Legislative Commission on Pensions and Retirement

2022 Actuarial Review and 2023 Preview

January 9, 2023

Emily M. Knutson, FSA, EA, MAAA
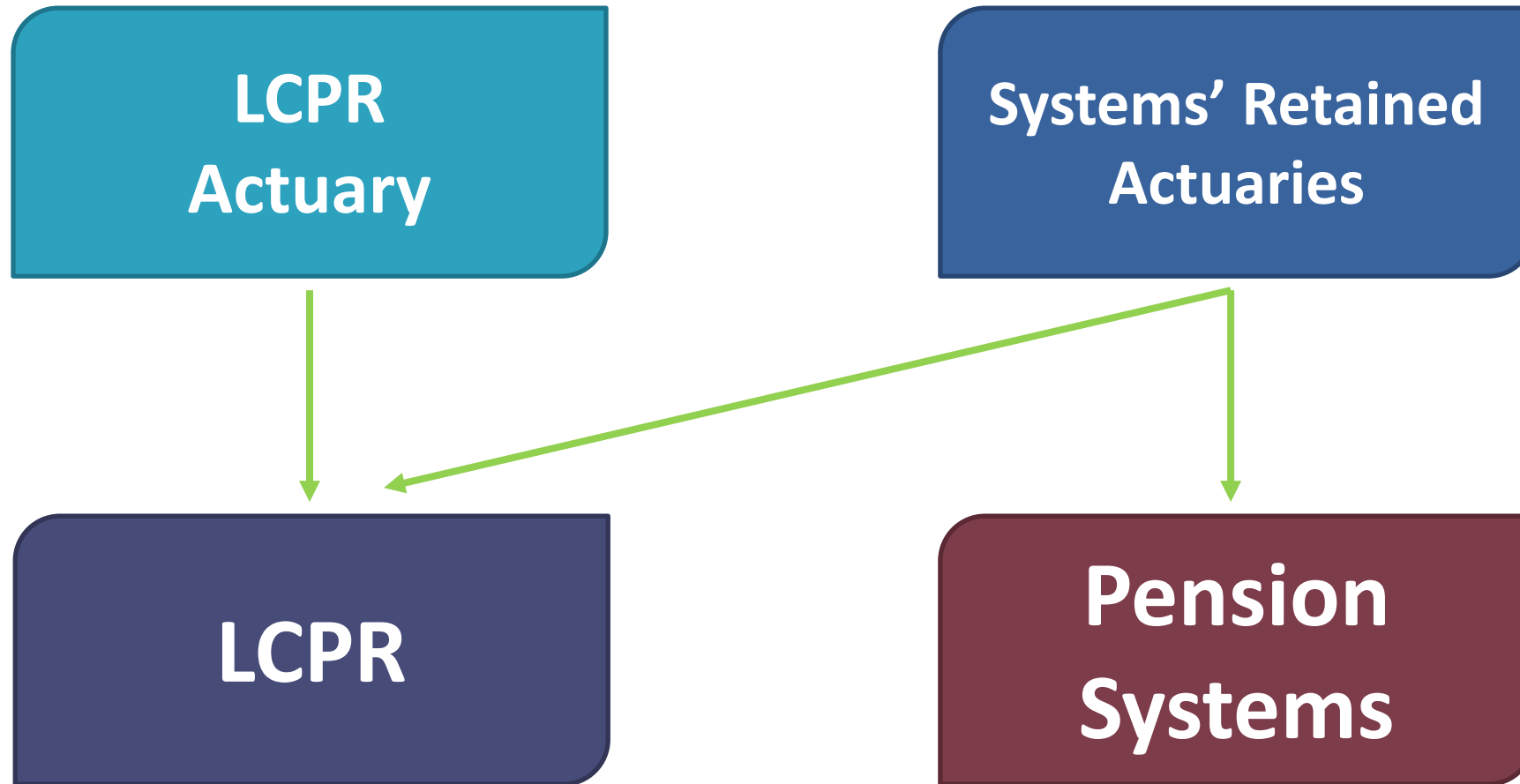Mark W. Schulte, FSA, EA, MAAA

