North Dakota Public Employees Retirement System

Presentation of July 1, 2021 Actuarial Valuation Results

October 28, 2021

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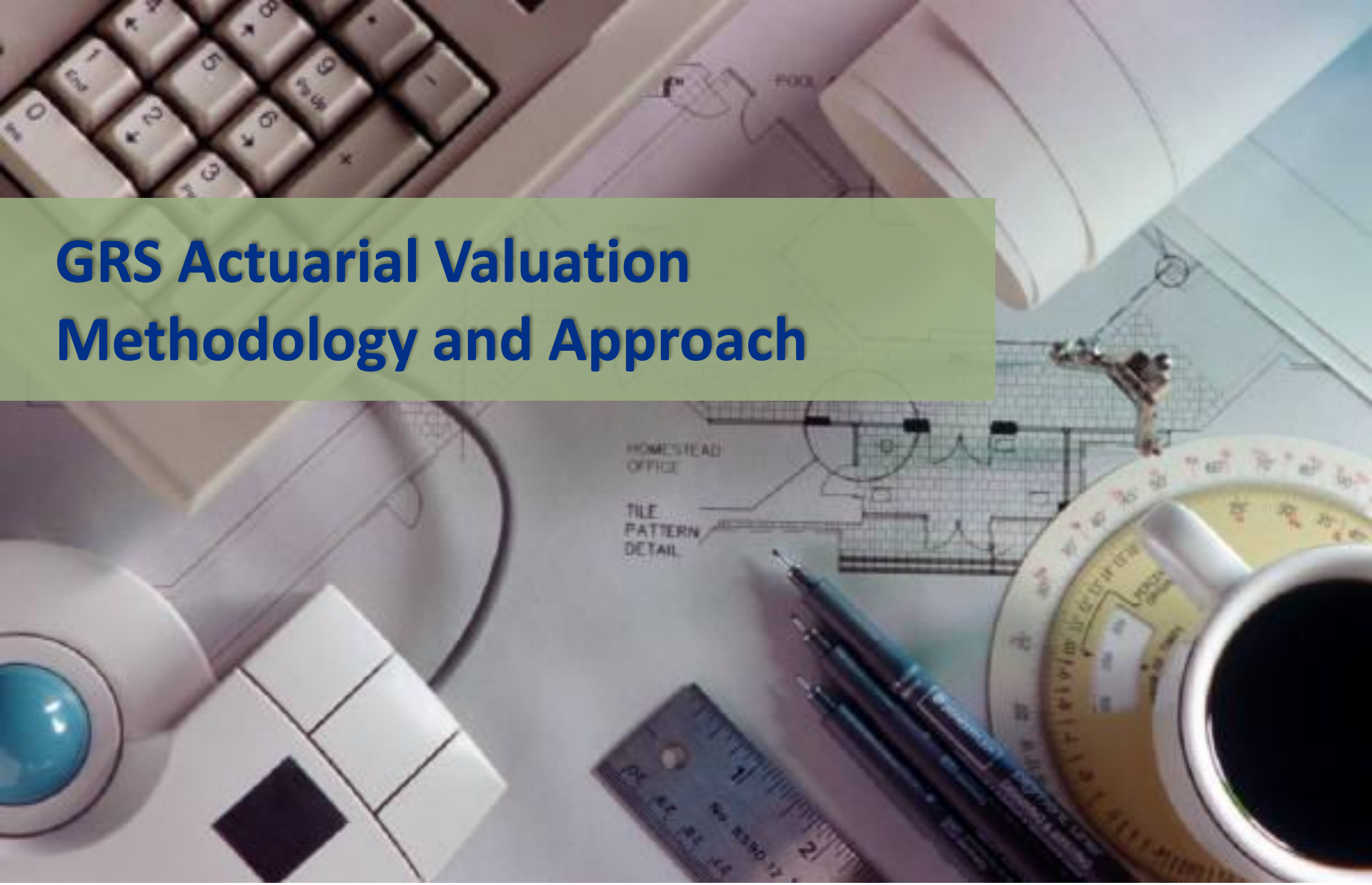
Agenda

- GRS Actuarial Valuation Methodology and Approach
- Demographic Data
- Funded Ratio Results
- Contribution Rate Results
- Reconciliation of Unfunded Liability
- Actuarial Valuation Results Recommendations
- Projections
- Summary of Board Action on Actuarial-Related Issues
- Questions
- Appendix

GRS Actuarial Valuation Methodology and Approach



Purpose of the Actuarial Valuation

- Determine Funding Status
- Develop Actuarial Contribution Rates and Compare to Statutory Rates
- Provide Accounting and Other Data
  - Under the current accounting standards, a separate accounting actuarial valuation is performed

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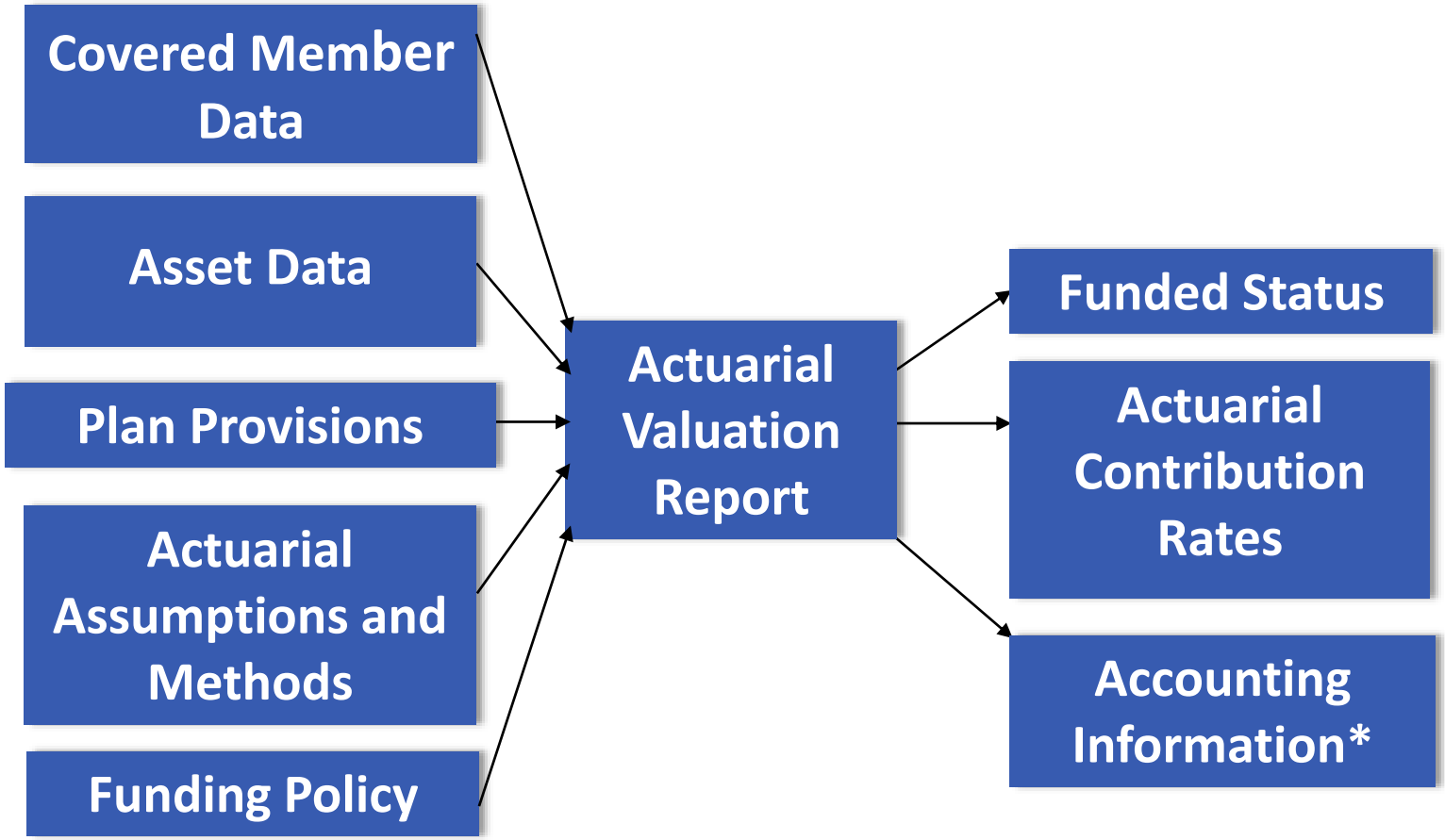
Actuarial Valuation Process



* *Under the current accounting requirements, GASB 67/68 and GASB 74/75, a separate accounting actuarial valuation report is issued.*

Changes in Provisions

- Main System will potentially receive future Legacy Fund earnings
  - This potential source of revenue has no immediate actuarial impact
- Highway Patrol Employee and Employer Contributions
  - The statutory employee and employer contributions will each increase by 0.5% of pay every year from January 1, 2022 to January 1, 2025, ultimately increasing both by 2.00% of pay
- The following provisions continue to apply to new members
  - RHIC is closed to members first enrolled in the Main System and Defined Contribution Retirement System on or after January 1, 2020
    - Employer contribution of 1.14% of pay for RHIC is contributed to the Main System for Main System members and to the DC System for DC System members
  - The benefit accrual rate for members first enrolled on or after January 1, 2020 in the Main and Public Safety Systems is 1.75% (compared to 2.00% for members enrolled before January 1, 2020)
  - The calculation of Final Average Salary was changed for members who terminate after December 31, 2019
  - Later retirement eligibility conditions for members enrolled in the Main System after December 31, 2015

