THE PEW CHARITABLE TRUSTS

Pension Debt and New Plan Designs

Milwaukee County Retirement Sustainability Taskforce

May 29, 2018

David Draine, Senior Officer
Public Sector Retirement Systems Project

The Pew Charitable Trusts

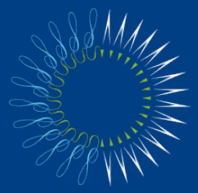
- More than 40 active, evidence-based research projects
- Projects include public safety, immigration, elections, transportation, pensions, and state tax incentives
- All follow a common approach: data-driven, inclusive, and transparent

Pew's Public Sector Retirement Systems Project

- Research since 2007 includes 50-state trends on public pensions and retiree benefits relating to funding, investments, governance, and employee preferences
- Technical assistance for states and cities since 2011

Presentation Overview

- Revisiting Realized vs. Expected Costs
- Revisiting RST Objective
- Approaches to Closing Existing Funding Gap
- Tools to Measure and Manage Risk
- Review of New Plan Design Options
- Conclusion



THE PEW CHARITABLE TRUSTS

Revisiting Expected vs. Realized Cost

Revisiting Expected vs. Realized Cost

- The normal cost sensitivity exhibit, which we've included in the past four presentations, shows the sensitivity of new employee costs over the long-term to investment before below plan assumptions.

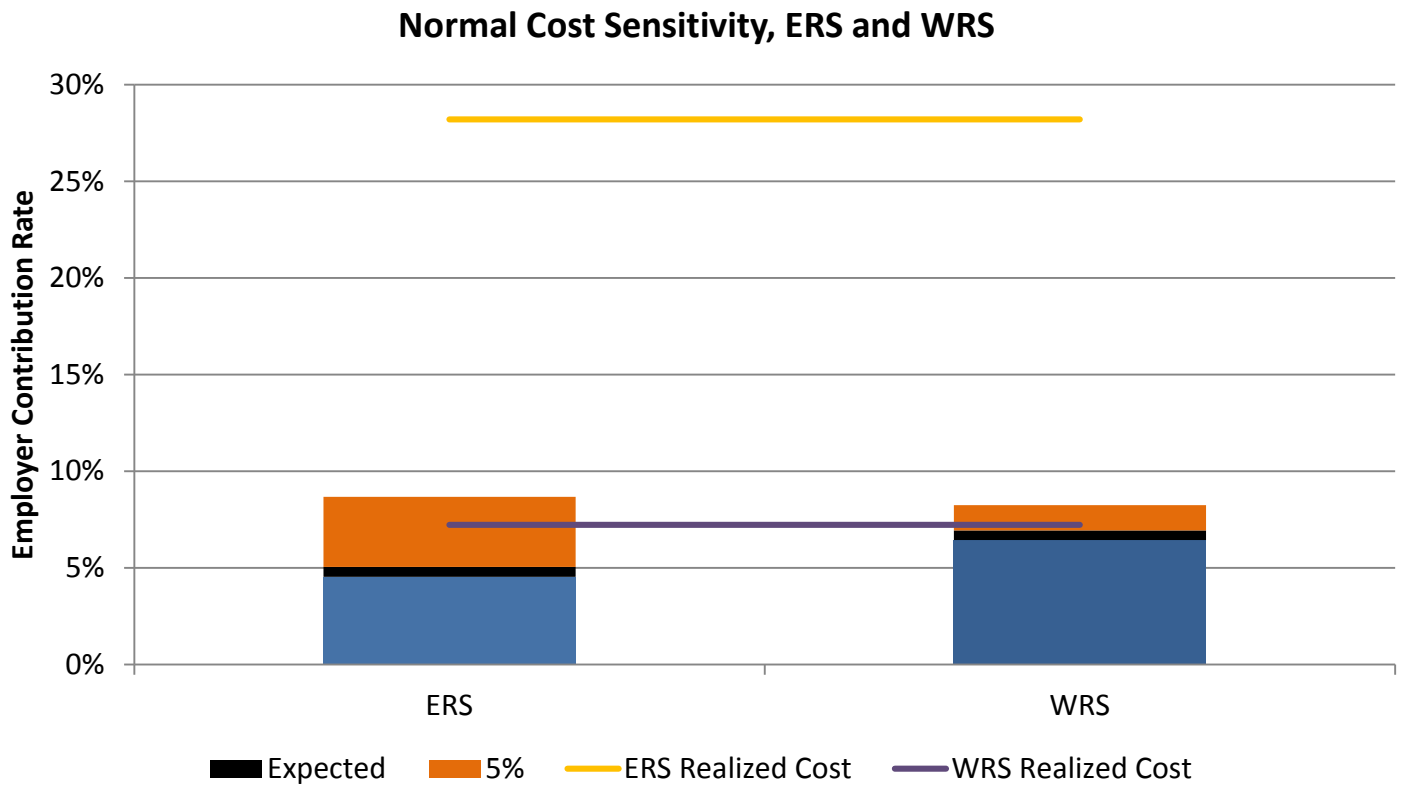
- However, for both ERS and WRS, we can look at real life experience, which shows far greater gap in actual costs.

- The normal cost sensitivity exhibit is a stylized representation of investment risk; it does not model the possibility of costly policy decisions or differences in contribution policy or plan management.

- Understanding the sources of Milwaukee County's unfunded liability helps explain the disparity in costs between ERS and WRS and illustrates the potential risk from maintaining ERS on an ongoing basis.

Normal Cost Sensitivity

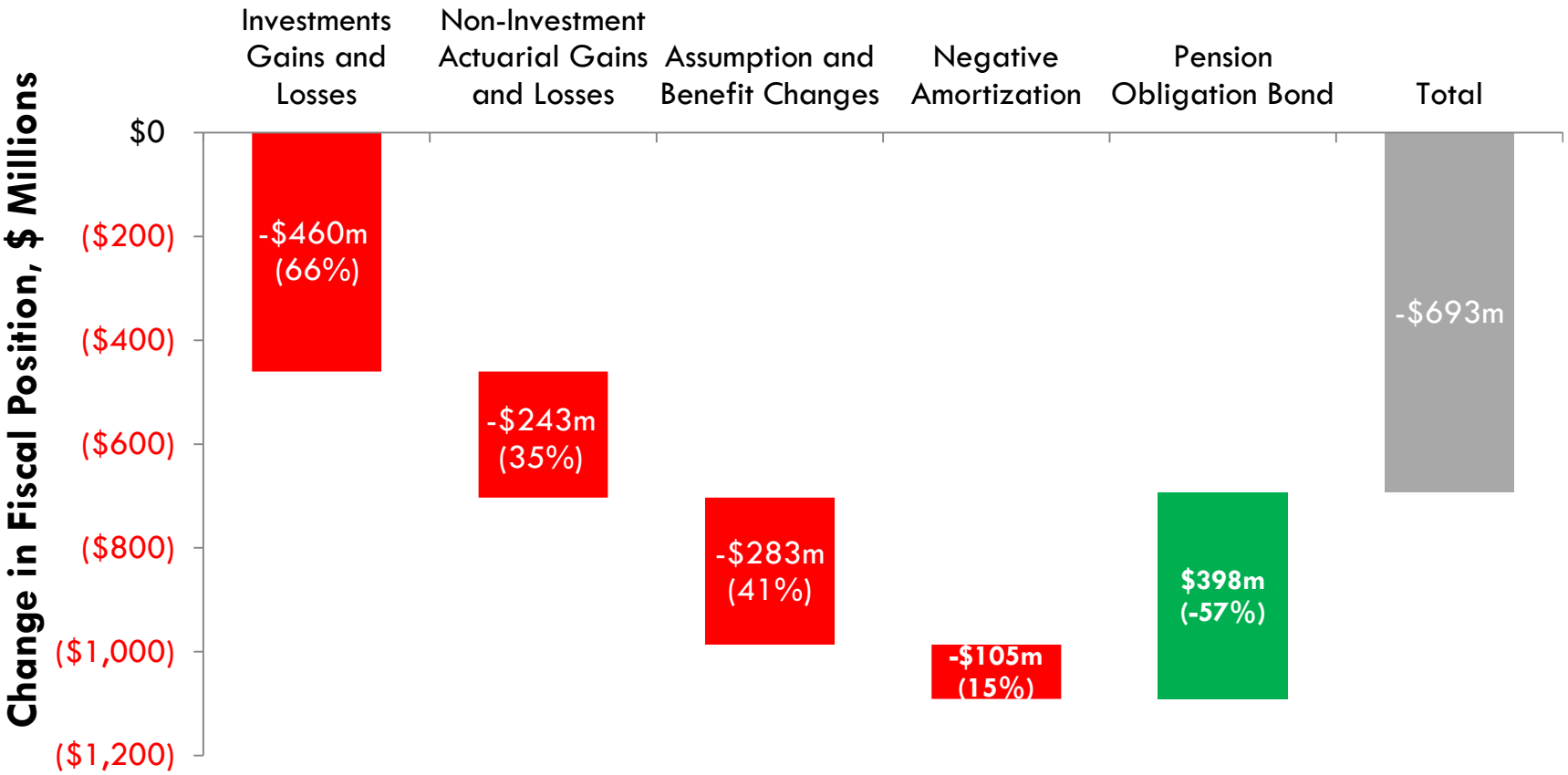
The actual cost for ERS is almost six times the expected normal cost. The actual cost for WRS is only half a percent of payroll greater than the expected normal cost.



Notes:
ERS expected normal cost based on 7.5% discount rate. WRS expected normal cost based on 7.2% discount rate. Both employer normal cost estimates based on 50/50 split in total normal cost between employer and employee.

