



# Wentzville Fire Protection District Defined Benefit Plan

**Cost Statement of Proposed  
Plan Changes**

**August 1, 2023**



# Statement Outline

- Certification
- Proposed Change
- Reasons and Requirements
- Current and Projected Financial Impacts
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# Certification

This cost statement was prepared for the Wentzville Fire Protection District to document impacts of implementing proposed pension plan changes under current consideration. The information contained in this document was prepared in order 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 1/1/2023 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.

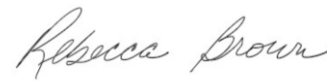
We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

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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August 1, 2023

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# Proposed Change

## **Current Structure**

- Benefit Formula:  $1.5\% \times \text{Average Compensation} \times \text{Service up to 20 years}$

## **Proposed Structure**

*The only changes to the current plan is to increase the benefit multiplier from 1.5% to 2.0% effective for active participants as of January 1, 2024:*

- Benefit Formula:  $2.0\% \times \text{Average Compensation} \times \text{Service up to 20 years}$

*All other plan provisions are the same as those used for the 1/1/2023 valuation and are summarized in the appendix to this study.*



# 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
Discount Rate	5.25%
Asset Performance	5.25% per year
Asset Method	5-year Phase-in Actuarial Value
District Contributions	\$1M in 2023 and \$1.2M in 2024+ or recommended contribution if greater
Population	Active population remains level
New Entrants	Based on recent new hires - \$80K starting salary
All other assumptions	Same as January 1, 2023 valuation summarized later in this report

The cost projections contained in this report are based on the January 1, 2023 valuation results. Census data and asset information were provided by the plan sponsor and asset advisor and are summarized in the January 1, 2023 actuarial valuation report. Reasonable actuarial techniques and assumptions were used to produce the cost projections.



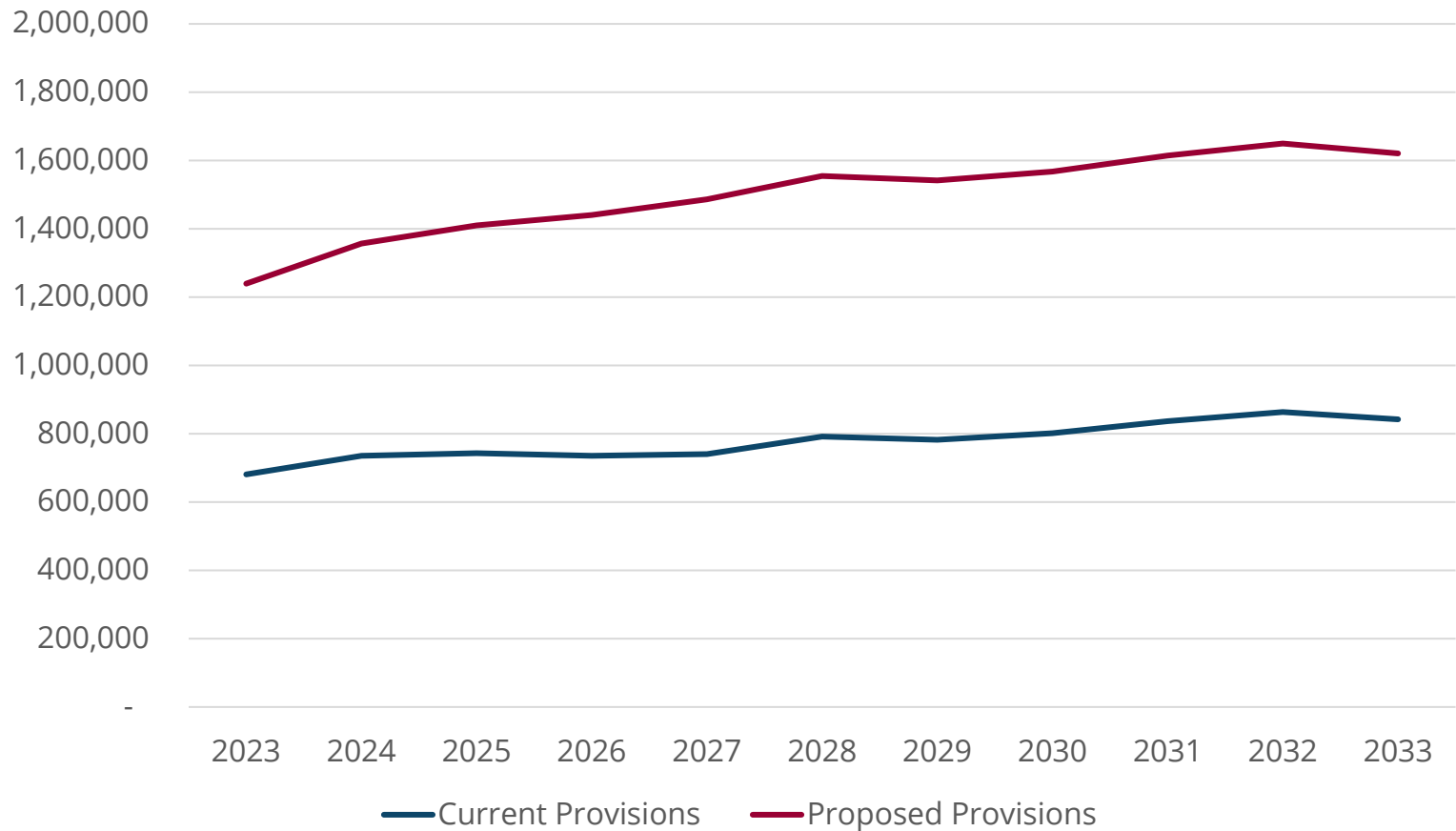
# Financial Impacts: 5.25% return all years

