



Cavanaugh Macdonald
CONSULTING, LLC

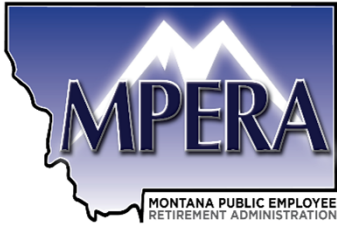
The experience and dedication you deserve

Montana Public Employees' Retirement Board

Valuation Results
June 30, 2021

Presented October 7, 2021





Benefit Financing



➤ Basic Retirement Funding Equation

$$C + I = B + E$$

C = Contributions

I = Investment Income

B = Benefits Paid

E = Expenses (administration)



Benefit Financing



$$C + I = B + E$$

B depends on

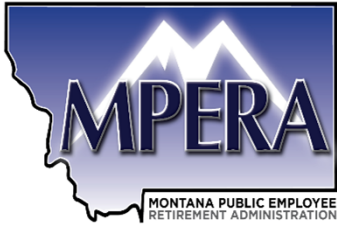
- Plan Provisions
- Experience

C depends on

- Short Term: Actuarial Assumptions
Actuarial Cost Method
- Long Term: I, B, E



Results



Comments on Valuation



➤ Asset returns

- Market asset returns averaged 27.48% vs. 7.65% expected (19.83% more than expected)
- Actuarial asset returns averaged 10.67% vs. 7.65% expected (3.02% more than expected)
 - Actuarial value of assets smooth investment gains and losses on a market value basis over a four-year period
 - The actuarial value of assets indicates unrecognized investment gains will be recognized over the following three years



Comments on Valuation



- **Funded Ratios**
 - Funded ratios increased for all plans
- **Amortization Periods for Unfunded Liability**
 - Amortization periods decreased for all systems
 - The amortization period for GWPORS exceeds 30 years



Comments on Valuation



➤ Actuarial Experience

- Overall experience gain of \$169.0 million across all plans
- Actuarial value of assets investment gain of \$244.4 million due to investment returns greater than the assumed rate of 7.65%
- Demographic experience gain of \$18.6 million
- Experience loss of \$94.0 million due to salary increases that were greater than anticipated



Comments on Valuation



➤ PERS

- In accordance with statute, the employer contribution rate was increased by 0.1%.

➤ HPORS

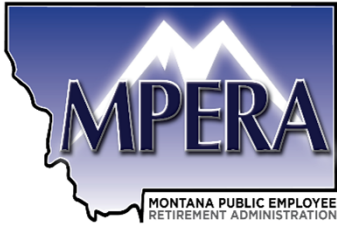
- State special revenue fund to transfer \$4,000,000 by August 15, 2021, \$2,000,000 by August 15, 2022, and \$500,000 by August 15th for each fiscal year thereafter until the plan is 100% funded.

