending 09/30/2022

Normal cost is the portion of cost assigned to each year based on the cost method and assumptions shown in this report. The normal cost is shared by the employer and the employees based on plan provisions.

Employer normal cost	$331,152
Plus adjustment for salary increase (3.92%)	12,981
Plus adjustment for interest (5.75%)	19,788
Total normal cost for 09/30/2022 FYE	$363,921

Actuarial accrued liability

The actuarial accrued liability (AAL) is the targeted asset level for the plan and is used in the calculation of the unfunded actuarial accrued liability on the following page. The AAL below is the amount after any assumption or plan changes.

Active participants	$13,405,580
Inactive participants	21,958,772
Participants and beneficiaries in pay status	171,096,884
Actuarial accrued liability	$206,461,236

* For this Fiscal Year end, the Actuarial Value of Assets exceed the Actuarial Accrued Laiiblity. The ADC represents this years Normal cost and expected Administrative expenses.

Unfunded actuarial accrued liability

Each year the unfunded actuarial accrued liability (UAAL) is calculated and equals the actuarial accrued liability less the actuarial value of assets. An experience gain or loss occurs when actual plan experience differs from what was assumed. The gain or loss is calculated separately and amortized as a charge (for a loss) or a credit (for a gain). The UAAL is then adjusted for amendments, assumption changes, or method changes and a liability base is created.

Actual unfunded actuarial accrued liability (before changes)		
Actuarial accrued liability	$200,989,521	
Less actuarial value of assets	217,451,513	
Preliminary 10/01/2021 unfunded actuarial accrued liability		**$(16,461,992)**

Final unfunded actuarial accrued liability (after changes)		
Actuarial accrued liability after assumption changes	$206,461,236	
Less actuarial value of assets	217,451,513	
10/01/2021 unfunded actuarial accrued liability after changes		**$(10,990,277)**

Change in unfunded actuarial accrued liability due to:	(Gain)/loss
Change in assumptions	$5,471,715

Your 10/01/2021 unfunded actuarial accued liability is $(10,990,277)

Schedule of amortization bases

Your cost method allocates a portion of plan funding to be amortized in equal annual installments, rather than to be paid through future normal costs. The following amortization periods will be applied consistently to any amortization bases created 10/01/2021and later.

- Initial unfunded actuarial accrued liability: 12 years
- Experience gains/losses: 12 years.
- Amendments: 12 years
- Assumption changes: 12 years

Date created	Reason	Initial balance	Remaining years	Outstanding balance	Annual amortization
10/01/2021	N/A	0	0	0	0
Total				**0**	**0**

Data and assumptions

Plan assets

We measure your plan's assets at the beginning of each plan year. Plan assets reflect all contributions made for prior plan years. Contributions you may have already made for the 2021 plan year are not included.

Both market value and actuarial value for the 2021 plan year are shown below.

Market value of assets

Investments held by Principal	$232,030,629
2020 contributions received on or after 10/01/2021	4,004,596
Total market value of assets	**$236,035,225**

Actuarial value of assets

Your plan uses an asset smoothing method for the actuarial value instead of the market value. Using this method allows you to soften the volatility of assets from year to year. The actuarial value of assets is used to calculate your actuarially determined contribution (ADC).

The actuarial value of assets held by Principal is determined on a combined basis. See the following page for the development of this value.

Adjusted market value of investments held by Principal	$213,446,917
2020 contributions received on or after 10/01/2021	4,004,596
Total actuarial value	**$217,451,513**

The actuarial value of plan assets is **$217,451,513**

Calculation of adjusted market value

To determine the actuarial value of Investments held by Principal, we adjusted the market value by:

- Subtracting any remaining deferred appreciation in excess of expected investment earnings.
- Adding any remaining deferred appreciation short of expected investment earnings (shortfall).

Of the total excess appreciation or shortfall for any one plan year, 25% is allocated to the current plan year and each of the next three plan years.

1 Determine excess appreciation/(shortfall)

Compare actual to expected assets

Market value of assets as of 2020	$207,410,182
Contributions/transfers	7,635,762
Benefit payments	(12,470,598)
Expenses	(65,955)
Expected 6.00% interest on above items	12,129,254
Expected value of assets as of 10/01/2021	$214,638,645
Market value as of 10/01/2021	$236,035,225
Current year excess appreciation/(shortfall)	**21,396,580**
25% of current year excess appreciation/(shortfall)	5,349,145

2 Allocate deferred appreciation/(shortfall)

	Plan year			
Allocation year	**2018**	**2019**	**2020**	**2021**
2018	$650,191			
2019	650,191	$(517,550)		
2020	650,191	(517,550)	$1,526,914	
2021	650,190	(517,549)	1,526,914	$5,349,145
2022		(517,549)	1,526,913	5,349,145
2023			1,526,913	5,349,145
2024				5,349,145
Total		$(2,070,198)	$6,107,654	$21,396,580
Deferred		(517,549)	3,053,826	16,047,435
Adjustment to market value (sum of deferred amounts)				$18,583,712

3 Adjust market value for deferred amounts

Market value as of 10/01/2021	$236,035,225
Adjustment to market value (sum of deferred amounts)	18,583,712
Adjusted value of investments	$217,451,513

Data and assumptions

Census characteristics

	10/01/2020	10/01/2021	Change
Number of covered participants			
Actives	21	18	-3
Terminated vested	193	181	-12
Disabled	0	0	+0
Retirees	423	431	+8
Total	637	630	-7
Average age			
Actives	52.0	52.5	+0.5
Terminated vested	50.8	51.5	+0.7
Disabled	N/A	N/A	N/A
Retirees	68.8	69.1	+0.3
All	62.8	63.5	+0.7
Reported annual payroll			
Actives	$2,002,799	$1,776,018	-11.3%
Average pay per active	95,371	98,668	+3.5%
Average years of service			
Actives	17.0	17.1	+0.6%
Monthly projected retirement benefits			
Actives	$148,209	$132,087	-10.9%
Terminated vested	184,007	167,308	-9.1%
Disabled	0	0	+0.0%
Retirees	993,783	1,032,888	+3.9%

The monthly projected retirement benefit for actives was calculated at normal retirement age (current age if later) with projected service and projected salaries.