Milwaukee County ERS Sources of Growth in Unfunded Liability (MVA), 2001-2016

ERS went from a $100 million surplus on a market value basis to a $585 million unfunded liability.



Notes:
Pew analysis using ERS actuarial valuations.

What Caused Milwaukee County's Unfunded Liability?

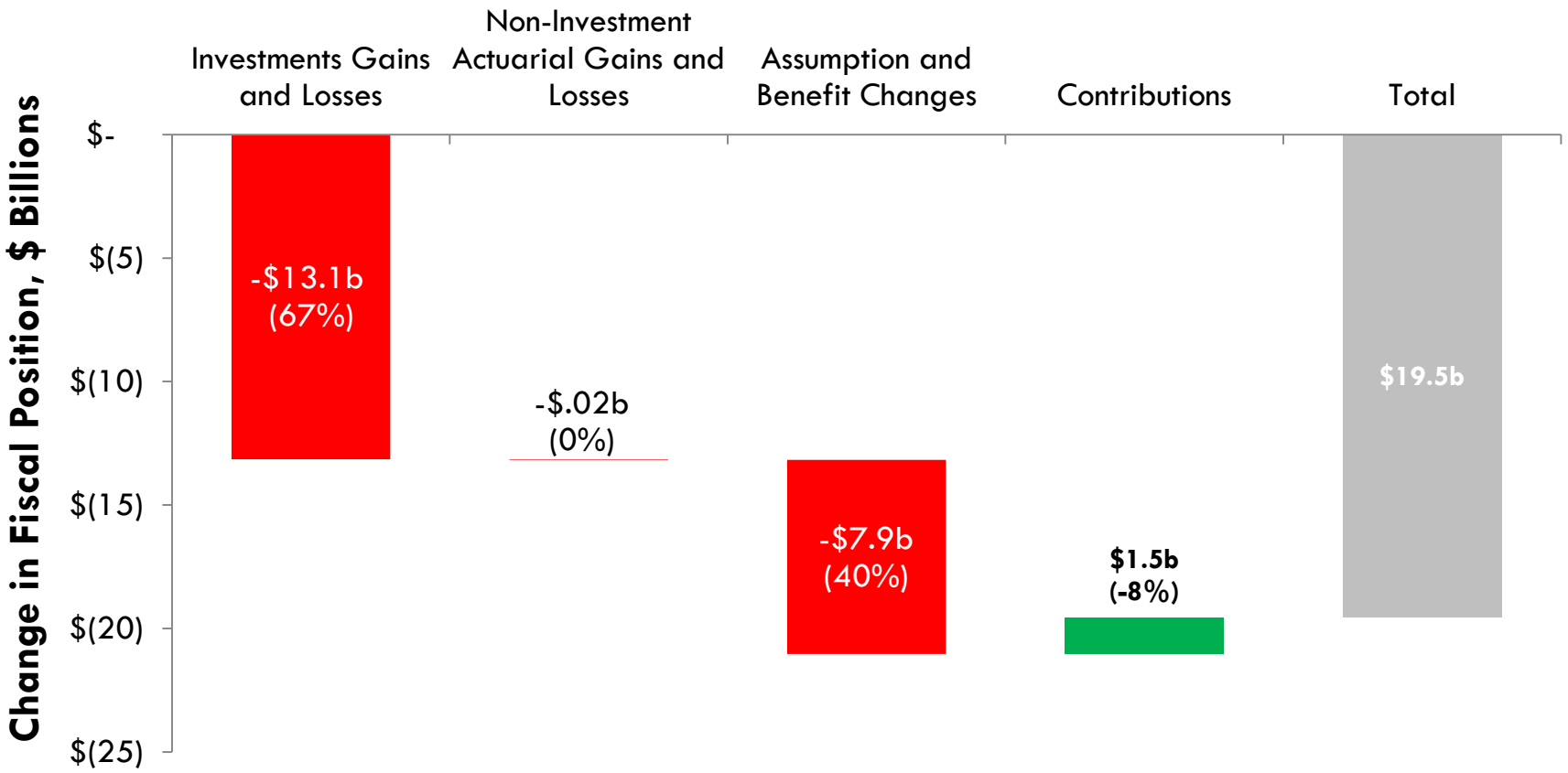
- Investments that fell short of assumptions were the single largest driver of the unfunded liability—adding approximately $460 million to the county's pension debt.
  - The investment target has declined from 9% in 2001 to 8% in 2016 but remains high both compared to other state and local retirement systems and projections of likely performance.

- Contribution policy should help pay down unfunded liabilities. In Milwaukee County, contribution policy instead allowed an additional $100 million in pension debt to accumulate.

- Non-investment actuarial assumptions that missed the target along with changes to assumptions added $526 million in unfunded liabilities.

- Milwaukee County's pension obligation bond in 2009 reduced the funding shortfall by about $400 million but added additional debt to the County's balance sheet.

Example of a Well-Funded Plan—North Carolina (2001 to 2015)



Note: We analyze the change in the MVA UAAL from the beginning of the year 2001 to the end of year 2015. Therefore, our data begins with the MVA UAAL from the end of 2000, but does not show changes during that year. Assumptions category includes actuarial experience

Source: The Pew Charitable Trusts.

Findings from Reviewing ERS UAAL

- Every state and local government had to weather the Dot Com crash and the Great Recession yet public pension plan funding levels vary tremendously.
- The difference is driven by policy choices.
- While funding the actuarial recommended amounts, Milwaukee County's contributions were not sufficient to both pay for expected growth in the pension debt and the cost of new benefits—called negative amortization.
- Using overly optimistic assumptions to set policy has led to nearly half a billion dollars in additional pension debt. If similar non-investment losses and revisions to assumptions occur over the next 15 years, that could increase pension costs by another 25%.

THE PEW CHARITABLE TRUSTS

Revisiting Retirement Sustainability Taskforce Objective

Goal of the Taskforce Process

"The objective of the Taskforce is to study larger pension system modifications that ensure retirement security for future retirees and long-term fiscal sustainability for the County. The Taskforce will develop recommendations to Milwaukee County on pension system modifications that should be considered."

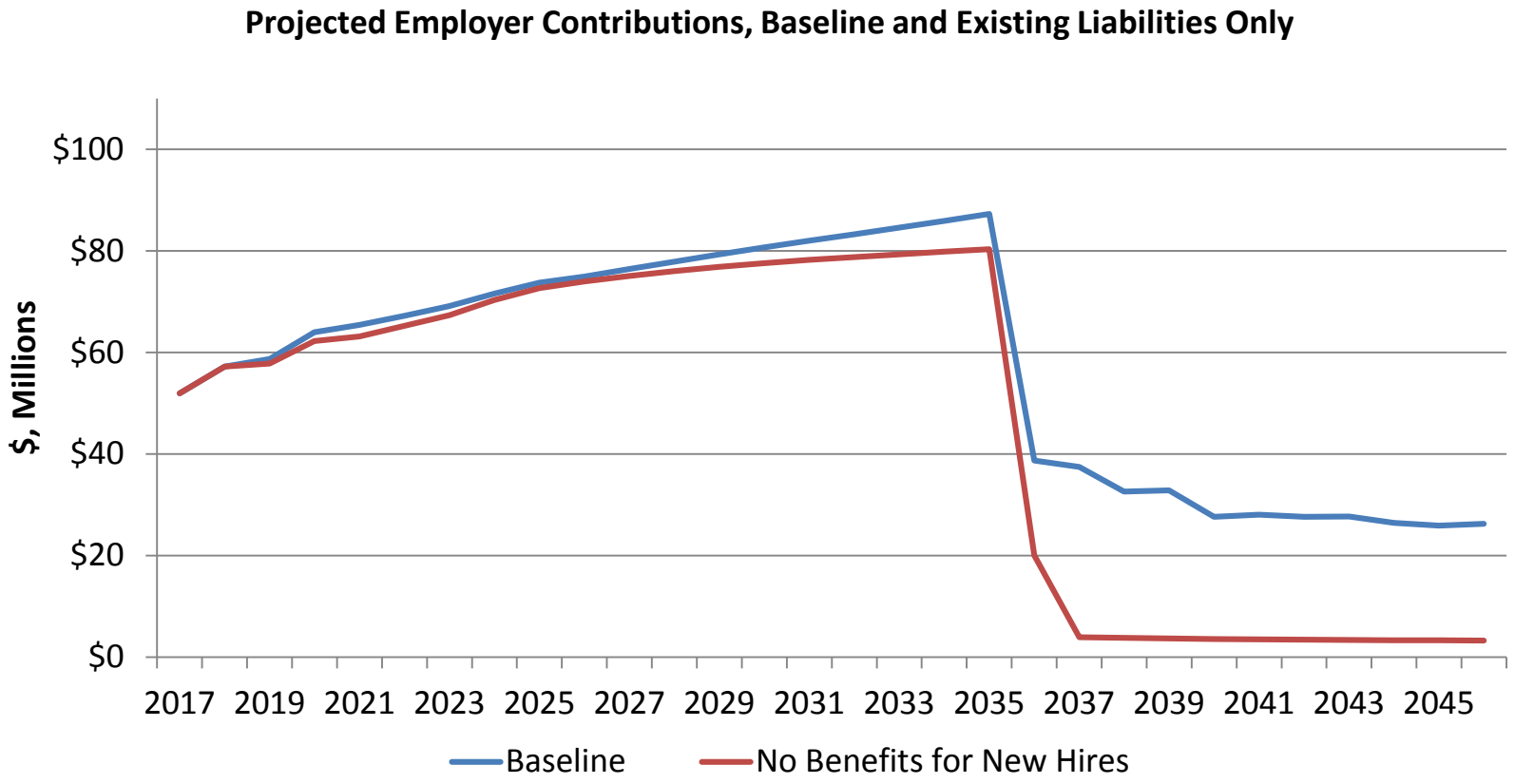
Approaches to Achieving Taskforce Objective

- Identify a new plan design for new hires that will be affordable and sustainable while providing retirement security for workers.
- Identify a plan to pay for the existing unfunded liabilities that places reasonable burdens on Milwaukee County's budget, ensures benefits can be paid, and fairly spreads costs across generations.
- Put in place tools to measure and monitor the fiscal health of Milwaukee County's pension systems.
- Taskforce will ultimately need to consider an overall package of reforms.

