POLICE AND FIRE PENSION COMMITTEE
Tuesday, October 24, 2023
11:30 A. M.
Carthage City Hall, Council Chambers

Agenda

Old Business

1. Accept the minutes from the previous meeting

New Business

1. Quarterly Report on Investments – Daniel Hepp
2. Discuss and Approve Audit ending December 31, 2022
3. Revisit Haynes Benefits Report regarding the Pension Plan
4. Training Session

Other Business

Adjournment

PERSONS WITH DISABILITIES WHO NEED SPECIAL ASSISTANCE CALL 417-237-7000 (VOICE) OR 1-800-735-2466 (TDD VIA RELAY MISSOURI) AT LEAST 24 HOURS PRIOR TO MEETING.)

Posted ________________

Carthage Police/Fire Pension Meeting

7/25/2023

Committee Members in attendance: Jody Roughton, Jason Martin, Chad Dininger, and Jeff Pinnell

Also in attendance were Miranda Deal, Darren Collier, Tymon Bay, Mark Elliff, Jennifer McHugh, and Daniel Hepp of UMB.

The meeting was in council chambers at City Hall.

- A motion was made by Pinnell to accept the minutes from the previous meeting. Bay seconded the motion and it passed unanimously.
- Hepp provided a portfolio performance review. No significant changes. Equities were up 6.4%.
- The group discussed the BMO transition. There were questions for City Attorney Nate Dally to verify in reference to what we pay. To be followed up with next meeting.
- McHugh provided a review of the actuarial valuation report. The group then discussed the lump sum payout option. McHugh is going to provide a cost proposal for next meeting.
- Miranda provided a review of the Haynes Benefits plan. There was discussion to pay the $2,000 now or closer to the deadline (that was extended to the end of 2027). Miranda is going to send amendment information/ wording out.
- Training: McHugh spoke about actuarial calculations and gave a brief introduction to how some of the information was gathered.
- Bay made a motion to adjourn, Martin seconded the motion. The motion passed and the meeting was adjourned.

Lt. Jeff Pinnell

RE: Police & Fire Pension Plan Report

Robert A. West <West@haynesbenefits.com>
Mon 10/16/2023 4:29 PM
To:Miranda Deal <m.deal@carthagemo.gov>

CAUTION: This email originated from outside of the organization. Verify all requests or information before clicking any links.

Miranda,

The change from the SECURE Act that is applicable to the Pension Plan is the Internal Revenue Code rule regarding the age by when distributions must commence to be paid to a participant or his/her spouse or beneficiary. These rules are commonly known as the "required minimum distribution" or "RMD" rules and specify the latest date by which a participant must elect that benefits commence (so that the taxation process begins). The primary change is increasing the age from 70 ½ to age 73. Obviously, that's a rather easy change. However, SECURE also changed the Internal Revenue Code's rules as to when a spouse or beneficiary must begin receiving RMDs in the case of the participant's death, and those rules are a bit more complex.

After giving this issue further thought, we recommend that the Committee wait until the IRS issues its actual guidance as to the verbiage that it expects to see in the Plan document for these RMD rules. In short, we would not want to make these changes now (and charge the fee), but then have the IRS later tell us that's not what they expect to see. Frankly, that's what we should have recommended initially, but we were assuming we would have that IRS guidance by now. The IRS guidance should be issued in the near future, and we will honor our prior quote to make this additional change at that time (i.e., $2,000).

If that course of action works for the Committee, we need the following additional information (as mentioned in my July 24th email and memo) to complete this project:

1. Lump sum cash out:
   a. The amount the Committee wishes to use as a voluntary "lump sum option" (example: less than $5,000, $10,000, etc.).
   b. The name and contact information for the Plan's actuary so that we can coordinate with the actuary as to the appropriate verbiage to include in the Plan amendment.
2. Procurement action plan – name and contact information for BMO Harris Bank (or any additional or different investment consultant) so that we can coordinate with the consultant as to implementation of the procurement action plan.

If you or the Committee have any further questions or concerns, please let me know.

Thank you!

Bob

Robert A. West
Haynes Benefits PC
Managing Director & Attorney at Law
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816.323.4577 (direct dial)
913.707.3525 (mobile)

Vested Terminated Lump Sum Window

McHugh, Jennifer <Jennifer.McHugh@CBIZ.com>
Thu 10/19/2023 11:21 AM
To:Miranda Deal <m.deal@carthagemo.gov>

1 attachments (41 KB)
Lump Sum Window Discussion.docx;

CAUTION: This email originated from outside of the organization. Verify all requests or information before clicking any links.

