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# Community Fire Protection District Defined Benefit Pension Plan

**Cost Statement of Proposed  
Plan Changes**

**November 15, 2024**



# Statement Outline

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- Reasons and Requirements
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# Certification

This cost statement was prepared for the Community Fire Protection District to document impacts of implementing proposed pension plan changes under current consideration. The information contained in this document was prepared to meet the requirements of Missouri Statute 105.665 and 105.684.

Except where indicated otherwise, the results included in this cost statement are based on the same data, assumptions, methods, and provisions as the 1/1/2024 valuation. This cost statement has been prepared in accordance with generally accepted actuarial principles and practice using methods and assumptions we believe to be reasonable.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions;
- Changes in economic or demographic assumptions;
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- Changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report.

The consultants indicated below are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States.



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# Proposed Change

## **Current Early Retirement Structure**

- Eligibility: Active employee aged 55 with 30 years of service
- Benefit: 65% of Average Compensation, reduced 3% per year for each year benefits commence prior to normal retirement date
- Bridge Benefit: 20% of Average Compensation payable until age 62, reduced 3% per year for each year benefits commence prior to normal retirement date

## **Proposed Early Retirement Structure**

Additional provision for retirements on or after 1/1/2025:

- Eligibility: Active employee aged 58 with 25 years of service
- Benefit: Unreduced 65% of Average Compensation
- Bridge Benefit: Unreduced 20% of Average Compensation payable until age 62

Current Early Retirement provisions above will apply to any participant who does not meet the eligibility for the proposed provision.

*All other plan provisions are the same as those used for the 1/1/2024 valuation and are summarized in the appendix to this study.*



## Benefit Increase Allowed

Missouri Statute 105.684 requirements for a local public retirement system to increase benefits are met as of the most recent periodic actuarial valuation:

1. The Plan is at least 80% funded prior to adopting the change.
  - The funded ratio of the Plan as of the most recent valuation on January 1, 2024, was 103.5%.
2. The Plan is at least 75% funded after adopting the change.
  - If the design change had been adopted on January 1, 2024, the funded ratio would have been 95.7%.
  - This ratio uses liability based on updated retirement rates to reflect expected behavior change in response to the new early retirement provision.
3. The unfunded liability due to the benefit change is amortized over 20 years at most.
  - The Plan uses a 20-year amortization for new unfunded liability.



# 2024 Actuarial Determined Contribution

Based on the January 1, 2024 valuation for the plan, under the current design:

- The level normal cost of plan benefits currently in effect is \$1,062,885 or 13.4% of expected payroll. This amount includes \$21,000 in expected administrative expenses to be paid during 2024.
- The contribution for unfunded accrued liabilities currently payable by the plan is \$0 or 0% of expected payroll.
- The total contribution rate for 2024 is \$1,062,885. With interest to the end of the year, the total actuarial determined contribution is 1,137,287 or 14.3% of payroll.



# Reasons and Requirements

## **Reasons for the Statement**

- Required by law (Missouri statute 105.665)
- Document various impacts of making changes to plan benefits
- Uniform information for every legislative body/committee before approving and implementing plan changes

## **Requirements of the Statement**

- Immediate impacts to liabilities, normal costs, contributions and funded levels
- Must use the methods of the most recent valuation
- 10-year projections of similar information
- Assumptions and methods used to calculate the impacts
- Specific statements about the plan's ability to make necessary contributions before and after the proposed changes
- The cost statement must be available as public information for 45 days prior to implementing the changes
- The cost statement must be kept on file by the legislative body/ committee and filed with the joint committee on public employee retirement



# Summary of Projection Assumptions

Assumption/Method	Description
Funding Interest Rate	7.00%
Asset Performance	7.00% per year
Asset Method	Spreads actual vs expected investment income over a period of 5 years
District Contributions	Actuarially determined contribution
Population Growth	The working population is projected to remain flat
New Entrants	Based on new hire demographic data in 2024
Annual Pay Increases	4.00%
Administrative Expenses	Increasing 3% annually, rounded to nearest \$1,000
Retirement Rates	For the current plan, the retirement rates were updated at 1/1/2025 to 50% at age 55, 25% each year until unreduced retirement age, and 100% at unreduced retirement.  For the design change analysis, the 100% retirement assumption was updated to reflect the lower unreduced early retirement benefit.
All other assumptions	Same as January 1, 2024 valuation summarized later in this report

The cost projections contained in this report are based on the January 1, 2024 valuation results. Census data and asset information were provided by the plan sponsor and asset advisor and are summarized in the January 1, 2024 actuarial valuation report. Reasonable actuarial techniques and assumptions were used to produce the cost projections.





