

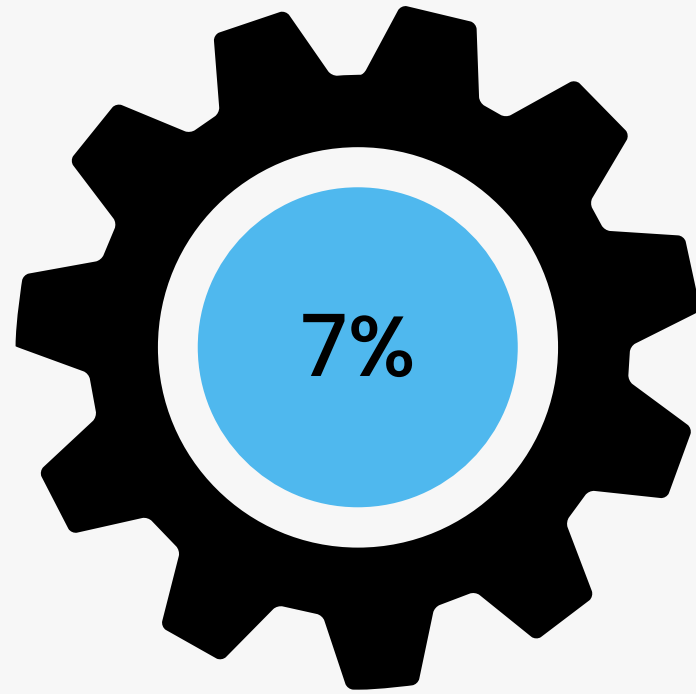


TCDRS RETIREMENT PRESENTATION

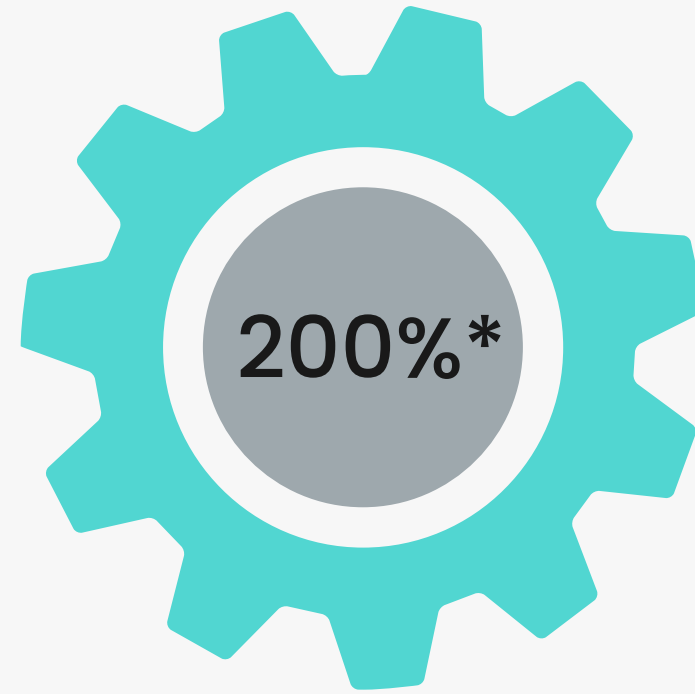
2022 Presentation for FY2023 Budget



BENEFITS PROVIDED



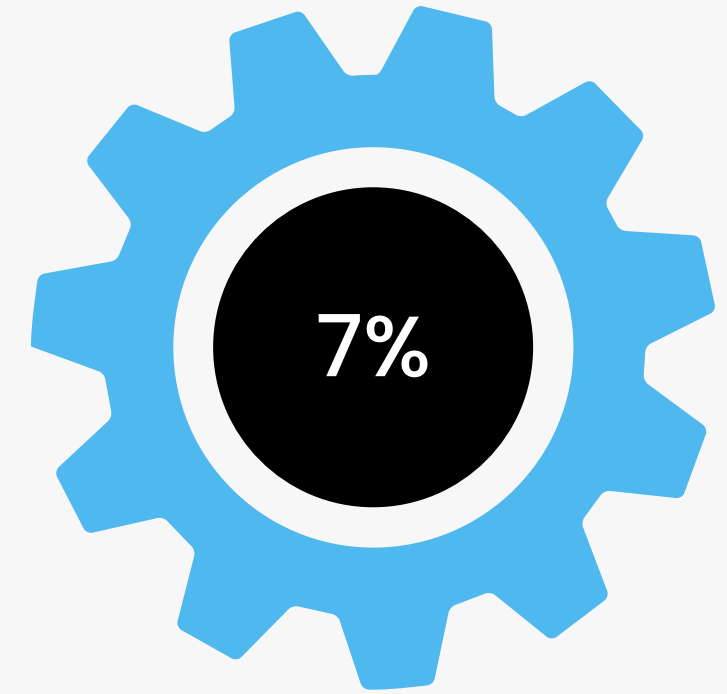
**Employee
Deposit Rate**



Matching Rate



Vesting Period



**Guaranteed
Interest Rate**

Retirement Eligibility

- Age 60 & 8 years of service
- Any age with 30 years of service
- Age + years of service = 75

*For employee contributions made on or after 1/1/2011

COUNTY COMPARISON

County	Employee Contribution %	County Match %	Years of Service for Vesting	Retirement Eligibility Rule	Most Recent Retiree COLA	Type and Rate of Retiree COLA	Group Term Life Benefit
Collin	7%	200%	8	75	2018	CPI 40%	No
Bexar*	7%	200%	8	75	2018	CPI 10%	No
Dallas	7%	200%	10	80	-	-	No
Fort Bend	7%	200%	8	75	2014	CPI 10%	No
Hidalgo*	7%	200%	8	75	2019	Flat 2%	No
Tarrant	7%	200%	8	75	2022	Flat 1%	No