Hi Miranda,

Attached is a document that summarizes the CBIZ overall lump sum window offering. It is all encompassing as far as all of the interaction with the participants, the actual calculations and then interaction with the trustee to trigger payments. This could be adjusted somewhat in the event that the Carthage team would like to take on some of these tasks. The main thing that isn't included in the CBIZ quote is the drafting of the plan amendment. It does include a couple of reviews to ensure that the plan amendment and calculation methodologies are all consistent.

As mentioned in the attachment, it generally takes approximately 2-3 months to complete a lump sum window, so we are likely talking about a window occurring in 2024. SECURE 2.0, which we've talked about a little in prior meetings does have a provision that requires a participant notice at least 90 days prior to a lump sum window opening, so that will likely push the implementation closer to the 3 months, if not a little longer. These rules are not final, and therefore are not required at this time, but it is recommended that plans follow the proposed regulations. You will want to discuss this with legal counsel to confirm their recommendation.

Let me know if you need anything additional for the meeting on Tuesday. Thanks!

Jennifer

Jennifer McHugh, ASA, EA
Senior Actuarial Managing Consultant RP
Retirement & Investment Solutions, a practice of CBIZ
Phone: 913-906-4210 Cell: 913-269-2127

CBIZ

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CBIZ

CBIZ Retirement Investment Services

Lump Sum Window Services

An initial de-risking action to consider is a Lump Sum Window for all or certain terminated vested participants. The following services would be provided by CBIZ RIS in conjunction with this project:

- Complete an address and death search for missing eligible participants;
- Review up to two drafts of the plan amendment;
- Prepare the necessary calculations for each participant, including the lump sum and immediate annuity options, as applicable;
- Collect existing QDROs for eligible participants, and customize the calculations as necessary to reflect the terms of any applicable QDROs;
- Prepare and mail distribution packets for approximately **35** vested terminated participants;
- Customize distribution packages as necessary for beneficiaries or alternate payees, as applicable;
- Communicate with participants regarding questions on the lump sum window;
- Track and process any returned forms (including follow-up, if needed, with participants);
- Coordinate with investment team to ensure the trust has sufficient cash available for payments;
- Coordinate with the plan's custodian to initiate payments;
- Prepare and mail optional announcement postcards and reminder postcards, as desired;

The City of Carthage would be responsible for the following items:

- Provide CBIZ with data on current addresses, status updates and copies of participant QDROs;
- Timely review and approval of communication materials;
- Work with Counsel to prepare and execute plan amendment.

The anticipated timeframe to accomplish a Lump Sum Window project is 3-4 months.

Estimated Fee .... $9,000-$12,000

POLICEMEN'S AND FIREMEN'S PENSION PLAN
CITY OF CARTHAGE, MISSOURI

FINANCIAL STATEMENTS

FOR THE YEARS ENDED
DECEMBER 31, 2022 and 2021

POLICEMEN'S AND FIREMEN'S PENSION PLAN
CITY OF CARTHAGE, MISSOURI
Audit Report
December 31, 2021

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MILES
CPA &
ASSOCIATES,
LLC

Independent Auditor's Report

To the Board of Directors
City of Carthage, Missouri Policemen's and
Firemen's Pension Plan
Carthage, Missouri

Opinions

We have audited the accompanying financial statements of the City of Carthage, Missouri Police and Fire Pension Plan, which comprise the statements of fiduciary net position as of December 31, 2022 and 2021, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the City of Carthage, Missouri Police and Fire Pension Plan at December 31, 2022 and 2021, and the respective changes in fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the City of Carthage, Missouri Police and Fire Pension Plan, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

4037 S Fremont Ave, Springfield, MO 65804 Phone (417) 447-9740 Fax (417) 222-4360 mary.miles@rmmc-cpa.com

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the City of Carthage, Missouri Policemen's and Firemen's Pension Plan's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the City of Carthage, Missouri Police and Fire Pension Plan's internal control. Accordingly, no such opinion is expressed.

- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.

- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the City of Carthage, Missouri Police and Fire Pension Plan's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Management has omitted the management, discussion, and analysis that accounting principles generally accepted in the United States of America require to be presented to supplement the basic financial statements. Such missing information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. Our opinion on the basic financial statements is not affected by this missing information.

Accounting principles generally accepted in the United States of America require that the schedules of changes in employers' net pension liability, employers' net pension liability, employer contributions, and investment returns on pages 17-21 be presented to supplement the basic financial statements. Such information, although not part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of the financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consists of inquiries of management about the methods of preparing the information and comparing the information necessary for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because of limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Report on Summarized Comparative Information

We have previously audited the City of Carthage, Missouri Police and Fire Pension Plan's December 31, 2021 financial statements and we expressed an unmodified opinion on those audited financial statements in our report dated September 22, 2022. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2021 is consistent, in all material respects, with that audited financial statements from which it has been derived.