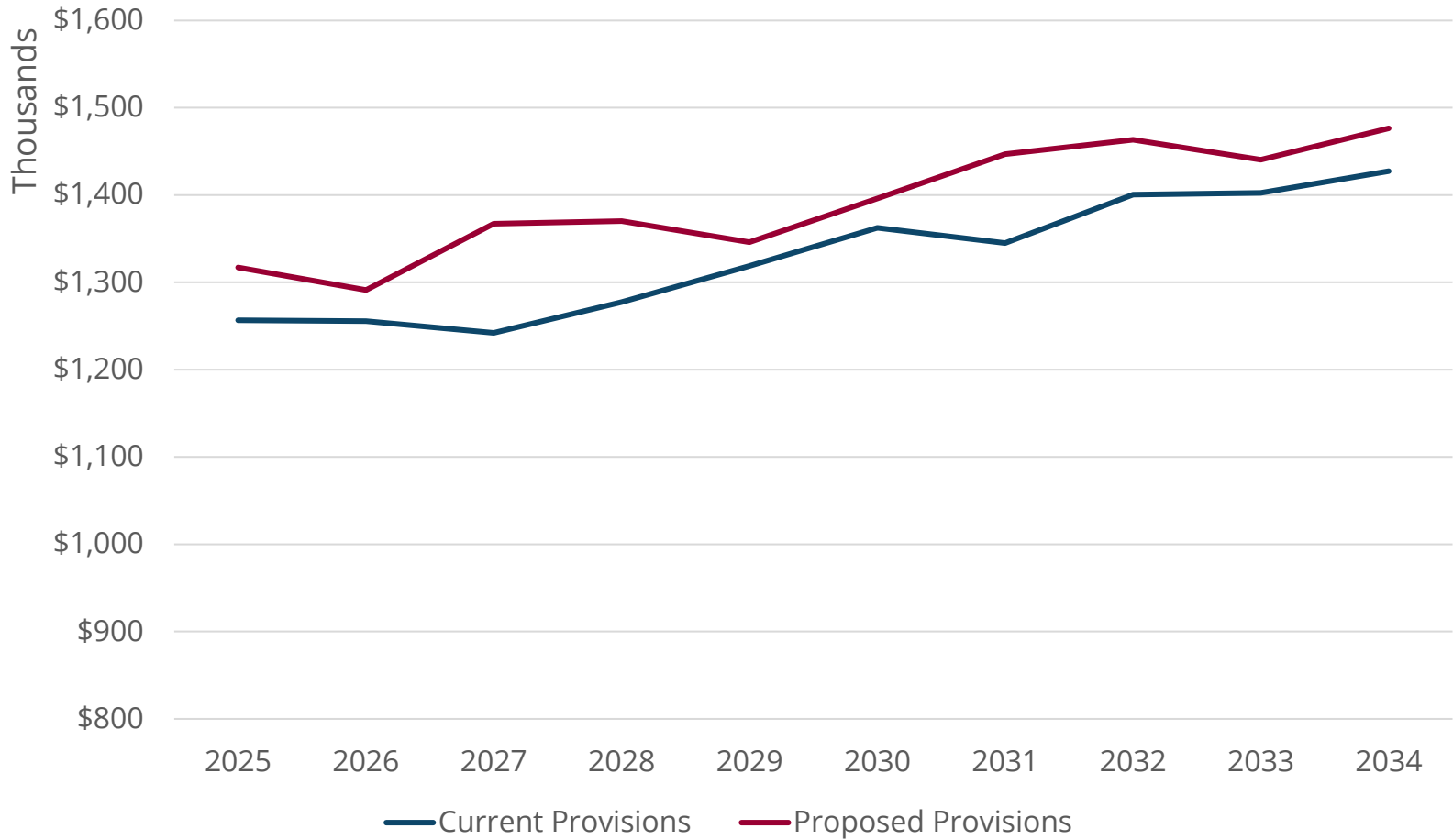
# Financial Impact: 7.00% return all years