Current Provisions	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Liability	13,693,647	14,980,938	16,391,746	17,847,738	19,256,103	20,623,127	22,114,817	23,546,206	24,982,698	26,488,920	28,059,911
Actuarial Value of Assets	14,072,766	15,146,392	16,505,910	17,924,441	19,326,075	21,169,198	23,109,082	25,022,469	26,946,563	28,929,822	30,975,642
Unfunded Accrued Liability	(379,119)	(165,454)	(114,164)	(76,703)	(69,972)	(546,071)	(994,265)	(1,476,263)	(1,963,865)	(2,440,902)	(2,915,731)
Funded Percentage	102.8%	101.1%	100.7%	100.4%	100.4%	102.6%	104.5%	106.3%	107.9%	109.2%	110.4%
Market Value of Assets	12,217,963	13,755,290	15,578,508	17,460,740	19,326,075	21,169,198	23,109,082	25,022,469	26,946,563	28,929,822	30,975,642
Market Funded Percentage	89.2%	91.8%	95.0%	97.8%	100.4%	102.6%	104.5%	106.3%	107.9%	109.2%	110.4%
Normal Cost	663,845	716,989	724,500	716,811	721,686	771,948	762,460	781,368	815,819	841,800	820,774
% of Payroll	8.8%	9.5%	9.3%	9.0%	8.9%	9.4%	9.0%	9.1%	9.3%	9.4%	8.9%
Payment on Unfunded	-	-	-	-	-	-	-	-	-	-	-
% of Payroll	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Contribution BOY	663,845	716,989	724,500	716,811	721,686	771,948	762,460	781,368	815,819	841,800	820,774
Contribution MOY	681,048	735,569	743,275	735,387	740,388	791,952	782,219	801,617	836,960	863,615	842,044
% of Payroll	9.1%	9.7%	9.5%	9.2%	9.1%	9.7%	9.2%	9.3%	9.6%	9.6%	9.1%
Payroll	7,511,737	7,554,034	7,799,702	8,008,379	8,108,074	8,206,553	8,484,855	8,607,452	8,749,264	8,999,127	9,270,396
<b>Proposed Provisions</b>											
Liability	18,221,987	19,936,474	21,815,550	23,754,767	25,630,372	27,450,737	29,437,201	31,343,136	33,255,739	35,261,173	37,352,815
Assets	14,072,766	15,348,769	16,836,634	18,432,510	20,013,389	22,051,887	24,267,837	26,415,591	28,582,843	30,856,273	33,229,938
Unfunded Accrued Liability	4,149,221	4,587,705	4,978,916	5,322,257	5,616,983	5,398,850	5,169,364	4,927,545	4,672,896	4,404,900	4,122,877
Funded Percentage	77.2%	77.0%	77.2%	77.6%	78.1%	80.3%	82.4%	84.3%	85.9%	87.5%	89.0%
Market Value of Assets	12,217,963	13,957,667	15,909,232	17,968,809	20,013,389	22,051,887	24,267,837	26,415,591	28,582,843	30,856,273	33,229,938
Market Funded Percentage	67.1%	70.0%	72.9%	75.6%	78.1%	80.3%	82.4%	84.3%	85.9%	87.5%	89.0%
Normal Cost	885,127	955,985	966,000	955,748	962,248	1,029,264	1,016,614	1,041,824	1,087,759	1,122,400	1,094,365
% of Payroll	11.8%	12.7%	12.4%	11.9%	11.9%	12.5%	12.0%	12.1%	12.4%	12.5%	11.8%
Payment on Unfunded	323,077	366,735	408,497	448,355	486,290	486,196	486,102	485,976	485,835	485,678	485,517
% of Payroll	4.3%	4.9%	5.2%	5.6%	6.0%	5.9%	5.7%	5.6%	5.6%	5.4%	5.2%
Contribution BOY	1,208,204	1,322,720	1,374,497	1,404,103	1,448,538	1,515,460	1,502,716	1,527,800	1,573,594	1,608,078	1,579,882
Contribution MOY	1,239,514	1,356,997	1,410,116	1,440,489	1,486,076	1,554,732	1,541,658	1,567,392	1,614,372	1,649,750	1,620,823
% of Payroll	16.5%	18.0%	18.1%	18.0%	18.3%	18.9%	18.2%	18.2%	18.5%	18.3%	17.5%
Payroll	7,511,737	7,554,034	7,799,702	8,008,379	8,108,074	8,206,553	8,484,855	8,607,452	8,749,264	8,999,127	9,270,396
<b>Change in Contribution</b>											
Contribution MOY	558,466	621,428	666,841	705,102	745,688	762,780	759,439	765,775	777,412	786,135	778,779
% of Payroll	7.4%	8.2%	8.5%	8.8%	9.2%	9.3%	9.0%	8.9%	8.9%	8.7%	8.4%



