

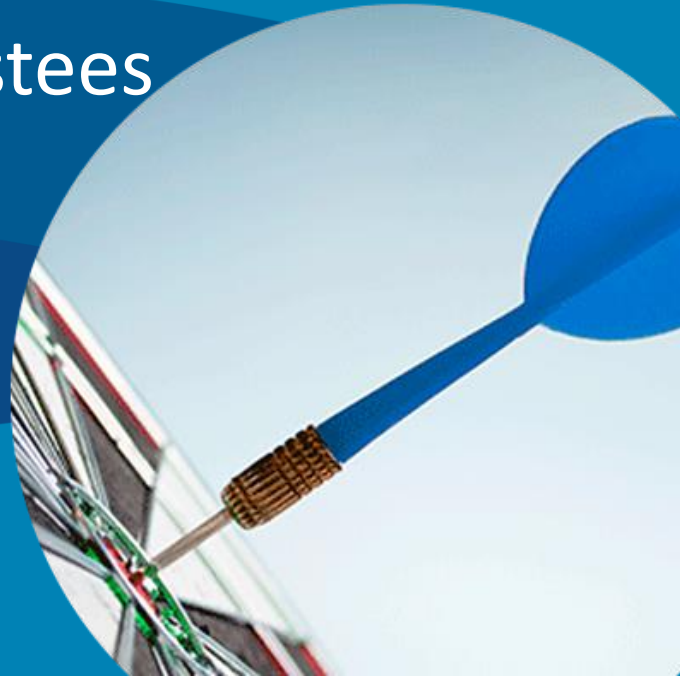


Texas Municipal Retirement System Actuarial Valuation Report as of December 31, 2020

Report to the TMRS Board of Trustees

May 27, 2021

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Actuarial Valuation as of December 31, 2020

- Annual snapshot of the System's funding status
- Determines the City Contribution Rates for 2022
- Provides information for the financial statements for TMRS and participating Cities

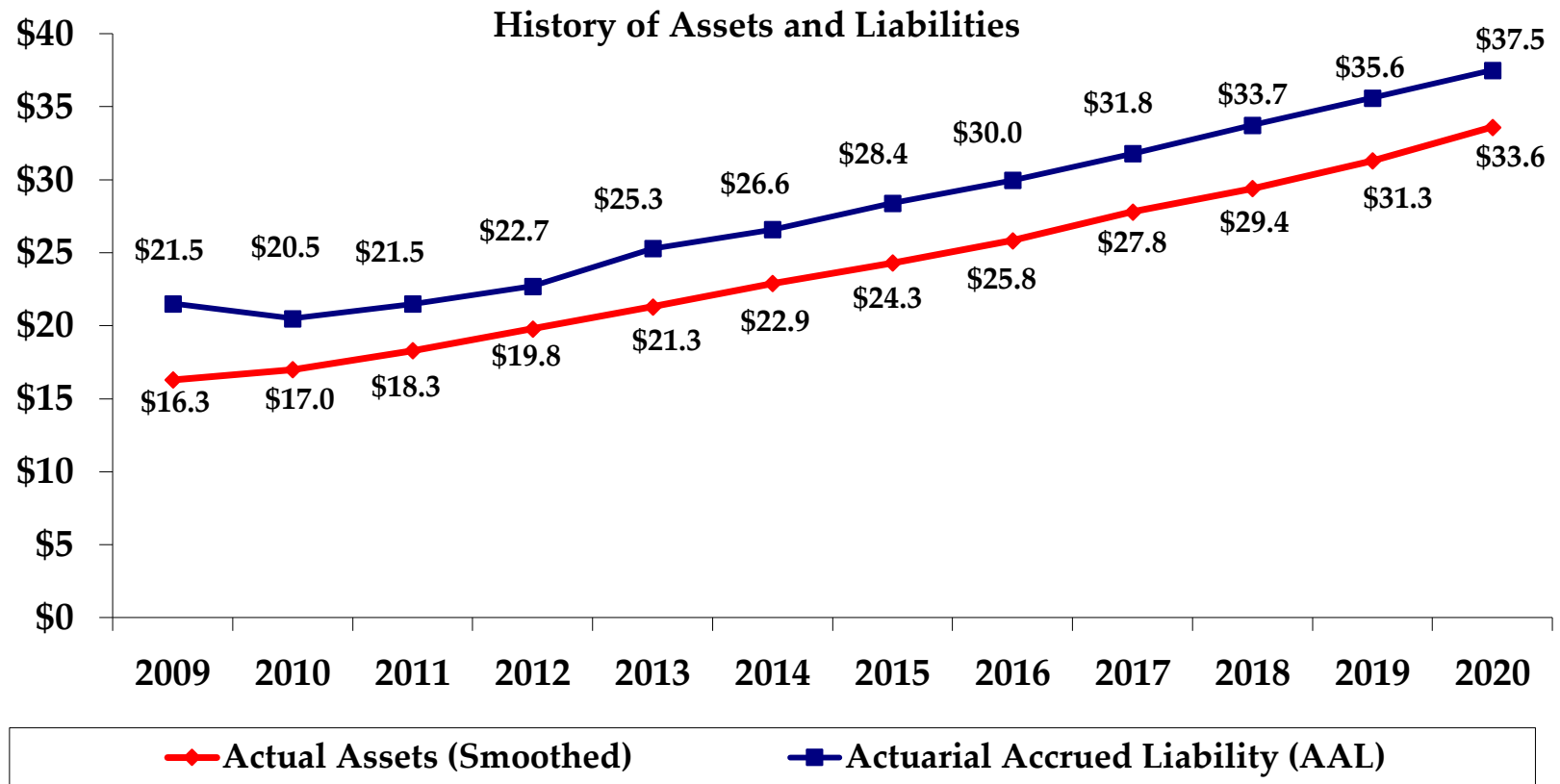
Valuation Results and Definitions

TMRS System-wide

- **Actuarial Accrued Liability (AAL):** **\$37.5b**
 - Represents value of benefits accrued in the past
- **Actuarial Value of Assets:** **-33.6b**
 - Smoothed Value of Assets on the Valuation Date
- **Unfunded Actuarial Accrued Liability (UAAL):** **\$3.9b**
 - Difference between AAL and Actuarial Value of Assets
- **Funded Ratio:** **89.5%**
 - Assets as a % of the AAL