Benefit cash flows

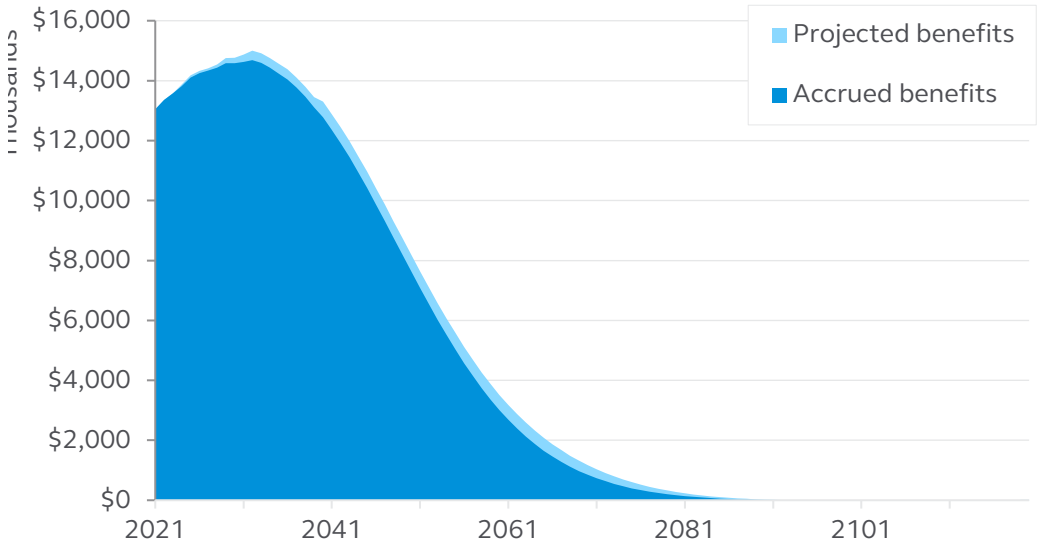
Benefit cash flows are the benefit payments expected to be paid from your plan assets. We provide cash flows to help you calculate and understand your plan obligations and the future liquidity needs of the plan.

You can compare your cash flows to the 10/01/2021 market value of assets, $236,035,225, to evaluate your asset liquidity needs, and whether cash contributions in excess of the actuarially determined contribution may be needed in the short term.

Benefit cash flows can be based on either the current plan participants ("closed group") or a group that assumes future new entrants ("open group"). The benefit payments could be based on the accrued benefits or the projected plan benefits (reflecting future service and salary increases).

In this report, we are showing you the benefit cash flows for a closed group. The graph below shows the total benefits expected to be paid for current participants (closed group). The split between benefits already accrued and those to be earned in the future is indicated on the graph. The top line represents the total projected benefits expected to be paid in each plan year.

Accrued and projected benefit payments - closed group



The table on the next page provides the details of this graph, showing the accrued and projected benefits expected to be paid, by plan year. All benefit cash flows shown on these two pages are based on the demographic assumptions (retirement and withdrawal rates, mortality, salary growth, and form of benefit) as outlined in the Assumptions and methods, but do not reflect an interest discount.

Benefit cash flow detail

Year	Accrued benefit cash flow	Projected benefits cash flow	Year	Accrued benefit cash flow	Projected benefits cash flow	Year	Accrued benefit cash flow	Projected benefits cash flow
2021	13,046,770	13,046,770	2054	5,514,246	6,064,783	2087	33,275	60,610
2022	13,351,534	13,357,285	2055	5,030,922	5,577,785	2088	24,913	45,820
2023	13,575,848	13,582,421	2056	4,571,737	5,113,682	2089	18,271	33,888
2024	13,815,683	13,862,935	2057	4,138,530	4,674,228	2090	13,094	24,465
2025	14,101,635	14,173,636	2058	3,732,664	4,260,709	2091	9,138	17,182
2026	14,251,596	14,325,807	2059	3,355,013	3,873,930	2092	6,192	11,704
2027	14,333,246	14,408,612	2060	3,005,757	3,514,007	2093	4,072	7,730
2028	14,430,821	14,540,465	2061	2,684,340	3,180,347	2094	2,594	4,938
2029	14,580,745	14,749,878	2062	2,389,864	2,872,045	2095	1,594	3,040
2030	14,587,136	14,760,021	2063	2,121,209	2,587,980	2096	941	1,798
2031	14,628,873	14,874,840	2064	1,877,123	2,326,932	2097	537	1,030
2032	14,684,236	15,001,040	2065	1,656,275	2,087,654	2098	299	575
2033	14,588,564	14,910,480	2066	1,457,096	1,868,694	2099	163	313
2034	14,430,510	14,755,133	2067	1,277,983	1,668,620	2100	85	164
2035	14,233,556	14,561,614	2068	1,117,475	1,486,198	2101	43	84
2036	14,043,379	14,375,665	2069	974,192	1,320,302	2102	22	42
2037	13,768,850	14,105,436	2070	846,703	1,169,723	2103	11	22
2038	13,456,613	13,797,591	2071	733,579	1,033,238	2104	6	11
2039	13,106,206	13,451,668	2072	633,405	909,589	2105	2	4
2040	12,775,927	13,296,362	2073	544,829	797,576	2106	0	0
2041	12,361,060	12,888,168	2074	466,676	696,221	2107	0	0
2042	11,915,305	12,448,959	2075	397,882	604,676	2108	0	0
2043	11,439,062	11,973,510	2076	337,534	522,259	2109	0	0
2044	10,938,305	11,477,069	2077	284,783	448,372	2110	0	0
2045	10,415,425	10,958,119	2078	238,867	382,498	2111	0	0
2046	9,874,759	10,420,943	2079	199,097	324,139	2112	0	0
2047	9,321,162	9,870,341	2080	164,874	272,851	2113	0	0
2048	8,759,855	9,311,478	2081	135,558	227,953	2114	0	0
2049	8,196,375	8,749,824	2082	110,519	188,727	2115	0	0
2050	7,636,086	8,190,678	2083	89,217	154,605	2116	0	0
2051	7,083,786	7,638,765	2084	71,200	125,108	2117	0	0
2052	6,543,682	7,098,189	2085	56,109	99,885	2118	0	0
2053	6,019,423	6,572,479	2086	43,581	78,522	2119	0	0

Plan provisions

This report reflects the maximum benefit limits under Internal Revenue Code (IRC) Section 415 and maximum compensation limits under IRC Section 401 in effect on the first day of each plan year.

The following is a summary of plan provisions and does not alter the intent or meanings of the provisions contained in the contract or plan document

Plan eligibility

Class	Any general or utility employee whose customary employment with the employer is at least 30 hours per week or an elected official subject to the provisions of Chapter 112.048 of the Florida Statutes. Bargaining - no employee hired on and after 02/01/2010 will become an active participant and no inactive participant or former participant will again become an active participant. Non-collective bargaining - no employee hired on and after 10/01/2014 will become an active participant and no inactive participant or former participant will again become an active participant.