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What we're going to cover

1	Actuarial overview
2	2022 and 2023 projects
3	Actuarial concepts
4	Questions

Actuarial Overview

Actuarial Overview

Actuarial Overview

Systems' Retained Actuaries

Funding Valuation

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

TRA
TEACHERS
RETIREMENT
ASSOCIATION
of MINNESOTA

Teachers Retirement Association of Minnesota

Actuarial Valuation Report For Funding Purposes As of July 1, 2022

www.CavMacConsulting.com

Experience Studies

St. Paul Teachers'
Retirement Fund Association
5-Year Experience Study
July 1, 2011 Through June 30, 2016

GRS

GASB 68 Accounting

Public Employees Retirement Association of Minnesota
General Employees Retirement Plan
GASB Statements No. 67 and No. 68 Accounting and Financial Reporting for Pensions
June 30, 2022

GRS

Other Consulting Projects

GRS Retirement Consulting   P: 800.521.0498 | F: 763.432.5842 | www.grsconsulting.com

January 31, 2019

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Ms. Erin Leonard
Executive Director
Minnesota State Retirement System
60 Empire Drive, Suite 300
St. Paul, MN 55103

Re: Projection of Contributions and Funding Status – State Employees Plan

Dear Erin:

Attached are 30-year projections of estimated funded status, required contributions, and statutory contributions under three asset return scenarios for the State Employees Retirement Plan. These projections, including the underlying investment return assumptions, are required by the Minnesota Standards for Actuarial Work. Unless noted otherwise, the estimates are based on participant data, assets, and plan provisions as outlined in the State Employees Retirement Plan actuarial funding valuation as of July 1, 2018.

Basis for Projections
For all enclosed projections, liabilities are determined using the statutory investment return assumption of 7.5%. As required by the Minnesota Standards for Actuarial Work, the projections reflect three asset return scenarios (7.5%, 6.0% and 9.0%). Note that we believe the 9.0% rate of return assumption is outside of the range of reasonable expected returns for this plan.

The estimates are based on the market value of assets with no smoothing of investment gains or losses. Payroll is assumed to increase approximately 3.25% per year over the long-term, consistent with the valuation assumption for total payroll growth.

The projection is an open group projection; meaning, active members projected to retire or otherwise terminate in the future are replaced with new active members so that the total active membership of the fund remains at 51,223 members. The profile of these new members is the same as new members hired between July 1, 2012 and July 1, 2017:

- Average age at hire is 37.4
- Average salary at hire is $45,500
- Approximately 56% female, 44% male

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4

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Actuarial Overview

LCPR Actuary

Valuation Replication

Experience Study Review

Valuation Review

Other Advisory Projects

2022 and 2023 Projects

2022 Completed Projects

Projects	Comments	
Valuation replication ▪ MSRS - General	– We determined that liability calculations were reasonable and accurate, and that data from the system was used appropriately – All liability and contribution calculations were replicated to high degree of accuracy	✔
Valuation review: ▪ MSRS - General ▪ PERA - General ▪ TRA ▪ SPTRFA	– We determined that results appeared reasonable, and census data matched systems' information – The reports complied with MN Statutes, LCPR Actuarial Standards, and relevant ASOPs – Minor suggestions for potential improvements to report presentation and exhibits	✔
Review of investment return assumption	– Systems' boards evaluated different investment return assumptions based on updated capital market expectations – VIA provided background information on how the investment return assumption is used (discount rate) and the importance of ongoing review to make sure this assumption is based on contemporary expectations – VERY important issue to address for systems' long-term health	