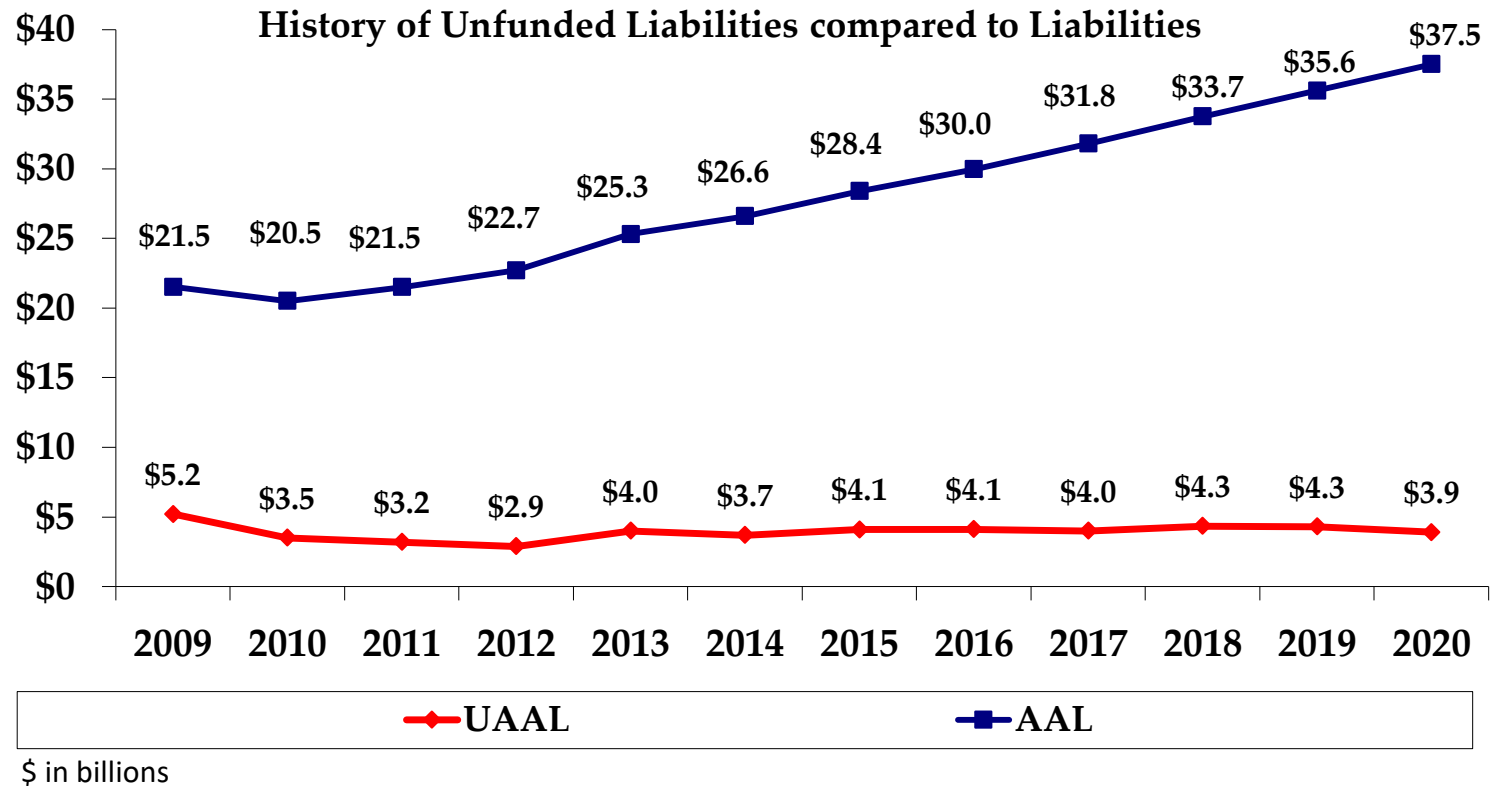


Assets and Liabilities continue to grow, the difference between the two is the UAAL