Denton*	7%	225%	8	75	2017	CPI 80%	Active
Harris	7%	225%	8	75	-	-	No
Travis	7%	225%	8	75	2019	CPI 50%	No
El Paso*	7%	250%	8	75	2022	Flat 1%	No
Montgomery	6%	250%	8	75	2017	CPI 10%	No
Williamson	7%	250%	8	75	2022	Flat 1%	No

*Allows 20 years of service for retirement at any age, all others require 30 years of service for retirement at any age.

CITY COMPARISON

City	Employee Contribution %	City Match %	Years of Service for Vesting	Retirement Eligibility Rule	Rate of Retiree COLA**	Retiree Death Benefit
Allen	7%	200%	5	Age 60 + 5 Years	CPI 70%	Active & Retiree
Frisco	7%	200%	5	Age 60 + 5 Years	CPI 70%	Active & Retiree
McKinney	7%	200%	5	Age 60 + 5 Years	CPI 70%	Active & Retiree
Plano	7%	200%	5	Age 60 + 5 Years	CPI 70%	No
Richardson*	7%	200%	5	Age 60 + 5 Years	CPI 50%	No
Wylie	7%	200%	5	Age 60 + 5 Years	CPI 70%	Active & Retiree

*Requires 25 years of service for retirement at any age, all others require 20 years of service.

