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# Denison Firemen's Relief and Retirement Fund

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## Actuarial Report for Fund's Compliance with GASB Statement No. 67 for the Fiscal Year Ending December 31, 2022

June 21, 2023



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June 21, 2023

**Via E-Mail: [ztaylor@cityofdenison.com](mailto:ztaylor@cityofdenison.com)**

Board of Trustees  
Denison Firemen's Relief and  
Retirement Fund  
c/o Ms. Zera Taylor, Administrator  
700 W. Chestnut  
Denison, TX 75021

Re: GASB No. 67 Report for the Denison Firemen's  
Relief and Retirement Fund for its Fiscal Year  
Ending December 31, 2022

Dear Board Members:

At your request, we have prepared an actuarial report providing actuarial information for the Denison Firemen's Relief and Retirement Fund (the Fund) for its fiscal year ending December 31, 2022 based on a measurement date of December 31, 2022 in accordance with Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans*. This information will be used in the preparation of the Fund's December 31, 2022 financial report.

The disclosures and required supplementary information in this report are based on (1) the Fund's actuarial valuation as of December 31, 2021, including the actuarial assumptions and census data summarized in our report to the board of trustees dated August 5, 2022 and (2) the final draft of the statement of changes in plan fiduciary net position for the Fund's December 31, 2022 financial report.

### ***Governmental Accounting Standards***

In June 2012, the GASB issued GASB Statement No. 67, *Financial Reporting for Pension Plans*, which amended GASB Statement No. 25 effective for fiscal years beginning after June 15, 2013. GASB 67 allows biennial actuarial valuations, but it requires that the measurement date for the total pension liability be the same date as the end of the Fund's fiscal year. To facilitate this requirement, paragraph 37 of GASB 67 provides that the "total pension liability should be determined by (a) an actuarial valuation as of the pension plan's most recent fiscal year-end or (b) the use of update procedures to roll forward to the pension plan's most recent fiscal year-end amounts from an actuarial valuation as of a date no more than 24 months earlier than the pension plan's most recent fiscal year-end." For this report, the roll forward procedure is what we used to develop the December 31, 2022 total pension liability from the total pension liability in the December 31, 2021 actuarial valuation. Therefore, there are no differences between expected and actual experience for the Fund

year ending December 31, 2022 since the theoretical actual demographic experience for that year was assumed to be the same as the expected experience.

### ***Variability in Future Actuarial Measurement***

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; and
- Changes in plan provisions or applicable law.

We have not been asked to perform and have not performed any stochastic or deterministic sensitivity analyses of the potential ranges of such future measurements, except as required by GASB 67. If you have an interest in the results of any other such analysis, please let us know.

### ***Required Supplementary Information***

The schedules of required supplementary information (RSI) in Section II of the report do not include the one described in paragraph 32(c) of GASB 67 because the Fund does not have actuarially determined contributions. The RSI described in paragraph 32(a) and (b) are combined into one schedule, shown as item A on pages 8 and 9.

We hereby certify that we are members of the American Academy of Actuaries who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. We do not have any relationship with the Fund or with the city which might impair, or appear to impair, the objectivity of our services for the Fund.

Sincerely,



Mark R. Fenlaw, F.S.A.



Brandon L. Fuller, F.S.A.

MRF/BLF:nlg

**TABLE OF CONTENTS**

Page No.

Section I: Disclosures to Comply with GASB Statement No. 67

    A. General Information about the Retirement Plan ..... 4

    B. Net Pension Liability ..... 5

Section II: Schedules of Required Supplementary Information

    A. Changes in the Net Pension Liability and Related Ratios..... 8

    B. Investment Returns ..... 10

## **Section I - Disclosures to Comply with GASB Statement No. 67**

### **A. General Information about the Retirement Plan**

#### **1. Plan Description**

The city contributes to the retirement plan for firefighters in the Denison Fire Department known as the Denison Firemen's Relief and Retirement Fund (the Fund). The Fund is a single employer, contributory, defined benefit plan. The benefit provisions of the Fund are authorized by the Texas Local Fire Fighters' Retirement Act (TLFFRA). TLFFRA provides the authority and procedure to amend benefit provisions. The plan is administered by the Board of Trustees of the Fund. The board is composed of seven members: the mayor or the mayor's designated representative; the city's chief financial officer or a person designated by the chief financial officer; three active members of the Fund elected by participating members; and two citizen members who are elected by the other members of the board.