➤ JRS

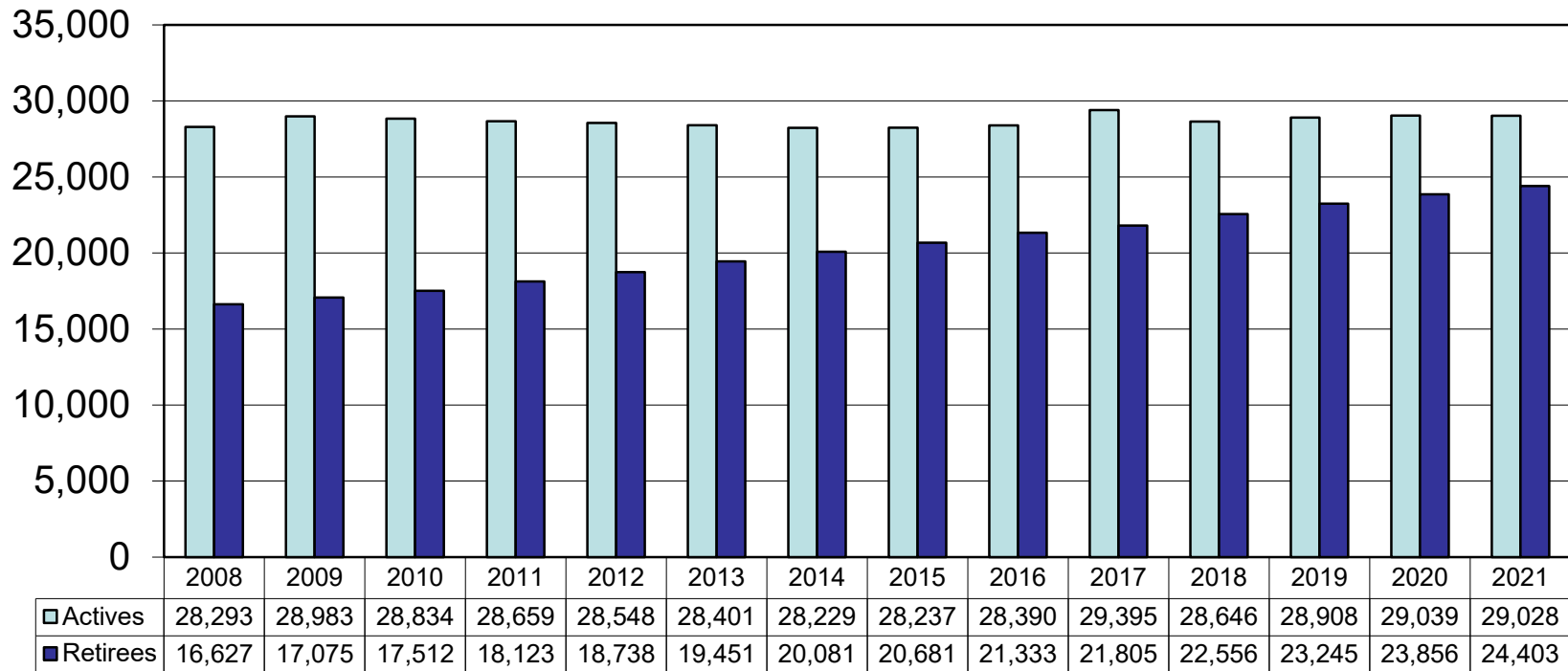
- Contribution holiday July 1, 2021 through June 30, 2023. Beginning July 1, 2023 employer contributions will resume at 14.00% until the funded ratio drops below 120%.



PERS Valuation Results



PERS Active and Retired Membership



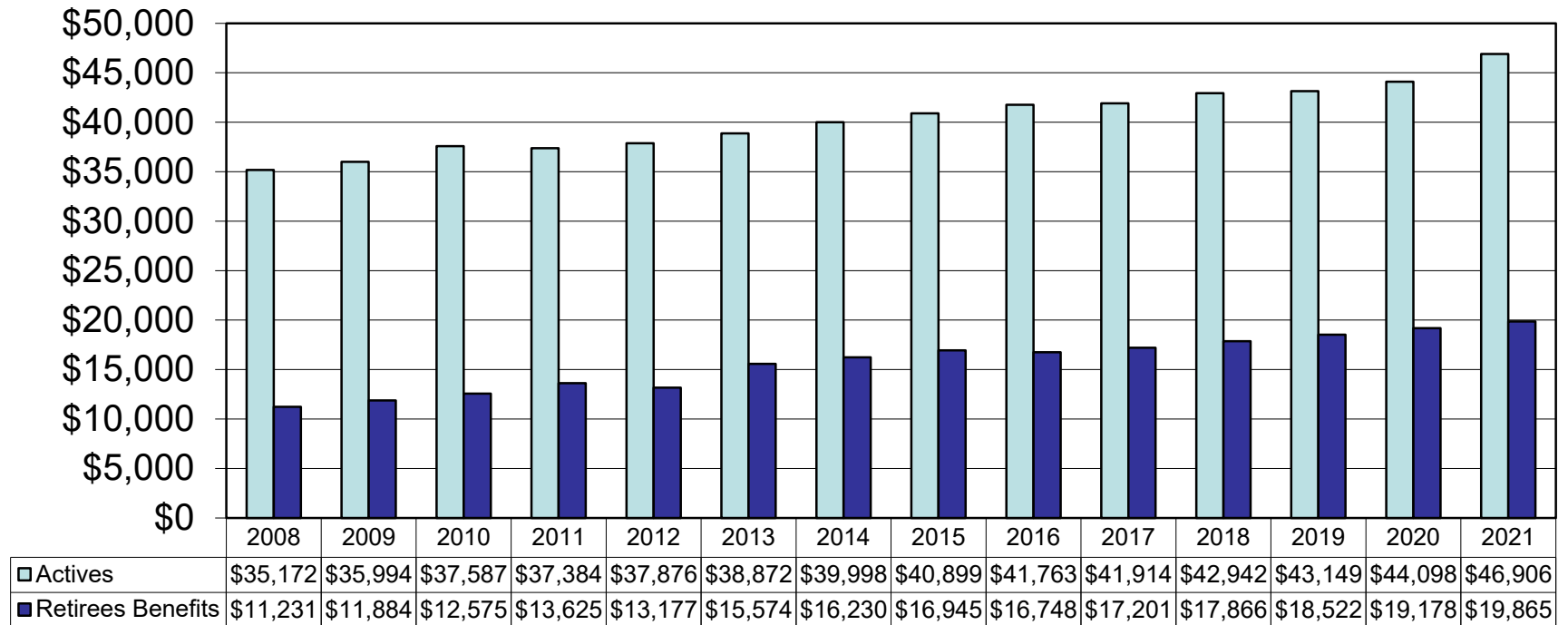
0.2% annual increase for active members since 2008; 0.04% decrease for 2021.