Normal retirement benefit

Age	The later of attained age 55 or ten years vesting service.
Form	Monthly annuity payable for life with payments guaranteed to be at least equal to the participant's accumulation on the normal retirement date (optional forms may be elected in advance of retirement).
Amount (accrued benefit)	2.85% of average compensation multiplied by accrual service. Maximum benefit is 80% of average compensation (28.07 years). Reduce by the amount of deferred monthly retirement benefit in which the participant has received a single sum payment under the plan. Benefit is frozen effective 07/01/2010 for those covered under the bargaining agreement.

Early retirement benefit

Age	Attained age 50.
Service	Completed 5 years of service.
Form	Same as normal retirement benefit.
Amount	Accrued Benefit on Early Retirement Date reduced by 6 2/3% for each year that the Early Retirement Date precedes Normal Retirement Date.

Late retirement benefit

Age	No maximum age.
Form	Same as normal retirement benefit.
Amount	Greater of Accrued Benefit on Late Retirement Date or Accrued Benefit on Normal Retirement Date increased to recognize that annuity commences subsequent to normal retirement.

Termination benefit

Vesting percentage	Subsequent to five years of service, 50%, plus 10% for each year of service thereafter, up to 100%. However, vesting shall be 100% on or subsequent to the earliest of normal retirement date, date when first eligible to early retire or the date of total and permanent disability.
Form	Same as normal retirement benefit with income deferred until normal retirement date.
Amount	Equal to the sum of (a) The amount of retirement annuity which could be purchased on his normal retirement date by his participant's required contribution account. (b) Vesting percentage times the excess of the pension benefit as of the date of termination over (a) above. At any time on or after termination, the participant may elect to receive his participant's required contribution account in cash in lieu of any and all retirement benefits that could be provided by his participant's required contribution account.

Disability benefit

Eligibility	An active participant who becomes totally and permanently disabled prior to his retirement date. Ten years of vesting service is required for a non-service related disability benefit to be payable.
Form	Monthly income payable until normal retirement, death, or recovery and a deferred annuity payable at the Normal Retirement Date.
Amount	For a service related disability, the greater of his accrued benefit on date of disability or 40% of his current monthly compensation on such date. For a non-service related disability, the accrued benefit on date of disability.

Contributions

Salary reduction contribution

Tax deductible contributions made by the employer on behalf of the employee. This is 7.25% of monthly earnings that have been deducted from the employees pay.

Effective 07/01/2010, 0% of monthly earnings will be deducted for those covered under the bargaining agreement.

Death benefit

Greater of A or B

A. Single sum death benefit

Form Single sum.

Amount Participant's accumulation on date of death.

B. Pre-retirement death benefit

Age Attained age 50.

Service Five years of service.

Form Monthly annuity payable to spouse.

Amount If death occurs between Early Retirement Date and Normal Retirement Date, the benefit is an annuity to the spouse for an amount no less than would have been received had the participant elected a joint and 50% survivorship benefit option and early retired the day before death.

Deferred retirement option plan

Eligibility	An active participant first becomes eligible to elect the DROP on the first day of the month on or after reaching normal retirement date.
Election	An election to participant in the DROP shall constitute an irrevocable election to resign from service not later than sixty (60) months of reaching the start of the DROP eligibility period. An election to participate must be made within the first five years of eligibility. The period of participation in the DROP cannot exceed a period ending sixty months from first becoming eligible for the DROP or when the participant ceases to be an employee.
Form	Same as normal retirement benefit. While the employee is in the DROP the pension benefit payments will be credited to a separate account that will earn a return based on investments chosen by the employee.
Amount	Accrued benefit on retirement date. No additional accrual service will accumulate after entry into the DROP. Any changes in pension benefits shall not apply to participants in the DROP. Once the DROP period expires or the participant ceases to be an employee, any subsequent pension benefit payments will be paid to the employee. The accumulation in the DROP account will be paid to the employee based on his payment option once the participant ceases to be an employee.

Optional forms of benefit

- A monthly income to the employee for life. No benefits are payable at death.
- A monthly income to the employee for life, with a 5, 10, or 15 year period where payments continue to the beneficiary.
- A monthly income to the employee for life. If the employee dies before the amount paid equals the employee account on the retirement date, payments continue to the beneficiary until the totals equal that amount.
- A monthly income to the employee for life, with a 50%, 66 2/3%, 75%, or100% of the monthly benefit paid to the surviving spouse.

Cost of living adjustment

Amount

Annual 2% cost of living adjustment effective 10/01/2003 to active participants and DROP participants on and after 10/01/2003 and to participants who started receiving retirement or disability benefits on or after 10/01/2001.

Effective 10/01/2004 the cost of living adjustment was increased to 3.0%.

Effective 02/01/2010 the cost of living adjustment is decreased to 2% for any plan participant who attains normal retirement date or becomes a participant in the DROP after 02/01/2010.

Effective 07/01/2010 the cost of living adjustment shall not apply for those who are covered under the bargaining agreement and have not reached normal retirement date by 07/01/2010.

Early retirement window

Available to any participant who is employed with the city of Pembroke in the position of Assistant City Manager, Director Community Services, Assistant Director Community Services, Administrative Services Director, has attained age 50, has 14 years of vesting service, and elected an early retirement date between September 3, and September 12, 2008.

The retirement benefit will not be reduced for the application of the early retirement reduction factors. In addition, for the Assistant City Manager position, the retirement benefit will be calculated as if the participant was employed until Normal Retirement Date.

Definitions

Average compensation

The monthly average of total pay received for the two years out of all compensation years prior to retirement date which gives the highest average.

Participant's required contribution account

Participant's contributions, accumulated to the date of determination with interest of 5% compounded annually, plus salary reduction contributions not previously paid out or applied.

Required contribution accrued benefit

Monthly retirement benefit under normal form accrued by an active participant payable at normal retirement date that is derived from their required contributions.

Accrual service

An employee's current and all prior periods of continuous service expressed in whole years and fractional parts of a year.

Assumptions and methods

The following assumptions and methods are used in this year's valuation report. The rationale for each non-prescribed economic and demographic assumption is also included.

Some economic assumptions rely on the Principal RAS Long-Term Capital Market Assumptions (CMA) May 2021. These assumptions are developed focusing on forward-looking market indicators and valuation models, as well as utilizing the analysis of historical data and trends, the outlook and forecasts from credible economic studies, and investment expert opinions. See Long-Term Capital Markets Assumptions May 2021 for additional information.

Changes since last year

Assumption changes

We recently did a comprehensive review of the economic and demographic assumptions used in the valuation. As a result, we changed the following assumptions for your plan:

- The interest rates before and during benefit payment period have decreased from 6.00% to 5.75%. This rate is used in the calculation of the plan's benefit liability.

Net effect of assumption changes

The net effect of the assumption changes is to increase the actuarially determined contribution.

Method changes

No methods affecting the comparability of results were changed since the last valuation report was completed.