Miles CPA & Associates, LLC

Springfield, Missouri
August 23, 2023

POLICE AND FIRE PENSION PLAN
CITY OF CARTHAGE, MISSOURI

Statements of Fiduciary Net Position
December 31, 2022 and 2021

	2022	2021
Assets		
Cash and cash equivalents	$ 342,277	$ 340,983
Receivables:		
Accrued interest and dividends	27,432	25,911
Employer contributions	77,638	65,841
Total receivables	105,070	91,752
Investments, at fair value:		
U.S. government securities/mortgages	1,355,902	1,383,723
U.S. corporate bonds	1,978,856	1,887,278
Pooled Funds	751,715	876,564
Common stock	4,376,796	5,553,845
Total investments	8,463,269	9,701,410
Prepaid insurance	1,823	1,738
Total Assets	8,912,439	10,135,883
Liabilities		
Fees payable	11,409	12,701
Total liabilities	11,409	12,701
Net position-restricted for pension benefits	$ 8,901,030	$ 10,123,182

See accompanying notes to the financial statements.

POLICE AND FIRE PENSION PLAN
CITY OF CARTHAGE, MISSOURI

Statements of Changes in Fiduciary Net Position
Years ended December 31, 2022 and 2021

	2022	2021
Additions:		
Contributions:		
Employer	$ 579,952	$ 538,668
Investment income (loss):		
Net appreciation (depreciation) in fair value of investments	(1,336,620)	1,110,004
Interest and dividends	204,608	183,650
Total investment income (loss)	(1,132,012)	1,293,654
Less investment expenses	47,023	50,225
Net investment income (loss)	(1,179,035)	1,243,429
Total additions	(599,083)	1,782,097
Deductions:		
Benefits paid directly to participants	599,548	636,581
Administrative expenses	23,521	22,257
Total deductions	623,069	658,838
Net increase (decrease) in net position	(1,222,152)	1,123,259
Net position-restricted for pension benefits at:		
Beginning of year	10,123,182	8,999,923
End of year	$ 8,901,030	$ 10,123,182

See accompanying notes to the financial statements.

Note 1 – Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements are prepared on the accrual basis of accounting. Employer contributions are recognized in the period in which the contributions are due and for which employee services have been rendered. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made.

Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires the Police and Fire Pension Plan (Plan) to use estimates and assumptions that affect the accompanying financial statements and disclosures. Actual results could differ from those estimates.

The COVID-19 pandemic has created and may continue to create significant uncertainty in macroeconomic conditions. As a result, many of the estimates and assumptions required increased judgement and carry a higher degree of variability and volatility. As events continue to evolve and additional information becomes available, the actual results could significantly differ from those estimates in future periods.

Reporting Entity

The accompanying financial statements include only the accounts of the City of Carthage, Missouri Police and Fire Pension Plan.

Method Used to Value Investments

Investments are reported at fair value. Short-term investments are reported at cost, which approximates fair value. Bonds and stocks traded on a national or international exchange are valued at the reported sales price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments and are discounted at prevailing interest rates for similar instruments. Fair value of other securities is determined by the mean of the most recent bid and asked prices as obtained from dealers that make markets in such securities.

Risks and Uncertainties

The Plan invests in various securities. Investment securities, in general, are exposed to various risks, such as interest rate, credit and overall market volatility. The credit and liquidity crisis in the United States and throughout the global financial systems has resulted in substantial volatility in financial markets and the banking system. This and other economic events have had a significant adverse impact on investment portfolios. Due to the level of risks associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such change could materially affect the amounts reported in the Statements Fiduciary Net Position and the Statements of Changes in Fiduciary Net Position.

Cash and Cash Equivalents
Cash includes cash on hand, demand deposits, and short-term investments with original maturities of three months or less from the date of acquisition.

Receivables
Receivables consist primarily of contributions owed and yet to be remitted by the employer, pending investment trades, and interest and dividends payable to the Plan as of the end of the year.

Note 2 – Plan Descriptions and Contribution Information
In 1973 the City of Carthage established a pension plan and trust in recognition of the contribution made to its successful operation by its policemen and firemen. The Plan document establishes a pension committee which consists of seven members including a) the mayor as ex officio member, b) two citizens appointed by the mayor with the majority consent of the elected city council, c) two citizens to be elected by the employed covered members of the police department and d) two citizens to be elected by the employed covered members of the fire department. Appointed and elected members of the Committee shall serve a two-year term. Members of the Pension Committee serve without compensation with respect to their duties.