3.0% annual increase for retired members since 2008; 2.3% increase for 2021.

0.6 retirees per active 13 years ago; 0.84 retirees per active now.

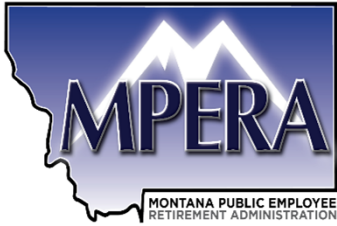


PERS Average Salary and Benefits

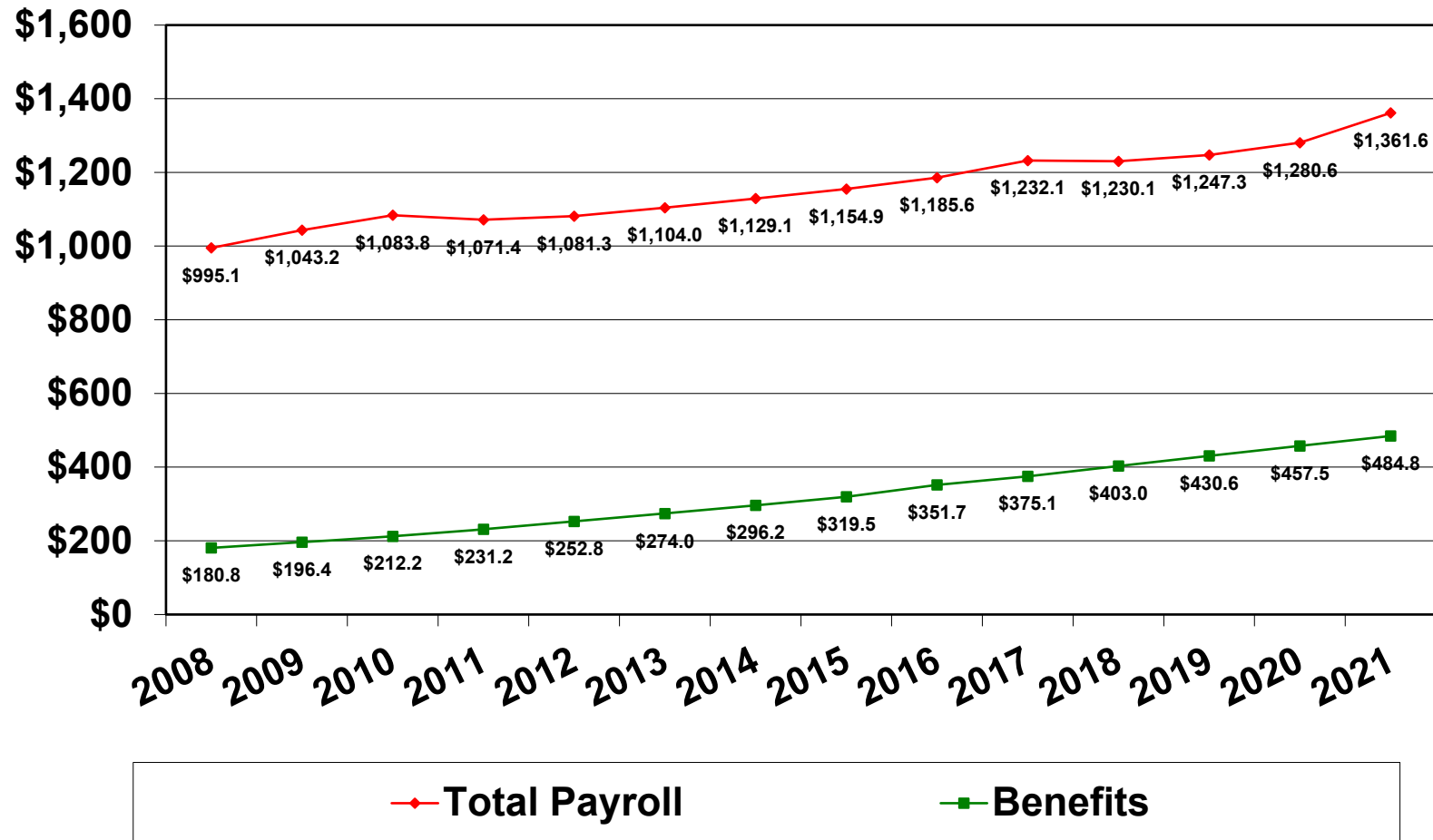