**All surveyed cities have adopted a repeating COLA that remains in effect until rescinded.

PORTFOLIO RATE OF RETURN – TCDRS

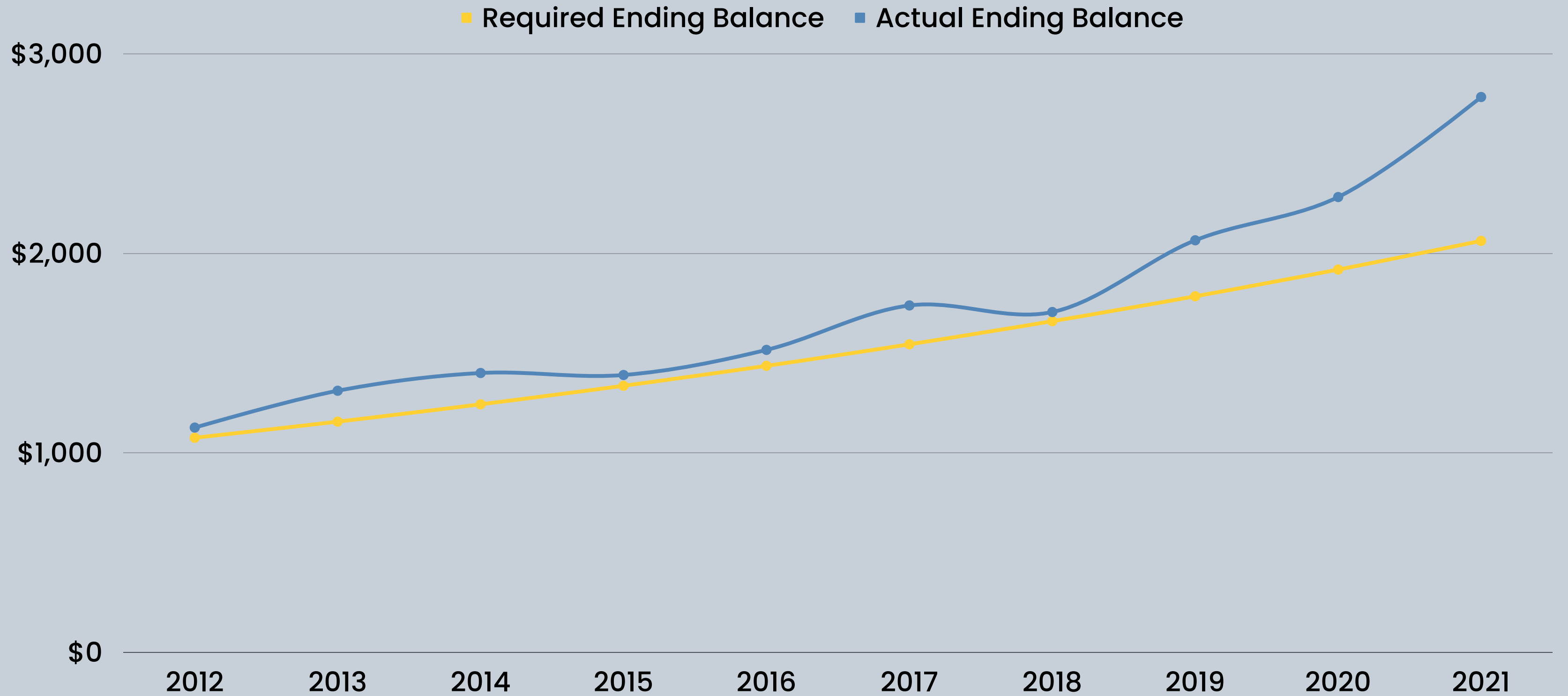
Year	Return
2012	12.6%
2013	16.4%
2014	6.8%
2015	-0.7%
2016	7.5%
2017	14.7%
2018	-1.9%
2019	16.6%
2020	10.5%
2021	22.0%

Total Fund Return		
	As of 12/2021	As of 12/2020
1 year	22.0%	10.5%
3 years	16.3%	8.1%
5 years	12.1%	9.3%
10 years	10.2%	7.9%
20 years	8.2%	7.2%
30 years	8.2%	8.1%

10 YEAR RATE OF RETURN (ILLUSTRATION ONLY) - TCDRS

Year	Required Account Value	Required Rate of Return	Required Ending Balance	Actual Account Value	Actual Rate of Return	Actual Ending Balance
2012	\$1,000	\$75	\$1,075	\$1000	\$126	\$1,126
2013	\$1,075	\$81	\$1,156	\$1,126	\$185	\$1,311
2014	\$1,156	\$87	\$1,243	\$1,311	\$89	\$1,400
2015	\$1,243	\$93	\$1,336	\$1,400	-\$10	\$1,390
2016	\$1,336	\$100	\$1,436	\$1,390	\$104	\$1,494
2017	\$1,436	\$108	\$1,544	\$1,494	\$220	\$1,714
2018	\$1,544	\$116	\$1,660	\$1,714	-\$33	\$1,681
2019	\$1,660	\$125	\$1,785	\$1,681	\$279	\$1,960
2020	\$1,785	\$134	\$1,919	\$1,960	\$206	\$2,166
2021	\$1,919	\$144	\$2,063	\$2,166	\$477	\$2,643