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Selection of Actuarial Assumptions

What	
Economic	**Demographic**
• Investment Return	• Retirement Rates
• Payroll Growth Rates	• Promotional/Step Pay Increases
• Population Growth Rate	• Disability
(Usually, a constant population size is assumed)	• Turnover • Mortality

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Actuarial Assumptions

Actuarial assumptions should be reviewed periodically (at least every three to five years) to ensure they continue to reasonably represent past and expected future experience

- Section 54-52-04.4 of the North Dakota Century Code requires an experience study once every five years
- In 2020, GRS performed an experience study covering the period July 1, 2014 through July 1, 2019
- Recommended updated assumptions were adopted by the NDPERS Board in April 2020

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Changes in Actuarial Assumptions

- Decrease investment return assumption for Job Service, from 4.25% to 3.75%
- Continue to monitor the PERS, RHIC, and Highway Patrol investment return assumptions for reasonability

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Actuarial Cost Method

Plan	Actuarial Cost Method
Main System	Entry Age Normal
Judges	Entry Age Normal
Public Safety	Entry Age Normal
Highway Patrol	Entry Age Normal
Job Service	Aggregate
RHIC	Modified Aggregate*

**Cost Method changed from Entry Age Normal to a Modified Aggregate method effective with the actuarial valuation as of July 1, 2019 for purposes of calculating the actuarial contribution rate.*

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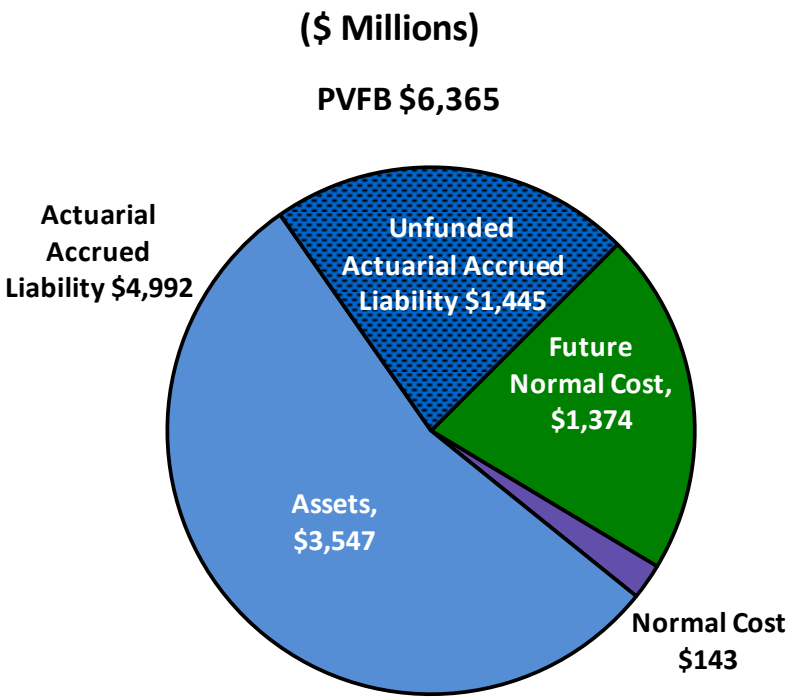
Actuarial Cost Method

- **Present value of future benefits** – present value of all future benefits (PVFB) payable to current participants (active, retired, terminated vested)
- **Actuarial accrued liability** – portion of PVFB allocated to prior years (equal to unfunded actuarial accrued liability plus assets)
- **Normal cost** – portion of PVFB allocated to current year
- **Future normal costs** – portion of PVFB allocated to future years
- **Unfunded actuarial accrued liability –** difference between the actuarial accrued liability and assets



Numbers may not add due to rounding

Actuarial Value of Assets

Asset Smoothing

- Actuarial Value of Assets (AVA or Smoothed Value of Assets)
  - Total investment gains and losses compared to the investment return assumption are recognized over a five-year period

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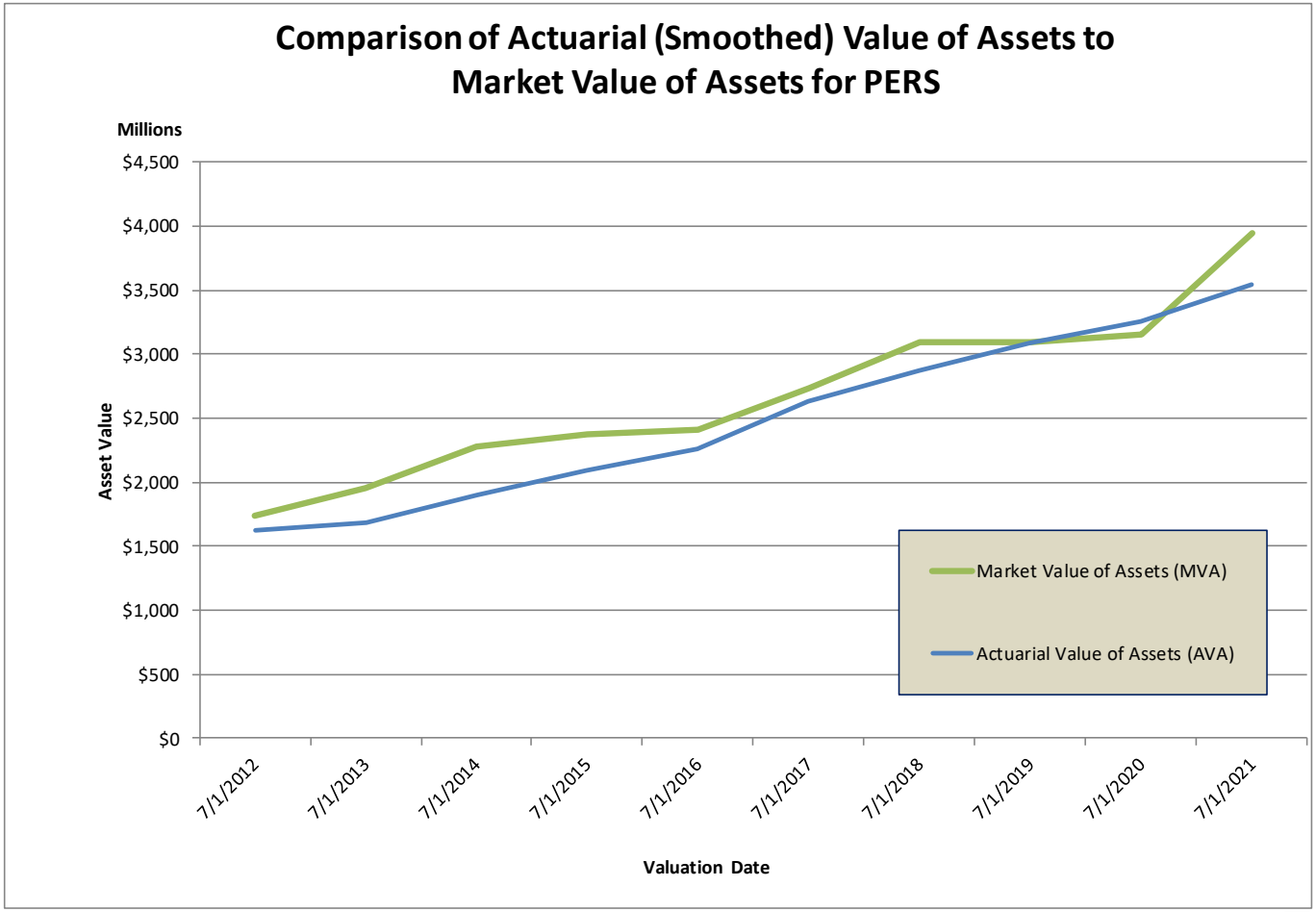
Actuarial Value of Assets



Causes of Unfunded Liability

- Not contributing at least Normal Cost + Interest on the Unfunded Liability.
- Actual experience which is less favorable than assumed. Examples:
  - Lower rates of investment earnings;
  - Higher salary increases;
  - Earlier retirement date(s); and
  - Lower rates of non-death terminations.
- Granting initial benefits or granting benefit increases for service already rendered.