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
<b>Current Provisions</b>										
Liability	42,720,335	44,504,293	46,222,272	47,768,754	49,484,141	51,432,909	53,587,191	55,596,762	57,835,255	60,143,993
Actuarial Value of Assets	43,428,839	46,052,718	47,444,937	50,274,633	52,175,854	54,322,491	56,688,731	58,926,364	61,409,098	63,978,690
Unfunded Accrued Liability	(708,504)	(1,548,425)	(1,222,665)	(2,505,879)	(2,691,713)	(2,889,582)	(3,101,540)	(3,329,602)	(3,573,843)	(3,834,697)
Funded Percentage	101.66%	103.48%	102.65%	105.25%	105.44%	105.62%	105.79%	105.99%	106.18%	106.38%
Normal Cost	1,152,322	1,151,330	1,137,807	1,169,928	1,208,490	1,248,456	1,230,973	1,281,690	1,283,562	1,305,798
Administrative Expenses	22,000	22,000	23,000	24,000	24,000	25,000	26,000	27,000	27,000	28,000
Amortization of UAL	-	-	-	-	-	-	-	-	-	-
Actuarial Contribution BOY	1,174,322	1,173,330	1,160,807	1,193,928	1,232,490	1,273,456	1,256,973	1,308,690	1,310,562	1,333,798
Actuarial Contribution EOY	1,256,525	1,255,463	1,242,063	1,277,503	1,318,764	1,362,598	1,344,961	1,400,298	1,402,301	1,427,164
EOY as % of Payroll	16.0%	16.4%	16.3%	17.0%	17.2%	17.2%	16.4%	17.1%	16.6%	16.6%
Payroll	7,871,182	7,667,019	7,633,678	7,505,209	7,687,976	7,930,969	8,193,047	8,180,730	8,448,985	8,610,769
Expected Disbursements	2,350,162	2,532,983	2,800,094	2,774,742	2,705,303	2,679,892	2,946,520	2,913,691	2,998,844	3,162,728
<b>Proposed Provisions</b>										
Liability	44,157,390	45,581,507	47,147,243	48,872,664	50,815,698	52,689,835	54,739,743	56,997,778	59,350,748	61,607,771
Actuarial Value of Assets	43,428,839	45,662,614	46,800,785	49,732,210	51,745,633	53,694,986	55,825,720	58,170,498	60,616,883	62,973,890
Unfunded Accrued Liability	728,551	(81,107)	346,458	(859,546)	(929,935)	(1,005,151)	(1,085,977)	(1,172,720)	(1,266,135)	(1,366,119)
Funded Percentage	98.35%	100.18%	99.27%	101.76%	101.83%	101.91%	101.98%	102.06%	102.13%	102.22%
Normal Cost	1,144,782	1,184,755	1,224,103	1,256,518	1,233,855	1,279,716	1,326,299	1,340,661	1,319,103	1,351,764
Administrative Expenses	22,000	22,000	23,000	24,000	24,000	25,000	26,000	27,000	27,000	28,000
Amortization of UAL	64,271	-	30,564	-	-	-	-	-	-	-
Actuarial Contribution BOY	1,231,053	1,206,755	1,277,667	1,280,518	1,257,855	1,304,716	1,352,299	1,367,661	1,346,103	1,379,764
Actuarial Contribution EOY	1,317,227	1,291,228	1,367,104	1,370,154	1,345,905	1,396,046	1,446,960	1,463,397	1,440,330	1,476,347
EOY as % of Payroll	17.7%	18.0%	18.7%	18.4%	17.5%	18.2%	18.4%	17.9%	17.3%	17.8%
Payroll	7,462,311	7,163,632	7,308,353	7,466,195	7,689,511	7,660,354	7,879,571	8,157,365	8,309,839	8,312,657
Expected Disbursements	2,785,972	2,786,756	2,779,040	2,719,135	2,893,150	2,897,436	2,883,144	2,958,680	3,187,511	3,317,309
<b>Change in Contribution</b>										
Contribution EOY	60,702	35,765	125,040	92,651	27,141	33,448	101,999	63,099	38,029	49,184
% of Payroll	0.8%	0.5%	1.7%	1.2%	0.4%	0.4%	1.3%	0.8%	0.5%	0.6%