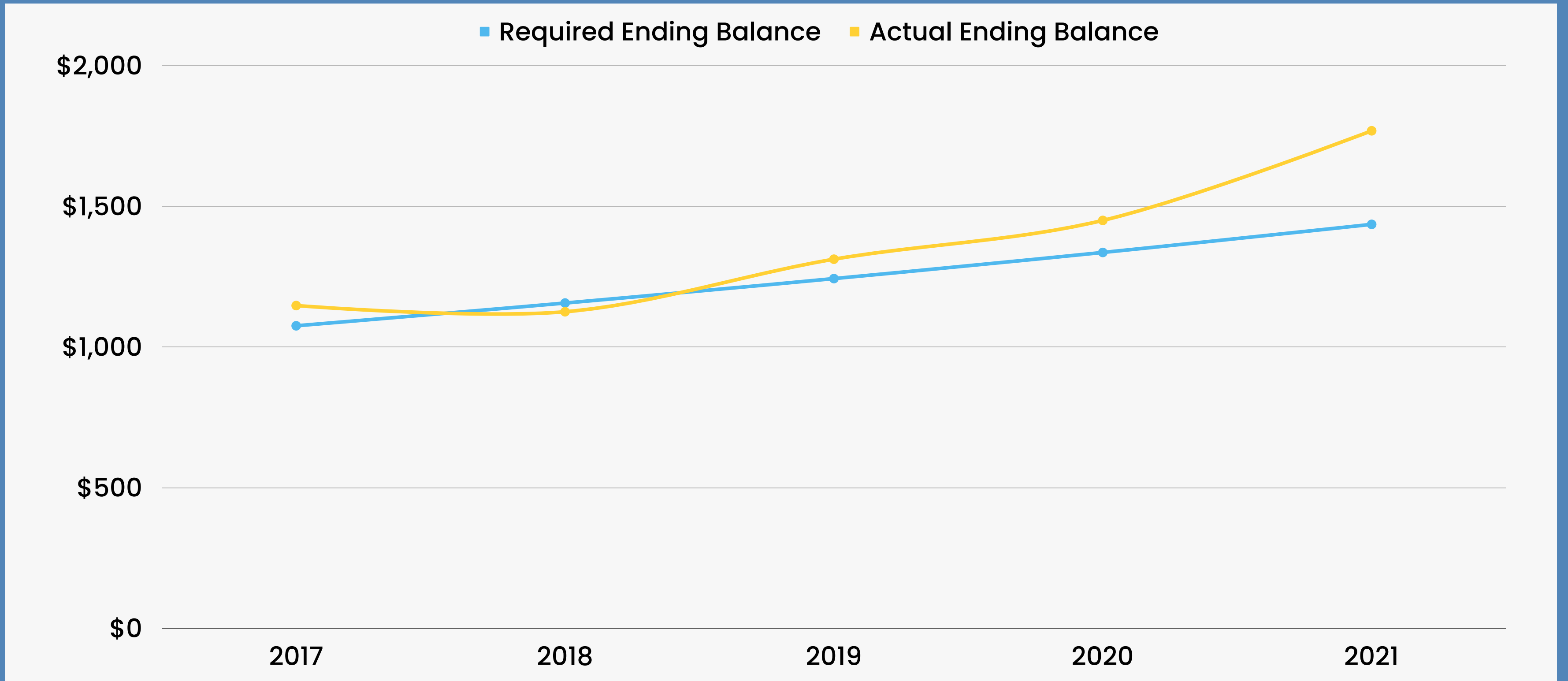
10 YEAR RATE OF RETURN (ILLUSTRATION ONLY) – TCDRS



5 YEAR RATE OF RETURN (ILLUSTRATION ONLY) – TCDRS

Year	Required Account Value	Required Rate of Return	Required Ending Balance	Actual Account Value	Actual Rate of Return	Actual Ending Balance
2017	\$1,000	\$75	\$1,075	\$1,000	\$147	\$1,147
2018	\$1,075	\$81	\$1,156	\$1,147	\$-22	\$1,125
2019	\$1,156	\$87	\$1,243	\$1,125	\$187	\$1,312
2020	\$1,243	\$93	\$1,336	\$1,312	\$138	\$1,450
2021	\$1,336	\$100	\$1,436	\$1,450	\$319	\$1,769