# Comparisons of Contributions: 5.25% return all years

## Recommended Contributions





# Additional Comments on Projections

- Missouri Statute 105.684 requirements for a local public retirement system to increase benefits are met:
  - The Plan is at least 80% funded prior to adopting the change; and
  - The Plan is at least 75% funded after adopting the change.
- 10-year projections assume the change occurs at January 1, 2023 even though the change is expected to be effective January 1, 2024. This shows the sensitivity of the results on the current population. Additional information on the demographics of the population can be found in the January 1, 2023 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.



# Assumptions

The following assumptions all match the January 1, 2023 valuation report as required:

- Investment Return: 5.25%

This assumption has set by the plan sponsor in conjunction with their asset advisor. We believe this assumption is reasonable based on an application of the JP Morgan capital market assumptions by class to the plan's asset allocation.
- Salary Scale: 4.00%
- Mortality: PubS-2010 with generational improvements from 2010 based on MP-21
- Retirement:
  - First Responders assumed to retire at age 60
  - All other participants assumed to retire at age 62.
- Disability: Varies by age.
  - Sample Rates:

<u>Age</u>	<u>Rate</u>
25	0.06%
30	0.10%
35	0.23%
40	0.35%
45	0.56%
50	0.85%



# Assumptions

- Withdrawal: Varies by age and service.
  - Sample rates for active participants with 5 or more years of service:

<u>Age</u>	<u>Rate</u>
25	5.0%
30	4.0%
35	2.8%
40	2.2%
45	1.8%
50	1.0%

- Rates for active participants with less than 5 years of service:

<u>Year</u>	<u>Rate</u>
1	10.0%
2	8.0%
3	7.0%
4	6.0%

Additional assumptions made to provide projections:

- Active participant count flat over the projection period
- Actual contributions are assumed to be \$1.0M in 2023 and \$1.2M per year starting in 2024, or if greater the recommended contribution



# 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. The projected improvement of the funding ratio of the plan under the proposed changes over the next 10 years demonstrates this outcome.
- 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 closed level amortization schedule. Contributions in excess of the recommended contribution are used to reduce outstanding bases proportionally. In addition, if the plan is fully funded, all outstanding bases are deemed satisfied. As of 1/1/2023, the plan was fully funded and thus there were no outstanding amortization bases as of 1/1/2023. The resulting recommended contribution is increased with interest to reflect anticipate mid-year contributions.



## Appendix: Current Plan Provisions

Provision	Description
Normal Retirement	Age 60 for First Responders; Age 62 for all other participants  1.5% of Average Compensation times service, up to 20 years <sup>1</sup>
Early Retirement	Age 55 and 30 years of service for First Responders, Age 57 with 30 years of service for all other participants  Unreduced normal retirement benefits
Vesting	100% after 10 years of service
Average Annual Earnings	Average of highest 5 consecutive years out of last 10 years
Employee Contributions	None
Payment Form	Life annuity with 10 years certain as normal form  Single Life Annuity, 50% or 100% Joint and Survivor Annuity for married participants only
Actuarial Equivalence	5.5% and the PubS-2010 Mortality blended 50% male/female

<sup>1</sup> Proposed change increases benefit formula multiplier from 1.5% to 2.0% for active participants effective January 1, 2024.