The primary responsibility of the pension committee is to operate and administer the Plan for the exclusive benefit of the participants and their beneficiaries, subject to the specific terms of the Plan. The Pension Committee has been allocated all powers necessary or appropriate to accomplish that duty under the Plan.

The Plan is a single-employer defined benefit pension plan covering all of the policemen and firemen of the City of Carthage, Missouri who have not attained the age of 55 on their date of hire or on their first anniversary date of employment if participation is declined.

Membership in the Plan consisted of:

	December 31, 2022	December 31, 2021
Retirees and beneficiaries currently receiving benefits	31	30
Terminated employees entitled to benefits but not yet receiving them	34	31
Active Employees	52	50
Total	117	111

As of December 31, 2022, each participant is eligible for a portion of his accrued benefit at normal retirement age of 55, which was lowered from age 58 as of June 28, 2016. Benefit vesting is 30% at five years, 40% at six years, 50% at seven years, 60% at eight years, 80% at nine years and 100% at ten years. The retirement benefit is equal to 2.5% of the participant's average monthly earnings multiplied by the years of service up to twenty years plus 1% of average monthly earnings multiplied by the number of years of service from twenty to thirty-five years. Average monthly earnings are defined as the highest average of any five consecutive plan years total earnings preceding retirement, disability, or termination. The Plan permits early retirement benefits after attaining the age of 50 with fifteen years of service. The early retirement benefit is the accrued benefit reduced by 5% for each year that the benefit commencement date precedes normal retirement date. Participants in the Plan are fully vested after ten years of service. Benefits may be taken in a lump-sum distribution; taken over a life annuity; or over a ten-year certain annuity.

Administrative costs of the Plan are paid from plan contributions and investment earnings.

Death and Disability Benefits

If an active participant dies, a benefit equal to the amount the beneficiary would have received had the participant retired immediately prior to death and chosen a joint and survivor benefit will be payable. Disability benefits are the vested benefits deferred to normal retirement date; the participant is treated as a terminated participant.

Funding Status and Funding Progress

For December 31, 2022 and 2021, respectively, the employer's respective annual pension cost was $579,952 and $538,668. The actuarially required contribution for January 1, 2022 and 2021, respectively, was $519,934 and $501,385. As of January 1, 2022, the Plan was 79.8% funded. The actuarial accrued liability for benefits was $11,416,681 and the actuarial value of assets was $9,110,252, resulting in an unfunded actuarial accrued liability (UAAL) of $2,306,429. The covered payroll (annual payroll of active employees covered by the Plan) was $2,334,374 and the ratio of the UAAL to the covered payroll was 98.80%. A schedule of funding progress represents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Actuarial Methods and Assumptions:

The actuarial present value of accumulated plan benefits is determined by an actuary from CBIZ and is the amount that results from applying actuarial assumptions to adjust the accumulated plan benefits to reflect the time value of money (through discounts for interest) and the probability of payment (by means of decrements such as death, disability, withdrawal or retirement) between the valuation date and the expected date of payment. The significant actuarial assumptions used in the valuations as of January 1, 2022 were (a) life expectancy of the participants (the Actuary's Pension Handbook, Table T-2 plus incidence of disability on the 1974 Railroad Retirement Board disability table)

(b) retirement age assumption (assumed retirement age of 55 used for 2022 and 2021), and (c) investment return. The 2022 valuation assumes an average rate of return of 7% per annum after investment expenses. The actuarial market value of assets is adjusted by a percentage of investment gains and losses over a five-year period. The percentage starts at 80% in the first year following the investment gain or loss, decreasing by 20% for each additional year.

The foregoing actuarial assumptions are based on the presumption that the Plan will continue. Were the Plan to terminate, different actuarial assumptions and other factors might be applicable in determining the actuarial present value of the accumulated plan benefits.

Accumulated plan benefits are those future periodic payments, including lump-sum distributions, which are attributable under the Plan's provisions to the service the employees have rendered. Accumulated plan benefits include benefits expected to be paid (a) to retired or terminated employees or their beneficiaries, (b) beneficiaries of employees who have died, and (c) to present employees or their beneficiaries. Benefits under the Plan are based on the employee's compensation for the highest five consecutive plan years total earnings out of the ten plan years prior to retirement, termination, or disability. Benefits payable under all circumstances – retirement, death, disability, and termination – are included, to the extent they are deemed attributable to employee service rendered to the valuation date.