5 YEAR RATE OF RETURN (ILLUSTRATION ONLY) - TCDRS

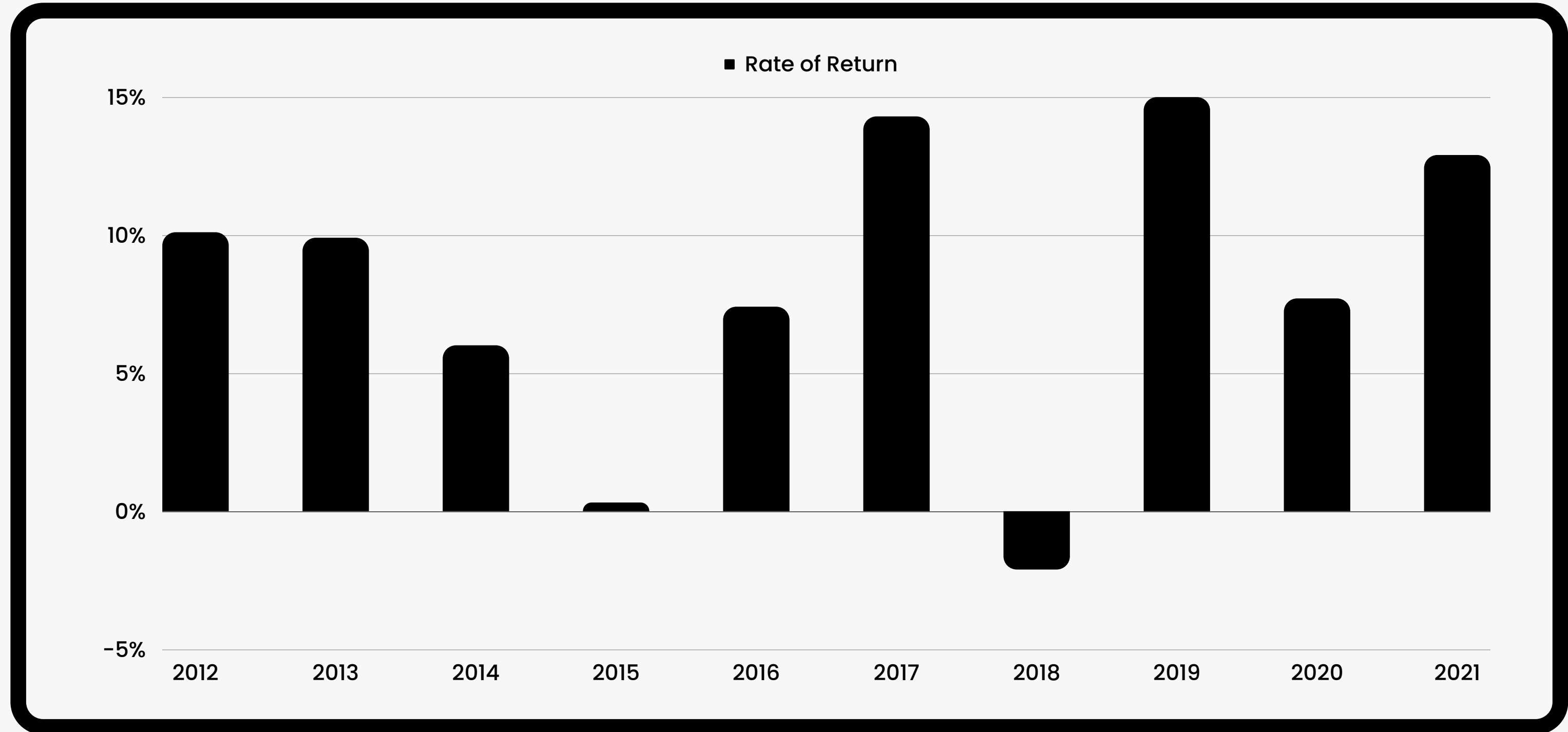


PORTFOLIO RATE OF RETURN – TMRS

Year	Return
2012	10.1%
2013	9.9%
2014	6.0%
2015	0.3%
2016	7.4%
2017	14.3%
2018	-2.1%
2019	15.0%
2020	7.7%
2021	12.9%

Total Fund Return		
	As of 12/2021	As of 12/2020
1 year	12.9%	7.7%
3 years	12.1%	6.5%
5 years	9.3%	8.0%
10 years	7.8%	6.7%