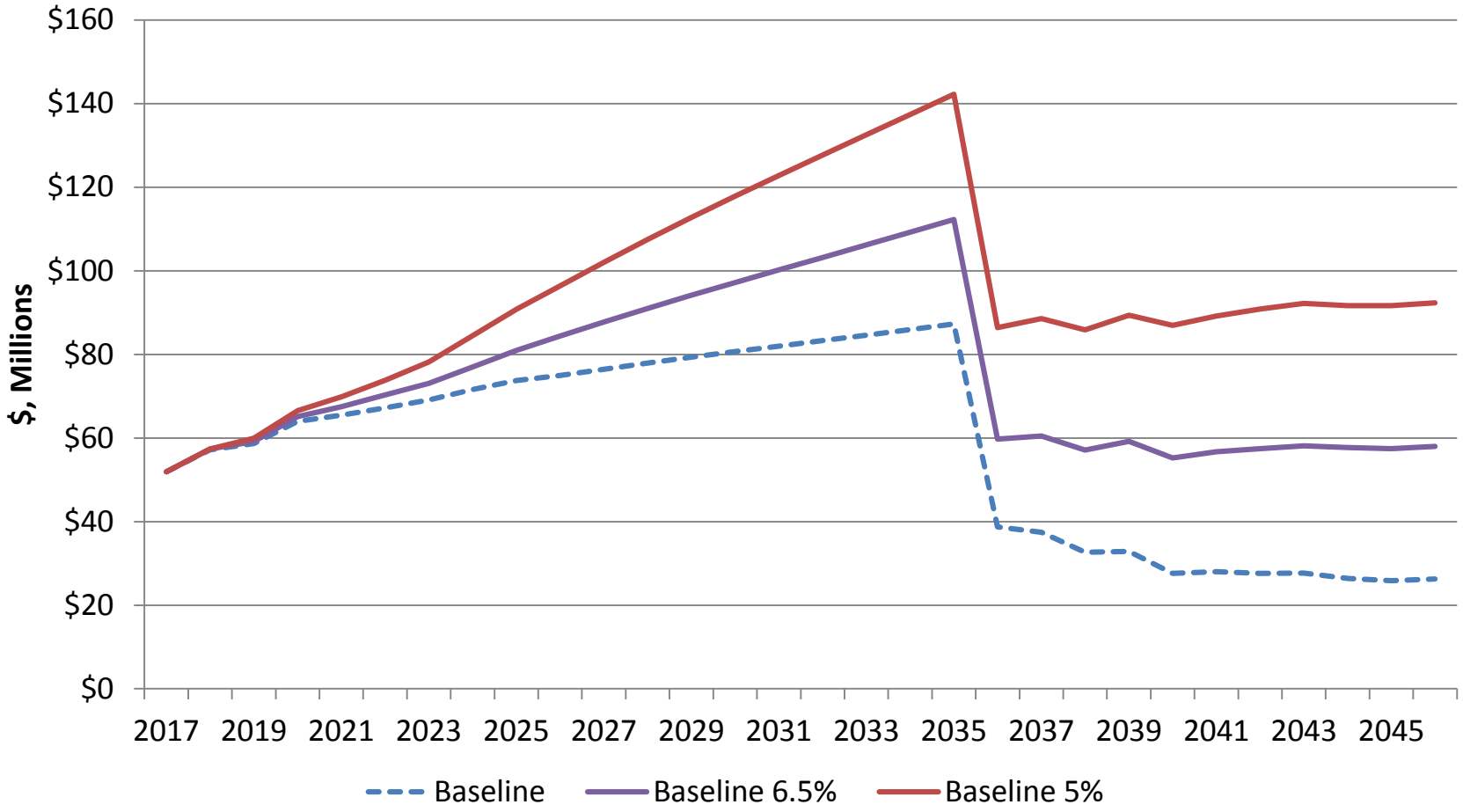
THE PEW CHARITABLE TRUSTS

Approaches to Closing the Existing Milwaukee County Funding Gap

The Majority of Projected Employer Costs Are For Existing Promises



Costs Are Sensitive to Future Investment Performance



Notes:
Actuarial projections done by The Terry Group based on Milwaukee County ERS plan assumptions. Updated using additional data from Segal.

Options That May Have Limited Further Potential

Prior reform efforts have largely closed off some benefit provisions that have driven employer costs going forward; retroactive changes would face legal obstacles.

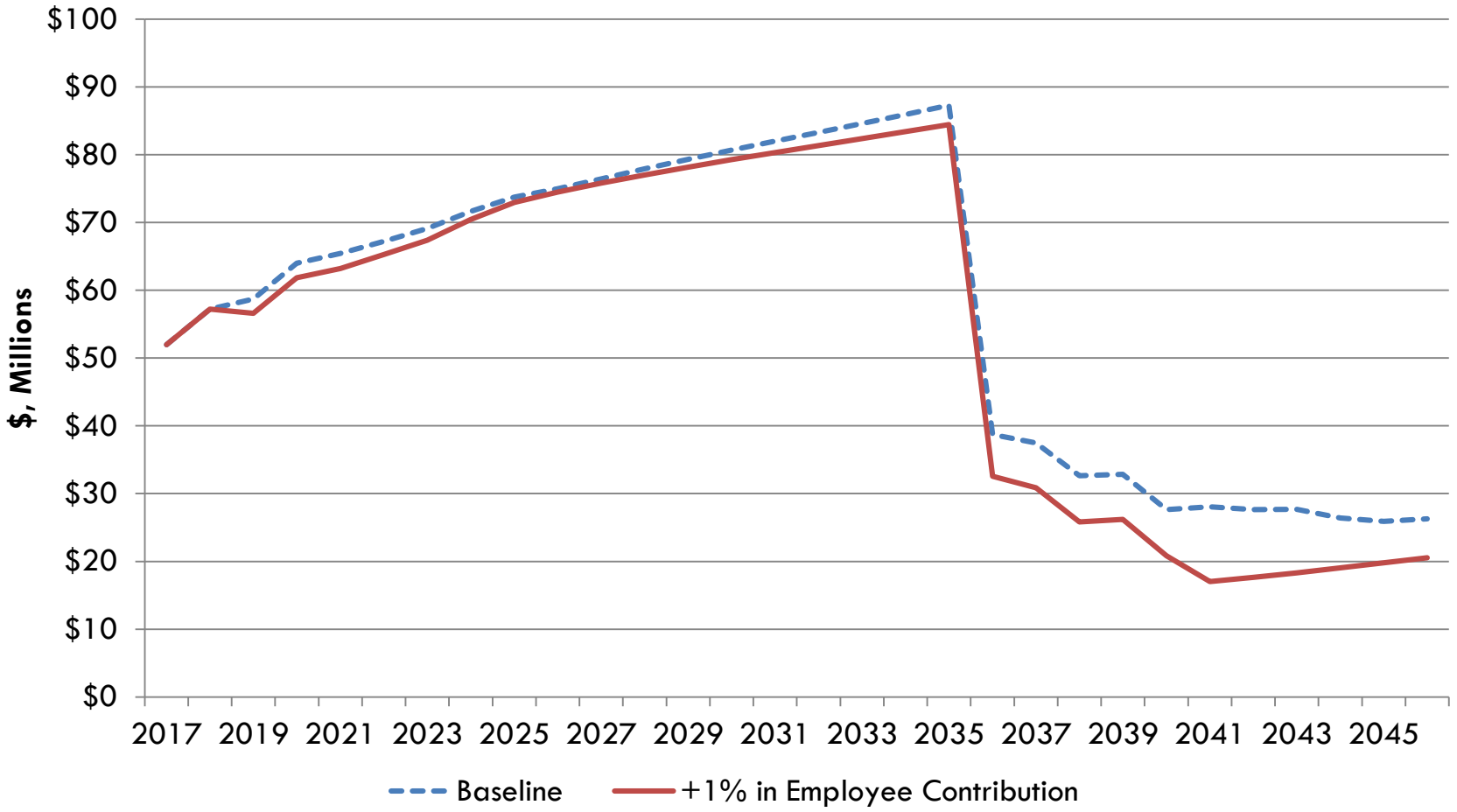
- **Changes to the multiplier**: Our understanding is that at this point all future service for current general employees earns a 1.6% multiplier.
- **Changes to vesting**: From an overall cost perspective, workers who would be affected have accumulated little in benefits and often are better off simply taking a refund of employee contributions regardless of vesting.
- **Changes to retirement age**
- **Backdrop**: Benefits eligible for backdrop were frozen to the extent possible.

Example Approaches to Changing Cost and Risk for Existing Liabilities

State and local policymakers have a few tools to change employer cost and risk. In some cases, lowering short-term cost will add to the long-term price tag.