Assumptions selected by actuary

Liability interest	During benefit payment period 5.75% Before benefit payment period 5.75% The interest rate is developed as a long-term expected geometric return on plan assets. Arithmetic expected return is calculated as the weighted average of broad asset classes' arithmetic returns of the plan's target asset allocation, and then converted to the geometric under lognormal distribution assumption. For details, see Long-Term Capital Market Assumptions link.

Asset return	5.75% for the current plan year. The asset return is developed as a weighted average rate based on the target asset allocation of the plan and the long-term capital market assumptions. The calculated return is on an arithmetic mean basis. For details, see the See Long-Term Capital Market Assumptions link. See liability interest rate for how this rate was determined.
Interest rate for employee accumulations	5.00%.
Retirement cost of living adjustment	3.00% & 2.00% per year depending on location. See Plan Provision for additional information.
Expected expense	The expected expense included in normal cost is an estimate based on prior year expenses paid from plan assets. This is the best estimate available of upcoming year's expenses.
Retirement	Active and inactive participants are assumed to retire at normal retirement age as defined in Plan provisions. This assumption is based on the results of recent experience analysis and anticipated future experience.
Inflation	2.25% increase per year. See Long-Term Capital Market Assumptions link.
Upcoming salary increases	The preceding year's salary is increased using the S-5 Table from The Actuary's Pension Handbook, increased by 2.50% at each age. This table provides a rate of increase that declines as participants age. Note: not used for Plan accounting calculations.

Age	Upcoming increase
25	6.68%
40	5.22%
55	4.38%

	Expected salary increase is composed of salary inflation, a real wage growth and a merit increase.
Compensation limit increase	2.25% increase per year. Compensation limit increase should be consistent with the inflation assumption.

Mortality	Based on PubG-2010 General below median base rate mortality table projected to future years with historical and assumed mortality improvement (MI) rates using the MP-2018 mortality improvement scale. Base rates Before benefit payment period PubG-2010 Below Median Employee, male and female, male set back 1 year During benefit payment period • Retirees- PubG-2010 Below Median Healthy Retiree base table, male and female, male set back 1 year • Contingent survivor – same as retirees above (Pub 2010 "Approach 1", see rationale below). • Disabled Retiree – PubG-2010 Disabled Retiree base table, male and female set forward 3 years for both male and female. Participants in pay status who cannot be identified as disabled use the same table as retirees. The Society of Actuaries is an actuarial organization that periodically reviews mortality data and publishes mortality tables and improvement scales. PubG-2010 is the baseline mortality rate table underlying the SOA Pub-2010 experience study published in January 2019. Pub-2010 section 12.4.2 provided three approaches for designated beneficiaries in the calculation of joint-and-survivor annuities. We believe "Approach 1" is reasonable for this plan and has been selected due to data limitations in identifying contingent survivors. In addition, we believe beneficiary mortality isn't materially different while both participants are alive. Mortality improvement (MI) MP-2018 is the improvement scale use on the 2019 State of Florida Valuation.
Disability	1987 Commissioner's Group Disability Table, six month elimination period, male and female. We rely on a publicly published table due to the limited size of the plan. The 1987 CGDT was recommended by the Society of Actuaries for pension valuation purposes.

Withdrawal	2003 Society of Actuaries Small Plan Age Table, multiplied by 0.75. We rely on a publicly published table due to the limited size of the plan. The SOA Small Plan Age Table is the most recent withdrawal experience table published by the Society of Actuaries. A multiplier of 0.75 is applied to this table to reflect the results of the most recent experience analysis and anticipated future experience.
Marriage	75% married; husbands are 3 years older than wives. This assumption does not have material impact on the results of this report and has been selected based on our best estimate of active workforce.
Form of benefit	Participants are assumed to receive their benefits on the normal form at the assumed retirement age.

Methods selected by plan sponsor

Actuarial value of plan assets	The market value of the Principal accounts is adjusted by spreading the expected value minus the actual value over four years. Contributions received in the current plan year but applied to the prior plan year are added to the actuarial value of the Principal accounts.
Actuarial cost method	The **entry age normal (EAN)** cost method is used for this valuation. The value in today's dollars for all projected plan benefits (reflecting service and pay increases through a member's assumed retirement age) is called the present value of benefits (**PVB**). The EAN method allocates each participant's PVB on a level basis over earnings or service between the participant's entry age and assumed retirement age. The portion of the PVB allocated to each valuation year is the normal cost (NC). The individual normal costs are totaled to become the plan's **normal cost**. The plan's normal cost as a percentage of pay (pay related plan) or a dollar amount (non-pay related plan) should remain fairly stable, but may vary over time as your plan's population changes. The **actuarial accrued liability (AAL)** is the portion of PVB attributable to past normal costs for all participants, and represents the targeted asset level for the plan.

The **unfunded actuarial accrued liability (UAAL)** is determined on each valuation date based on updated assets and data and compared to the expected UAAL based on the prior year's assumptions. Gains and losses (experience different than what was assumed) will increase or decrease the funding shortfall and create new liability bases to be funded. New bases are also created with plan amendments, assumption changes, or method changes.

The initial unfunded actuarial accrued liability, adjustments for benefit or assumption changes, and actuarial gain or loss are amortized as described on the Schedule of amortization bases page.

Methods selected by actuary

Retirees

Assets and liabilities for current and future retirees are included.

Vested benefits

A benefit is included in vested benefits when the participant will meet age and service eligibility requirements at the valuation date. The benefit is multiplied by the participant's vesting percentage applicable to each benefit on the valuation date.

The following ancillary benefits are always treated as nonvested: disability benefits payable to retirement age unless in pay status, and pre-retirement death benefits in excess of the survivor annuity death benefit except as noted in the Plan provisions.

Actuary statement

This report was prepared at the request of the sponsor of the plan named on the cover of this report. It provides information needed for plan funding. It is not to be used for plan termination estimates, accounting information, or other purposes. If these or other measures of liabilities are needed, please contact me.

In preparing this report, I have relied on:

- reports of participants, salary, and service provided by the plan sponsor as of the last day of the 2020 plan year.
- information for any retirees, beneficiaries, and alternate payees being paid by Principal Life Insurance Co as of the last day of the 2020 plan year, as reported by Principal Life Insurance Company.
- benefit, contribution, and expense transaction information for the preceding plan year, and the market value of assets reported as of the last day of the 2020 plan year by Principal and the plan sponsor.
- plan documents on file with Principal Life Insurance Company, including changes as noted on the Summary of plan provisions page of this report.
- various models, internal and external, which were used for their intended purposes. Underlying data, assumptions, methodologies, model inputs and resulting outputs have been reviewed and are reasonable. There are no known weaknesses or material inconsistencies.