RATE OF RETURN (ILLUSTRATION ONLY) - TMRS



	2012	2013	2014	2015	2016	2017	2018	2018	2020	2021
Rate of Return	10.1%	9.9%	6.0%	0.3%	7.4%	14.3%	-2.1%	15.0%	7.7%	12.9%

PORTFOLIO RATE OF RETURN COMPARISON

Year	TCDRS Return	TMRS Return
2012	12.6%	10.1%
2013	16.4%	9.9%
2014	6.8%	6.0%
2015	-0.7%	0.3%
2016	7.5%	7.4%
2017	14.7%	14.3%
2018	-1.9%	-2.1%
2019	16.6%	15.0%
2020	10.5%	7.7%
2021	22.0%	12.9%

Total Fund Return as of 12/2021		
	TCDRS	TMRS
1 year	22.0%	12.9%
3 years	16.3%	12.1%
5 years	12.1%	9.3%
10 years	10.2%	7.8%

COST

Year	Normal Rate (%)	UAAL Rate (%)	COLA Rate (%)	Total (%)	County Contribution (%)
2014	7.55	0.51	.00	8.06	8.50 (original)
2014	7.55	0.00	.00	7.55	8.50 (revised)
2015	7.43	-1.22	.00	6.21	8.00
2016	7.44	-1.73	.00	5.71	8.00
2017	7.08	-0.86	.00	6.22	8.00
Made a lump sum payment of \$2,471,616 in December 2017					
2018	7.09	-0.32	.00	6.77	8.00
Made a lump sum payment of \$1,160,641 in October 2018					
2019	6.94	0.01	.00	6.95	8.00
Made a lump sum payment of \$13,274,348 in November 2019					
2020	6.93	0.91	.00	7.84	8.00
Made a lump sum payment of \$3,800,554 in August 2020					
2021	6.91	-0.05	.00	6.86	8.00
Made a lump sum payment of \$14,500,000 in October 2021					
2022	8.47	1.39	.00	9.86	9.5%
2023	7.67	0.31	.00	7.98	9.5% (budgeted)

COUNTY RATE COMPARISON

Entity	2022 Required Rate	2022 Elected Rate	2023 Required Rate
Collin	9.5%	9.5%	7.98%
Montgomery	12.71%	12.27%	12.02%
Hidalgo	13.03%	13.03%	12.38%
Fort Bend	13.45%	13.45%	13.07%
Tarrant	13.86%	19.50%	12.63%
Dallas	13.93%	13.93%	13.23%
Bexar	14.44%	14.44%	14.04%
Denton	14.62%	14.62%	14.22%
Harris	15.70%	15.10%	15.01%
Williamson	16.00%	16.00%	15.19%
Travis	17.17%	17.17%	16.75%
El Paso	18.63%	18.63%	18.81%

CITY RATE COMPARISON

City	2022 Required Rate	2023 Required Rate
Frisco	14.25%	14.12%
Richardson	14.07%	14.33%
Allen	14.16%	14.46%
Wylie	15.27%	14.96%
McKinney	15.02%	15.09%
Plano	16.35%	16.60%

TMRS does not have elected rates. Cities contribute the required rate but have the option to make additional payments during the year.

EMPLOYER CONTRIBUTIONS

Calendar Year	Payment Type	Total Employer Deposits	Contributing Employees	Cost Per Employee
2012	Standard Payment	\$6,702,402	1,811	\$3,701
	Lump Sum Payment	\$2,045,000		\$1,129
2013	Standard Payment	\$7,437,259	1,824	\$4,077
	Lump Sum Payment	\$11,608,062		\$6,364
2014	Standard Payment	\$7,222,299	1,848	\$3,908
2015	Standard Payment	\$7,368,276	1,854	\$3,974
2016	Standard Payment	\$7,652,829	1,898	\$4,032
2017	Standard Payment	\$8,045,603	1,943	\$4,141
	Lump Sum Payment	\$2,471,616		\$1,272
2018	Standard Payment	\$8,721,011	1,943	\$4,488
	Lump Sum Payment	\$1,160,641		\$597
2019	Standard Payment	\$8,839,887	2,010	\$4,398
	Lump Sum Payment	\$13,274,384		\$6,604
2020	Standard Payment	\$9,826,263	1,986	\$4,948
	Lump Sum Payment	\$3,800,554		\$1,914
2021	Standard Payment	\$9,296,008	2,033	\$4,573
	Lump Sum Payment	\$14,500,000		\$7,132
2012-2021	Total Payments	\$129,972,094	1,915	\$67,871

UNFUNDED LIABILITY UPDATE

Unfunded liability as of
December 2021:

\$6,319,320

Using the five-year asset recognition method which is a funded ratio of 99.1%.