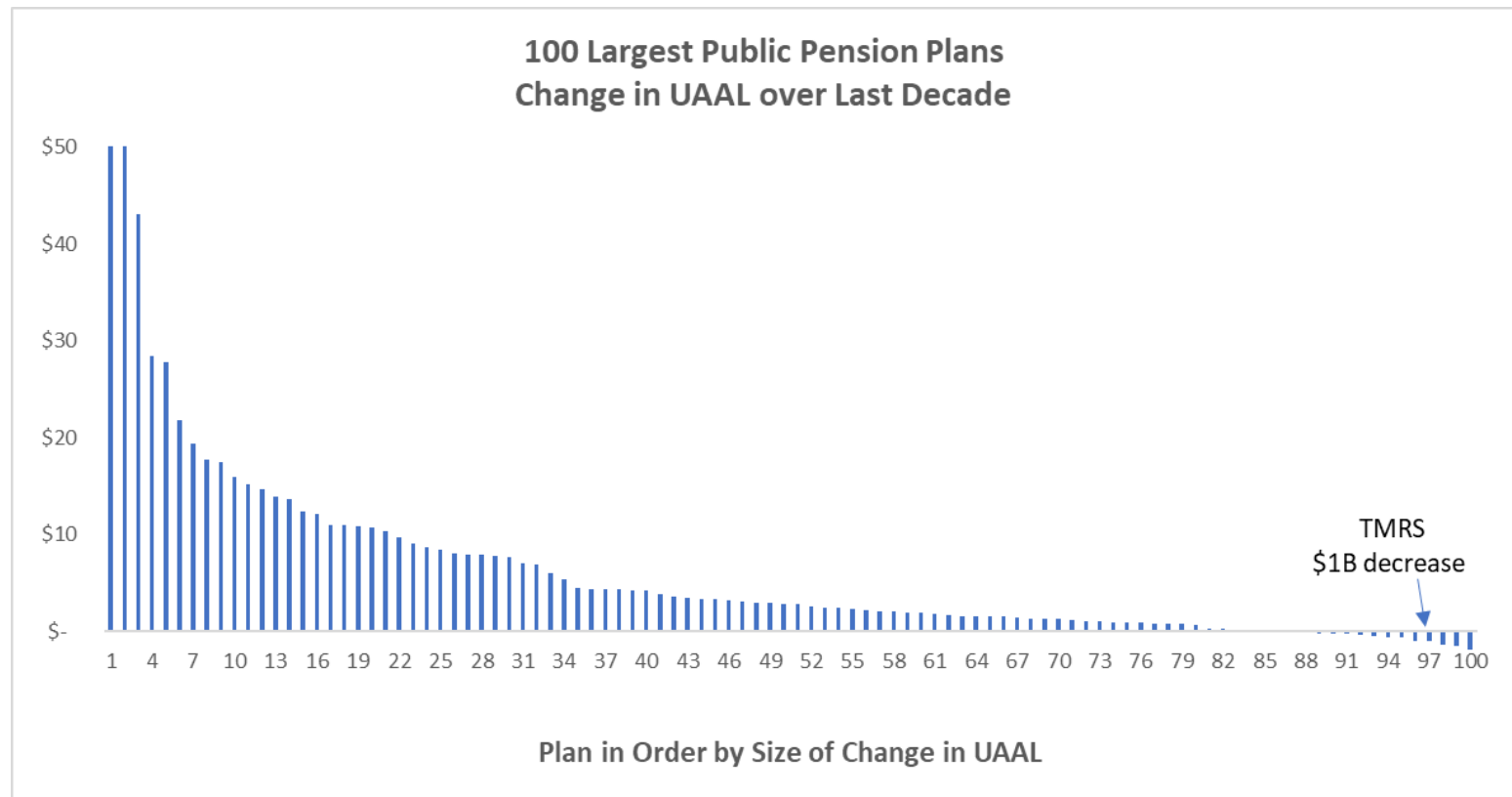
\$ in billions

While the UAAL has only modestly declined the last decade, it has become much smaller in relation to the liability it represents (AAL) and the funded ratio has increased from 75.8% in 2009 to 89.5% in 2020



TMRS is the only plan in Texas and one of the very few plans in the country whose UAAL declined from 2009 through 2019

- It is very difficult for the UAAL to be declining and it not be true that every other metric is also getting better.



Determination of Employer Contribution Requirements (Average for TMRS as a whole)

- Normal Cost Rate: 8.79%
 - Contribution Rate needed to fund for new benefits being earned
 - For example, for a member with 10 years of service, this is the cost to earn the 11th year
 - Needed even if UAAL has been eliminated (100% funded ratio)
- Prior Service Rate: 4.53%
 - Contribution Rate needed to pay off the UAAL
 - Once a City reaches 100% funded ratio, no longer necessary
 - Will be a credit if assets are more than liabilities
- Total Employer Contribution Rate: 13.32%
 - Sum of the two pieces above

Summary of System-wide Results

\$ amounts in millions	Dec 31, 2018 Valuation	Dec 31, 2019 Valuation	Dec 31, 2020 Valuation
Actuarial Accrued Liability (AAL)	\$33,731	\$35,585	\$37,536
Actuarial Value of Assets	<u>29,385</u>	<u>31,314</u>	<u>33,610</u>
Unfunded Actuarial Accrued Liability (UAAL)	\$4,346	\$4,271	\$3,926
Funded Ratio	87.1%	88.0%	89.5%
Average Funding Period (Years)	18.2	17.2	16.2
Full Contribution Rates:			
Straight Average	8.97%	9.09%	8.91%
Payroll Weighted Average	13.58%	13.65%	13.32%
Normal Cost %	8.61%	8.72%	8.79%
Prior Service %	4.97%	4.93%	4.53%

Aggregate Valuation (\$ in millions)