Payment of Benefits

Benefit payments to participants are recorded upon distribution.

Funding Policy

The Plan as amended does not allow for employee contributions after July 1, 1988. Prior to July 1, 1988 employee contributions were allowed and those employees who terminate are entitled to their contributions including interest at the rate of 5% compounded annually. At December 31, 2022 and 2021 employee contributions including interest were $27,792 and $26,469, respectively.

The Plan's funding policy is to make contributions monthly in amounts that will provide all employees' benefits fully by the time they retire. The contribution rate is based on actuarial valuations performed annually using the entry age normal cost method with frozen initial liability. The contribution rate to the Plan for 2022 was 19.9% for the first six months of the year and 21.28% for the second six months of the year. The contribution rate was 19.90% for 2021.

Note 3 – Investment and Deposits

The Pension Committee has the fiduciary responsibility and authority to oversee, establish, and oversee the investment portfolio. The Plan has adopted the City of Carthage, Missouri Police and Fire Pension Plan Investment Policy Statement. The statement requires that officials are to ensure the preservation of capital in the overall portfolio and to make investments following the "prudent person" standard which states, investments shall be made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived.

Asset allocation is an important determination of achieving the investment goals of the Fund. The Fund may hold the following type of securities: 1) Cash and equivalents, 2) Fixed Income, and 3) Equities. The following targets and ranges shall apply to each of the asset classes:

	Min	Target	Max
Equities	45%	58%	70%
Large Cap*	25%	75%	100%
Mid Cap*	0%	5%	30%
Small Cap*	0%	5%	30%
International*	0%	15%	40%
*percent of total equity			
Fixed Income	35%	37%	55%
Cash	0%	5%	15%
Other	0%		15%

The asset allocation was amended on February 23, 2021 to the above allocations. In the event the above asset allocation guidelines are broken, for reasons including but not limited to market price fluctuations, the Pension Committee will instruct the Investment Manager to bring the portfolio into compliance with these guidelines as promptly and prudently as possible if market conditions are favorable.

Investment manager selection is an important decision involving complex due diligence. Investment Managers are evaluated using both absolute and relative criteria. Performance of the Manager or fund shall be measured on a quarterly basis versus an appropriate benchmark that fairly reflects their investment style. Each manager is expected to outperform their benchmark over a 3-5 year time period on a net basis.

Other investment processes and procedures include quarterly portfolio presentations to the Pension Committee, annual presentations by the Investment Manager of all fees and commissions that are charges to the Fund, and ongoing communications by phone, letter, email or personal consultation as deemed necessary by the Investment Advisor and/or the Pension Committee.

The annual money weighted rate of return on pension plan investments is calculated as the internal rate of return on pension plan investments, net of investment expenses. This expresses investment performance adjusted for the changing amounts actually invested throughout the year, measured on monthly inputs with expenses measured on an accrual basis. For the calendar year 2022, the annual money weighted rate of return net of investments expenses measured on monthly inputs was -11.39%.

There are no investment funds where the portfolio of the funds exceeds 5% of the fiduciary net position as of December 31, 2022 and 2021.

Deposits

Custodial credit risk for deposits is the risk that, in the event of a financial institution failure, the Plan's deposits may not be returned and recovered. The deposits of $342,277 and $340,983 were uninsured at year ended December 31, 2022 and 2021, respectively.

Investment Summary

The Plan's investments are held by a trust company. The following table presents the fair values of the investments at December 31, 2022 and 2021. See Note 4 for a discussion of fair value measurements.

Investments at their fair value:

	2022	2021
U.S. government securities/mortgages	$ 1,355,902	$ 1,383,723
U.S. corporate bonds	1,978,856	1,887,278
Pooled Funds	751,715	876,564
Common Stock	4,376,796	5,553,845
	$ 8,463,269	$ 9,701,410

During years ended December 31, 2022 and 2021, the Plan's investments (including gains and losses on investments bought and sold, as well as held during the period) appreciated (depreciated) in value by $(1,336,620) and $1,110,004, respectively.

Custodial Credit Risk for Investments:

The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the Plan will not be able to recover the value of investments or collateral securities that are in the possession of an outside party. At December 31, 2022 investments in the amount of $5,128,511 were uninsured and unregistered, with securities held by the counterparty or by its trust department or agent but not in the Plan's name. The investments are held by the trustee for the benefit of the Plan.

Concentration of Credit Risk:

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issue. Investment guidelines require a diversified portfolio with equity investments in any single issue shall not exceed 7% of the equity portfolio at market value. An external investment management firm manages the portfolio. As of December 31, 2022, the Plan did not have any equity investments that exceeded 7% of this portfolio.