If an immediate asset recognition method were used instead of a delayed asset recognition the unfunded liability would be negative \$4,474,343, which is a funded ratio of 100.6%.

Minimum required
contribution rate
for 2023

7.98%

TCDRS
exceeded their
investment
return goal of
7.5% for 2021.
Actual return
was 22.0%

Five-year asset
recognition method
is used by TCDRS.
Actuarial gains and
losses are smoothed
over 5 years.

LIABILITY HISTORY

Calendar Year End	Budget Year	Five-year Asset Recognition Unfunded Liability	Five-year Asset Recognition Funded Percentage	Immediate Asset Recognition Unfunded Liability	Immediate Asset Recognition Funded Percentage
2012	2014	\$2,794,438	99.1%	\$11,608,062	96%
Made a lump sum payment of \$2,045,000 in October 2012					
2013	2015	(\$14,704,583)	104.5%	(\$32,286,282)	109.8%
Made a lump sum payment of \$11,608,062 in November 2013					
2014	2016	(\$21,504,628)	106.2%	(\$27,012,753)	107.8%
2015	2017	(\$11,689,647)	103.1%	\$23,468,041	93.7%
2016	2018	(\$4,076,091)	100.8%	\$22,292,175	95.5%
2017	2019	\$1,160,641	99.8%	\$3,114,182	99.4%
Made a lump sum payment of \$2,471,616 in December 2017 (paid to fund COLA)					
2018	2020	\$13,274,348	97.6%	\$60,434,843	89%
Made a lump sum payment of \$1,160,641 in October 2018					
2019	2021	\$267,254	100.0%	\$3,800,554	99.4%
Made a lump sum payment of \$13,274,348 in November 2019					
2020	2022	\$21,536,178	96.8%	\$24,080,153	96.4%
Made a lump sum payment of \$3,800,554 in August 2020					
2021	2023	\$6,319,320	99.1%	(\$4,474,343)	100.6%
Made a lump sum payment of \$14,500,000 in October 2021					

UNFUNDED LIABILITY

Actual Unfunded Liability as of 12/31/2020	\$21,536,178
Adjustment due to Decrease in Discount Period	\$2,626,841
Scheduled UAAL Change	\$1,166,318
Recognition of Investment Gains and Losses for 2017-2021 (Using the Five-year Recognition Method)	(\$3,110,114)
Gain due to Additional Employer Contributions (Elected Rate greater than Required Rate)	(\$1,568,701)
Gain due to Additional Employer Contributions (Lump Sum Contribution)	(\$14,500,000)
Loss due to changes in Assumptions & Methods	\$2,861,511
Gain due to payroll and salary increase variations	(1,855,587)
Gain due to Termination and Withdrawal Experience	(\$1,040,315)
Gain due to Retirements Different than Expected (Includes disability)	(\$262,963)
Loss due to Less than Expected Retiree Mortality	\$230,787
Net Actuarial Loss from All Other Sources (Active death, proportionate service, etc.)	\$235,365
Actual Underfunded Liability as of 12/31/2021	\$6,319,320