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2023 Workplan

Projects	Comments
Valuation replications ▪ MSRS – State Correctional ▪ MSRS – State Patrol ▪ PERA – Local Correctional ▪ PERA – Police & Fire	– Data from retained actuary received and processed; initial programming begun – Work is in progress; April completion target – Replications not previously prepared for these plans
Review of Investment Return Assumption	– Systems' boards continue to evaluate different investment return assumptions based on updated capital market expectations – VIA will provide additional background information and perspective as needed during upcoming discussions – This assumption will continue to be a critical item for ongoing review and validation

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Actuarial Concepts

Actuarial Concepts

▸ Minnesota public pensions cover a broad range of employers and participants

▸ Each has unique circumstances and issues to address, but fundamental actuarial and financial management principles apply to all

| MSRS	PERA	TRA	SPTRFA	VFRAs (~700)
▪ General	▪ General			
▪ Correctional	▪ Correctional			
▪ Judges	▪ Police & Fire			
▪ State Patrol				
▪ Legislators				

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Actuarial Concepts

How much should be contributed to pension plans <u>today</u> to pay for benefits promised in the <u>future</u>?

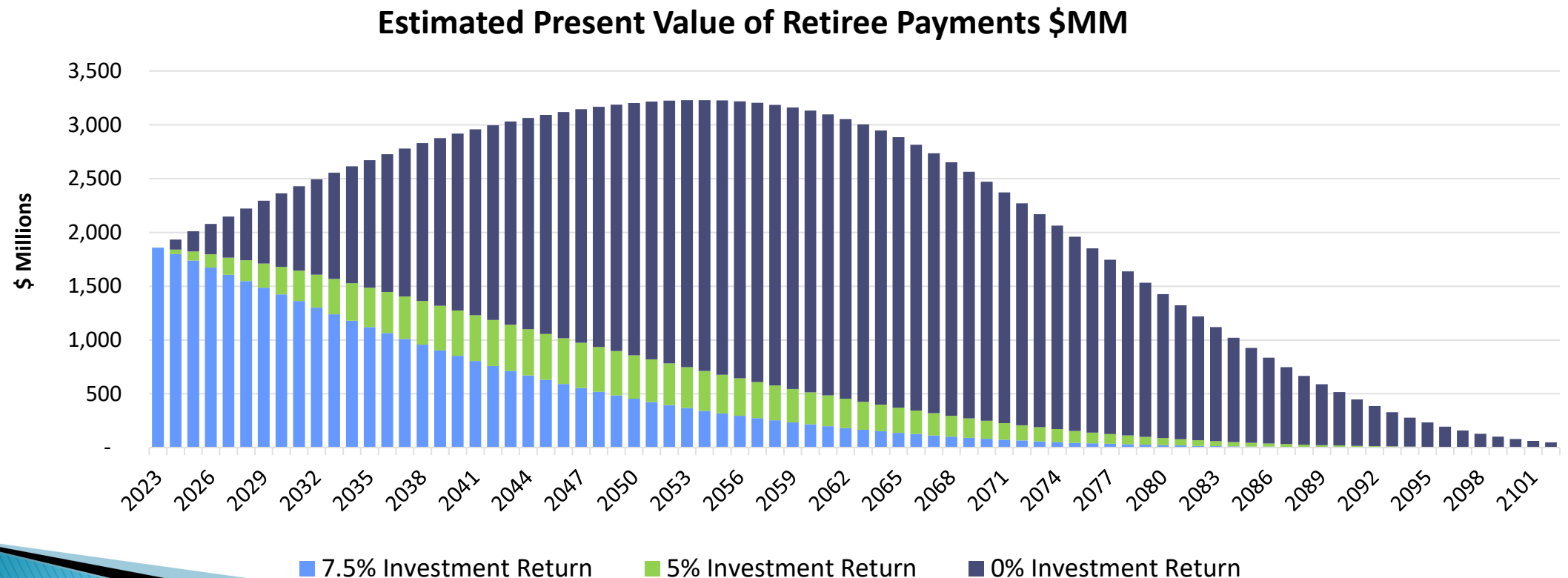# Actuarial Concepts

▸ First step in calculating value of pension promise is to estimate future retiree benefit payments