2.2% annual increase for average salary since 2008; 6.4% increase for 2021.

4.9% annual increase for average benefits since 2008; 3.6% increase for 2021.

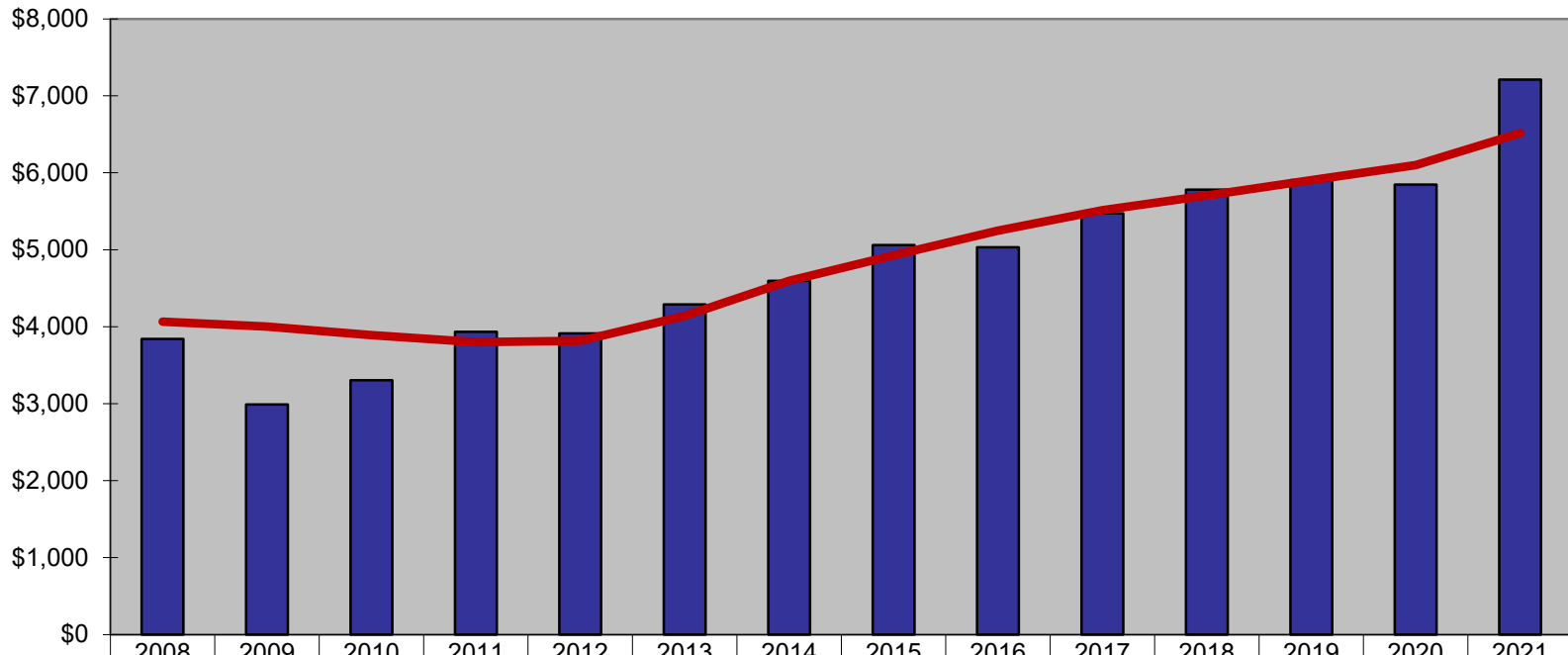


PERS Payroll & Benefits (\$ Millions)