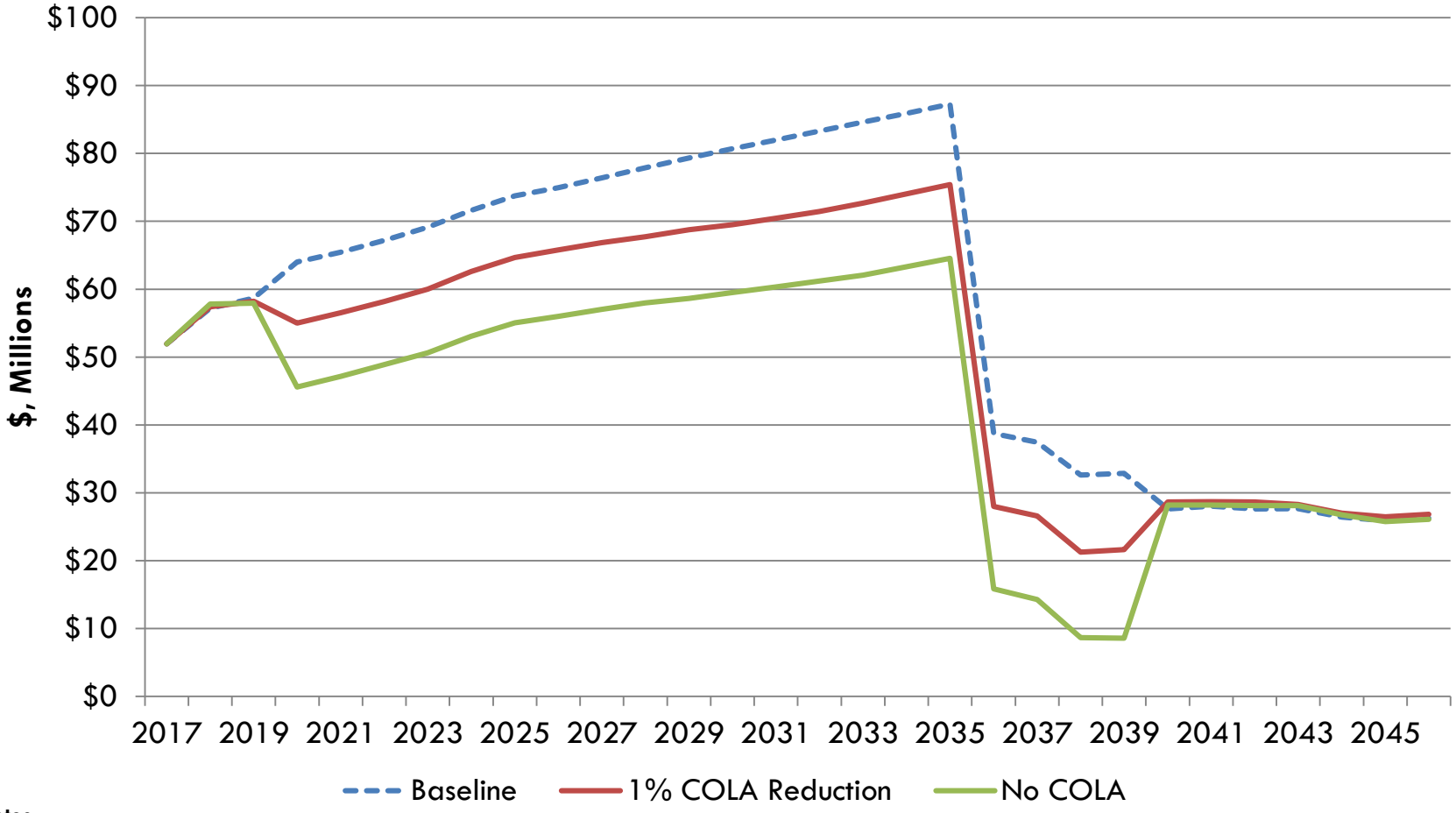
- **Increase Employee Contributions:**
- **Reduce the COLA:**
- **Lower the Discount Rate:**
- **Increase the Amortization Period:**
- **Pension Obligation Bonds**

Projected Employer Contributions, Increasing Employee Contribution



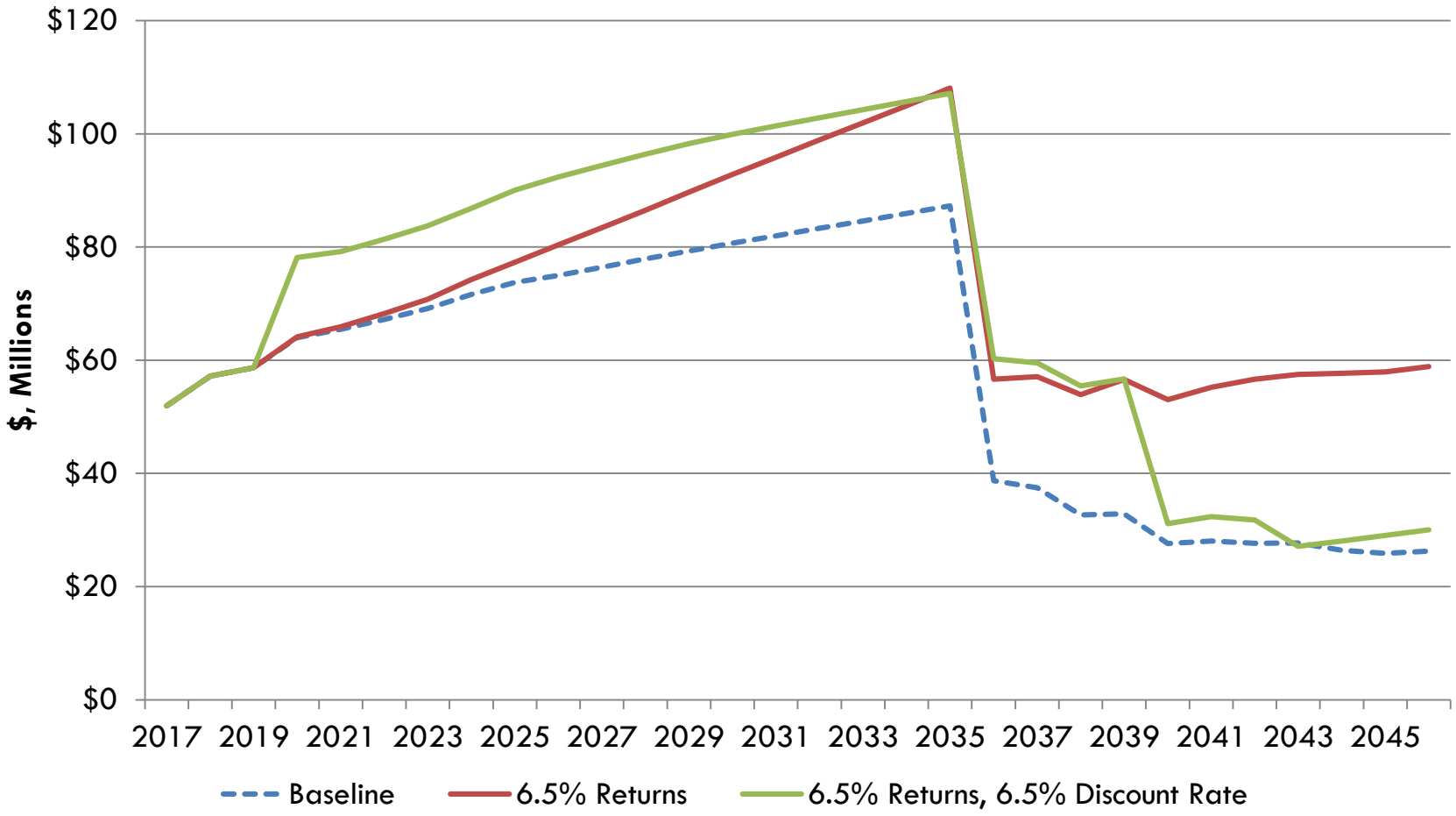
Notes:
Actuarial projections done by The Terry Group based on Milwaukee County ERS plan assumptions. Updated using additional data from Segal.