Credit Risk
Credit risk is the risk than an issuer or other counterparty to an investment will not fulfill its obligations. At December 31, 2022, $1,978,856 of the fixed income security assets is not guaranteed by the U.S. Government.

Interest Rate Risk:
Interest rate is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates is. Information about the exposure of the Plan's debt type investments to this risk using the segmented time distribution model is as follows:

Type of Investment	Fair Value	Less than 1 Yr	1 - 5 Yrs	6 - 10 Yrs	10 - 15 Yrs
U.S. Government Securities/Mortgages	$ 1,355,902	$ 82,765	$ 582,108	$ 691,029	$ -
U.S. Corporate Bonds	1,978,856	647,480	976,126	355,250	-
Total	$ 3,334,758	$ 730,245	$ 1,558,234	$ 1,046,279	$ -

The Plan normally limits its exposure to fair value losses arising from changes in interest rates by structuring the investment portfolio so that securities mature to meet cash requirements, thereby avoiding the need to sell securities on the open market prior to maturity.

Note 4 – Fair Value Measurements
The Plan categorizes its fair value measurements with the fair value hierarchy established by U.S. generally accepted accounting principles. The framework for measuring fair value provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1) and the lowest priority to unobservable inputs (level 3). The three levels of the fair value hierarchy are described as follows:

Level 1: Quoted prices in active markets for identical assets or liabilities;

Level 2: Observable inputs other than quoted prices included in Level 1, such as quoted prices for markets that are not active or other inputs that are observable or can be corroborated by observable market data.

Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flow methodologies, and similar techniques that use significant unobservable inputs.

The asset or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques maximize the use of relevant observable inputs and minimize the use of unobservable inputs.

The following tables set forth, by level within the fair value hierarchy, the Plan's investments at fair value as of December 31, 2022 and 2021:

		Fair Value Measurements	
	Total	Level 1	Level 2
December 31, 2022			
U.S. Government Securities/Mortgages	$ 1,355,902		$ 1,355,902
U.S. Corporate Bonds			
Corporate Bonds	1,526,026	-	1,526,026
Pooled Fixed Income Funds	452,830	452,830	-
Total U.S. Corporate Bonds	1,978,856	452,830	1,526,026
Pooled Funds	751,715	751,715	-
Common Stocks			
Common Stocks	3,167,170	3,167,170	-
Exchange Traded Funds	1,209,626	1,209,626	-
Total Common Stocks	4,376,796	4,376,796	-
Total Investments at Fair Value	$ 8,463,269	$ 5,581,341	$ 2,881,928

		Fair Value Measurements	
	Total	Level 1	Level 2
December 31, 2021			
U.S. Government Securities/Mortgages	$ 1,383,723		$ 1,383,723
U.S. Corporate Bonds			
Corporate Bonds	1,648,892	-	1,648,892
Pooled Fixed Income Funds	238,386	238,386	-
Total U.S. Corporate Bonds	1,887,278	238,386	1,648,892
Pooled Funds	876,564	876,564	-
Common Stocks			
Common Stocks	4,162,376	4,162,376	-
Exchange Traded Funds	1,391,469	1,391,469	-
Total Common Stocks	5,553,845	5,553,845	-
Total Investments at Fair Value	$ 9,701,410	$ 6,668,795	$ 3,032,615

Pooled Fixed Income Funds, Pooled Funds, Common Stocks, and Exchange Traded Funds classified in Level 1 of the fair value hierarchy are values using prices quoted in active markets for these securities. Corporate Bonds and U.S. Government Securities/Mortgages classified in Level 2 of the fair value hierarchy are valued using techniques such as quoted prices for similar investments in active and inactive markets as well as inputs other than quoted prices that are observable for these assets.

The Plan's policy is to recognize transfers into and out of levels as of the date of the event or change in circumstances that caused the transfer. For the years ended December 31, 2022 and 2021, there were no transfers into or out of any levels. There were no assets measured at fair value on a non-recurring basis.

Note 5 – Net Pension Liability of Employers

The component of the net pension liability of the Plan's at December 31, 2022 is as follows:

	Total Pension Liability (TPL) (a)	Plan's Net Position Restricted for Pensions (b)	Net Pension Liability (c)	Fiduciary Plan Net Position as a % of TPL (d)
December 31, 2022	$ 12,032,493	$ 8,901,030	$ 3,131,463	74.0%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of the December 31 preceding the year-end measurement date, projected to the end of the plan year using the actuarial assumptions.