#### **2. Benefits Provided**

Firefighters in the Denison Fire Department are covered by the Fund which provides service retirement, death, disability, and withdrawal benefits. Firefighters may retire at age 50 with 20 years of service. A vested benefit is provided for firefighters who terminate employment with at least 10 years of service. If a terminated firefighter under age 50 has a vested benefit, he may retire starting on the date he would have both completed 20 years of service if he had remained a Denison firefighter and attained age 50. The present plan provides a monthly normal service retirement benefit, payable in a Joint and 75% to Spouse form of annuity, equal to a percentage of Highest 24-Month Average Salary of 2.65% for each of the first 20 years of service plus 3.00% for each year of service in excess of 20 years. There is a maximum monthly benefit of \$7,250.00.

There is no provision for automatic postretirement benefit increases. The Fund has the authority to provide, and has periodically in the past provided, ad hoc postretirement benefit increases.

#### **3. Members Covered by the Fund**

In the December 31, 2021 actuarial valuation, the following numbers of members were covered by the Fund:

Retirees and beneficiaries currently receiving benefits	55
Inactive employees entitled to but not yet receiving benefits	8
Active employees	<u>50</u>
	113

**4. Contribution Policy**

The contribution provisions of the Fund are authorized by TLFFRA. TLFFRA provides the authority and procedure to change the amount of contributions determined as a percentage of pay by each firefighter and a percentage of payroll by the city.

The contribution policy of the Denison Firemen's Relief and Retirement Fund requires contributions equal to a rate of pay by the firefighters elected by the firefighters according to TLFFRA. Through December 31, 2019, the firefighter rate was 12%. Beginning January 1, 2020, it was increased by the firefighters to 13.25%. The city had contributed 15% of payroll for a number of years. Beginning January 1, 2020, the city increased its rate to 18%. The December 31, 2021 actuarial valuation includes the assumption that the city contribution rate will be 18% over the remainder of the unfunded liability amortization period. The costs of administering the plan are paid from the Fund assets.

Ultimately, the contribution policy also depends upon the total return of the Fund's assets, which varies from year to year. Investment policy decisions are established and maintained by the board of trustees. For the year ending December 31, 2022, the money-weighted rate of return on pension plan investments was -17.43%. This measurement of the investment performance is net of investment-related expenses, reflecting the effect of the timing of the contributions received and the benefits paid during the year.

While the contribution requirements are not actuarially determined, state law requires that each change in plan benefits adopted by the Fund must first be approved by an eligible actuary, certifying that the contribution commitment by the firefighters and the assumed city contribution rate together provide an adequate contribution arrangement. Using the entry age actuarial cost method, the plan's normal cost contribution rate is determined as a percentage of payroll. The excess of the total contribution rate over the normal cost contribution rate is used to amortize the plan's unfunded actuarial accrued liability (UAAL). The number of years needed to amortize the plan's UAAL is actuarially determined using an open, level percentage of payroll method.

**B. Net Pension Liability**

The city's net pension liability was measured as of December 31, 2022, and the total pension liability used to calculate the net pension liability was determined by the actuarial valuation as of December 31, 2021 and rolled forward to December 31, 2022.

Total pension liability	\$ 27,322,134
Plan fiduciary net position	<u>20,072,690</u>
City's net pension liability	\$ 7,249,444
 Plan fiduciary net position as a percentage of the total pension liability	  73.5%

## 1. Actuarial Assumptions

The total pension liability in the December 31, 2021 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.5%
Salary increases	2.5%, plus promotion, step and longevity increases that vary by service
Investment rate of return	7.5%, net of investment-related expenses, including inflation

Mortality rates were based on the PubS-2010 (public safety) total dataset mortality tables for employees and for retirees (sex distinct), projected for mortality improvement generationally using the projection scale MP-2019.

The long-term expected rate of return on pension plan investments is reviewed for each biennial actuarial valuation and was determined using a building-block method in which expected future net real rates of return (expected returns, net of investment-related expenses and inflation) were developed for each major asset class. These components were combined to produce the long-term expected rate of return by weighting the expected future net real rates of return by a recent asset allocation percentage (resulting in 5.25%) and by adding expected inflation (2.5%). In addition, the final 7.5% assumption was selected by rounding down. The allocation and expected arithmetic net real rates of return for each major asset class are summarized in the following table:

Asset Class	Asset Allocation	Long-Term Expected Net Real Rate of Return
Equities	83.5%	5.95%
REITs	2.7	3.45
Closed-end mutual funds	10.9	1.45
Fixed income securities	2.2	1.45
Cash	<u>0.7</u>	0.00
Total	100.0%	
Weighted Average		5.25%

## 2. Discount Rate

The discount rate used to measure the total pension liability was 7.5%. No projection of cash flows was used to determine the discount rate because the December 31, 2021 actuarial valuation showed that expected contributions would pay the normal cost and amortize the unfunded actuarial accrued liability (UAAL) in 11 years. Because of the 11-year amortization period of the UAAL, the pension plan's fiduciary net position is expected to be available to make all projected future benefit payments of current active and inactive members. Therefore, the long-term expected rate of return on pension plan investments of 7.5% was applied to all periods of projected benefit payments as the discount rate to determine the total pension liability.