Projected Employer Contributions, Reducing COLA



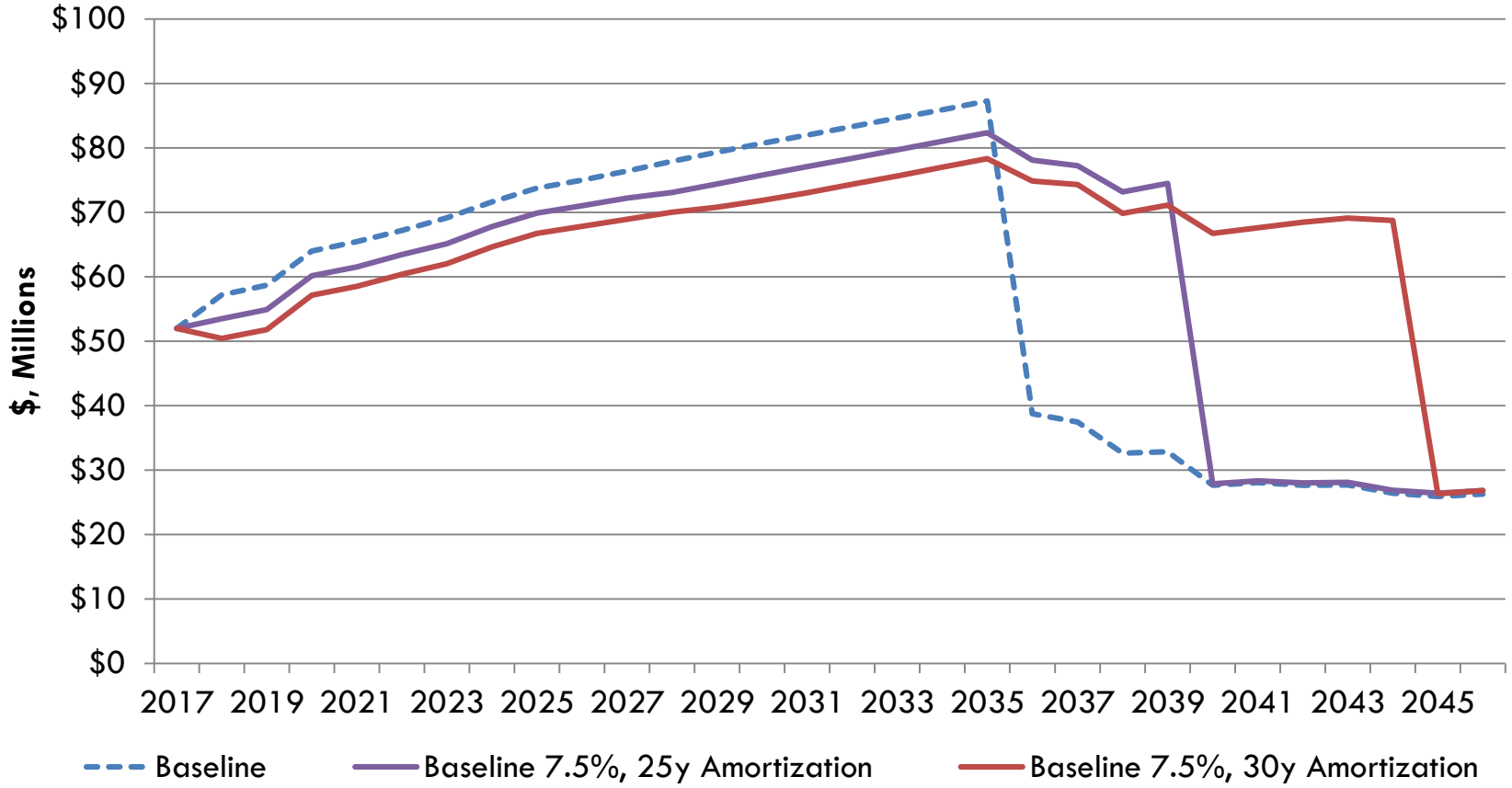
Notes:
Actuarial projections done by The Terry Group based on Milwaukee County ERS plan assumptions. Updated using additional data from Segal.

Projected Employer Contributions, Changing Returns and Discount Rates



Notes:
Actuarial projections done by The Terry Group based on Milwaukee County ERS plan assumptions. Updated using additional data from Segal.

Projected Employer Contributions, Changing Amortization Periods



Notes:
Actuarial projections done by The Terry Group based on Milwaukee County ERS plan assumptions. Updated using additional data from Segal.

Savings in Early Years (2018-2027)…

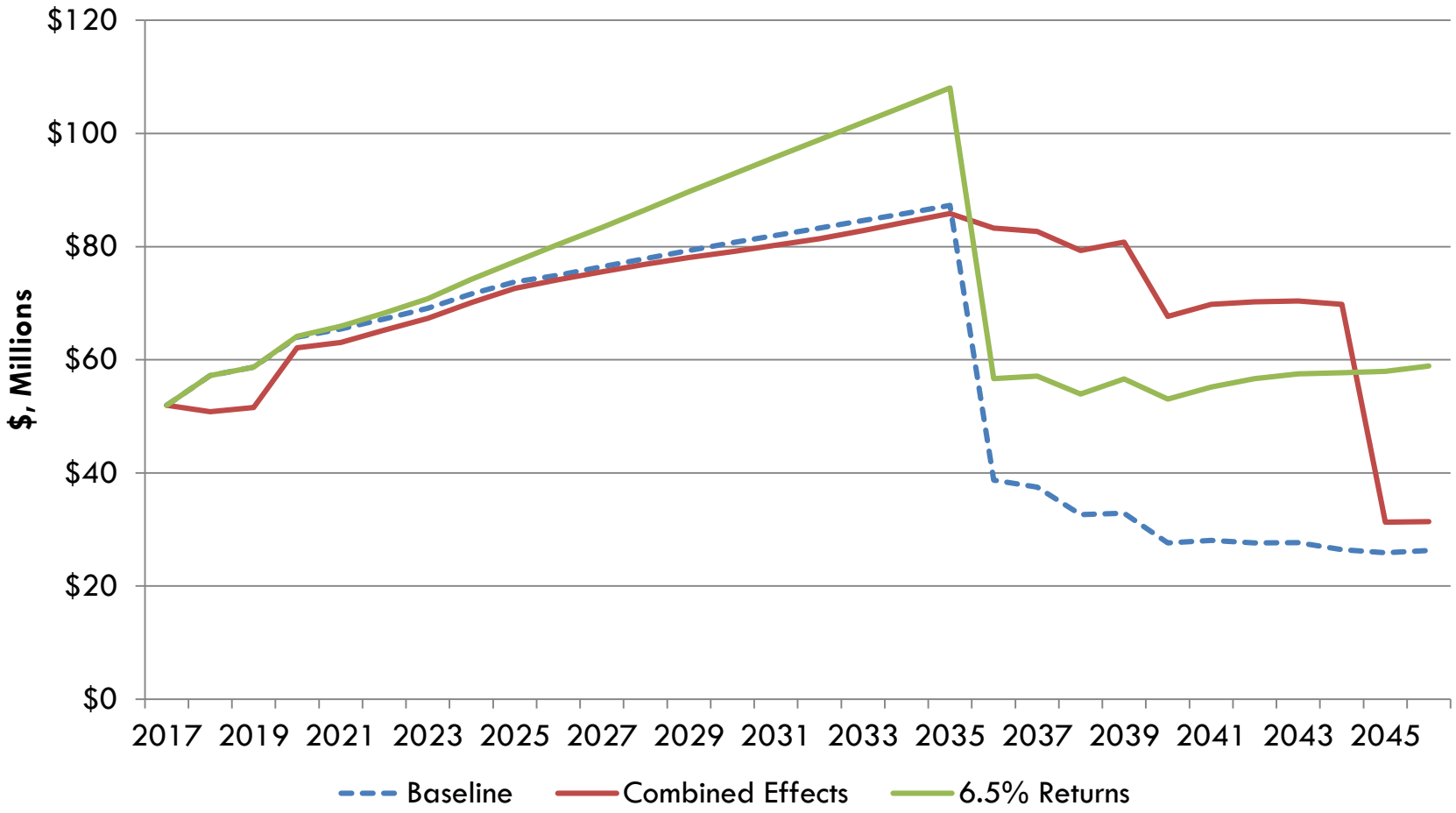
10-Year Savings, 2018 to 2027 ($M)	Baseline Cost	Savings with 25-year amortization	Savings with 30-year amortization
Employer Costs	$678	$39	$70
Employee Costs	$193	$6	$11
Total	**$871**	**$45**	**$81**

…But Increased Costs Over the Next 30 Years (2017-2046)

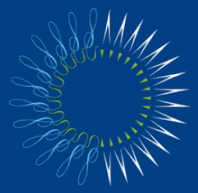
Costs through 2046 ($M)	Baseline Cost	Increased Costs with 25-year amortization	Increased Costs with 30-year amortization
Employer Costs	$1,723	-$86	-$212
Employee Costs	$698	-$28	-$60
Total	**$2,421**	**-$114**	**-$273**

Projected Employer Contributions,

Reduce COLA to 1%, Lower Discount Rate to 6.5%, Extend Amortization to 30 Years



Notes:
Actuarial projections done by The Terry Group based on Milwaukee County ERS plan assumptions. Updated using additional data from Segal.



THE PEW CHARITABLE TRUSTS

Tools to Measure and Manage Risk

Stress Test Reporting

- Regardless of which policy option that Milwaukee County chooses to adopt, they will continue to be managing ERS for decades to come.

- Understanding the fiscal position of ERS, changes to the financial health of that plan, and the riskiness of existing policies will help improve policymaking in Milwaukee County

- Stress testing is a tool that would help accomplish that; we recommend that it be included in the regular actuarial analysis produced for ERS and included in the financial disclosures made available to policymakers, stakeholders, and the public.

- This is made more important if ERS is frozen as policymakers would need to pay extra attention to monitoring solvency risk and cash flow.

What is Stress Testing?

- Simulation technique used to evaluate the impact of adverse economic conditions on financial balance sheets.

- Recommended in a 2014 Report issued by a Blue Ribbon Panel on Public Pension Funding commissioned by the Society of Actuaries.

- Used in practice as part of Federal Reserve's annual evaluations of large financial institutions as required by The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.

WHAT IS STRESS TESTING? (CONTINUED)

- Assesses the impact of market downturns on pension costs and liabilities, including the likelihood of retirement system insolvency.

- Examines the effects of financial market volatility and contribution policies on state and municipal budgets.

- Builds on existing reporting practices (GASB sensitivity requirements), and is consistent with emerging standards on risk reporting (Actuarial Standards of Practice No. 51).