Reconciliation of Unfunded Actuarial Accrued Liability

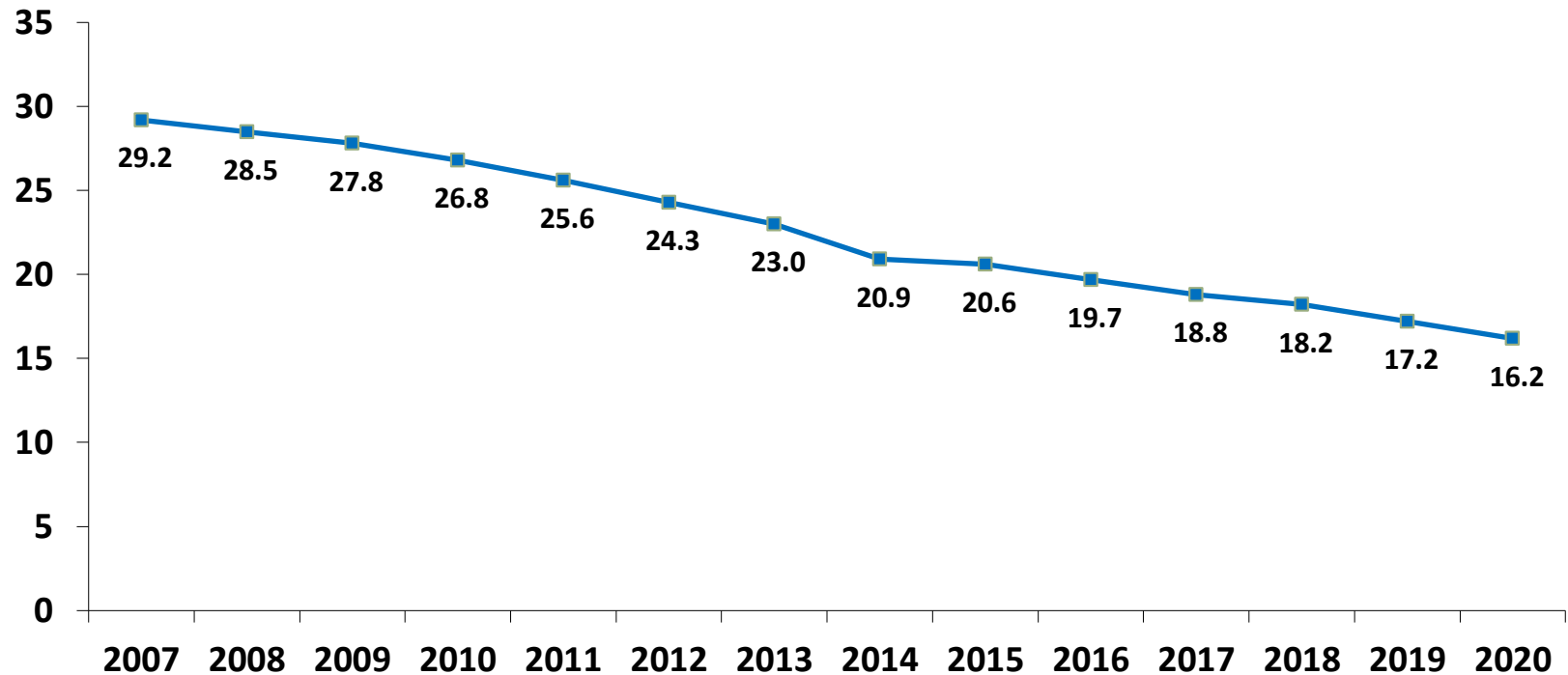
	Change in UAAL	Impact on Full Contribution Rate
@ Beginning of Year	\$4,271	13.65%
Interest (6.75%)	288	N/A
Amortization Payments	(352)	-0.01%
Asset Performance	(81)	-0.08%
Benefit Changes/New Cities	57	0.11%
Assumption/Method Changes	0	0.00%
Contributions different than Actuarially Determined	(241)	-0.27%
Liability (Gains)/Losses	(16)	-0.02%
Payroll Growth	<u>N/A</u>	<u>-0.06%</u>
@ End of Year	\$3,926	13.32%

Sources of Annual Change in the UAAL

Annual Changes in the UAAL

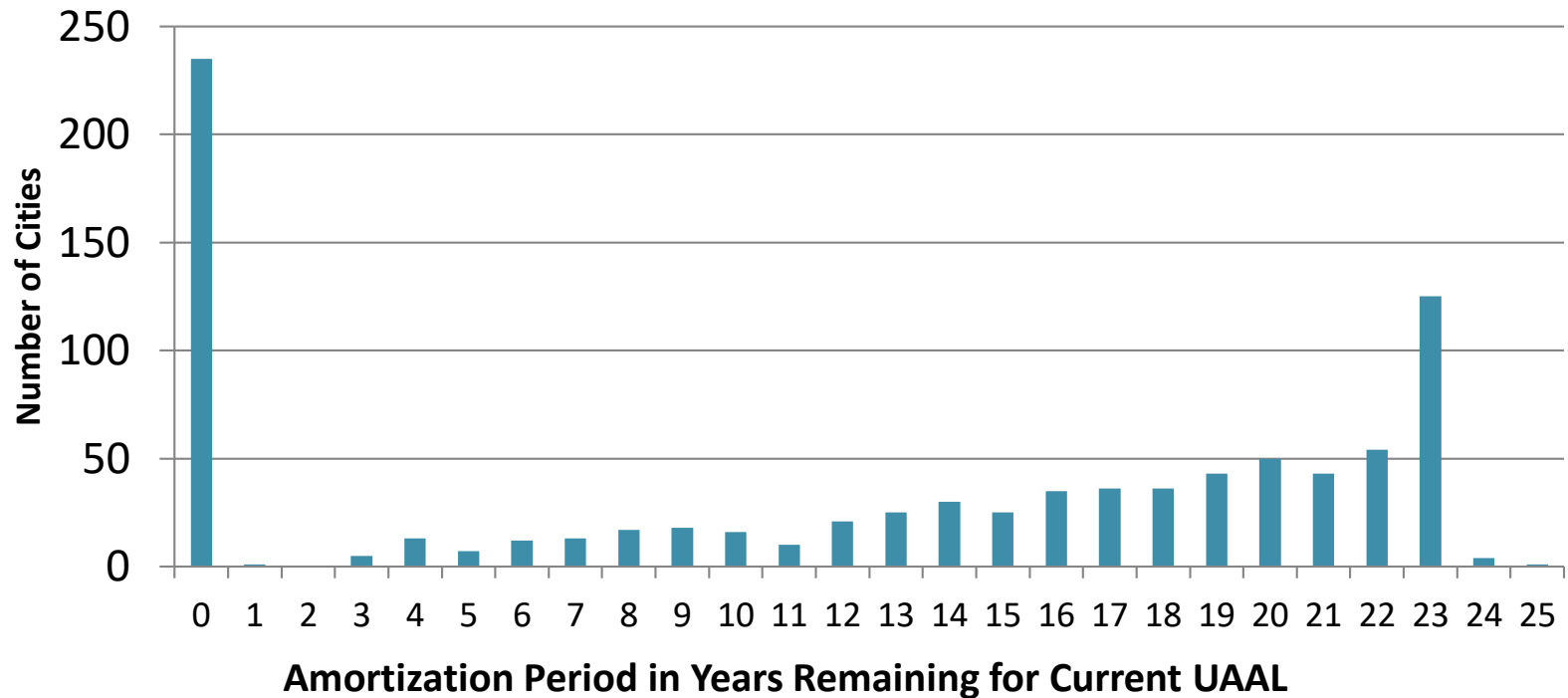
\$ in millions	Year					Average as a	
	2020	2019	2018	2017	2016	Average	% of Liability
Interest	\$288	\$293	\$270	\$280	\$274	\$ 281	0.83%
Amortization payments	(352)	(340)	(303)	(305)	(291)	(318)	-0.94%
Principal Payments Towards UAAL	(64)	(47)	(33)	(25)	(17)	(37)	-0.11%
Asset experience	(81)	(56)	189	(93)	76	7	0.02%
Liability experience	(16)	(3)	(49)	(13)	(8)	(18)	-0.05%
Net Experience (Gains) and Losses	(97)	(59)	140	(106)	68	(11)	-0.03%
Assumption/Methods changes	-	85	-	-	-	17	0.05%
Benefit modifications/New Cities	57	(35)	281	32	27	72	0.21%
Contributions different than actuarially calculated	(241)	(19)	(40)	(22)	10	(62)	-0.18%
Net Discretionary Changes	(184)	31	241	10	37	27	0.08%