**3. Sensitivity of the Net Pension Liability to Changes in the Discount Rate**

The following presents the net pension liability of the city, calculated using the discount rate of 7.5%, compared to what the city's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.5%) or 1-percentage-point higher (8.5%) than the current rate:

	<b>1% Decrease (6.5%)</b>	<b>Current Discount Rate (7.5%)</b>	<b>1% Increase (8.5%)</b>
City's Net Pension Liability	\$10,652,631	\$7,249,444	\$4,430,425

**Section II – Schedules of Required Supplementary Information**

**A. Schedule of Changes in the City's Net Pension Liability and Related Ratios for the Last 10 Fiscal Years<sup>1</sup>**

	Fiscal Year Ending				
	12/31/2022	12/31/2021	12/31/2020	12/31/2019	12/31/2018
<b>1. Total Pension Liability</b>					
a. Service cost	\$ 535,217	\$ 497,868	\$ 484,543	\$ 504,489	\$ 487,429
b. Interest	1,972,877	1,907,746	1,857,246	1,713,480	1,679,321
c. Changes of benefit provisions	0	0	1,227,295	0	0
d. Differences between expected and actual experience	0	203,053	0	(693,239)	0
e. Changes of assumptions	0	27,219	0	966,083	0
f. Benefit payments	(1,911,540)	(1,698,097)	(1,665,468)	(1,897,085)	(1,559,639)
<b>g. Net Change</b>	<b>596,554</b>	<b>937,789</b>	<b>1,903,616</b>	<b>593,728</b>	<b>607,111</b>
<b>h. Beginning</b>	<b>26,725,580</b>	<b>25,787,791</b>	<b>23,884,175</b>	<b>23,290,447</b>	<b>22,683,336</b>
<b>i. Ending</b>	<b>\$ 27,322,134<sup>2</sup></b>	<b>\$ 26,725,580</b>	<b>\$ 25,787,791<sup>2</sup></b>	<b>\$ 23,884,175</b>	<b>\$ 23,290,447<sup>2</sup></b>
<b>2. Plan Fiduciary Net Position</b>					
a. Contributions by the city	\$ 791,048	\$ 655,168	\$ 674,130	\$ 529,465	\$ 504,819
b. Firefighter contributions	582,299	482,276	496,234	423,572	404,045
c. Net investment income	(4,299,891)	4,492,329	1,367,729	4,623,990	(461,618)
d. Benefit payments	(1,911,540)	(1,698,097)	(1,665,468)	(1,897,085)	(1,559,639)
e. Administrative expenses	(46,624)	(54,295)	(17,749)	(43,403)	(24,075)
<b>f. Net Change</b>	<b>(4,884,708)</b>	<b>3,877,381</b>	<b>854,876</b>	<b>3,636,539</b>	<b>(1,136,468)</b>
<b>g. Beginning</b>	<b>24,957,398</b>	<b>21,080,017</b>	<b>20,225,141</b>	<b>16,588,602</b>	<b>17,725,070</b>
<b>h. Ending</b>	<b>\$ 20,072,690</b>	<b>\$ 24,957,398</b>	<b>\$ 21,080,017</b>	<b>\$ 20,225,141</b>	<b>\$ 16,588,602</b>
<b>3. City's Net Pension Liability [Item 1(i) – 2(h)]</b>	<b>\$ 7,249,444</b>	<b>\$ 1,768,182</b>	<b>\$ 4,707,774</b>	<b>\$ 3,659,034</b>	<b>\$ 6,701,845</b>
<b>4. Plan Fiduciary Net Position as a Percentage of the Total Pension Liability</b>	<b>73.5%</b>	<b>93.4%</b>	<b>81.7%</b>	<b>84.7%</b>	<b>71.2%</b>
<b>5. Covered Payroll<sup>3</sup></b>	<b>\$ 4,394,711</b>	<b>\$ 3,639,822</b>	<b>\$ 3,745,167</b>	<b>\$ 3,529,767</b>	<b>\$ 3,365,460</b>
<b>6. City's Net Pension Liability as a Percentage of Covered Payroll</b>	<b>165.0%</b>	<b>48.6%</b>	<b>125.7%</b>	<b>103.7%</b>	<b>199.1%</b>

**Notes to Schedule:**

<sup>1</sup> Until a full 10-year trend is compiled, only available information is shown.