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Current Funding Policy

- Employer/employee contribution rates are based on fixed rates set by Statute

Plan	Employer Rate	Employee Rate	Total Rate	Total Actuarial Rate
Main System[d]	7.26%	7.00%	14.26%	19.46%
Judges	17.52%	8.00%	25.52%	16.62%
Public Safety With[a]	9.81%	5.50%[b]	15.31%	14.86%
Public Safety Without[a]	7.93%	5.50%	13.43%	12.81%
Highway Patrol[c]	19.70%	13.30%	33.00%	45.46%
RHIC[d]	1.14%	0.00%	1.14%	1.08%
Job Service	0.00%	7.00%	7.00%	NA

[a] *Public Safety with and without prior Main System service.*

[b] *Employee rate for BCI members of Public Safety with prior Main System service is 6.00%.*

[c] *Highway Patrol employer and employee statutory contribution rates are to increase by 0.5 percentage points annually beginning on January 1, 2022, with the last increase occurring January 1, 2025.*

[d] *RHIC rate for members first enrolled on or after January 1, 2020 is made to the Main System for Main System members and to the DC System for DC System members. Main System employer rate of 7.26% is a blend of 7.12% for pre-2020 enrollees and 8.26% for members first enrolled in 2020 or later.*

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Current Funding Policy – Excluding RHIC

- Actuarial employer contribution rate equals
  - Employer Normal Cost, plus
  - Amortization of Unfunded Liability
    - Level percent of pay amortization
      - Payment increases as a dollar amount and remains level as a percentage of pay
      - Payroll is assumed to increase by 3.50% each year (3.00% for Judges)
    - Amortization Period
      - 20-year open period (Main System, Judges, Public Safety, Highway Patrol)
      - Not currently applicable for Job Service due to large surplus and Aggregate cost method

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Current Funding Policy – RHIC

- Actuarial employer contribution rate equals
  - The rate needed to pay off the unfunded liability and future Normal Cost contributions at the end of 20 years as a level percent of closed group (decreasing) payroll

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Demographic Data

Demographic Data

PERS Plans

	PERS						
	Statistics as of July 1						
	2021					2020	Total
	Main		Public Safety		Total	Total	%
	System	Judges	With Prior Main	Without Prior Main	PERS	PERS	Change
Membership Counts							
Active Members	23,370	57	967	200	24,594	24,489	0.4%
Retired Members	13,361	63	137	14	13,575	12,945	4.9%
Vested Former Members	14,477	1	355	138	14,971	13,843	8.1%
Total	51,208	121	1,459	352	53,140	51,277	3.6%
Average Age (Active)	46.2	56.4	36.5	37.8	45.7	45.9	(0.2)
Average Ben Service (Active)	9.4	9.2	6.6	4.8	9.3	9.3	(0.0)
Total Base Payroll	$1,132,390,738	$8,654,665	$61,533,502	$11,097,033	$1,213,675,937	$1,167,767,935	3.9%
Average Pay	48,455	151,836	63,633	55,485	49,348	47,685	3.5%
Total Retiree Benefits	$215,323,434	$3,637,743	$2,948,915	$139,708	$222,049,800	$207,123,745	7.2%
Average Annual Benefit	16,116	57,742	21,525	9,979	16,357	16,000	2.2%

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Demographic Data

Highway Patrol, Job Service, RHIC

	Highway Patrol Statistics as of July 1		%	Job Service Statistics as of July 1		%	RHIC Statistics as of July 1		%
	2021	2020	Change	2021	2020	Change	2021	2020	Change
Membership Counts									
Active Members	151	154	-1.9%	3	5	-40.0%	21,067	23,495	-10.3%
Retired Members	135	133	1.5%	177	181	-2.2%	13,697	13,092	4.6%
Vested Former Members	49	43	14.0%	-	1	-100.0%	7,112	6,734	5.6%
Total	335	330	1.5%	180	187	-3.7%	41,876	43,321	-3.3%
Average Age (Active)	38.0	37.7	0.3	65.9	65.1	0.8	47.2	46.3	0.9
Average Ben Service (Active)	11.1	10.7	0.4	44.5	44.2	0.3	10.8	9.8	1.0
Total Base Payroll	$11,516,196	$11,409,711	0.9%	$175,176	$314,607	-44.3%	$1,090,257,793	$1,139,970,530	-4.4%
Average Pay	76,266	74,089	2.9%	58,392	62,921	-7.2%	51,752	48,520	6.7%
Total Retiree Benefits	$5,814,082	$5,628,248	3.3%	$4,657,369	$4,520,868	3.0%	$14,693,892	$13,894,346	5.8%
Average Annual Benefit	43,067	42,318	1.8%	26,313	24,977	5.3%	1,073	1,061	1.1%

Retiree benefit amounts for Job Service exclude the portion of the total benefit amount paid by the insurer.

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Funded Ratio Results

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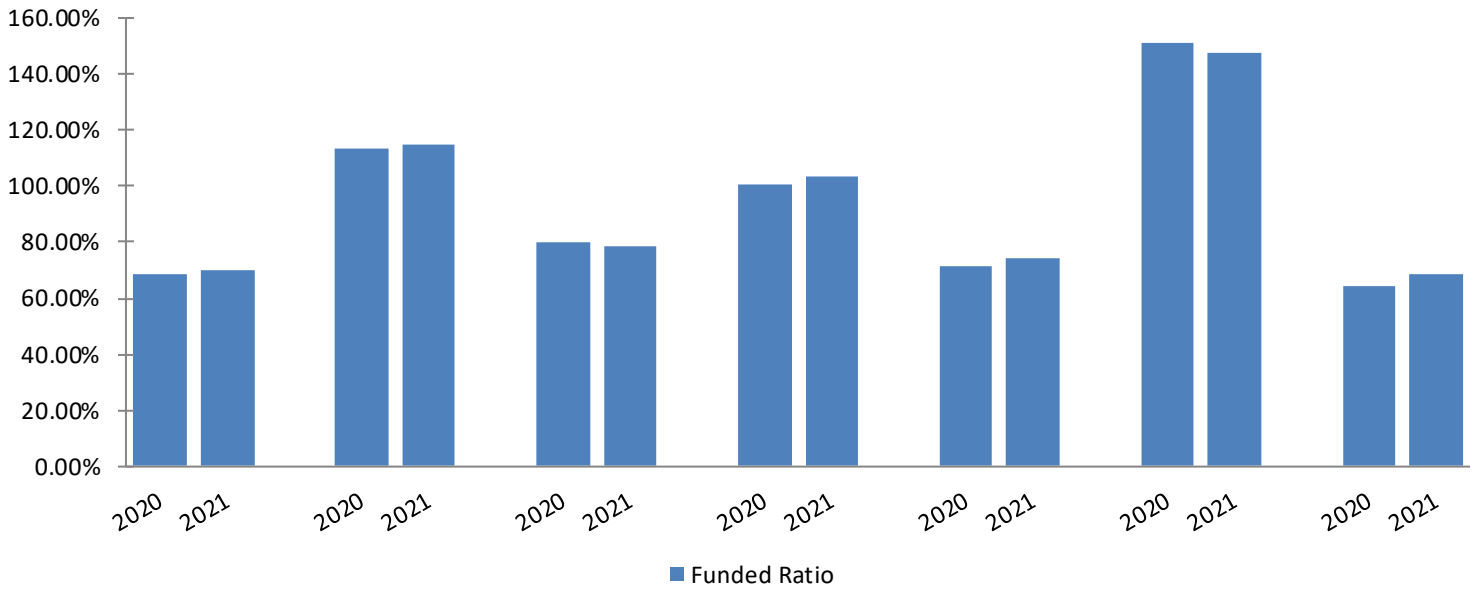
Funded Ratio Results

All Plans – Actuarial Value of Assets



Valuation Results	Main System	Judges	Public Safety With Prior Main	Public Safety Without Prior Main	Highway Patrol	Job Service	RHIC
Actuarial Accrued Liability	$ 4,795,054,158	$ 53,424,304	$ 128,468,679	$ 14,595,856	$ 123,371,001	$ 64,914,271	$ 237,951,735
Actuarial Value of Assets	3,369,943,759	61,293,801	100,482,794	15,100,124	91,445,585	95,856,903	163,278,611
2021 Unfunded Actuarial Liability	1,425,110,399	(7,869,497)	27,985,885	(504,268)	31,925,416	(30,942,632)	74,673,124
UAL as Percent of Payroll	126%	-91%	45%	-5%	277%	-17664%	7%
2020 Unfunded Actuarial Liability	$ 1,444,758,987	$ (7,017,349)	$ 19,198,946	$ (115,903)	$ 34,408,702	$ (32,739,941)	$ 81,226,983
2021 Funded Ratio	70.3%	114.7%	78.2%	103.5%	74.1%	147.7%	68.6%
2020 Funded Ratio	68.3%	113.7%	80.0%	100.9%	71.2%	151.0%	64.6%

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Funded Ratio Results

All Plans – Actuarial/Market Value

Valuation Results	Main System	Judges	Public Safety With Prior Main	Public Safety Without Prior Main	Highway Patrol	Job Service	RHIC
2021 Unfunded Actuarial Liability (AVA)	$ 1,425,110,399	$ (7,869,497)	$ 27,985,885	$ (504,268)	$ 31,925,416	$ (30,942,632)	$ 74,673,124
2020 Unfunded Actuarial Liability (AVA)	1,444,758,987	(7,017,349)	19,198,946	(115,903)	34,408,702	(32,739,941)	81,226,983
2021 Unfunded Actuarial Liability (MVA)	1,042,300,546	(14,832,186)	16,571,509	(2,219,572)	23,295,192	(31,689,426)	55,617,289
2020 Unfunded Actuarial Liability (MVA)	1,546,179,726	(5,122,192)	21,700,550	298,274	37,099,433	(31,036,242)	84,119,757
2021 Funded Ratio (AVA)	70.3%	114.7%	78.2%	103.5%	74.1%	147.7%	68.6%
2020 Funded Ratio (AVA)	68.3%	113.7%	80.0%	100.9%	71.2%	151.0%	64.6%
2021 Funded Ratio (MVA)	78.3%	127.8%	87.1%	115.2%	81.1%	148.8%	76.6%
2020 Funded Ratio (MVA)	66.1%	110.0%	77.4%	97.6%	68.9%	148.3%	63.4%