System-wide Average Remaining Amortization Period in Years



Every City has a UAAL payment schedule and all are moving towards \$0

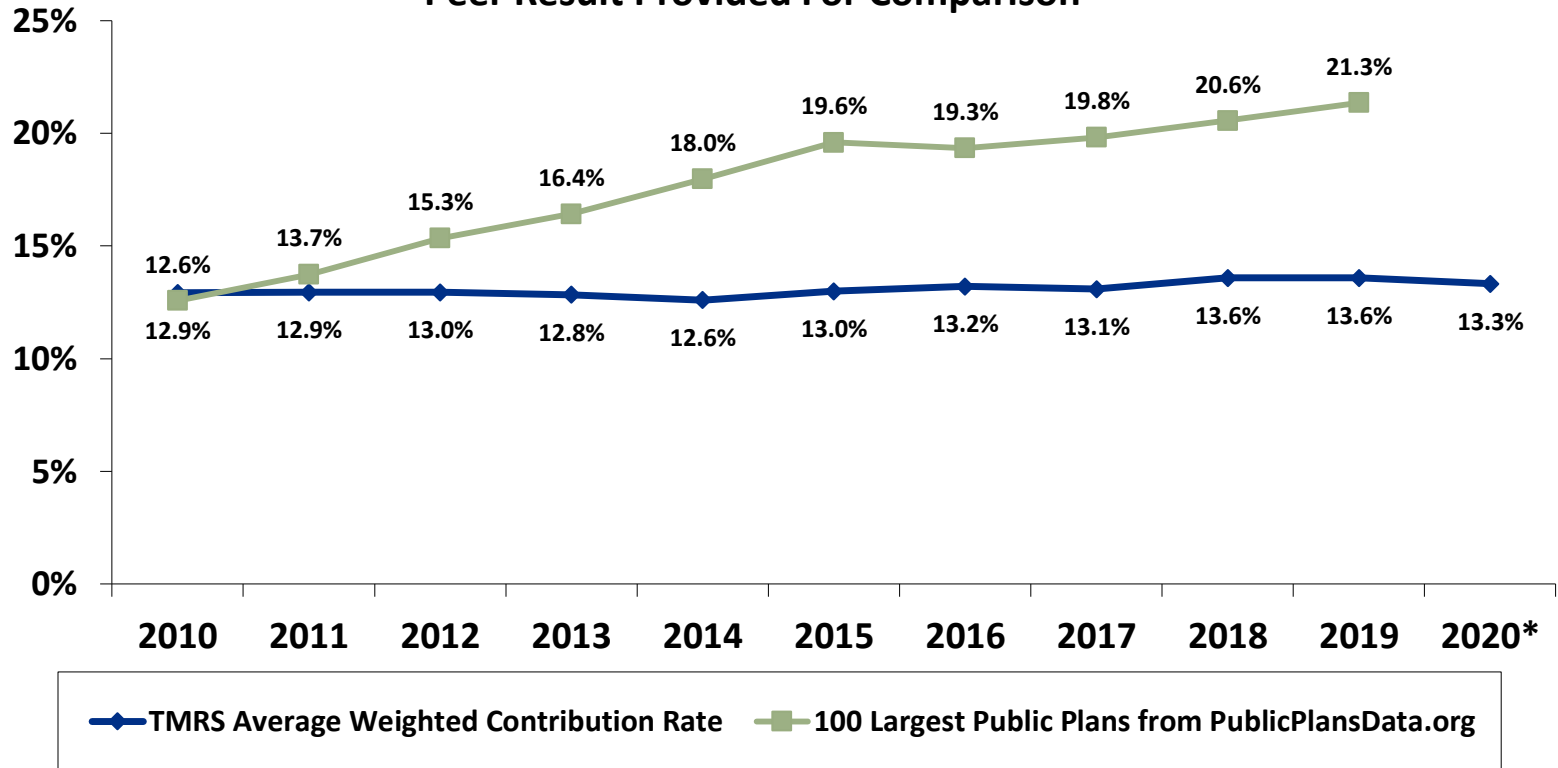
Distribution of Single Equivalent Amortization Periods



“0” reflects overfunded cities

System-wide, the average city contribution rate slightly decreased from the 2019 to 2020 valuations and rates have been very stable the last decade