Appropriate tests of reasonableness and accuracy have been made and reviewed. The information provided is adequate to support the results in this report.

I confirm that as the actuary for this pension plan. I am completely independent of the plan sponsor and any of its officers or key personnel. Neither I nor anyone closely associated with me has any relationship known to me which would impair my independence.

In my opinion, each assumption and method chosen by the actuary is reasonable (taking into account the experience of the plan and reasonable expectations). Each material economic assumption is consistent with other economic assumptions selected by the actuary for this measurement period. Note that several different assumptions may be reasonable for a given measurement, and different actuaries will apply different professional judgment and may choose different reasonable assumptions. Demographic assumptions are not expected to produce significant cumulative actuarial gains or losses over the measurement period, and the combined effect of the assumptions is reasonable.

I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. To the best of my knowledge, this report is complete and accurate, and complies with all relevant pension actuarial standards and legal requirements.

01/07/2022

David A Stocklas, EA, MAAA
Consulting Actuary
Principal℠
2100 Georgetown Drive, Suite 101
Sewickley, PA 15143412.394.9380
Stocklas.Dave@principal.com

Present value of accrued plan benefits

The current year present value of vested and nonvested accrued benefits are based on the assumptions and methods shown earlier in this report. (The salary scale, if any, is not included in the calculation of accrued benefits). All retiree liability is included below except for purchased annuities. These amounts below should not be used for other purposes such as estimating plan termination sufficiency.

The prior year present value of vested and nonvested accrued benefits are based on the assumptions shown in that year's valuation report.

	10/01/2021	10/01/2020
Present value of vested benefits		
Participants in pay status	$171,096,884	$163,452,781
Inactive participants	21,958,772	22,957,883
Active participants	10,286,532	11,880,865
Total	$203,342,188	$198,291,529
Present value of nonvested benefits		
Participants in pay status	$0	$0
Inactive participants (not in pay status)	0	0
Active participants	393,181	393,345
Total	$393,181	$393,345
Total present value of accumulated plan benefits	$203,735,369	$198,684,874
Value of future service and compensation	4,557,365	4,508,618
Total present value of projected plan benefits	$208,292,734	$203,193,492

Change in present value of accumulated plan benefits

Present value of accumulated plan benefits as of 10/01/2020	**$198,684,874**
Increase (decrease) during the year due to:	
Increase for interest due to decrease in the discount period	11,552,424
Benefits paid	(12,470,598)
Benefits accumulated and plan experience	600,038
Change in assumptions	5,368,631
Present value of accumulated plan benefits as of 10/01/2021	**$203,735,369**

Risk assessment and historical information

Risk assessment

All defined benefit plans are exposed to risk. While some risks are within the control of the plan sponsor, others are influenced by outside economic and demographic conditions. Below are descriptions of some risk factors and consequences. It's not intended to be a comprehensive summary, but highlights issues many plan sponsors face. If you'd like to understand these risks more fully or are interested in additional analysis, please contact us.

Potential risks

Investment risk

Lower than expected investment returns could increase future actuarially determined contributions (ADC) and the ability to pay benefits. See Risk-free results where we also explain risk premium and how standard deviation is a way to measure potential volatility risk.

Interest rate risk

The interest rate used to discount plan benefits is a significant driver in the projection of plan liabilities. When interest rates decrease or increase, liabilities move in the opposite direction. See Risk-free results for alternative results using a different interest rate.

Asset/liability mismatch

Plan liabilities will fluctuate due to changes in assumed interest rates while asset values will change based on actual market returns and the plan's asset allocation. Liabilities and assets could potentially move in different directions or magnitudes due to risks associated with interest rates and investments. This mismatch could lead to significant changes in ADC and funded status. Studies such as Asset Liability Modeling on current and alternative liability driven investing strategies can assist with quantifying this mismatch risk.

Longevity and other demographic risks

Plan liabilities are based on several demographic assumptions as disclosed in the Assumptions and methods. When actual plan experience differs from these expectations, the resulting gains and losses will impact future liability.

Contribution risk

Every pension plan should have a strategy for determining annual pension contributions. Contributing the ADC may or may not allow a plan sponsor to achieve their goals. For example, funding to 100% of obligations for benefits (using assumptions consistent with median expectations about future economic conditions) might require contributions in excess of the ADC. A specific contribution strategy should be implemented and reassessed periodically.

Intergenerational equity risk

Intergenerational equity refers to the desire for the full cost of pensions be paid by those receiving the benefits. Fully funding pension benefits over the average future service period reasonably aligns the cost with those who benefit from those services.

As a result, the amortization of future gains/losses due to experience, assumptions, and benefit changes should consider the average working life time of current employees. See Schedule of amortization bases for amortization periods for the plan.

Risk considerations

Below are some aspects of the plan as you consider plan risk.

Assumptions

We use assumptions to estimate the future experience of your plan. To the extent actual experience differs from these assumptions, plan results (such as ADC or funded ratio) may be impacted. Some examples include:

Assumed interest rates. Your ADC is determined using interest rates selected based on long-term geometric return on plan assets. If these returns are not realized, the ADC may increase in future years.

Demographic assumptions (such as mortality, withdrawal, retirement, and disability rates). Your plan's experience relative to the demographic assumptions could impact the cost of the plan.

Future new participants are not included.

Salary growth for future years.

Plan expenses for the upcoming year.

Plan assets

Asset values are reflected as of the valuation date. Future results will be impacted by actual market return on investments.

The actuarial value of assets is smoothed by spreading the expected market value minus the actual market value over four years.

Contributions

Typically, the plan sponsor contributes the ADC or more. This contribution policy may not be enough to cover future benefit obligations.

Key measures

Please see the historical results section of this report for key measures. We suggest you review these measures annually to ensure they meet the goals of the defined benefit plan and organization.

Achievement of economic assumptions

If the **actual market value rate of return** on plan assets differs than the **expected return**, the ADC will increase or decrease.

The actual return on assets has been volatile; the return for some years exceeded the expectation and at other times the return was less than expected. The return for the 2020 year was 9.53% compared to an expected return of 6.00%. The four-year smoothing of investment gains and losses has added some stability to the ADC.

Ratio of normal cost to reported payroll

This ratio can be used to assess the cost of benefits attributed to a year to the participants' reported payroll for the prior year.

The ratio of current year normal cost to the reported payroll for the prior year is 20.77%. This ratio will fluctuate since it's impacted by salary experience, demographic changes, economic conditions, and other factors. If you anticipate changes to your workforce or salary structure, consider an estimate to determine the impact on plan funding.

Percentage of employer's ADC paid

This percentage is a measure of the extent to which the amount required to ensure funding goals (based on the plan's assumptions and methods) has been paid.