# Comparisons of Contributions: 7.00% return all years

## Actuarial Contributions





## Additional Comments on Projections

- 10-year projections shows the proposed changes with the expected effective date of January 1, 2025. This analysis relies on the January 1, 2024 census data projected to each future measurement using the demographic assumptions documented in this report. Additional information on the demographics of the population can be found in the January 1, 2024 Valuation Report.
- These projections reflect numerous assumptions, and one should focus on the general trend of the results rather than the absolute dollar amounts.
- The cost projections assume current demographic and economic assumptions are met. Actual results will vary from projections shown in this report, perhaps significantly, due to changes in the assumptions, plan provisions, participant demographics, interest rate movement, actual asset performance, and other actual experience of the plan. Depending on the use of this information, additional cost projections may be necessary to quantify the sensitivity of results.



# Summary of Assumptions and Methods

Assumption/Method*	Description
Funding Interest Rate	7.00% (net of investment expenses)
Annual Pay Increases	4.00%
Administrative Expenses	Actual from prior year rounded to nearest \$1,000 (\$21,000 for 2024 contribution)
Mortality Rates	PubS-2010 Mortality Table with generational improvements using MP-21
Retirement Rates <sup>1</sup>	25% at age 58, 50% at 59, 75% at 60, 25% at 61, and 100% at 62
Withdrawal Rates	Varies by age
Disability	None
Valuation Method	Entry Age Method
Asset Method	Spreads actual vs expected investment income over a period of 5 years
Amortization Method	20-year closed level dollar amortization of Unfunded Actuarial Accrued Liability

<sup>1</sup> Updated retirement rates used for projection and proposed design change analysis.



# Required Statements

- Current Contributions
  - The plan sponsor has made and plans to continue to make contributions exceeding the contributions as calculated and recommended under current plan provisions.
  
- Proposed Contributions
  - To our knowledge, the additional contributions described as part of the proposed benefit changes will be met based on recent contributions levels. These funds will be provided by designated tax revenue and general funds, if needed.
  
- Assumptions
  - The actuarial assumptions and methods used for the valuation were chosen by the employer. In our opinion, all actuarial assumptions and methods used in both the valuation and projections are individually reasonable, and in aggregate produce results which are reasonable.



# Actuarial Funding Method

- The actuarial cost method used in the valuation was the Entry Age Normal cost method.
- Under this method, the normal cost is the sum of the individual normal costs for all participants. For an active participant, the individual normal cost is determined by spreading the present value at the current age of the projected benefit at the assumed retirement age in such a way that produces a level annual cost over expected earnings for the individual between entry age and assumed retirement age. For a non-active participant, the normal cost is zero.
- The actuarial accrued liability is the sum of the individual accrued liabilities for all plan participants. For an active participant, the individual accrued liability is the accumulation of past normal costs up to the valuation date. For non-active participants, the individual accrued liability is the present value at the current age of future benefits. The unfunded actuarial accrued liability equals the actuarial accrued liability less the actuarial value of assets.
- The total annual contribution of the plan is calculated as the normal cost plus an amount to amortize the unfunded actuarial accrued liability. The unfunded liability is recognized using a 20-year layered level dollar amortization schedule. Each year, new sources of gains and losses will be amortized in a separate amortization base over 20 years.



# Summary of Plan Provisions

Provisions	Description
Eligibility	1 <sup>st</sup> of the month following hire date
Average Compensation	Highest consecutive 3 years
Accrued Benefit	65% of Average Compensation pro-rated for years of service less than 20
Normal Retirement Age	Age 60 with 20 years or age 62
Early Retirement	Age 55 with 30 years of service; benefit is reduced 3% for each year benefits commence prior to the normal retirement date
Bridge Benefit	20% of Average Monthly Earnings reduced by Years of Service less than 20 years, payable from retirement to age 62 (or death if earlier), reduced 3% for each year the Early Retirement Date precedes the Normal Retirement Date.
Cost-of-Living-Adjustment	None
Employee Contributions	None
Vesting	5 years service
Actuarial Equivalence	7.50%/1994 GAM for males set back 6 years for co-annuitants