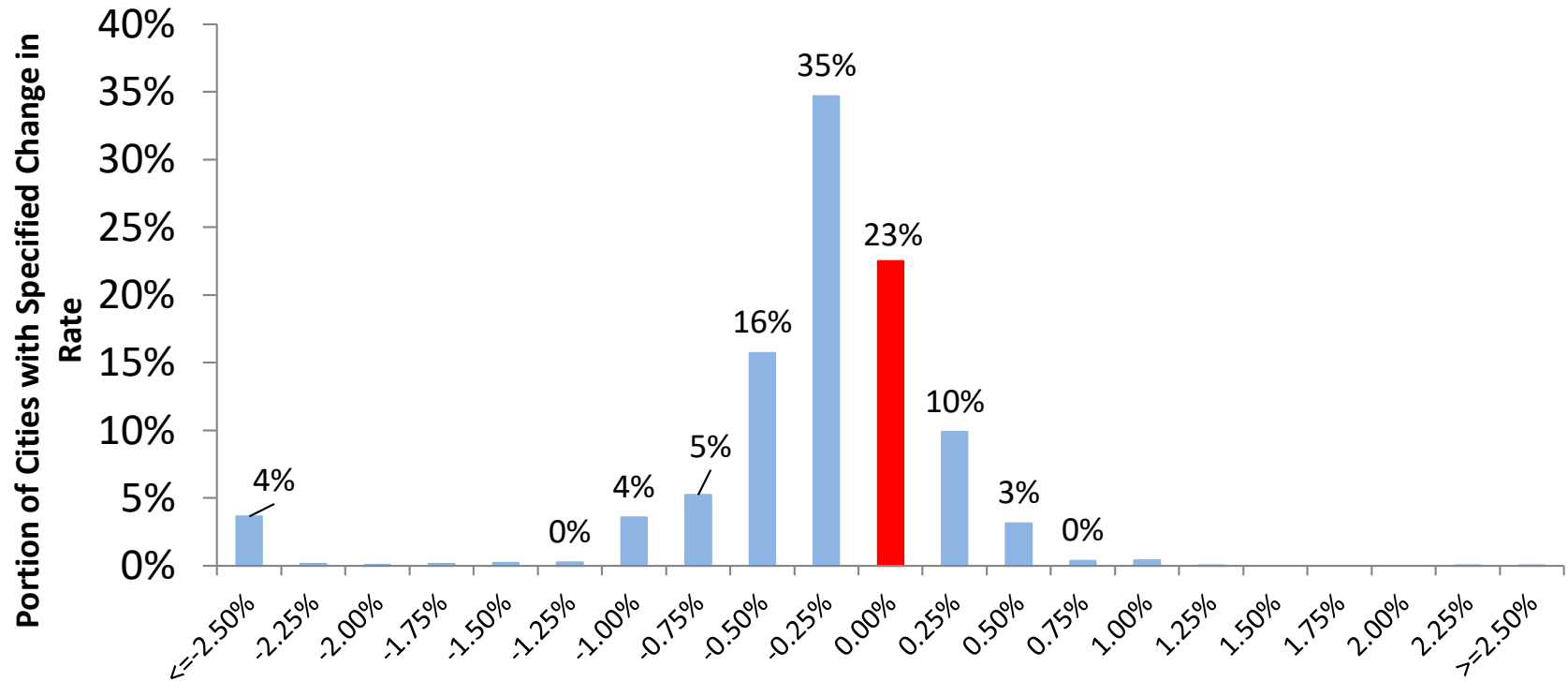
Historical System-wide City Contribution Rates for TMRS
Peer Result Provided For Comparison



* 2020 values for database not available as of presentation date

The 2022 contribution rates remained relatively stable from 2021

Distribution of Changes in Full Retirement Contribution Rate



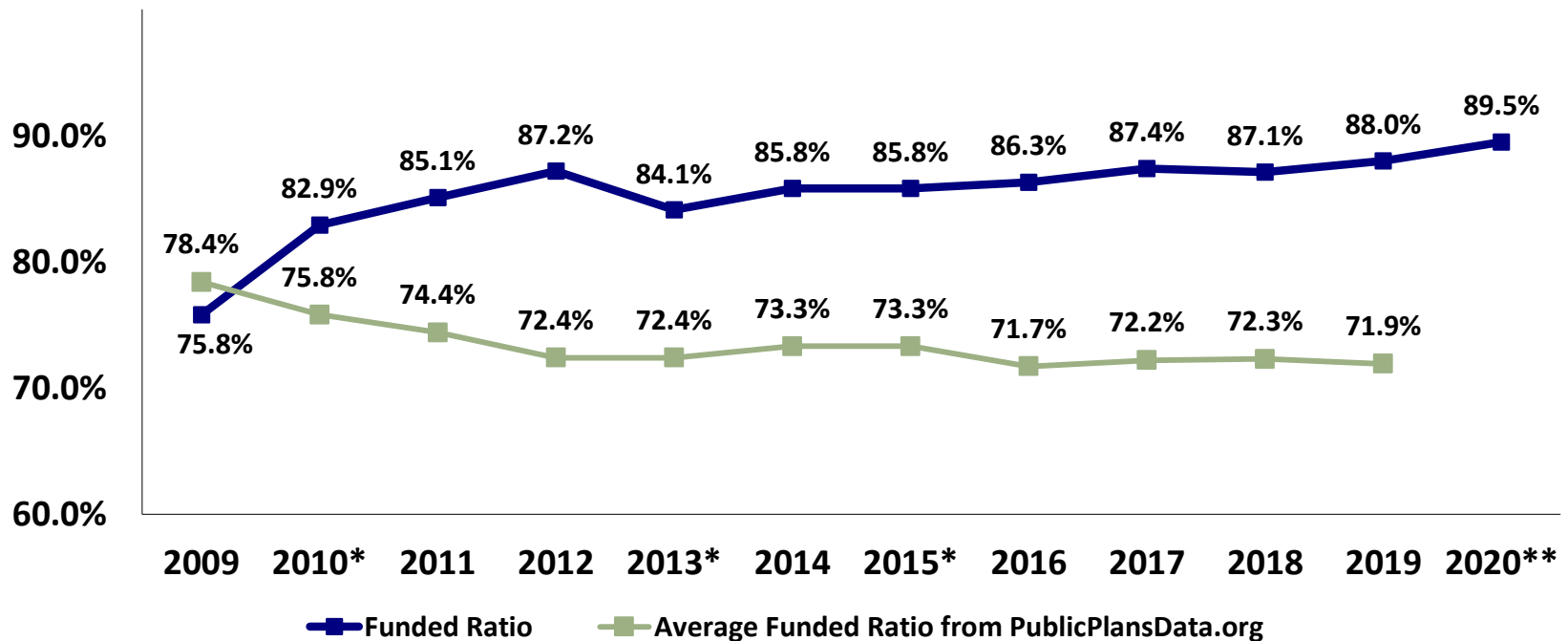
Does not include impact from changes to benefits

Rounded to nearest 0.25% change in rate

Data weighted by payroll

The System-wide funded ratio continues to improve and is approaching 90%!