The plan sponsor usually contributes the ADC or more.

Plan maturity

Plan maturity measures assess the changing maturity profile of the plan and can indicate the level of reliance on active employees to absorb adverse experience.

Non-active employees as a percentage of total for the current year is 97%.

In pay status PV accrued benefits as a percentage of total is 84%.
A higher ratio is indicative of a more mature plan, typically resulting in:

- less sensitivity to liability interest rate changes
- greater volatility due to actual mortality experience

Annuity purchases could help alleviate risk associated with the retired portion of your plan liability. If you are considering an annuity purchase, please contact us to discuss potential costs and savings.

Market value of assets as a percentage of reported payroll is 13,290% for the current year.

Actuarial accrued liability (AAL) as a percentage of reported payroll is 11,625% for the current year.

Prior year benefits paid as a percentage of reported payroll is 702% for the current year.

Risk-free results

In the Asset allocation, interest rates and actuarially determined contributions, we explained the difference between long term and risk-free returns. The table below shows your plan's liabilities and assets on both the funding and risk-free interest rate basis.

Risk premium

The difference in the liability amounts on a funding basis versus a risk-free basis represents the additional assumed returns to be earned over the life of the plan; this is also referred to as the "risk premium".

Assets

The assets in the funding basis column reflect the asset method used to determine your plan's ADC; the assets in the risk-free basis column are on a mark-to-market basis consistent with the risk-free liabilities.

Results

The unfunded actuarial accrued liability and normal cost on the funding basis are used to calculate your ADC. Those same measures on a risk-free basis show you more conservative results.

If plan's investment returns fall short of the funding basis interest rate, additional contributions will likely be needed.

	Funding basis (ADC)	Risk-free basis
Interest rate	**5.75%**	**1.94%[1]**
Standard deviation	**10.5%**	**- - -**
Normal cost[2]	$368,824	$1,120,525
Actuarial accrued liability	$206,461,236	$334,635,316
Market value of assets	N/A	$236,035,225
Actuarial value of assets	$217,451,513	N/A
Unfunded actuarial accrued liability	$(10,990,277)	$98,600,091
Present value of accrued benefits	$203,735,369	$329,766,047

Standard deviation is one way to measure the potential volatility risk in the current asset portfolio. For example, a standard deviation close to 0% would represent a portfolio with minimal volatility risk. For this plan, about two-thirds of your actual annual returns are likely to fall within a range of -4.75% to 16.25% (5.75% -/+ 10.50%)

[1] The 30-year Treasury rate at 09/30/2021 was chosen as the risk-free interest rate. To isolate the impact of the interest rate, all other assumptions are the same. See the Assumptions and methods for other assumptions.

[2] The normal cost does not include any expense estimate or a reduction for estimated employee contributions.

Historical results

	2014	2015	2016
Funded status of accrued benefits			
Present value of accrued benefits (PVAB)	$151,668,364	$161,178,009	$179,662,705
Market value of assets (MVA)	160,770,276	158,607,927	167,490,116
Under (over) funded PVAB	$(9,101,912)	$2,570,082	$12,172,589
Accrued benefit funded percentage	106%	98%	93%
Funded status of actuarial accrued liability			
Actuarial accrued liability (AAL)	$154,618,516	$164,345,046	$183,233,784
Actuarial value of assets	153,746,756	166,921,684	173,332,291
Unfunded actuarial accrued liability	$871,760	$(2,576,638)	$9,901,493
Funded percentage	99%	102%	95%
Normal cost			
Total normal cost (NC)	$2,191,395	$2,792,276	$5,151,232
Total NC as % of projected current year compensation	68.35%	81.58%	159.02%
Actuarially determined contribution (ADC) (per valuation date)			
Employer normal cost	$2,191,395	$2,792,276	$5,151,232
Valuation interest	169,833	209,421	347,708
15-year amortization of credit balance	1,487,379	2,265,002	2,922,725
Valuation interest on credit balance	115,272	169,877	197,284
Expected employer ADC	$758,577	$566,798	$2,378,931
Actual contributions			
Actual employer contributions	$9,174,902	$6,500,000	$2,500,068
Percentage of employer's ADC paid	1,117%	1,147%	105%
Liability Interest Rate	7.75%	7.50%	6.75%
Projected current year compensation	$3,206,3700	$3,422,635	$3,239,391

	2017	2018	2019	2020	2021
Funded status of accrued benefits					
Present value of accrued benefits (PVAB)	$182,889,177	$184,665,357	$202,852,563	$198,684,874	$203,735,369
Market value of assets (MVA)	179,828,476	188,877,505	197,950,983	207,410,182	236,035,225
Under (over) funded PVAB	$3,060,701	$(4,212,148)	$4,901,580	$(8,725,308)	$(32,299,856)
Accrued benefit funded percentage	98%	102%	98%	104%	116%
Funded status of actuarial accrued liability					
Actuarial accrued liability (AAL)	$186,049,047	$187,935,989	$206,425,337	$201,338,509	$206,461,236
Actuarial value of assets	176,005,417	182,111,690	195,899,730	203,214,350	217,451,513
Unfunded actuarial accrued liability	$10,043,630	$5,824,299	$10,525,607	$(1,875,841)	$(10,990,277)
Funded percentage	95%	97%	95%	101%	105%
Normal cost					
Total normal cost (NC)	$5,810,663	$5,953,872	$1,576,567	$343,931	$363,921
Total NC as % of projected current year compensation	193.67%	200.77%	68.19%	20.45%	23.39%
Actuarially determined contribution (ADC) (per valuation date)					
Employer normal cost	$5,810,663	$5,953,872	$1,576,567	$343,931	$363,921
Valuation interest	392,220	401,886	94,594	20,636	20,925
15-year amortization of credit balance	3,318,783	3,852,581	0	0	0
Valuation interest on credit balance	224,018	260,049	0	0	0
Expected employer ADC	$2,660,082	$2,243,128	$1,671,161	$364,567	$384,846
Actual contributions					
Actual employer contributions	$5,500,000	$10,000,000	$3,500,000	$7,500,000	--
Percentage of employer's ADC paid	207%	446%	209%	2,057%	--
Liability interest rate	6.75%	6.75%	6.00%	6.00%	5.75%
Projected current year compensation	$3,000,274	$2,965,553	$2,312,126	$1,682,060	$1,555,582