Projected Retiree Benefit Payments $MM
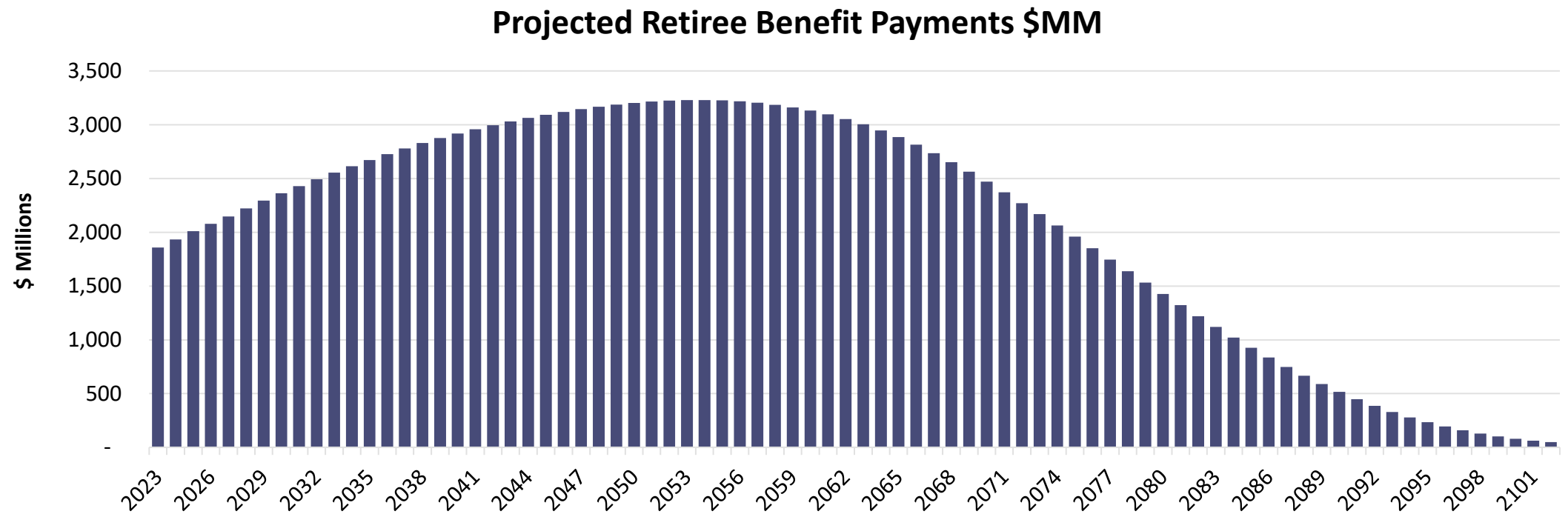
Actuarial Concepts

▶ To calculate pension liabilities, the actuary estimates future benefit payments and then calculates their "discounted value" on a plan-wide basis

Estimated Present Value of Retiree Payments $MM

Legend: 7.5% Investment Return (light blue), 5% Investment Return (green), 0% Investment Return (dark blue)

Actuarial Concepts

▸ **Investment return assumption** is critical component in estimating value of pension liabilities

▸ If long-term investment returns fall below assumption, then may need additional contributions in the future

Potential $240 shortfall if returns are 1.0% lower than expected annually

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Actuarial Concepts

Capital market assumptions are constantly evolving, and an assumption at the high end of "reasonable range" could quickly become unreasonable
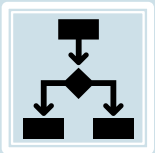
Want to maintain integrity of the actuarial valuations/assumptions and, to the extent possible, keep those decisions separate from other policy choices

Opinions may differ, and that's ok! Different model inputs, processes, and professional judgement can produce different expectations. Actuary must attest whether assumption is reasonable (or not) at each valuation

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Questions

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