<sup>2</sup> Determined from the beginning of year total pension liability using the roll forward procedure allowed by GASB 67.

<sup>3</sup> Contributions by the city divided by the city contribution rate.

Schedule A, Continued<sup>1</sup>

	Fiscal Year Ending			
	12/31/2017	12/31/2016	12/31/2015	12/31/2014
<b>1. Total Pension Liability</b>				
a. Service cost	\$ 584,359	\$ 561,884	\$ 540,273	\$ 519,493
b. Interest	1,754,603	1,691,849	1,636,517	1,570,247
c. Changes of benefit provisions	0	0	0	0
d. Differences between expected and actual experience	(246,506)	0	(322,524)	0
e. Changes of assumptions	(750,691)	0	249,916	0
f. Benefit payments	<u>(1,428,216)</u>	<u>(1,504,730)</u>	<u>(1,318,961)</u>	<u>(1,212,961)</u>
g. Net Change	<b>(86,451)</b>	<b>749,003</b>	<b>785,221</b>	<b>876,779</b>
h. Beginning	<u>22,769,787</u>	<u>22,020,784</u>	<u>21,235,563</u>	<u>20,358,784</u>
i. Ending	<b>\$ 22,683,336</b>	<b>\$ 22,769,787<sup>2</sup></b>	<b>\$ 22,020,784</b>	<b>\$ 21,235,563<sup>2</sup></b>
<b>2. Plan Fiduciary Net Position</b>				
a. Contributions by the city	\$ 501,647	\$ 500,182	\$ 493,062	\$ 487,188
b. Firefighter contributions	401,067	400,158	398,318	389,748
c. Net investment income	2,568,080	1,139,415	(1,053,804)	1,368,721
d. Benefit payments	(1,428,216)	(1,504,730)	(1,318,961)	(1,212,961)
e. Administrative expenses	<u>(38,876)</u>	<u>(28,393)</u>	<u>(28,842)</u>	<u>(21,105)</u>
f. Net Change	<b>2,003,702</b>	<b>506,632</b>	<b>(1,510,227)</b>	<b>1,011,591</b>
g. Beginning	<u>15,721,368</u>	<u>15,214,736</u>	<u>16,724,963</u>	<u>15,713,372</u>
h. Ending	<b>\$ 17,725,070</b>	<b>\$ 15,721,368</b>	<b>\$ 15,214,736</b>	<b>\$ 16,724,963</b>
<b>3. City's Net Pension Liability [Item 1(i) – 2(h)]</b>	<b>\$ 4,958,266</b>	<b>\$ 7,048,419</b>	<b>\$ 6,806,048</b>	<b>\$ 4,510,600</b>
<b>4. Plan Fiduciary Net Position as a Percentage of the Total Pension Liability</b>	<b>78.1%</b>	<b>69.0%</b>	<b>69.1%</b>	<b>78.8%</b>
<b>5. Covered Payroll<sup>3</sup></b>	<b>\$ 3,344,313</b>	<b>\$ 3,334,547</b>	<b>\$ 3,287,080</b>	<b>\$ 3,247,120</b>
<b>6. City's Net Pension Liability as a Percentage of Covered Payroll</b>	<b>148.3%</b>	<b>211.4%</b>	<b>207.1%</b>	<b>138.9%</b>

Notes to Schedule:

<sup>1</sup> Until a full 10-year trend is compiled, only available information is shown.

<sup>2</sup> Determined from the beginning of year total pension liability using the roll forward procedure allowed by GASB 67.

<sup>3</sup> Contributions by the city divided by the city contribution rate.

**B. Schedule of Investment Returns for the Last Ten Fiscal Years<sup>1</sup>**

Fiscal Year Ending	Annual Money-Weighted Net Rate of Return <sup>2</sup>
December 31, 2022	(17.43)%
December 31, 2021	21.63%
December 31, 2020	6.85%
December 31, 2019	28.73%
December 31, 2018	(2.66)%
December 31, 2017	16.63%
December 31, 2016	7.64%
December 31, 2015	(6.38)%
December 31, 2014	8.81%

Notes to Schedule

<sup>1</sup> Until a full ten-year trend is compiled, only available information is shown. Fiscal year refers to the plan year.

<sup>2</sup> The money-weighted rate of return expresses investment performance, net of investment expenses, reflecting the timing of the contributions received and the benefits paid during the year.