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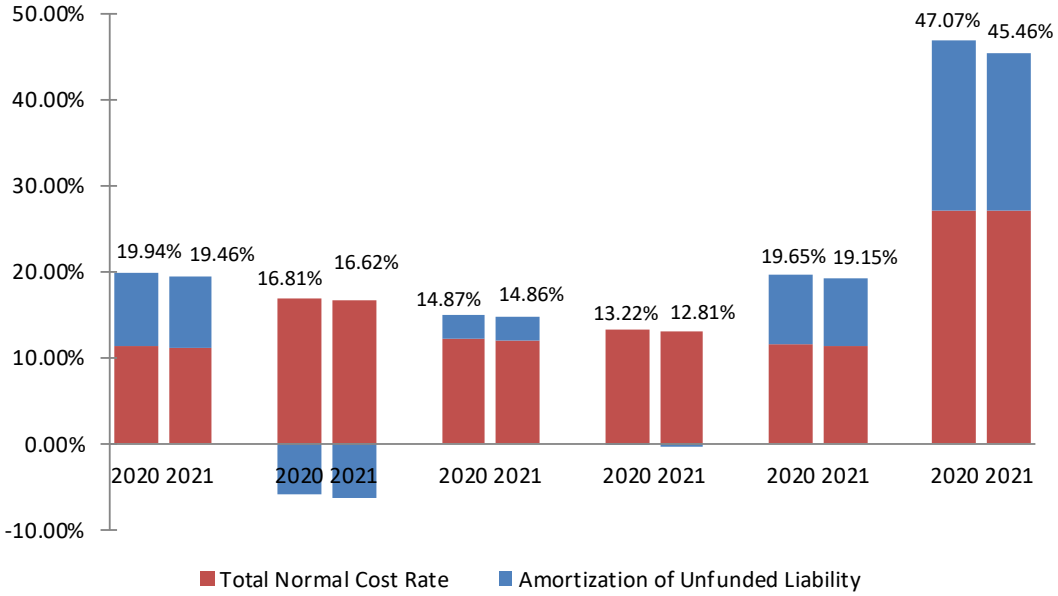
Contribution Rate Results

Contribution Rate Results

Actuarial Contribution Rate (including employee rate)



			Public Safety			
Total Normal Cost Rates	**Main System**	**Judges**	**With Prior Main**	**Without Prior Main**	**Total PERS**	**Highway Patrol**
FY 2022 (2021 Valuation)	11.19%	23.02%	11.92%	13.10%	11.33%	27.22%
FY 2021 (2020 Valuation)	11.33%	22.66%	12.15%	13.29%	11.46%	27.24%
Amortization of Unfunded Liability Rates						
FY 2022 (2021 Valuation)	8.27%	-6.40%	2.94%	-0.29%	7.82%	18.24%
FY 2021 (2020 Valuation)	8.61%	-5.85%	2.72%	-0.07%	8.19%	19.83%

Amount shown in graph for Judges and Public Safety without Prior Main is the total normal cost rate net of the unfunded liability contribution.
RHIC normal cost rate for FY 2021 is 0.39% and for FY 2022 is 0.39% and the amortization of the unfunded liability rate for FY 2021 is 0.72% and for FY 2022 is 0.69% of pay.

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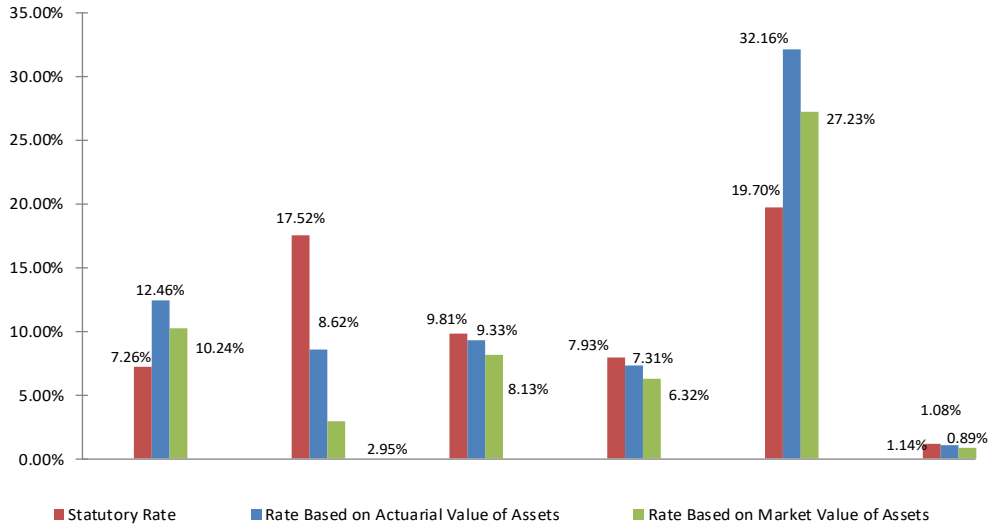
Contribution Rate Results

Comparison of Statutory and Actuarial Contribution Rates



Valuation Results	Main System	Judges	Public Safety With Prior Main	Public Safety Without Prior Main	Highway Patrol	RHIC
Statutory Contribution Rate	14.26%	25.52%	15.34%	13.43%	33.00%	1.14%
Actuarial Contribution Rate (AVA)	19.46%	16.62%	14.86%	12.81%	45.46%	1.08%
Statutory Rate Excess/(Deficiency)	-5.20%	8.90%	0.48%	0.62%	-12.46%	0.06%
Actuarial Contribution Rate (MVA)	17.24%	10.95%	13.66%	11.82%	40.53%	0.89%
Statutory Rate Excess/(Deficiency)	-2.98%	14.57%	1.68%	1.61%	-7.53%	0.25%

Due to the overfunded status of Job Service, no employer contributions are required.
Main System Members hired on or after 1/1/2020 contribute an additional 1.14% of pay.
Highway Patrol employer and employee statutory contribution rates are to increase by 0.5 percentage points annually beginning on January 1, 2022, with the last increase occurring January 1, 2025.

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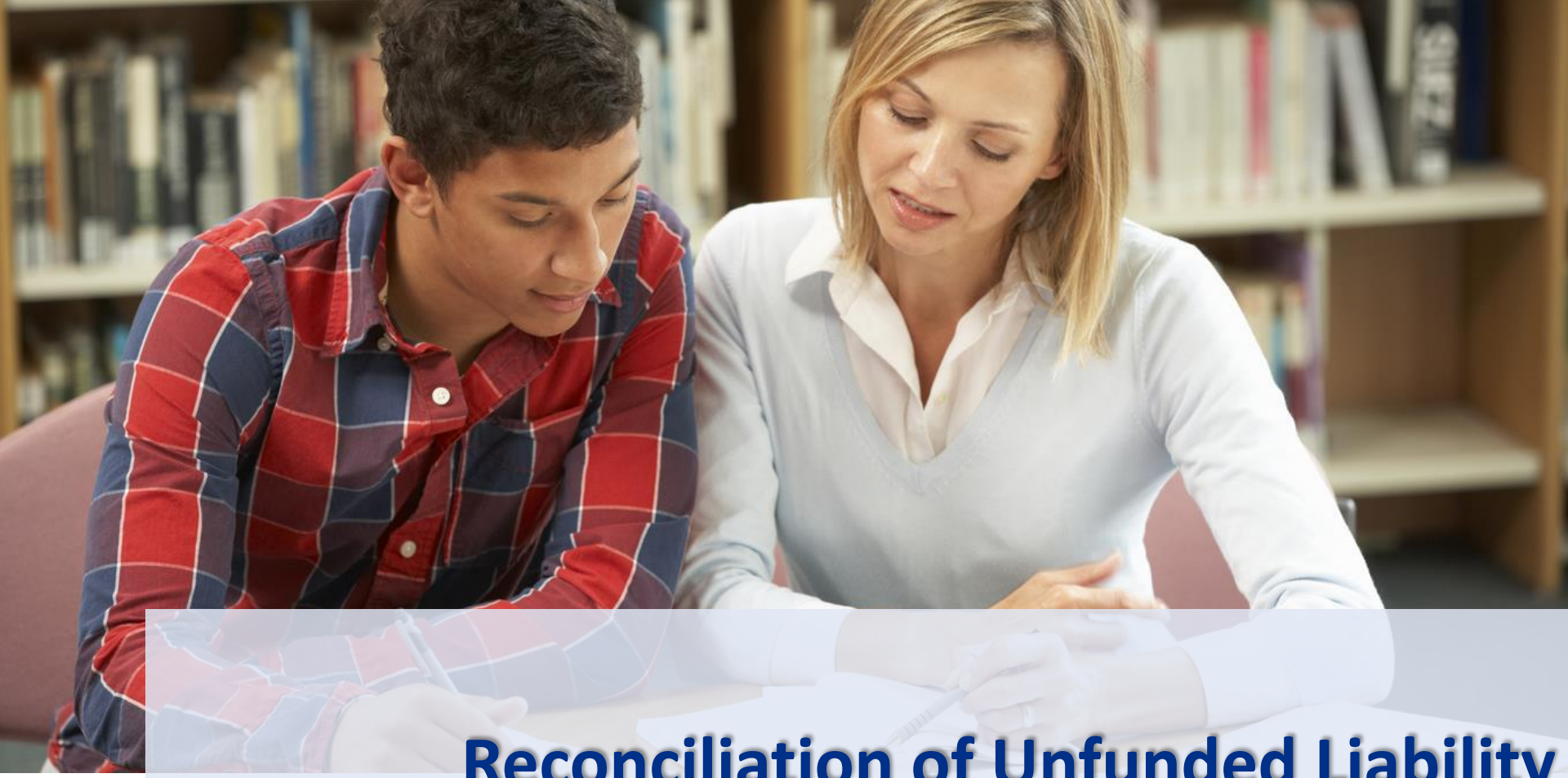

Reconciliation of Unfunded Liability

FY 2021 Experience

System	Assets (AVA)	Salary^	Other (Demographic)	Statutory Contributions	Assumption Changes	Difference in Funded Ratio	Difference in Actuarial Contribution Rate
Main System	Gain	Gain	Loss	Loss	No Change	2.0%	-0.48%
Judges	Gain	Gain	Loss	Gain	No Change	1.0%	-0.19%
Public Safety with Prior*	Loss	Gain	Loss	Gain	No Change	-1.8%	0.00%
Public Safety without Prior*	Gain	Gain	Gain	Loss	No Change	2.6%	-0.41%
Highway Patrol	Gain	Gain	Gain	Loss	No Change	2.9%	-1.61%
Job Service	Loss	Loss	Gain	Gain	Increase UAL	-3.3%	NA
RHIC	Gain	NA	Loss	Loss	No Change	4.0%	-0.03%

^Plans had salary gains which reduced the unfunded liability. Lower than expected salary increases reduce the payroll base (in addition to decreases in the number of total active members) which increases the actuarial contribution rate.