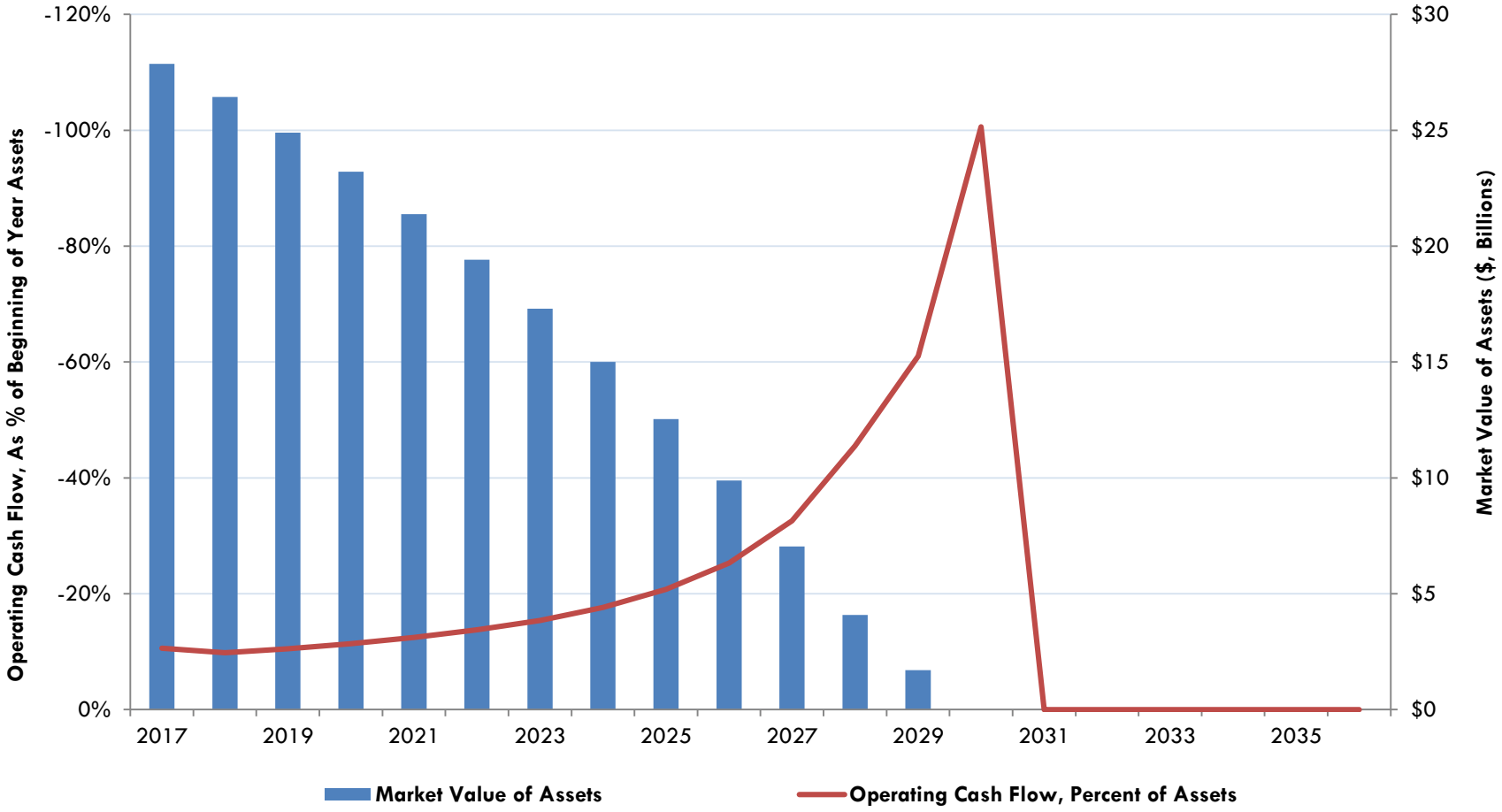
Core Components of Stress Testing

- **Long-term projections of key data points**: To understand the impact of current policy, and potential alternative policy options, long-term projections showing the trend of assets, liabilities, funded levels, benefit payments, normal cost, employer payments, and employee contributions is necessary.

- **Alternative assumptions:** Projections should be done under core plan assumptions as well as alternative assumptions—particularly looking at investment assumptions but including behavioral assumptions, demographic assumptions, and budgetary assumptions when practical.
  - Scenario Analysis: Stress testing can model specific economic scenarios, such as seeing how policies would react to the Great Recession and its aftermath. This can help policymakers plan for the next downturn.
  - Simulation Analysis: Also called stochastic analysis, this entails running many simulations where annual returns vary based on capital market assumptions. Shows the volatility of pension plan investments and the impact on employer contributions and plan balance sheets.

EXAMPLE RESULTS: NEW JERSEY

Under a low returns scenario (fixed at 5 percent) and assuming contributions are made as a fixed percentage of Own Source Revenue (OSR)



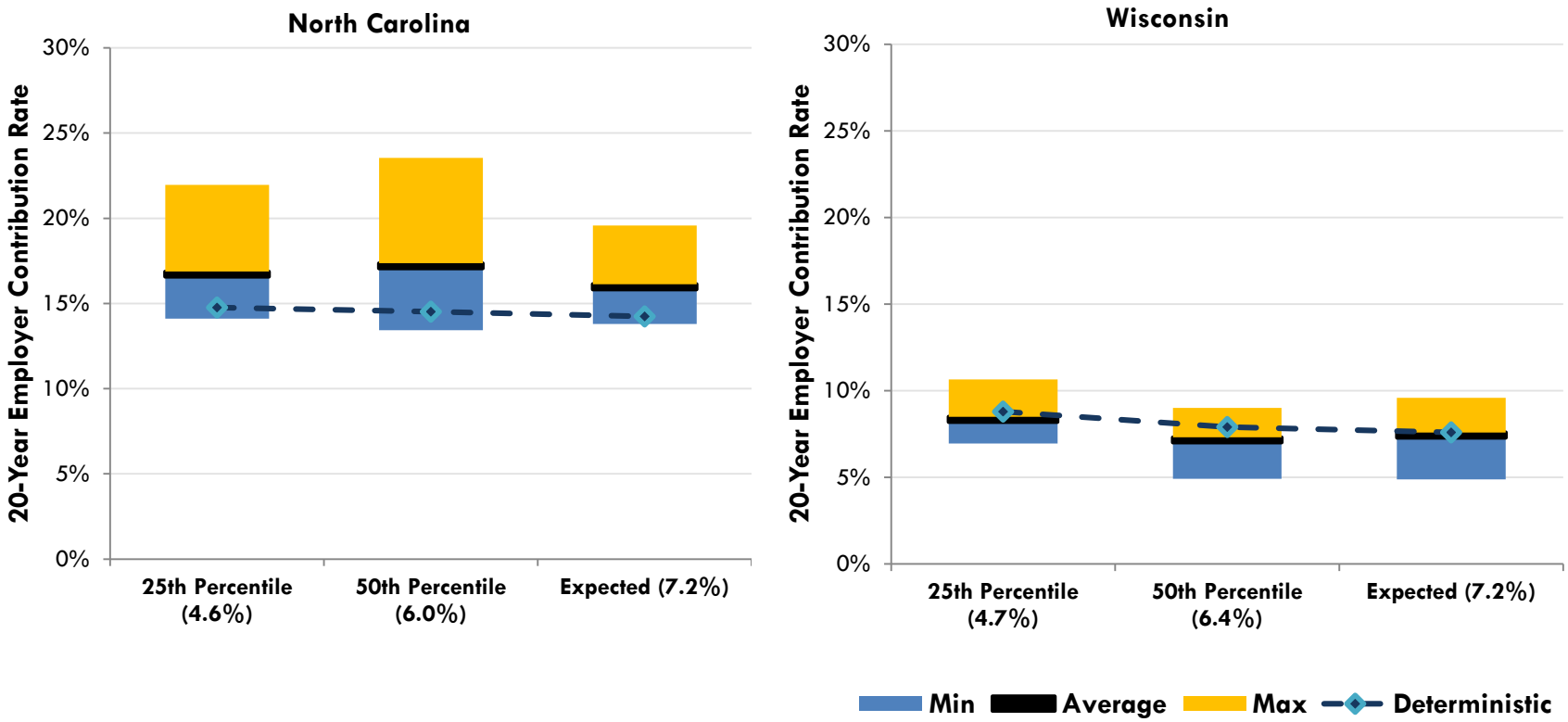
THE PEW CHARITABLE TRUSTS

Notes: Data for the New Jersey Public Employees Retirement System (PERS)-state portion only- and the Teacher Pension Annuity Fund (TPAF) plans.

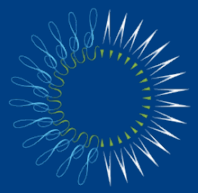
Sources: The Pew Charitable Trust and The Terry Group, based on publicly available Comprehensive Annual Financial Reports (CAFR), actuarial reports and valuations, or other public documents, or as provided by plan officials.

Example results: North Carolina and Wisconsin

Risk-sharing provisions limit costs and volatility for Wisconsin



Note: Projections above are for total employer contributions as a share of total payroll over a 20-years at different returns.
Sources: The Pew Charitable Trusts and the Terry Group



THE PEW CHARITABLE TRUSTS

Review of New Plan Designs

Review of Key Data Points from New Plan Analysis

- Reviewing the results of three options: WRS, DC 1B, and Risk Managed Hybrid
- Below slides include:
  - Key plan provisions
  - Estimates of new plan cost and risk
  - Retirement security results
- Goal is to provide all Milwaukee County employees with a path to retirement security while ensuring that costs to taxpayers are affordable and sustainable.
- Final decision should encompass the total package of proposed changes.

Different Methods to Closing a Defined Benefit Plan

Method selected can significantly impact worker benefits

Types of Defined Benefit Plan Freezes	Description
Soft freeze	A pension plan is closed to new hires, while active participants in the plan continue to accrue benefits under the plan.

Plan Provisions: General Workers

	Milwaukee Co. Employees Retirement System (ERS) (Employees hired on or after August 1, 2011)	Wisconsin Retirement System (WRS)
Multiplier	1.6%	1.6%
COLA	2% simple COLA	Annuity adjustments are based on investment performance and other factors*
Employee Contribution (DB)	6.5%†	6.8%†
Vesting	5 years	5 years
Money purchase benefit	None	Yes, with 100% employer match‡
Normal Retirement	Age 64; 55 with 30 years of service	65 & any years of service, or 57 & 30 years of service
Final Average Salary (FAS)	3 years	3 years
Social Security?	Yes	Yes
Risk-Sharing	Employees are required to contribute half of the gross normal cost for actives, plus interest.	Employees contribute 50% of the total contribution rate. The annuity adjustment is based primarily on the investment returns of the plan's trust funds. Actuarial factors, such as mortality rates, also affect annuity adjustments.