Measurement Date: December 31, 2022
Valuation Date: January 1, 2022
Actuarial Cost Method: Entry Age Normal
Investment Rate of Return: 7.00%
Inflation: 2.20% included in the Investment Rate of Return
Payroll Growth: 4.25%
Mortality: PubS-2010 Mortality Tables, projected generationally with MP-2021 projection scale, adjusted to reflect the 2021 Social Security Intermediate Actuarial Assumptions

For funding, the entry age normal method is used and the unfunded actuarial liability is amortized over 30 years.

The relatively small size of the Plan would not support a credible mortality study. Therefore, the most recent mortality tables and mortality improvement projections scales published by the Society of Actuaries (SOA) and Social Security Administration were selected. Although there are widely varying opinions on mortality improvement, the actuary believes the SOA's study, adjusted to reflect the ultimate improvement rates contained in the 2021 Social Security Intermediate Assumptions, represents a reasonable estimate.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expenses and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation, are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return
Domestic Equity	4.6% to 7.2%
International Equity	4.6% to 7.2%
Fixed Income	1.7% to 2.7%
Cash	0.0% to 0.6%

***Discount Rate*:** The discount rate used to measure the total pension liability was 7.0%. The projections of cash flows used to determine the discount rate assumed that Employer contributions will be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the pension plan's fiduciary net position was determined to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

***Inflation*:**
The plan's discount rate of 7.0% implies an inflation rate of 2.2%, based on the assumed long-term rates of return for the various investment categories in the current assets of the plan.

Sensitivity of the net pension liability to changes in the discount rate: The following presents the net pension liability as of December 31, 2022 calculated using the discount rate of 7.00%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower (6.00%) or 1-percentage point higher (8.00%) than the current rate:

	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
Net Pension Liability	$ 4,687,908	$ 3,131,463	$ 1,843,187

POLICEMEN'S AND FIREMEN'S PENSION PLAN
CITY OF CARTHAGE, MISSOURI

Required Supplementary Information
Schedules of Changes in the Employers' Net Pension Liability

	2022	2021	2020	2019	December 31, 2018	2017	2016	2015	2014
Total Pension Liability									
Service Cost	$ 300,952	$ 291,631	$ 231,139	$ 230,902	$ 233,802	$ 236,209	$ 222,382	$ 197,622	$ 205,321
Interest	797,435	736,565	697,700	663,203	666,342	660,822	657,886	611,098	589,110
Changes of benefit terms	-	-	-	-	-	-	533,358	-	-
Differences between expected and actual experience	116,969	301,322	171,019	(30,269)	(95,377)	(159,805)	(251,725)	(97,202)	(176,727)
Changes of assumptions	-	166,620	(6,608)	(20,472)	(31,350)	(57,351)	(35,479)	(58,602)	207,958
Benefit payments	(599,544)	(636,581)	(593,150)	(575,608)	(588,470)	(609,753)	(502,195)	(559,580)	(458,278)
Net change in total pension liability	**615,812**	**859,557**	**500,100**	**267,756**	**184,947**	**70,122**	**624,227**	**93,336**	**367,384**
Total pension liability-beginning of year	**11,416,681**	**10,557,124**	**10,057,024**	**9,789,268**	**9,604,321**	**9,534,199**	**8,909,972**	**8,816,636**	**8,449,252**
Total pension liability-end of year (a)	**$ 12,032,493**	**$ 11,416,681**	**$ 10,557,124**	**$ 10,057,024**	**$ 9,789,268**	**$ 9,604,321**	**$ 9,534,199**	**$ 8,909,972**	**$ 8,816,636**
Plan fiduciary net position									
Contributions-employer	579,952	538,668	524,233	482,712	448,502	459,228	416,355	373,826	366,501
Net investment income	(1,132,012)	1,293,654	1,016,196	1,304,527	(152,134)	852,909	485,404	63,496	337,498
Benefit payments, including refunds of member contributions	(599,548)	(636,581)	(593,150)	(575,608)	(588,470)	(609,753)	(502,195)	(559,580)	(458,278)
Admininstrative expense	(70,544)	(72,482)	(63,535)	(60,197)	(58,993)	(70,399)	(52,640)	(57,922)	(42,043)
Net change in plan fiduciary net position	**(1,222,152)**	**1,123,259**	**883,744**	**1,151,434**	**(351,095)**	**631,985**	**346,924**	**(180,180)**	**203,678**
Plan fiduciary net position-beginning of year	**10,123,182**	**8,999,923**	**8,116,179**	**6,964,745**	**7,315,840**	**6,683,855**	**6,336,931**	**6,517,111**	**6,313,433**
Plan fiduciary net position-end of year (b)	**$ 8,901,030**	**$ 10,123,182**	**$ 8,999,923**	**$ 8,116,179**	**$ 6,964,745**	**$ 7,315,840**	**$ 6,683,855**	**$ 6,336,931**	**$ 6,517,111**
Net Pension Liability-end of year (a) - (b)	**$ 3,131,463**	**$ 1,293,499**	**$ 1,557,201**	**$ 1,940,845**	**$ 2,824,523**	**$ 2,288,481**	**$ 2,850,344**	**$ 2,573,041**	**$ 2,299,525**