Unfunded Liability Reconciliation

Based on Actuarial Value of Assets – All Plans

	Main System	Judges	Public Safety With Prior*	Public Safety Without Prior*	Highway Patrol	Job Service	RHIC
Unfunded liability at previous valuation	$ 1,444,758,987	$ (7,017,349)	$ 19,198,946	$ (115,903)	$ 34,408,702	$ (32,739,941)	$ 81,226,983
Expected unfunded liability at current valuation							
Normal cost for plan year	132,492,248	1,969,804	5,964,147	1,576,878	3,292,549	-	4,737,373
Interest on unfunded liability and normal cost	105,691,928	(423,437)	1,549,141	46,144	2,521,899	(1,391,447)	5,431,295
Contributions using actuarial rate with interest	241,140,151	1,511,214	7,552,569	1,622,785	5,884,848	12,976	13,766,728
Total expected change in unfunded liability	(2,955,975)	35,153	(39,281)	237	(70,400)	(1,404,423)	(3,598,060)
Total expected unfunded liability at current valuation	1,441,803,012	(6,982,196)	19,159,665	(115,666)	34,338,302	(34,144,364)	77,628,923
Change due to:							
Amount of contributions and expenses**	70,152,744	(587,349)	(1,299,228)	54,094	1,900,781	(3,551)	185,594
Recognition of asset (gains)/losses	(108,804,392)	(564,096)	136,812	(32,155)	(2,435,716)	447,529	(4,918,678)
Salary experience	(15,590,291)	(4,722)	(723,523)	(409,213)	(931,017)	29,133	-
Demographic and other experience	37,549,326	268,866	10,712,159	(1,328)	(811,477)	(180,955)	1,777,285
Change in actuarial assumptions	-	-	-	-	-	2,909,576	-
Changes in plan provisions	-	-	-	-	(135,457)	-	-
Total change	(16,692,613)	(887,301)	8,826,220	(388,602)	(2,412,886)	3,201,732	(2,955,799)
Unfunded liability at current valuation	$ 1,425,110,399	$ (7,869,497)	$ 27,985,885	$ (504,268)	$ 31,925,416	$ (30,942,632)	$ 74,673,124

* *Public Safety with prior Main System service and Public Safety without prior Main System service.*

** *Change due to difference between actual contributions based on statutory rate and contributions using actuarial rate.*

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Actuarial Valuation Results Recommendations

Actuarial Valuation Results

Recommendations

The statutory employer contribution rates are significantly lower than the actuarial employer contribution rates for the Main System. Plan and contribution changes for new hires are expected to slowly improve the funding of the plan.

The statutory employer contribution rates are significantly lower than the actuarial employer contribution rates for Highway Patrol. Highway Patrol contributions will increase by 4.0% of pay in the future, which will partially reduce the deficit.

The statutory employer contribution rate is significantly higher than the actuarial employer contribution rate for the Judges plan and the funded ratio is currently over 114% (over 127% based on the market value of assets)

Changes to the statutory contribution rates may be appropriate.

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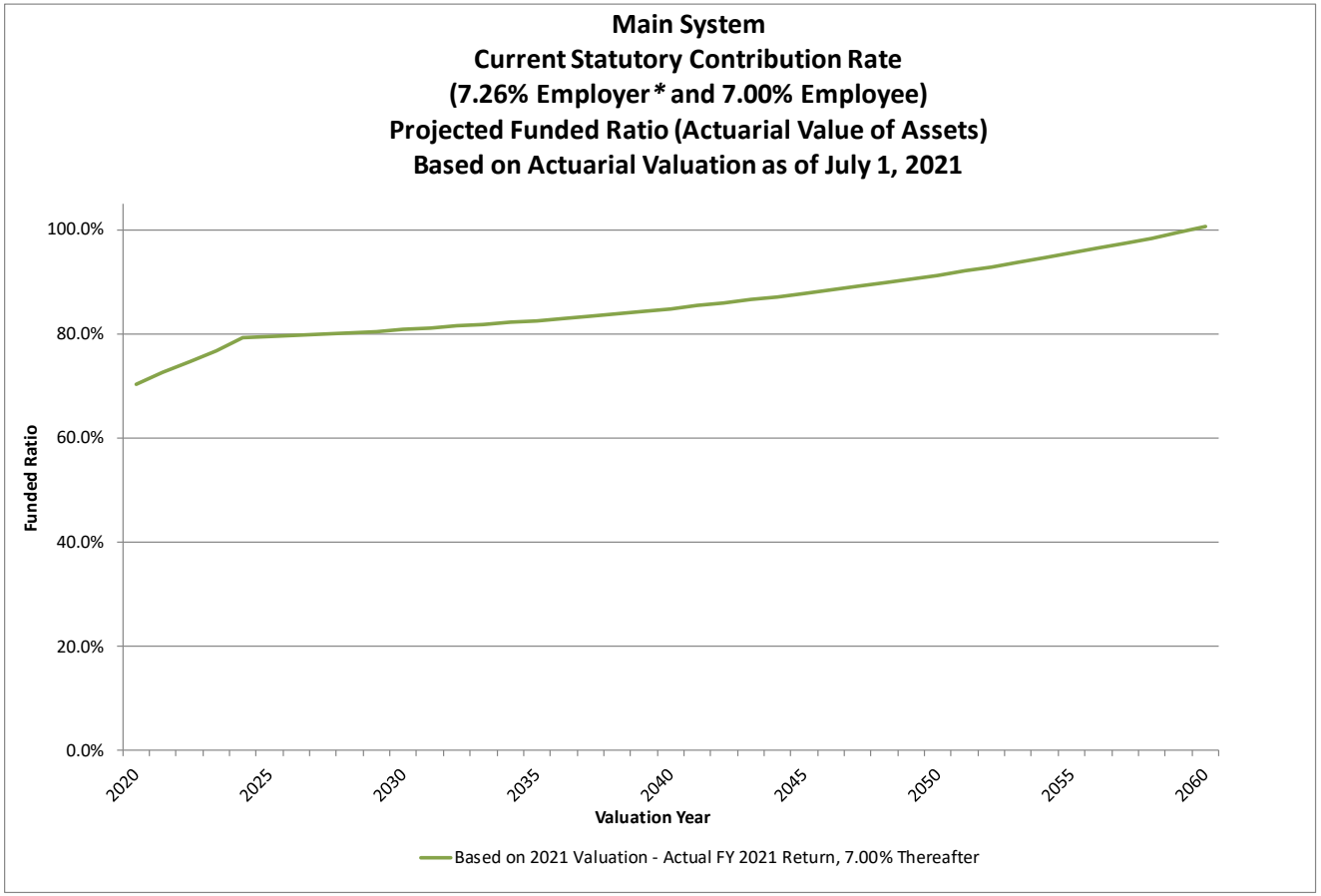
Projections