UNFUNDED LIABILITY HISTORY

	2016	2017	2018	2019	2020
Actual (Over)/Unfunded Liability as of December 31	(\$4,076,000)	\$1,161,000	\$13,274,000	\$267,254	\$21,536,178
Adjustment due to Decrease in Discount Period	(\$326,000)	\$93,000	\$1,062,000	\$302,903	\$2,626,841
Scheduled UAAL Change	\$841,000	\$200,000	\$42,000	(\$218,851)	\$1,166,318
Recognition of Investment Gains and Losses for Previous Five Years (Using the Five-year Recognition Method)	\$2,817,000	\$12,392,000	\$821,000	\$938,067	(\$3,110,114)
Gain/Loss due to Additional Employer Contributions (Elected Rate greater than Required Rate)	(\$1,737,000)	(\$1,302,000)	(\$1,238,000)	(\$1,326,544)	(\$1,568,701)
Gain/Loss due to Additional Employer Contributions (Lump Sum Contribution)	(\$2,472,000)	(\$1,161,000)	(\$13,274,000)	(\$3,800,554)	(\$14,500,000)
Gain/Loss due to Change in Actuarial Assumptions and Methods	\$3,189,000			\$25,257,661	\$2,861,511
Gain/Loss due to Greater/Less than Expected Salary Increases	\$605,000	\$1,113,000	\$303,000	\$1,574,395	(\$1,855,587)
Gain/Loss due to Greater/Less than Expected Terminations and Withdrawals	\$75,000	(\$190,000)	(\$611,000)	(\$437,598)	(\$1,040,315)
Gain/Loss due to Retirements Different than Expected (Includes Disability)	(\$424,000)	(\$7,000)	(\$329,000)	(\$60,197)	(\$262,963)
Gain/Loss due to Greater/Less than Expected Retiree Mortality	\$197,000	\$975,000	\$143,000	(\$1,099,343)	\$230,787
Net Actuarial Gain/Loss from All Other Sources (Active Death, Proportionate Service, Etc.)	\$0	\$0	\$74,000	\$138,985	\$235,365
Actual Under/Overfunded Liability as of December 31 the Following Year	\$1,161,000	\$13,274,000	\$267,000	\$21,536,178	\$6,319,320

GASB STATEMENT 68

- Requires Collin County to report TCDRS pension liability/assets on the Comprehensive Annual Financial Report.
- Reporting requirements do not change how TCDRS plan funding is calculated.

-
- Any significant volatility experience in pension liability will be reflected on the Comprehensive Annual Financial Report.

- Repeating Cost of Living Adjustments (COLAs) increase the calculated rate of financial reporting, as they assume annual COLAs for all plan participants continuously into the future and require this pension liability to be reported on the Comprehensive Annual Financial Report.
- The repeating COLA designation has no effect on the plan funding. It does not impact the plan's funded ratio or the required contribution rate, which are calculated for the purpose of funding the plan.

COST OF LIVING ADJUSTMENT (COLA)

- The TCDRS retirement benefit is a fixed benefit payment.
- The costs of goods and services, such as health care expenses, may go up each year due to inflation.
- A Cost of Living Adjustment (COLA) restores some of the purchasing power that the benefit loses over time.
- Electing a COLA is only effective for one plan year and is reassessed on a year-to-year basis. Court determines if a cost of living increase will be awarded each year.



There are three options:

- **Flat Rate COLA:** Flat percentage increase is applied to all retiree benefits.
- **CPI-based COLA:** Based on how much inflation has occurred since each employee retired. Adjustments for one retiree could differ from that of another retiree if they retired at different times.
- **No COLA.**



RETIREE COLA

COLAs are funded over a 15-year period.

Collin County has historically adopted various COLA options including:

- 40% to 100% of CPI
- 1% – 8% Flat Rate
- No COLA

The last COLA adopted was 40% CPI, which was approved for plan year 2018.

947

Individuals collecting TCDRS benefits as of the end of December 2021, an increase of 58 since the prior year.

392

Active employees eligible to retire.

Pre-funded cost to add COLA in 2022:

Type of COLA	Pre-fund Cost
40% of CPI	\$14,591,176
60% of CPI	\$24,544,598
80% of CPI	\$34,904,301
1% Flat Rate	\$2,921,543

ALTERNATE RATE OPTIONS



Current

- Ⓟ Required Rate: 7.98%
- Ⓢ Lump Sum Required: N/A
- Ⓟ Funded Ratio: 99.1%
- Ⓢ Unfunded/(Overfunded) Liability: \$6,319,320
- Ⓟ Current Budgeted Rate: 9.5%



Option

- Ⓟ Required Rate: 7.58%
- Ⓢ Lump Sum Required: \$6,319,320
- Ⓟ Funded Ratio: 99.9%
- Ⓢ Unfunded/(Overfunded) Liability: \$440,883

COURT DETERMINATION BUDGET INFORMATION

- Employer contribution rate
- Payment of any lump sum contribution for unfunded liability
- Determination of any retiree COLA