**Historical System-wide Funded Ratio for TMRS
Peer Result Provided For Comparison**

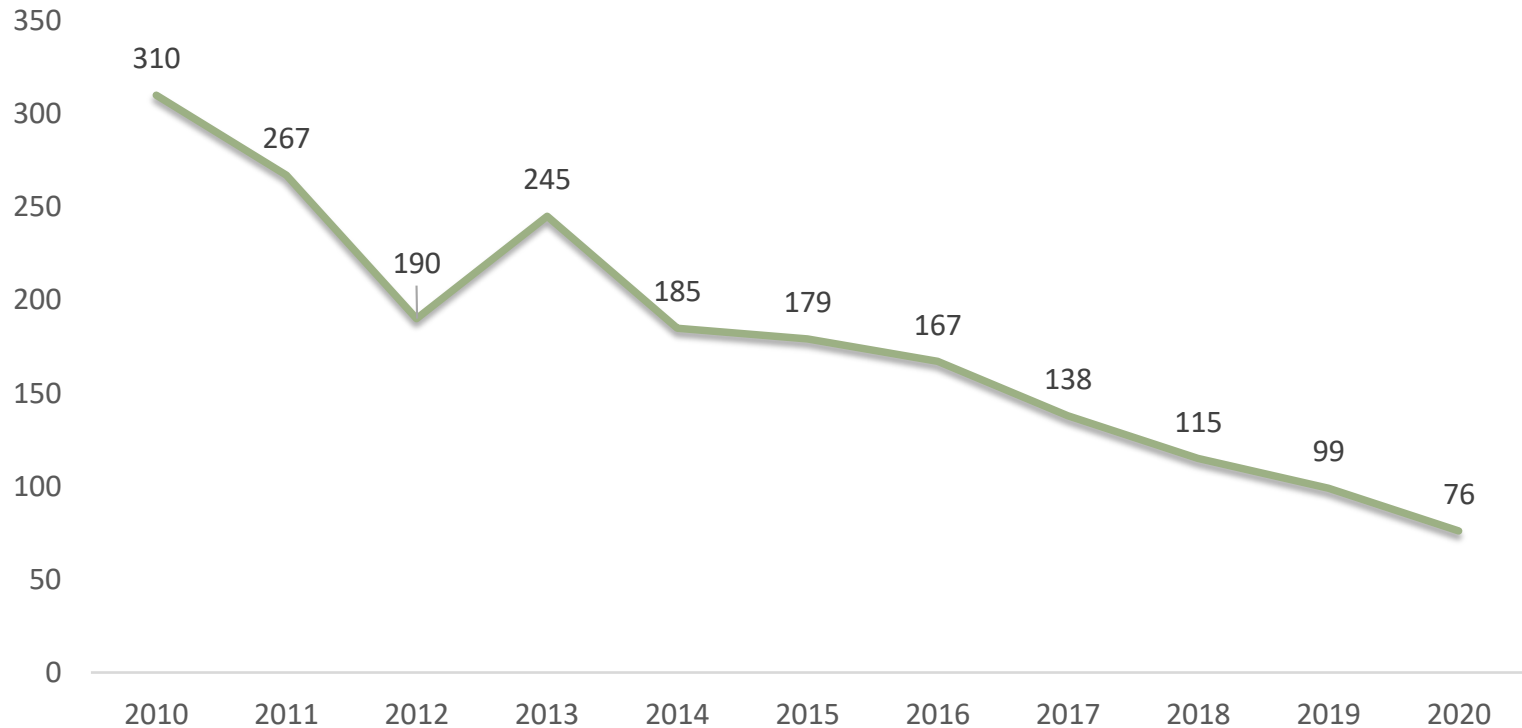


* Restructure in 2010, Change to EAN in 2013, 6.75% Discount Rate in 2015

** 2020 values for database not available as of presentation date

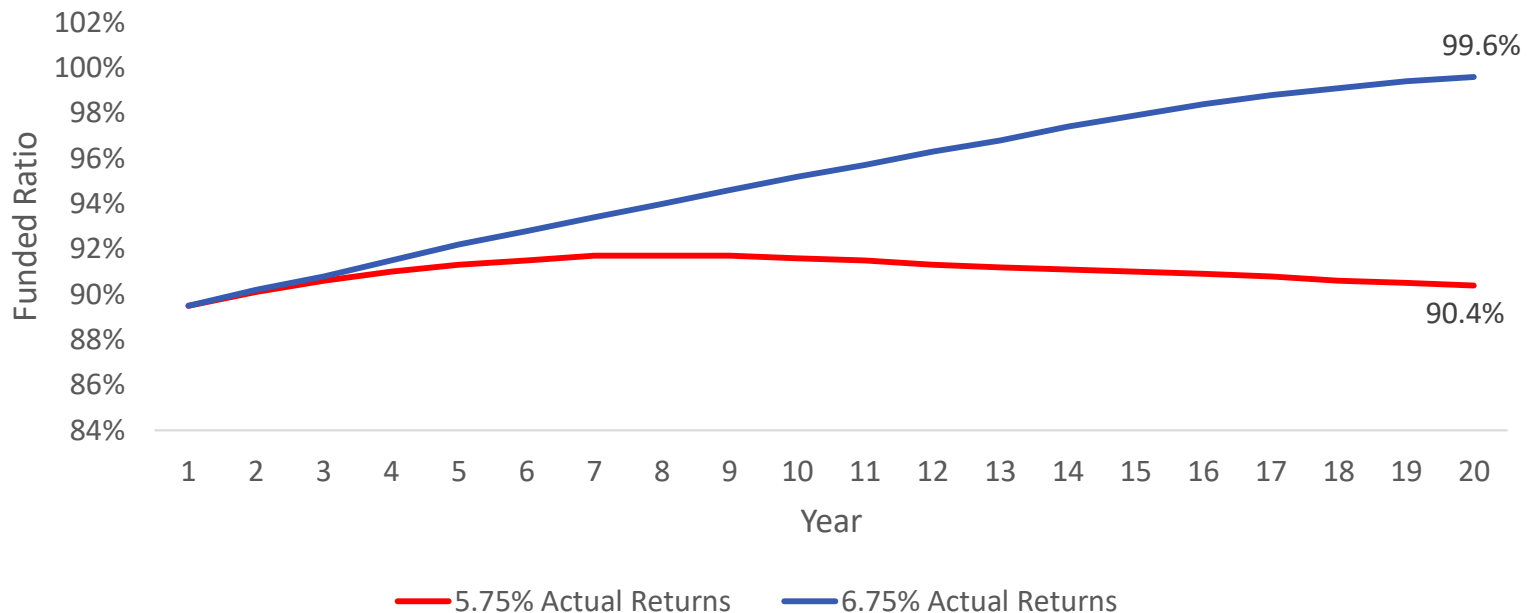
The number of cities below 80% funded ratio continues to decline, most of which joined TMRS in the last decade or recently increased benefits

Number of Cities below 80% Funded Ratio



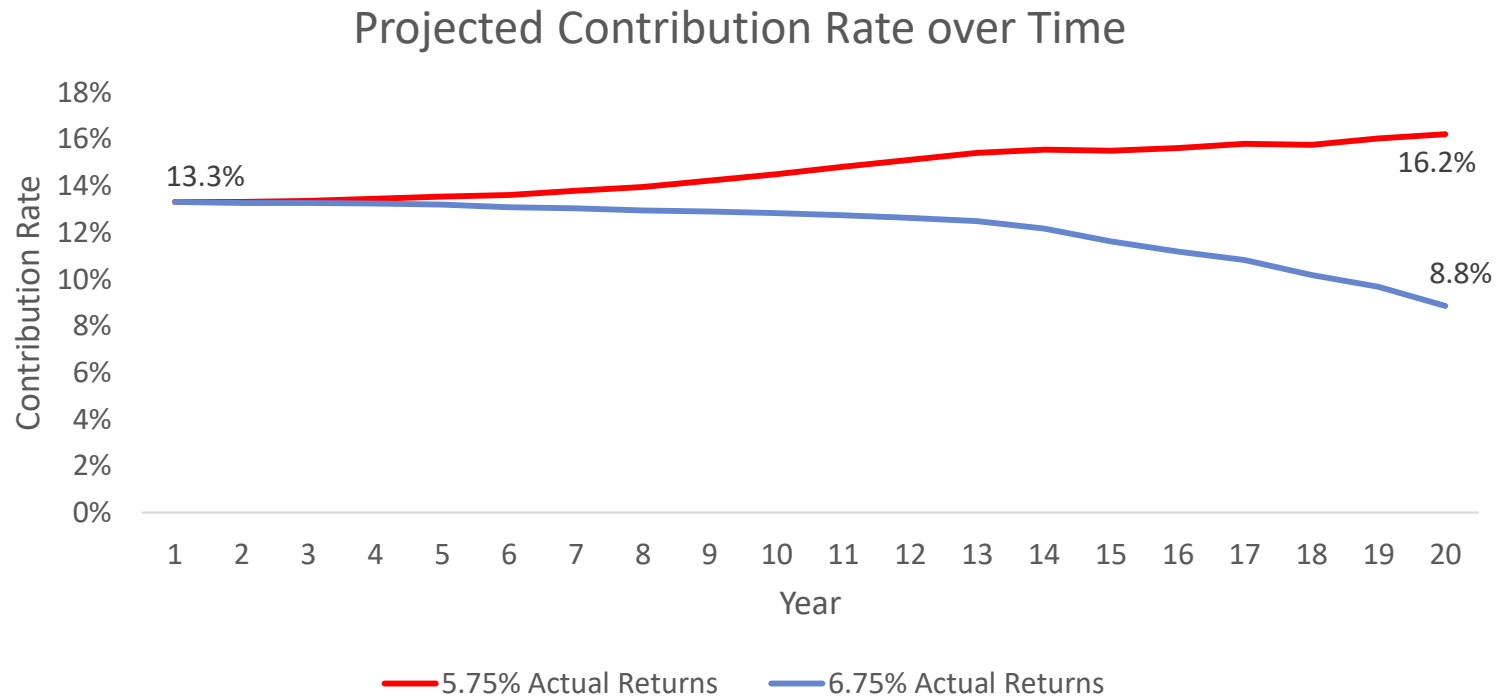
TMRS will be in a strong financial position even if actual investment performance falls below current expectations

Projected Funded Ratio over Time



The data is TMRS System-wide
Both projections based on current assumptions and benefits
Only actual investment returns are different

If actual investment performance falls below expectations, city contribution rates will increase which will hold the funded ratio in the 90% range



The data is for TMRS System-wide
Both projections based on current assumptions and benefits
Only actual investment returns are different

In Summary

- System-wide actuarial health is strong
 - Funded ratios continue to improve
 - Contribution rates have remained relatively stable
- The expectation is for a slowly increasing funded ratio and continued stability in the contribution rates System-wide