Actuarial Projections

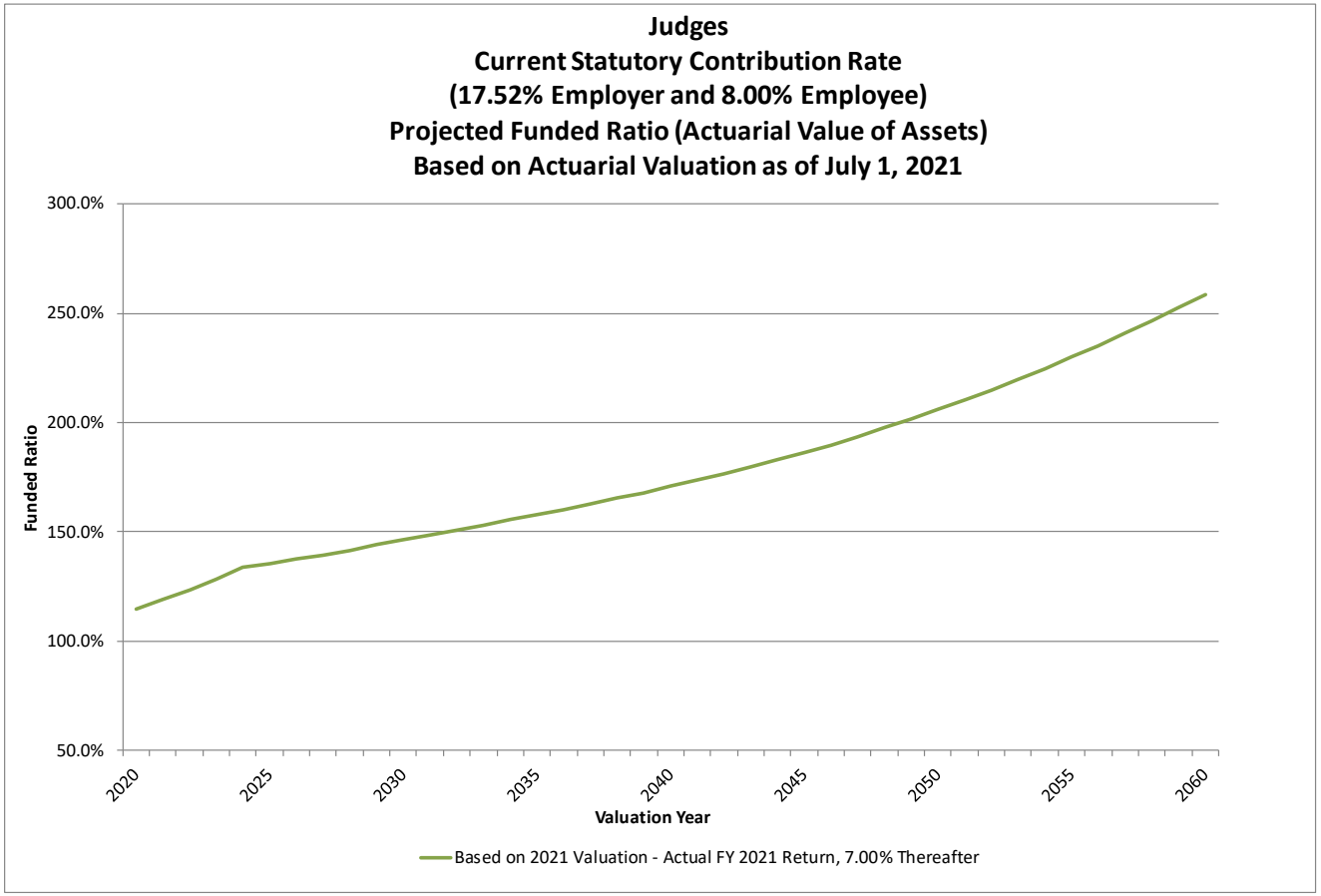
PERS – Main System



**Employer contributions include an additional 1.14% of pay for members first enrolled on or after January 1, 2020.*

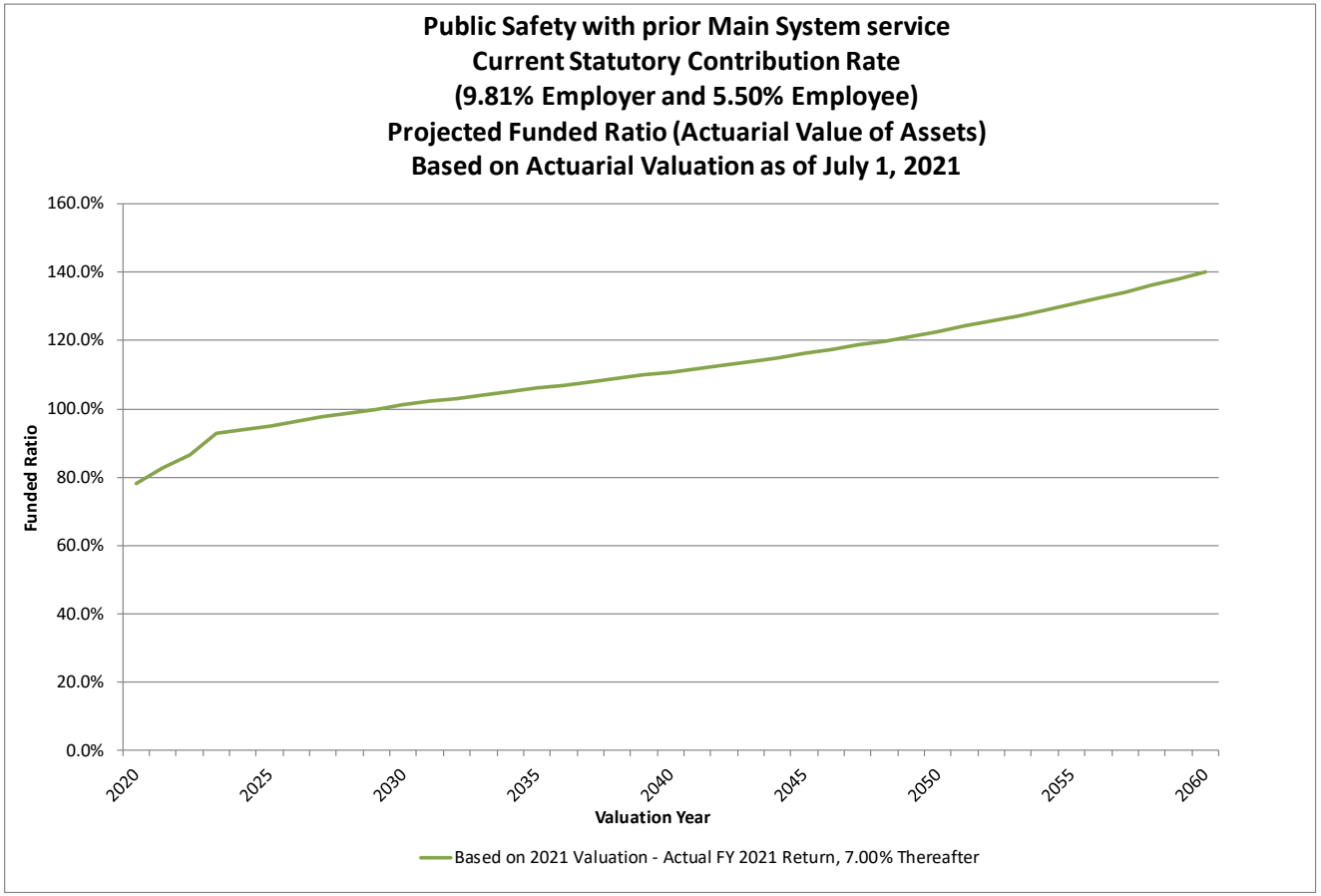
Actuarial Projections

PERS – Judges



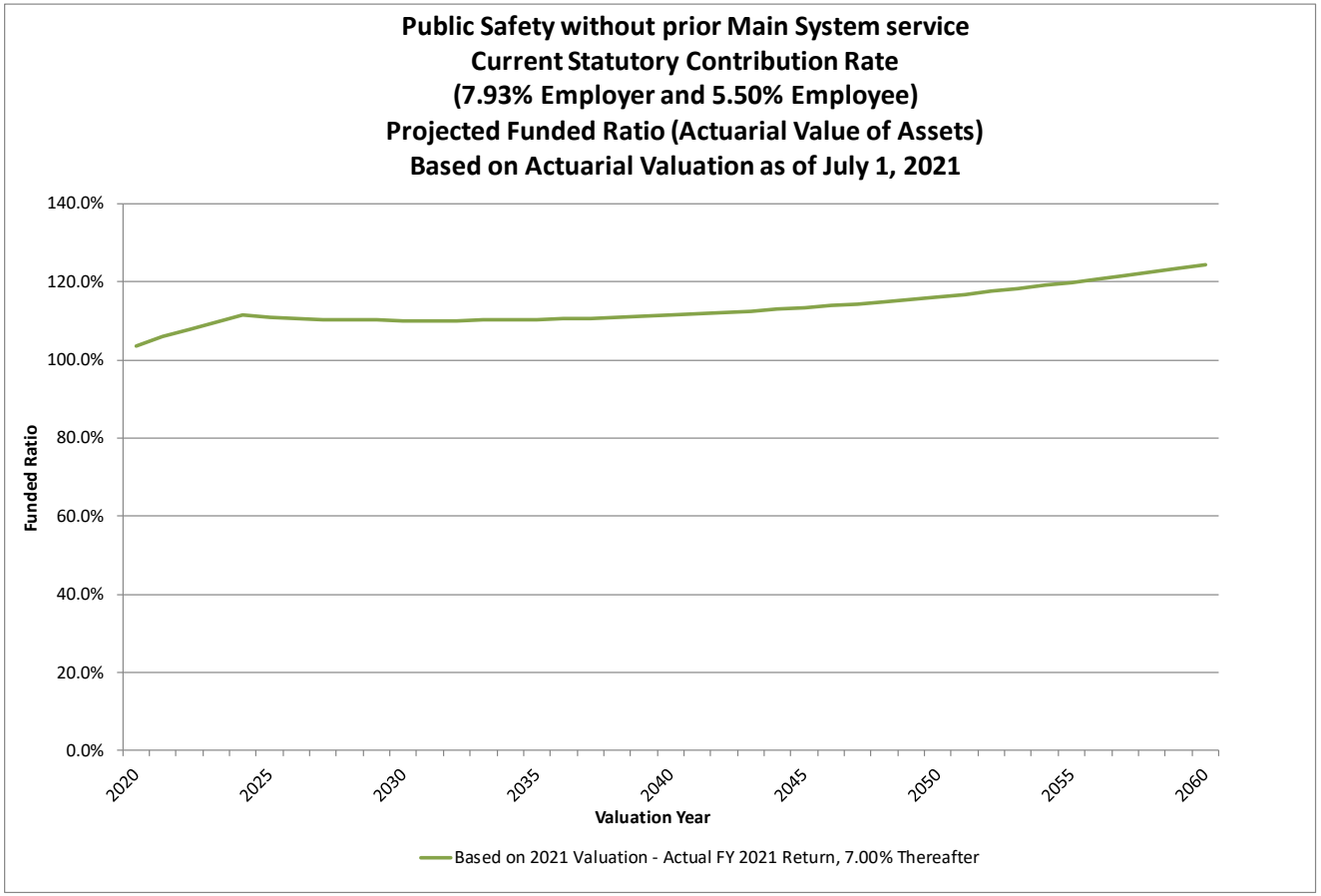
Actuarial Projections

PERS – Public Safety with Prior Main System Service



Actuarial Projections

PERS – Public Safety without Prior Main System Service



PERS Main System Projection Results

- Based on a snapshot of information as of July 1, 2021, reflecting current normal cost and statutory contributions, it will take more than 100 years to reach full funding
- However, when new hires are reflected, the PERS Main System projection shows improving funded ratios due to lower benefit accruals and higher contributions for new hires
  - This is a more comprehensive approach to projecting the plan's funding ratios, since it reflects actual future benefits and contributions
- Projections assume stable active member population (i.e., terminating and retiring members are assumed to be replaced with new members)