PERS Assets (\$ Millions)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Market Value	\$3,841	\$2,988	\$3,304	\$3,933	\$3,913	\$4,290	\$4,596	\$5,061	\$5,033	\$5,473	\$5,780	\$5,903	\$5,845	\$7,210
Actuarial Value	\$4,065	\$4,002	\$3,890	\$3,801	\$3,817	\$4,140	\$4,596	\$4,927	\$5,248	\$5,514	\$5,705	\$5,903	\$6,099	\$6,515

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Market Return	(4.9)%	(20.9)%	12.9%	21.7%	2.3%	13.0%	17.1%	4.6%	2.0%	11.9%	8.9%	5.7%	2.7%	27.8%
Actuarial Return	7.6%	(0.2)%	(1.2)%	(0.1)%	3.3%	11.9%	13.2%	9.6%	9.3%	8.1%	6.7%	7.1%	7.1%	10.8%



PERS Funding Results



	July 1, 2020 Valuation	July 1, 2021 Valuation
Total Normal Cost Rate	9.81%	9.71%
Administrative Expense Load	0.28%	0.29%
Rate to Amortize UAL	6.64%	6.83%
Transfer to DB Education Fund	<u>0.04%</u>	<u>0.04%</u>
Statutory Funding Rate*	16.77%	16.87%
Actuarial Accrued Liability	\$8.234.0 million	\$8.534.6 million
Actuarial Value of Assets	\$6,099.4 million	\$6,515.0 million
Unfunded Accrued Liability	\$2,134.6 million	\$2,019.6 million
Funded Ratio	74.08%	76.34%
Amortization Period*	35 Years	28 Years

* Reflects anticipated increases in employer supplemental contribution rates and projected State revenue. Payable in fiscal year immediately following the valuation date.



Valuation Results – Other Plans



System	Funded Ratio		Amortization Period		Statutory Rate	30-Year Funding Rate	
	2020	2021	2020	2021		2020	2021
JRS***	163%	177%	0	0	7.00%	(5.93%)	(11.97%)
HPORS**	65%	67%	39	26	51.38%	54.99%	48.81%
SRS	81%	83%	21	18	23.61%	22.14%	21.36%
GWPORS	84%	85%	40	35	19.56%	20.13%	19.85%
MPORS	71%	74%	16	15	52.78%	44.29%	43.13%
FURS	82%	86%	8	6	57.67%	36.88%	34.03%
VFCA*	87%	99%	4	1	5% of premium taxes	\$913,824	\$351,815

- * The actual contributions for the fiscal year ending 2020 and 2021 were \$2,486,772 and \$2,591,791, respectively.
- ** Calculation of amortization period Includes state special revenue transfers
- *** Employer contribution holiday beginning July 1, 2021 through June 30, 2023. Beginning July 1, 2023, employer contributions will resume at a reduced rate of 14.00% until the funded ratio drops below 120%.



PERS DCRP Long Term Disability Plan

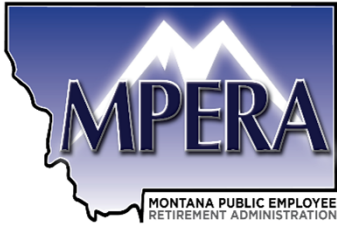
	July 1, 2020 Valuation	July 1, 2021 Valuation
Total Normal Cost Rate	0.29%	0.29%
Rate to Amortize UAL	<u>0.01%</u>	<u>0.01%</u>
Statutory Funding Rate	0.30%	0.30%
Actuarial Accrued Liability	\$5,202,583	\$5,778,856
Actuarial Value of Assets (Market Value)	\$5,753,289	\$7,992,719
Unfunded Accrued Liability	(\$550,706)	(\$2,013,863)
Funded Ratio	110.59%	134.85%
Amortization Period	0 Years	0 Years
30-Year Funding Rate	0.28%	0.25%



Upcoming Projects



- Experience Study



Actuarial Certifications & Disclosures



- Todd B. Green, is a member of the American Academy of Actuaries, Associate of the Society of Actuaries, and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.
- Additional information regarding the assumptions and methods can be found in the June 30, 2021 actuarial valuation reports.