	2014	2015	2016
Census at beginning of year			
Number of active participants	43	39	39
Number of terminated vested participants	285	272	255
Number of disabled participants	3	3	2
Number of retirees	375	381	393
Total participants	706	695	689
Prior year reported payroll	$3,163,848	$3,280,160	$3,441,627
Plan maturity measures			
Non-active employees as a percentage of total	94%	94%	94%
In pay status PV accrued benefits as a percentage of total	77%	77%	77%
Market value of assets (beginning of year)	160,770,276	158,607,927	167,490,116
as a percent of prior year reported payroll	5,081%	4,835%	4,867%
Actuarial accrued liability (AAL)	$154,618,516	$164,345,046	$183,233,784
as a percent of prior year reported payroll	4,887%	5,010%	5,324%
Prior year benefits paid	$10,021,946	$9,814,147	$10,243,459
as a percent of prior year reported payroll	317%	299%	298%
Achievement of economic assumptions			
Expected rate of return	7.75%	7.50%	6.75%
Actual market value rate of return	-1.11%	7.88%	12.32%
Average expected salary increase	4.71%	4.68%	4.70%
Average actual salary increase	16.44%	4.92%	2.48%
Liability interest rate	7.75%	7.50%	6.75%

	2017	2018	2019	2020	2021
Census at beginning of year					
Number of active participants	35	34	26	21	18
Number of terminated vested participants	245	233	222	193	181
Number of disabled participants	1	0	0	0	0
Number of retirees	399	408	420	423	431
Total participants	680	675	668	637	630
Prior year reported payroll	$3,148,593	$3,128,143	$2,425,558	$2,002,799	$1,776,018
Plan maturity measures					
Non-active employees as a percentage of total	95%	95%	96%	97%	97%
In pay status PV accrued benefits as a percentage of total	79%	80%	81%	82%	84%
Market value of assets (beginning of year)	$179,828,476	$188,877,505	$197,950,983	$207,410,182	$236,035,225
as a percent of prior year reported payroll	5,711%	6,038%	8,161%	10,356%	13,290%
Actuarial accrued liability (AAL)	$186,049,047	$187,935,989	$206,425,337	$201,338,509	$206,461,236
as a percent of prior year reported payroll	5,909%	6,008%	8,510%	10,053%	11,625%
Prior year benefits paid	$10,560,812	$11,074,842	$11,436,533	$11,830,697	$12,470,598
as a percent of prior year reported payroll	335%	354%	472%	591%	702%
Achievement of economic assumptions					
Expected rate of return	6.75%	6.75%	6.00%	6.00%	5.75%
Actual market value rate of return	8.15%	5.51%	9.13%	16.36%	--
Average expected salary increase	4.66%	4.67%	4.63%	4.62%	N/A
Average actual salary increase	4.25%	5.33%	3.25%	5.07%	--
Liability interest rate	6.75%	6.75%	6.00%	6.00%	5.75%

Florida disclosures

This section provides information as required by Part VII of Chapter 112, and by Chapter 60T-1 of the Florida Statutes. To the best of our knowledge, we have reflected in our calculations and assumptions, any event or trend which would materially increase plan costs.

This section also provides the information used to determine the Actuarially determined contribution (ADC). Please see Summary of results of this valuation report for additional information.

Comparative summary of principal valuation results

	Actuarial valuation prepared as of	
Participant data	10/01/2021	10/01/2020
Active members	18	21
Total annual payroll	$1,776,018	$2,002,799
Retired members and beneficiaries	431	423
Total annualized benefit	$12,394,656	$11,925,396
Disabled members receiving benefit	N/A	N/A
Total annualized benefit	N/A	N/A
Terminated vested members	181	193
Total annualized benefit	$2,007,696	$2,208,084

Reconciliation of lives	Active	Inactive	Retired
Total last valuation	**21**	**193**	**423**
New lives	0	0	0
Voluntary discontinuances	0	0	0
Vested terminations	0	0	0
Non-vested terminations	0	0	0
Retirements	-3	-11	14
Deaths	0	0	-11
Other	0	-1	5
Total this valuation	**18**	**181**	**431**

Please refer to the Schedule of active participant data and Census characteristics for demographic information such as the number of participants by age group, years of service, current year compensation, and projected normal retirement benefits. Please refer to Benefit cash flows for a projection of emerging liabilities/cash flow needs.

Total annual payroll Includes participants assumed to retire immediately who are not included in payroll used to calculate normal cost. Neither column includes the salary increase that is used to calculate normal cost.

Assets

Since these funds are commingled with other funds in the general and separate accounts of the Principal Financial Group, it is not possible to identify specific investments as being made for a particular customer. Refer to the reconciliation of assets in this section.

Actuarial valuation prepared as of:	10/01/2021	10/01/2020
Market value of assets		
Participants Fund1	$0	$0
Long-term Equity Investments	126,487,597	113,837,339
Short-term Investments	0	0
Real Estate	13,768,627	12,040,123
Bonds/Fixed Income	91,804,405	81,528,684
Other	4,004,596	4,036
Total	$236,035,225	$207,410,182

Actuarial value of assets[2]		
Participants Fund1		
Long-term Equity Investments		
Short-term Investments		
Real Estate		
Bonds/Fixed Income		
Other		
Total	$217,451,513	$203,214,350

[1] The participant's fund under the FPI contract is included in total assets. These assets amounts do not include deposits received after the plan year-end.

[2] The actuarial value of assets used in determining annual funding requirements are determined as stated in the Assumption and Methods section report.

Three-year comparison of investment return

The actual percentage was calculated using the Form 5500 Schedule MB investment return method.

Plan year beginning	Actual return on actuarial basis	Actual return on market basis	Assumed return
10/01/2020	9.53%	16.36%	6.00%
10/01/2019	8.11%	9.13%	6.00%
10/01/2018	8.31%	5.51%	6.75%

Based on current assumptions, the market value of assets is projected to last until the plan year beginning 10/01/2036 assuming 0% return on assets. The market value of assets is projected to last until the plan year beginning 10/01/2110 assuming 5.75% return on assets.

Liabilities

Actuarial valuation prepared as of:	**10/01/2021** after assumption change	**10/01/2021** before assumption change	**10/01/2020**
Present value of all future expected benefit payments:			
Active members			
Retirement benefits	$12,575,162	$12,057,145	$14,168,154
Vesting benefits	2,279,670	2,153,902	2,228,276
Disability benefits	336,007	322,992	340,283
Death benefits	46,239	44,594	46,115
Return of contribution	0	0	0
Accumulated leave	0	0	0
Total	**$15,237,078**	**$14,578,633**	**$16,782,828**
Terminated vested members			
Total	**$21,958,772**	**$21,186,673**	**$22,957,883**
Retired members and beneficiaries			
Retired (other than disabled) and beneficiaries	$171,096,884	$166,914,921	$163,452,781
Disabled members	0	0	0
Total	**$171,096,884**	**$166,914,921**	**$163,452,781**
Total present value of all future benefit payments	**$208,292,734**	**$202,680,227**	**$203,193,492**
Liabilities due and unpaid:			
Initial actuarial accrued liability	N/A	N/A	N/A
Unfunded actuarial accrued liability (UAAL)	N/A	N/A	N/A

A list of liability bases is shown in Schedule of amortization bases.