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GASB Results

- GASB rules require lower (or blended) discount rate to value liabilities in certain circumstances
- The "Single Discount Rate" is:
  - Based on the long-term expected investment return to the extent projected assets are sufficient to pay future benefits; and
  - Based on a tax-exempt municipal bond index rate to the extent projected assets are not sufficient to pay future benefits
- GASB rules do not allow smoothing of assets
- Municipal bond rates are historically low

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Projection Results – GASB Accounting Purposes

- Last year, the PERS and the Highway Patrol Plan were subject to lower discount rates (and higher liabilities) for GASB accounting purposes, because assets were projected to be depleted
- This year, primarily due to strong investment returns during the past fiscal year, a discount rate of 7% will be used for both systems (assets are not expected to be depleted)

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GASB Results

- Net Pension Liabilities are allocated to participating employers and must be recognized on their financial statements
- PERS Net Pension Liability
  - $1.0 billion as of July 1, 2021
  - $3.2 billion as of July 1, 2020
  - $1.2 billion as of July 1, 2019
  - $1.7 billion as of July 1, 2018
  - $1.6 billion as of July 1, 2017
  - $1.0 billion as of July 1, 2016
- GASB results are very volatile, due to asset and interest rate volatility, and the GASB discount rate requirements

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Summary of Board Actions on Actuarial-Related Issues

Summary of Board Actions on Actuarial-Related Issues

1. Updated assumptions first used in actuarial valuations as of July 1, 2017, July 1, 2019, July 1, 2020, and July 1, 2021
2. Adopted updated actuarial equivalence factors, most recently effective January 1, 2021
3. Adopted updated service purchase methodology which incorporated updated assumptions
4. Adopted Return to Work methodology
5. Adopted Employer Withdrawal Liability methodology

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Questions?

APPENDIX

Summary of Key Actuarial Valuation Results

All Plans

	Main System	Judges	Public Safety With Prior*	Public Safety Without Prior*	Highway Patrol	Job Service**	RHIC
Membership Information							
Active Members	23,370	57	967	200	151	3	21,067
Retired Members	13,361	63	137	14	135	177	13,697
Vested Former Members	14,477	1	355	138	49	0	7,112
Total Members	51,208	121	1,459	352	335	180	41,876
Total Base Payroll	$1,132,390,738	$8,654,665	$61,533,502	$11,097,033	$11,516,196	$175,176	$1,090,257,793
Employee Contribution Rate	7.00%	8.00%	5.53%	5.50%	13.30%	0.00%	0.00%
Statutory Employer Contribution Rate	7.26%	17.52%	9.81%	7.93%	19.70%	NA	1.14%
Actuarial Valuation Results (AVA)	**Based on Actuarial Value of Assets**						
Actuarial Accrued Liability (AAL)	$4,795,054,158	$53,424,304	$128,468,679	$14,595,856	$123,371,001	$64,914,271	$237,951,735
Actuarial Value of Assets	3,369,943,759	61,293,801	100,482,794	15,100,124	91,445,585	95,856,903	163,278,611
Unfunded Actuarial Liability	1,425,110,399	(7,869,497)	27,985,885	(504,268)	31,925,416	(30,942,632)	74,673,124
Funded Ratio	70.3%	114.7%	78.2%	103.5%	74.1%	147.7%	68.6%
FY 2021 Estimated Investment Return (AVA)	10.38%	10.38%	10.38%	10.38%	9.90%	3.78%	9.81%
Employer Normal Cost Rate	4.19%	15.02%	6.39%	7.60%	13.92%	NA	0.39%
Actuarial Employer Contribution Rate	12.46%	8.62%	9.33%	7.31%	32.16%	NA	1.08%
Amortization Period from Statutory Rate (Years)***	100+	None	16.2	None	100+	NA	16
Statutory Contribution Deficit/(Surplus)***	5.20%	-8.90%	-0.48%	-0.62%	12.46%	NA	-0.06%
Actuarial Valuation Results (MVA)	**Based on Market Value of Assets**						
Market Value of Assets	$3,752,753,612	$68,256,490	$111,897,170	$16,815,428	$100,075,809	$96,603,697	$182,334,446
Unfunded Actuarial Liability	1,042,300,546	(14,832,186)	16,571,509	(2,219,572)	23,295,192	(31,689,426)	55,617,289
Funded Ratio	78.3%	127.8%	87.1%	115.2%	81.1%	148.8%	76.6%
FY 2021 Estimated Investment Return (AVA)	27.00%	27.00%	27.00%	27.00%	24.15%	6.48%	25.07%
Actuarial Employer Contribution Rate	10.24%	2.95%	8.13%	6.32%	27.23%	NA	0.89%
Amortization Period from Statutory Rate (Years)	100+	None	8.5	None	100+		11
Statutory Contribution Deficit/(Surplus)***	2.98%	-14.57%	-1.68%	-1.61%	7.53%	NA	-0.25%

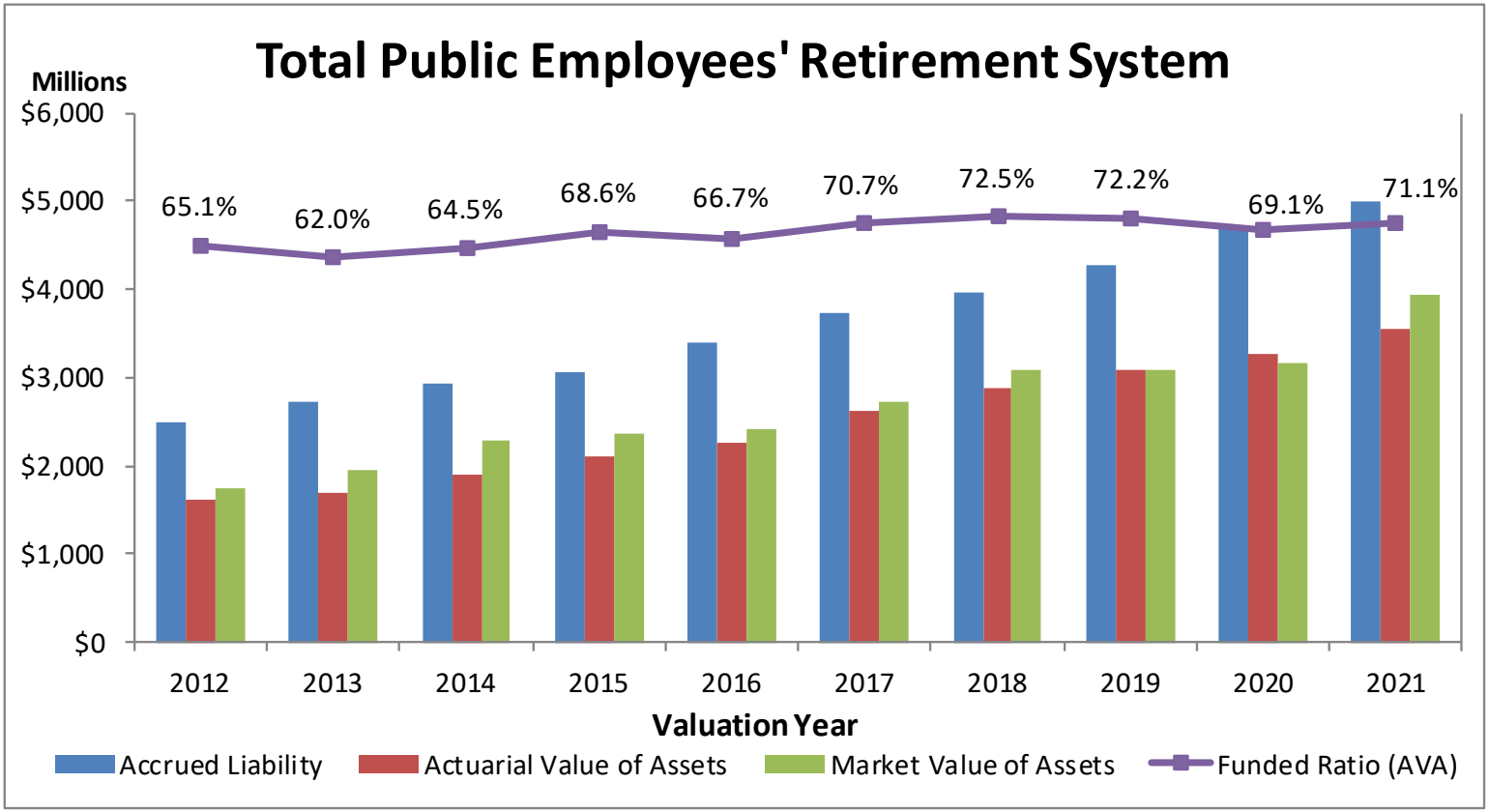
* *Public Safety with prior Main System service and Public Safety without prior Main System service.*