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

POLICEMEN'S AND FIREMEN'S PENSION PLAN
CITY OF CARTHAGE, MISSOURI

Required Supplementary Information
Schedules of Employers' Net Pension Liability

Measurement Date December 31,	Total Pension Liability (TPL) (a)	Plan Fiduciary Net Position-Restricted for Pensions (b)	Net Pension Liability (NPL) (a-b)	Plan Fiduciary Net Position as a % of TPL (b/a)	Covered Payroll (c)	Employers' NPL as a % of Covered Payroll ((b-a)/c)
2014	8,816,636	6,517,111	2,299,525	73.9%	1,803,635	127.49%
2015	8,909,972	6,336,931	2,573,041	71.1%	1,736,564	148.17%
2016	9,534,199	6,683,855	2,850,344	70.1%	1,841,735	154.76%
2017	9,604,321	7,315,840	2,288,481	76.2%	1,811,708	126.32%
2018	9,789,268	6,964,745	2,824,523	71.1%	1,899,413	148.71%
2019	10,057,024	8,116,179	1,940,845	80.7%	1,884,228	103.00%
2020	10,557,124	8,999,923	1,557,201	85.2%	2,302,833	67.62%
2021	11,416,681	10,123,182	1,293,499	88.7%	2,334,374	55.41%
2022	12,032,493	8,901,030	3,131,463	74.0%	2,611,868	119.89%

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

POLICEMEN'S AND FIREMEN'S PENSION PLAN
CITY OF CARTHAGE, MISSOURI

Required Supplementary Information
Schedules of Employer Contributions
January 1, 2013 through January 1, 2022

Actuarial Valuation Date January 1,	Annual Required Contribution (1)	Actual Employer Contributions	Contribution Excess/ (Deficiency)	Actual Covered Payroll	Contributions as a Percentage of Covered Payroll
2013	346,065	369,862	23,797	1,964,085	19%
2014	361,180	366,501	5,321	2,022,451	18%
2015	370,191	373,826	3,635	1,803,635	21%
2016	449,784	416,355	(33,429)	1,736,564	24%
2017	460,437	459,228	(1,209)	1,841,735	25%
2018	451,861	448,502	(3,359)	1,811,708	25%
2019	452,385	482,712	30,327	1,899,413	25%
2020	446,190	524,233	78,043	1,884,228	28%
2021	501,385	538,668	37,283	2,302,833	23%
2022	519,934	579,952	60,018	2,334,374	25%

(1) Actuarially determined contribution requirements.

POLICEMEN'S AND FIREMEN'S PENSION PLAN
CITY OF CARTHAGE, MISSOURI

Required Supplementary Information
Schedules of Investment Returns

Measurement Date December 31,	Money-Weighted Rate of Return, net of all investment expenses
2014	5.47%
2015	0.98%
2016	7.80%
2017	12.91%
2018	-2.20%
2019	19.49%
2020	12.89%
2021	14.58%
2022	-11.39%

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

Policemen's and Firemen's Pension Plan
City of Carthage, Missouri

Notes to Required Schedules
December 31, 2022

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	January 1, 2022
Measurement date	December 31, 2022
Actuarial cost method	Entry age normal
Amortization method	Level percentage of projected payroll
Remaining amortization period	30 years
Asset Valuation method	Market value
Investment rate of return	7.00%
Projected salary increase	4.25%
Inflation	2.2%, included in the Investment Rate of Return
Mortality	PubS-2010 Mortality Tables, projected generationally with MP-2021 projection scale, adjusted to reflect the 2021 Social Security Intermediate Actuarial Assumptions
Changes in benefit terms	In 2016, the retirement age was lowered to 55 from 58
Changes of assumptions	In 2012, Investment rate of return and projected salary increase were adjusted to more closely reflect actual experience. Mortality is adjusted as the new table becomes available. In 2021, salary increase was adjusted to more closely reflect actual experience.