Notes

† Rates for 2016; future rates based on actuarial analysis. Participants in ERS and WRS pay half of the normal cost and half of the active UAAL amortization.

‡ WRS calculates the retirement annuity using two methods: the formula method, which factors in years of service, age, salary and a benefit multiplier; and a separate money purchase method, which is calculated by multiplying a member's total employee contributions, an equal amount of employer contributions, and accrued interest by an actuarial factor based age and benefit effective date. Retirees receive whichever produces the higher amount.

Plan Provisions: Public Safety Workers

	ERS (Deputy sheriffs hired after January 1, 1994)	WRS (Protective Occupation Employees)
Multiplier	1.5 - 2.5%*	2.0 - 2.5%*
COLA	2.0%	Annuity adjustments are based on investment performance and other factors**
Employee Contribution (DB)	6.5 to 7.4%†	6.8%†
Vesting	10 years, or age 57	If you first began WRS employment on or after July 1, 2011, 5 years. Prior, vested at date of employment.
Money purchase benefit	None	Yes, with 100% employer match‡
Normal Retirement	Age 57 or age 55 with 15 years of service;	Age 54 with <25 years of service; Age 53 with 25+ years of service
Final Average Salary (FAS)	5 year average	3 year average
Participates in Social Security?	Yes	Yes***
Risk-Sharing	Employees are required to contribute half of the gross normal cost for actives, plus interest	Employees contribute 50% of the total contribution rate. The annuity adjustment is based primarily on the investment returns of the plan's trust funds. Actuarial factors, such as mortality rates, also affect annuity adjustments.

Notes

*For ERS, depends on bargaining agreement and date of hire, max benefit of 80% salary. For WRS varies based on hire date/participation in Social Security.

† Rates for 2016; future rates based on actuarial analysis. Participants in ERS and WRS pay half of the normal cost and half of the active UAAL amortization

‡ WRS calculates the retirement annuity using two methods: the formula method, which factors in years of service, age, salary, and a benefit multiplier; and a separate money purchase method, which is calculated by multiplying a member's total employee contributions, an equal amount of employer contributions, and accrued interest by an actuarial factor based age and benefit effective date. Retirees receive whichever produces the higher amount.

***Some firefighters under protective occupation hired/rehired after March 31, 1986 do not participate in social security.

DC Plans to Model

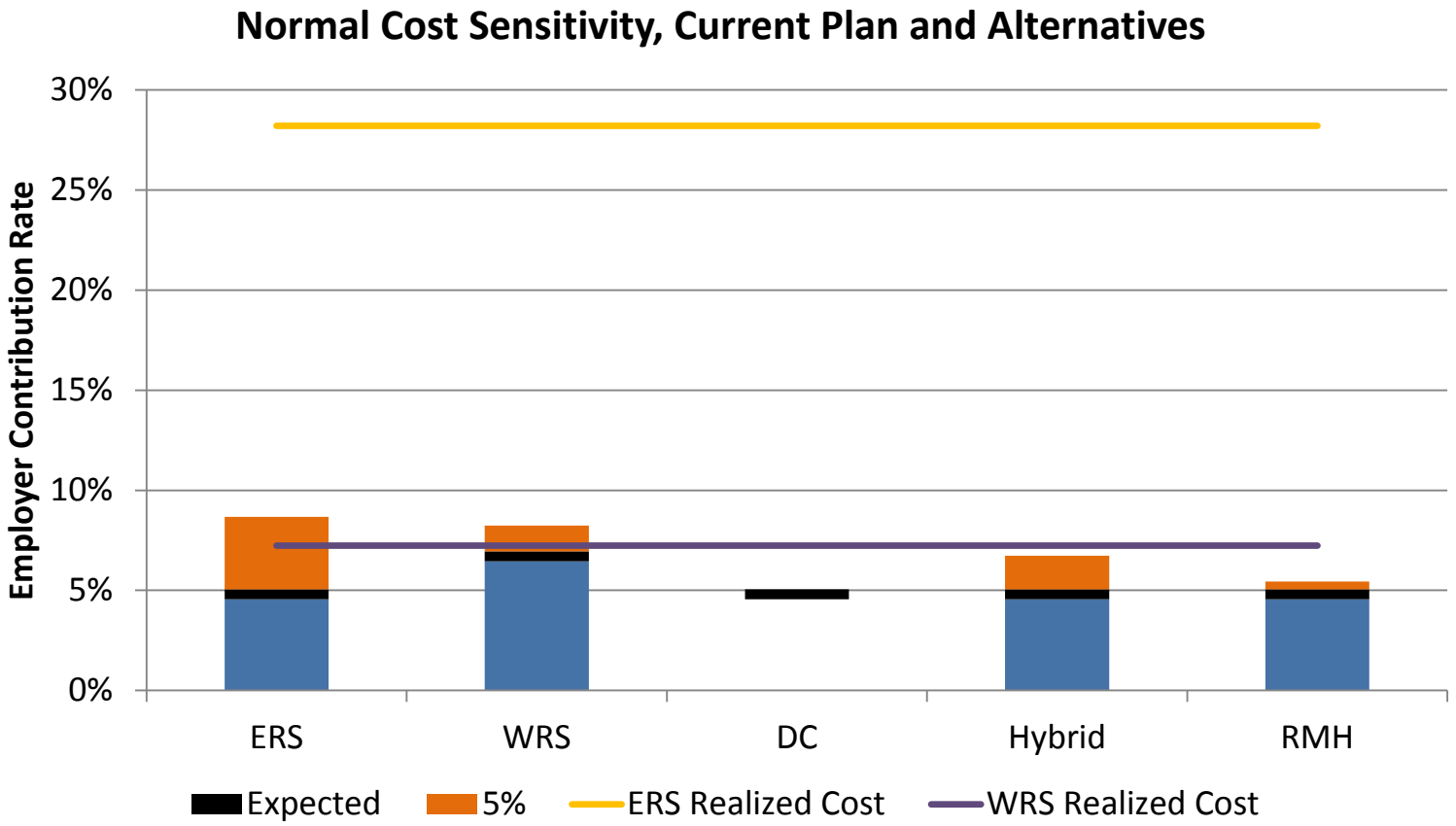
Varied Employer Contributions to the DC, Employee Contributions are Fixed at 2019 Rate

Option	Employer Contribution Rate	Employee Contribution Rate (General/Public Safety)	Description
1B	4.5%	7.2%/8.5%	Employer contribution calculated to match 2019 employer normal cost rate if there was no unfunded liability

Hybrid Design to Model

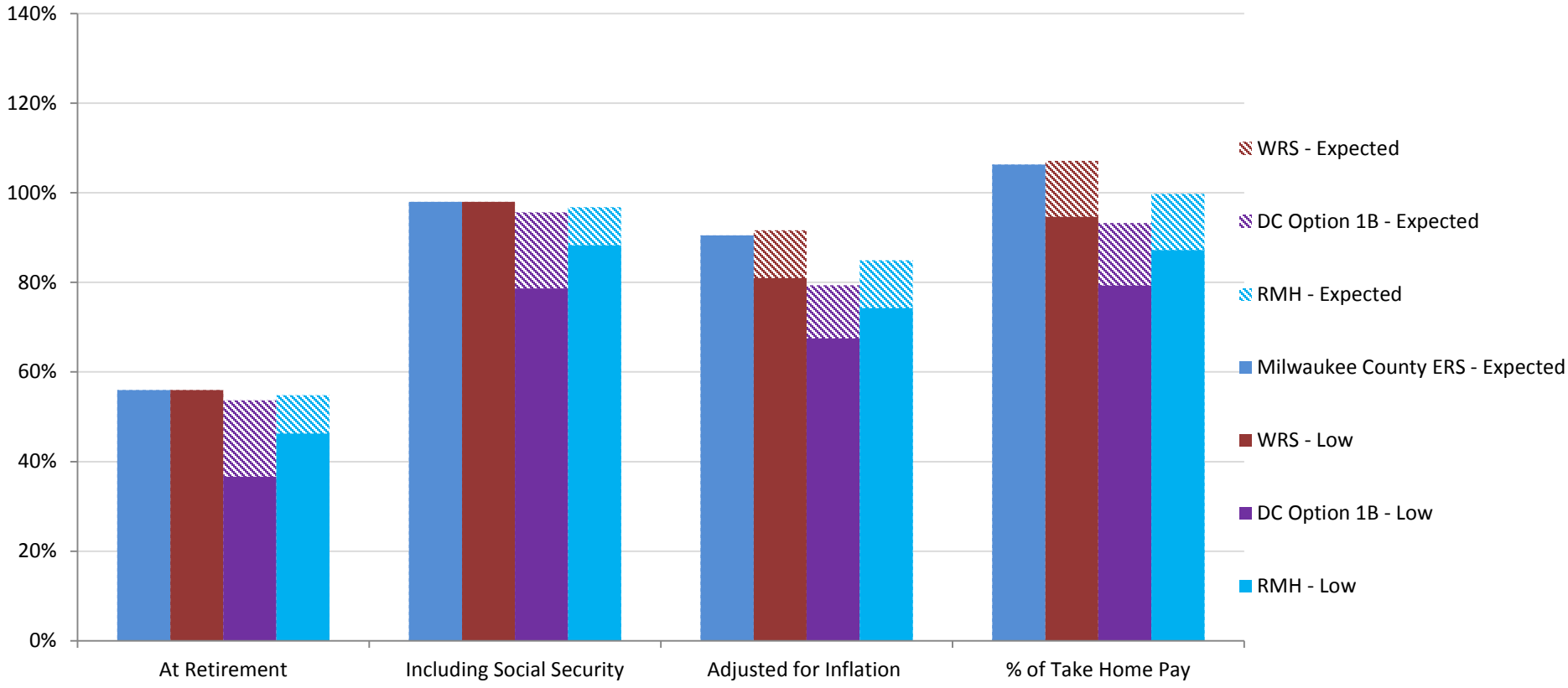
	Current Plan: MilCo ERS After 8/1/2011	Risk Managed Hybrid Design
DB		
Multiplier	1.60%	0.8%
COLA	2% simple COLA	2% simple COLA
Employee Contribution to DB	Actuarially determined	Actuarially determined
Vesting Schedule	5 years	5 years
Normal Retirement	64	64
Early Retirement	55 w/ 15 YOS	55 w/ 15 YOS
Early Retirement discount factor	5% each year	5% each year
DC		
Employee Contribution to DC	n/a	3.6%
Employer Contribution to DC	n/a	2.25%
Vesting Schedule	n/a	5 year
Risk Management Tools		
	• Employee contribution cost sharing on active share of UAAL.	• Employee contribution cost sharing on active share of UAAL. • Can include WRS-style COLA provisions.