** *Job Service is in a surplus position with no required contributions. AAL shown for Job Service is equal to the Present Value of Future Benefits.*

*** *Contribution Deficits and Amortization Period from Statutory Rate are based on current normal cost and contribution rates. For the Main System, new hires with lower costs and higher contributions will slowly improve the plan's funding status. Highway Patrol employer and employee statutory contribution rates are to increase by 0.5 percentage points annually beginning on January 1, 2022, with the last increase occurring January 1, 2025.*

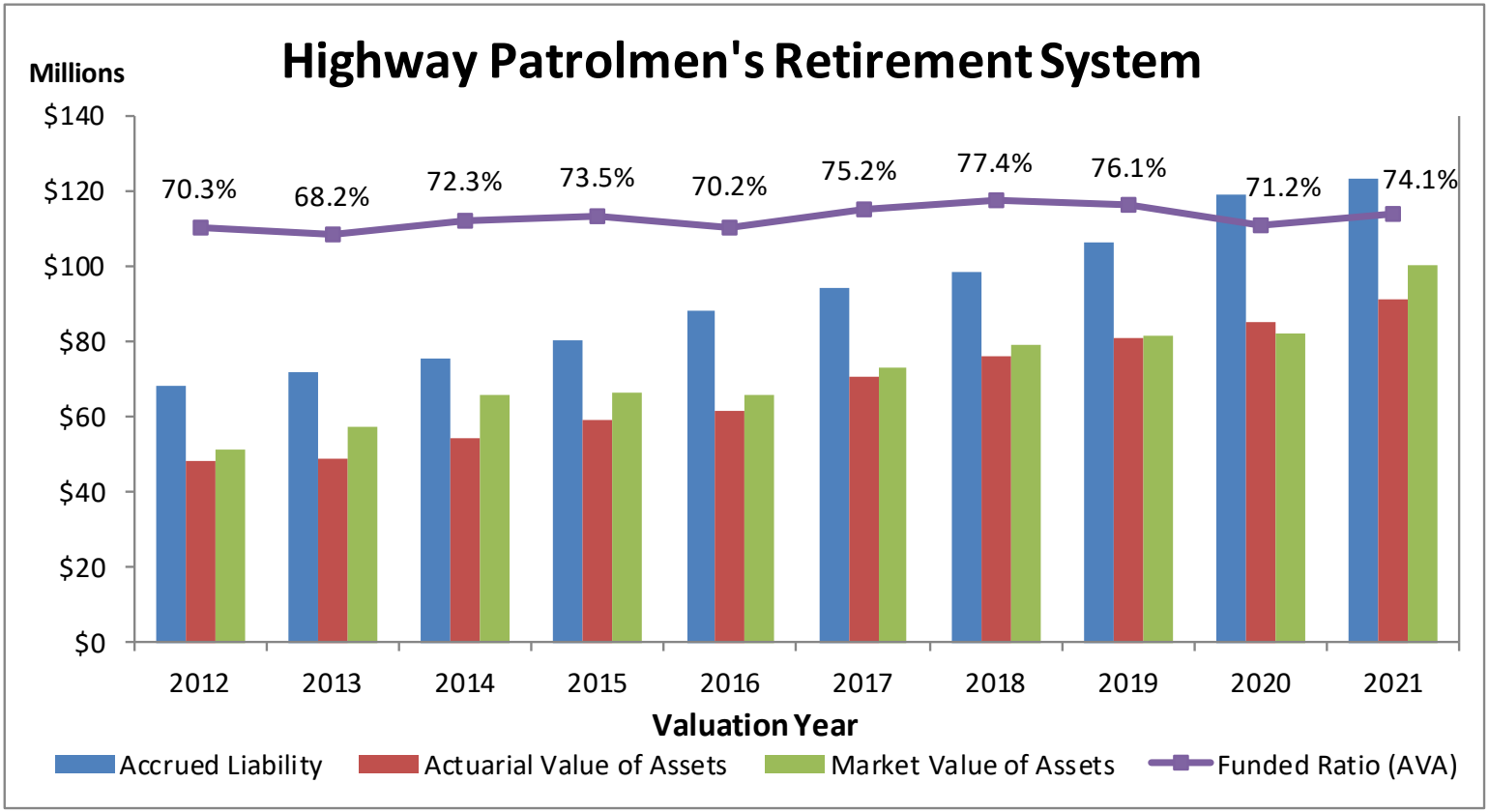
Historical Trends

Change in Funded Status



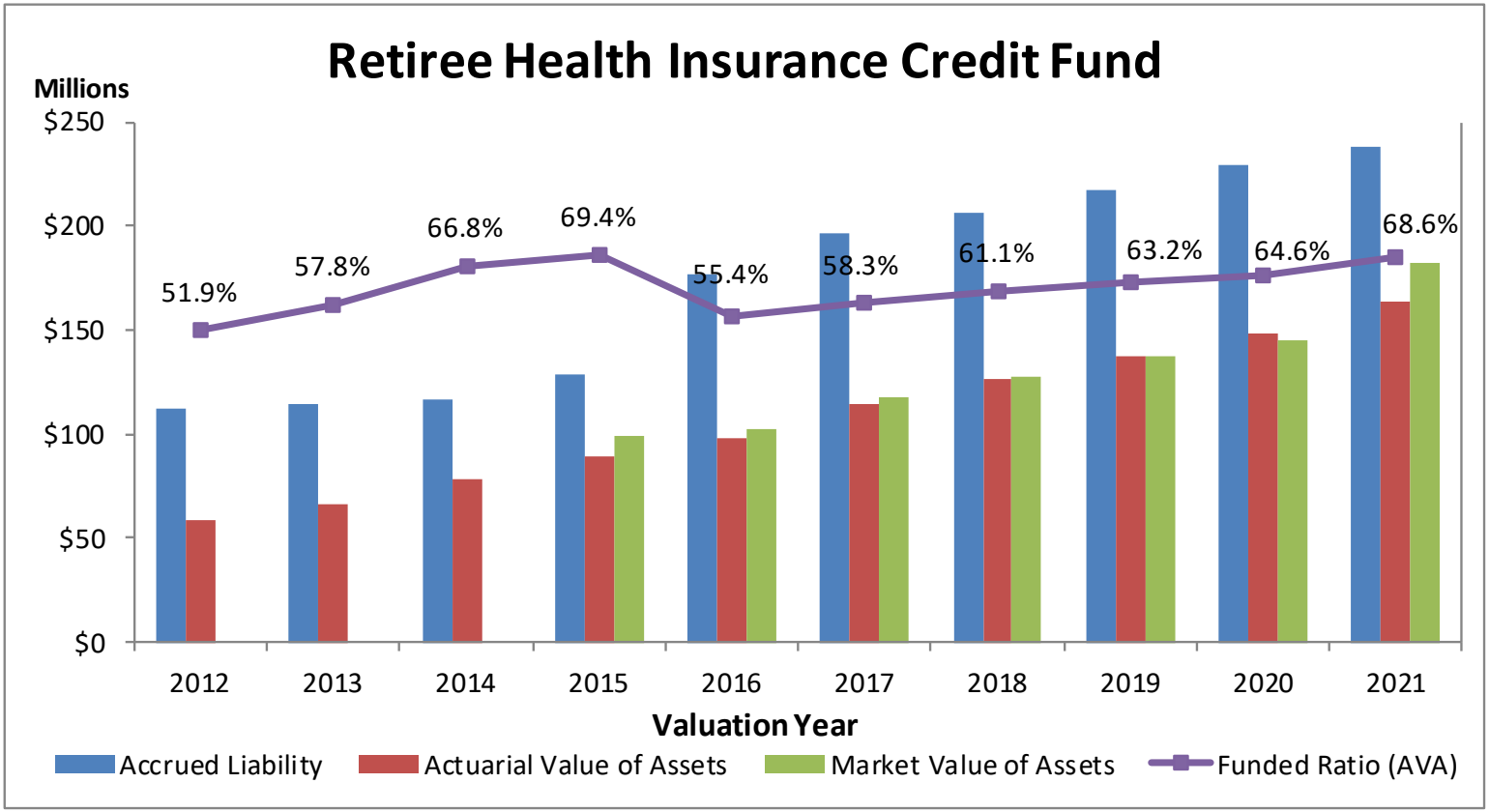
Historical Trends

Change in Funded Status



Historical Trends

Change in Funded Status



Disclosures

- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- The actuaries submitting this presentation (Bonita Wurst and Abra Hill) are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.
- The purposes of the actuarial valuation are to measure the financial position of the North Dakota Public Employees Retirement System, calculate the actuarial employer contribution rates and provide actuarial reporting and disclosure information for financial reporting.
- The assumptions used in the calculation of the July 1, 2021 actuarial valuation results are based on an experience study for the five year period ending June 30, 2019 as well as an analysis of investment return assumptions dated September 10, 2021, and were provided by, and are the responsibility of, the NDPERS Board.

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Disclosures

- Future actuarial measurements may differ significantly from the current and projected measurements presented in this presentation 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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.
- This is one of multiple documents comprising the actuarial reports for the NDPERS Plans. Additional information regarding actuarial assumptions and methods and important additional disclosures are provided in the Actuarial Valuation Reports as of July 1, 2021.
- If you need additional information to make an informed decision about the contents of this presentation, or if anything appears to be missing or incomplete, please contact us before relying on this presentation.

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