Actuarial present value of accrued benefits

Statement of actuarial value of all accrued benefits

Actuarial valuation prepared as of:	**10/01/2021** after assumption change	**10/01/2021** before assumption change	**10/01/2020**
Vested accrued benefits			
Inactive members and beneficiaries	$193,055,656	$188,101,594	$186,410,664
Active members (includes non-forfeitable accumulated member contributions in the amount of $312,159)	10,286,532	9,887,670	11,880,865
Total	**$203,342,188**	**$197,989,264**	**$198,291,529**
Non-vested accrued benefits			
Total	**$393,181**	**$377,474**	**$393,345**
Total actuarial present value of all accrued benefits	**$203,735,369**	**$198,366,738**	**$198,684,874**

These values are based on the actuarial assumptions shown in the Assumptions and methods section this report, except that the calculation of accrued benefits does not include a salary scale, (if any). A statement of changes in total actuarial present value of all accrued benefits is shown in the Present value of accrued benefits section of this report.

Statement of actuarial value of all accrued benefits

Actuarial valuation prepared as of:	**10/01/2021** volatility assumption[1]
Vested accrued benefits	
Inactive members and beneficiaries	$242,295,429
Active members	14,554,619
Total	**$258,850,048**
Non-vested accrued benefits	
Total	**564,897**
Total actuarial present value of all accrued benefits	**$257,414,945**

[1] The volatility interest rate used is 3.75% which is 2.00% lower than the valuation interest rate as directed in the Florida Statutes. All other assumptions are as shown in the Assumptions and methods section of this report.

Pension cost

Actuarial valuation prepared as of:	10/01/2021 after assumption change	10/01/2021 before asumption change	10/01/2020
Base Normal Cost	$265,152	$242,595	$250,104
Administrative expenses	66,000	66,000	62,000
Total Normal Cost	$331,152	308,595	$312,104
Payment to amortize unfunded liability(ies)	0	0	0
Interest & salary adjustments	53,694	50,885	52,463
Expected plan sponsor contribution (including normal cost, amortization payment and interest, as applicable)	$384,846	$360,330	$364,567
As % of payroll	24.74%	23.16%	21.67%
Amount to be contributed by members	$112,780	$112,780	$121,949
As % of payroll	7.25%	7.25%	7.25%

For the 2022 plan year:
Interest is based on 6.00% before changes and 5.75% after changes

For the prior plan year:
Interest is based on 6.00%.

	10/01/2021 volatility assumption[1]
Base normal cost	$532,546
Administrative expenses	66,000
Total normal cost	$598,546
Payment to amortize unfunded liability(ies)	4,421,278
Interest & salary adjustments	595,358
Expected plan sponsor contribution (including normal cost, amortization payment and interest, as applicable)	$5,615,182
As % of payroll (full payroll)	360.97%
Amount to be contributed by members	$112,780
As % of payroll	7.25%

[1]The volatility interest rate used is 3.75% which is 2.00% lower than the valuation interest rate as directed in the new Florida Statutes. All other assumptions are as shown in the Assumptions and methods section of this report.

Plan year beginning	10/01/2020	10/01/2019
Past contributions		
Required plan sponsor contribution	$1,1671,161	$2,243,128
Required member contributions	167,629	215,003
Actual contributions made by		
Plan sponsor	$7,500,000	$3,500,000
Members	135,762	161,054
Other	0	0
Net actuarial gain(loss) (if applicable)	N/A	N/A

Other disclosures

Actuarial valuation prepared as of:	**10/01/2021** after assumption change	**10/01/2021** before assumption change	**10/01/2020**
Present values of active members:			
Future salaries			
at attained age	$8,457,072	$8,374,093	$8,922,854
at entry age	10,276,467	10,049,471	11,278,603
Future contributions			
at attained age	596,281	589,736	628,382
at entry age	724,561	707,722	794,283
Present value of future contributions from other sources	N/A	N/A	N/A
Present value of future expected benefit payments for active members at entry age	2,412,216	2,224,446	2,598,223

The numerical development of total normal cost for the current plan year is shown in the Development of normal cost section of this report.

Three year comparison of actual and assumed salary increases.		
Plan year beginning	Actual increases	Assumed increases
10/01/2020	5.07%	4.62%
10/01/2019	3.25%	4.63%
10/01/2018	5.33%	4.66%

Other disclosures (continued)

Changes in costs during the year due to a change in assumptions, cost method, benefits, or other, as specified.

See the Present value of accrued plans benefits section of this report.

Cost of $1.00/month benefit on normal form

Retirement Age	Valuation assumptions[1]		Contract purchase rates[2]		Current purchase rates[3]	
	Male	Female	Male	Female	Male	Female
55	$200.51	$217.96	$238.22	$256.75	$247.00	$288.55
60	183.41	200.63	218.66	238.32	212.00	253.95
62	175.86	192.68	210.52	230.60	198.01	240.03

[1] Assumes 2.0% COLA.

[2] Guaranteed rates by the contract.

[3] Non-guaranteed rates in effect 10/01/2021. These rates may change daily.

Actuarial value of assets under Flexible Pension Investment contract

	Grouped FPI
Balance as of 10/01/2020	$203,214,350
Additions	
Contributions	$7,635,762
Interest, dividends & fund earnings	33,525,833
Total additions	$41,161,595
Withdrawals	
Expenses charged	65,954
Benefit payments	12,470,598
Total withdrawals	$12,536,552
Actuarial valuation market value spread adjustment	(14,387,880)
Balance as of 10/01/2021	$217,451,513

Schedule of active participant data

Years of credited service

Attained Age	Years of credited service																			
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up		Total	
	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	1	133,955	0	0	1	137,875	0	0	0	0	0	0	0	0	0	0	2	135,915
40 to 44	0	0	0	0	0	0	0	0	0	0	1	154,685	0	0	0	0	0	0	0	0	1	154,685
45 to 49	0	0	0	0	0	0	0	0	1	151,873	2	132,517	0	0	0	0	0	0	0	0	3	138,969
50 to 54	0	0	0	0	2	102,647	0	0	0	0	3	95,732	0	0	2	72,688	0	0	0	0	7	91,124
55 to 59	0	0	0	0	2	69,562	0	0	0	0	1	114,877	0	0	0	0	0	0	0	0	3	84,667
60 to 64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	1	43,615	0	0	1	78,289	0	0	0	0	0	0	2	60,952
Total	0	0	0	0	5	95,675	0	0	3	111,121	7	117,399	1	78,289	2	72,688	0	0	0	0	18	103,178