Long-term Expected Cost and Risk for New Employees



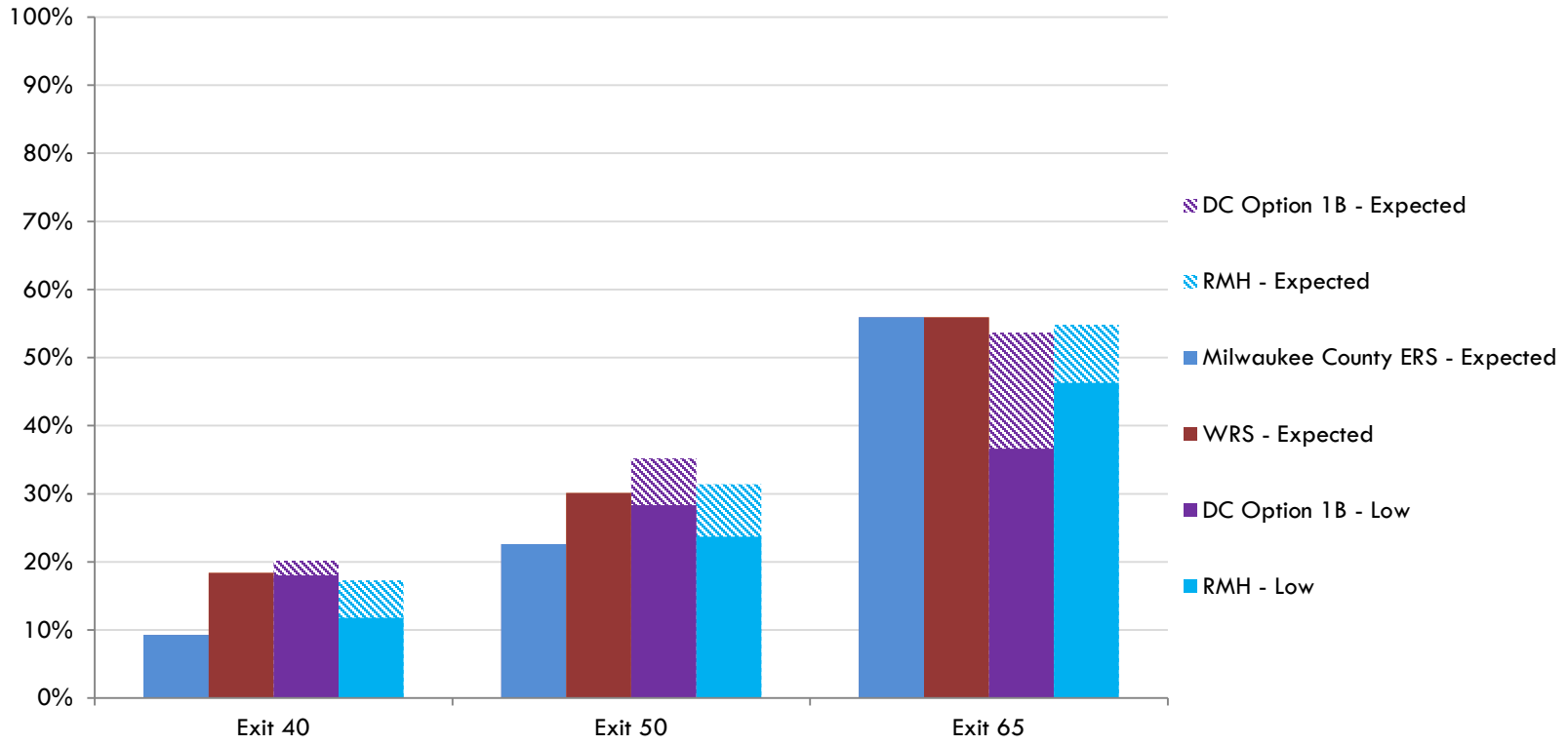
Notes:
Sample DC is based on Option 1B. Risk Managed Hybrid includes both employee contribution cost-sharing and WRS-style COLA provisions. Realized cost for ERS and WRS based on FY 2019 employer contribution rates.

Replacement Income—Career Worker



Notes:
Pew analysis using ERS actuarial assumptions for salary growth and inflation. Expected return for DC plans is 7%; low return scenario is 5%. Annuitization is calculated using plan mortality assumptions and a 4% return assumption. Risk Managed Hybrid does not include a COLA in the low return scenario. DC plan does not include a COLA.

Replacement Income—Mid-Career Worker



Notes:
Pew analysis using ERS actuarial assumptions for salary growth and inflation. Expected return for DC plans is 7%; low return scenario is 5%. Annuitization is calculated using plan mortality assumptions and a 4% return assumption. Risk Managed Hybrid does not include a COLA in the low return scenario. DC plan does not include a COLA.

Replacement Income—Career Worker

		ERS	WRS	DC Option 1b	Risk Managed Hybrid
At Retirement	Expected Returns	56%	56%	54%	55%
	Low Returns	56%	56%	37%	46%
Including Social Security	Expected Returns	98%	98%	96%	97%
	Low Returns	98%	98%	79%	88%
Adjusted for Inflation	Expected Returns	91%	92%	79%	85%
	Low Returns	91%	81%	68%	74%
% Take Home Pay	Expected Returns	106%	107%	93%	100%
	Low Returns	106%	95%	79%	87%

Notes:
Pew analysis using ERS actuarial assumptions for salary growth and inflation.

Replacement Income—Mid-Career Worker

		ERS	WRS	DC Option 1b	Risk Managed Hybrid
Exit 40	Expected Returns	9%	18%	20%	17%
	Low Returns	9%	18%	18%	12%
Exit 50	Expected Returns	23%	30%	35%	31%
	Low Returns	23%	30%	28%	24%
Exit 64	Expected Returns	56%	56%	54%	55%
	Low Returns	56%	56%	37%	46%

Notes:
Pew analysis using ERS actuarial assumptions for salary growth and inflation.

Summary Results

		Baseline	WRS	DC, 1B	Risk-Managed Hybrid
Employer Costs	Total	$1,723	$1,924	$1,773	$1,745
	Difference from baseline	*$0*	*$201*	*$49*	$22
% Income Replacement for Mid-Career Worker (Exit 40), Expected/Low		9%/9%	18%/18%	20%/18%	17%/12%
% Take Home for Career Worker, Expected/Low		106%/106%	107%/95%	93%/79%	100%/87%
Risk	Administration	County	State	County	County
	Employer Cost: Expected/Low/Realized	5.1%/8.7%/28%	7%/8.2%/7.2%	5.1%/5.1%/5.1%	5%/5.5%/TBD

THE PEW CHARITABLE TRUSTS

Considerations for Taskforce Deliberations

Key Questions for Taskforce

- Who should bear the costs of dealing with the existing unfunded liability:
  - How to balance between taxpayer, employee, and retiree?
  - How to balance across generations?

- How much risk should Milwaukee County take on?
  - Should the discount rate be lowered further—to 7% or 6.5%?
  - Should the investment allocation more towards safer assets?
  - Should the existing plan design be adapted to share more risk?

- What is the appropriate plan design for new hires and what is the right package of changes to manage the existing unfunded liability?

THE PEW CHARITABLE TRUSTS

Conclusion

Conclusion

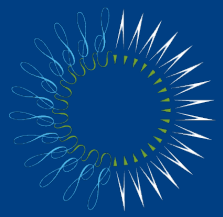
- The bulk of projected taxpayer costs reflect existing liabilities to current workers and retirees and the shortfalls in adequately funding those liabilities.

- Milwaukee County's funding gap reflects policy decisions:
  - Assumptions about investment performance were high.
  - The actuarial funding policy used in Milwaukee County was not sufficient to both pay for new benefits and to pay down the accumulated pension debt.
  - Policy was being made on too optimistic assumptions—assumption changes and actuarial experience added half a billion in pension debt.

- Limited levers to address taxpayer costs:
  - Increase employee contributions, lower COLAS, lower discount rate, or extend amortization.

- Stress testing can help Milwaukee County monitor and manage the ERS system and allow for better and more responsive policy.

- The taskforce will need to identify a set of policy changes that will ensure that current employees and future hires alike have access to a secure retirement while ensuring benefit promises are affordable and sustainable.



THE PEW CHARITABLE TRUSTS

David Draine
ddraine@pewtrusts.org
202-552-2012
pewtrusts.org/publicpensions