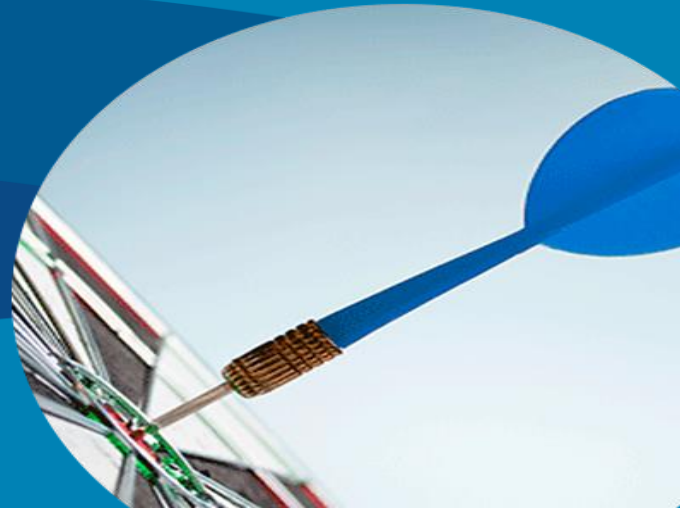


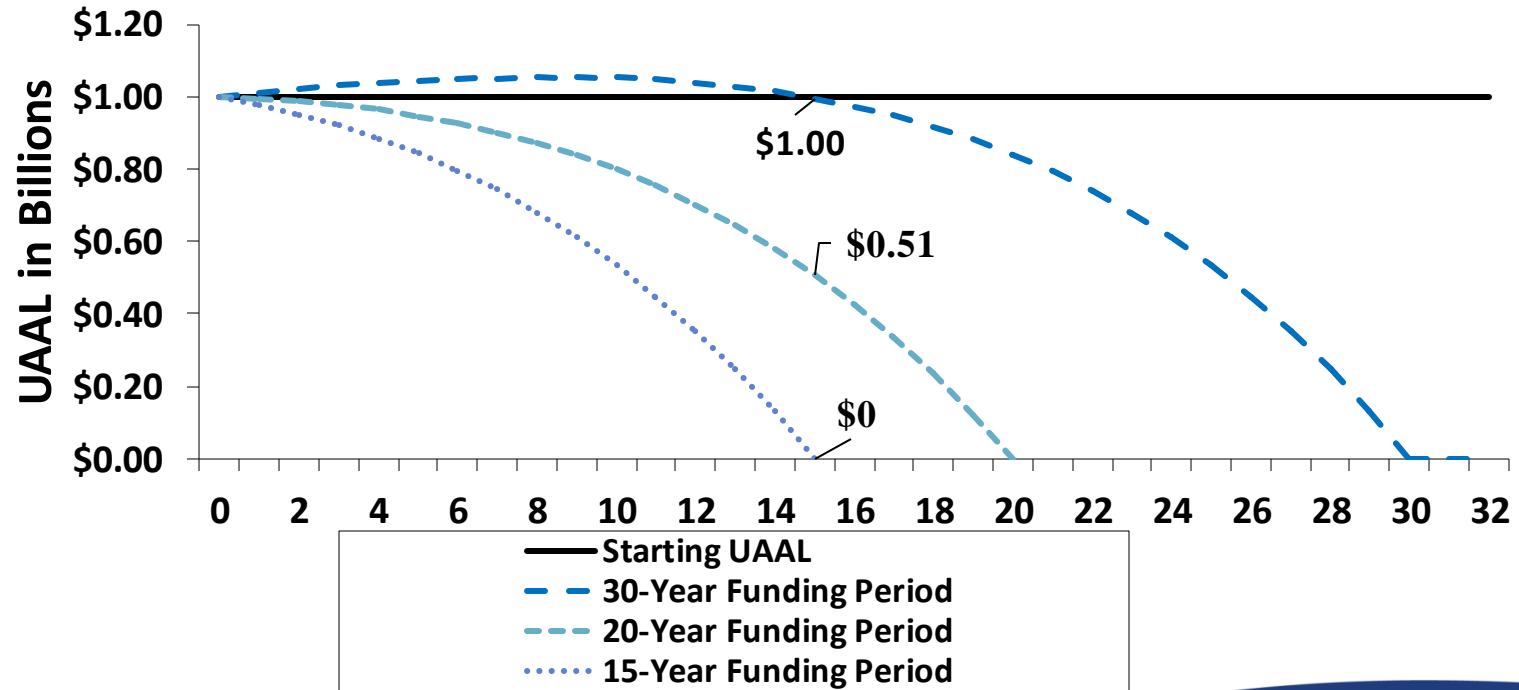


Plugging Pension Gaps in a Post-Pandemic Era

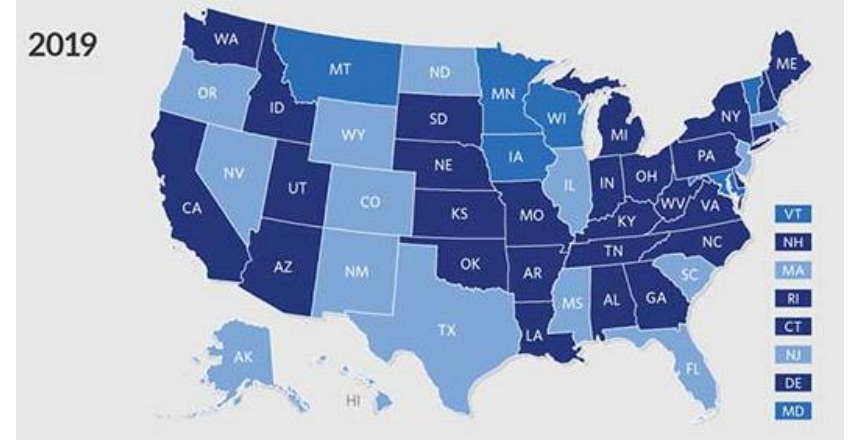
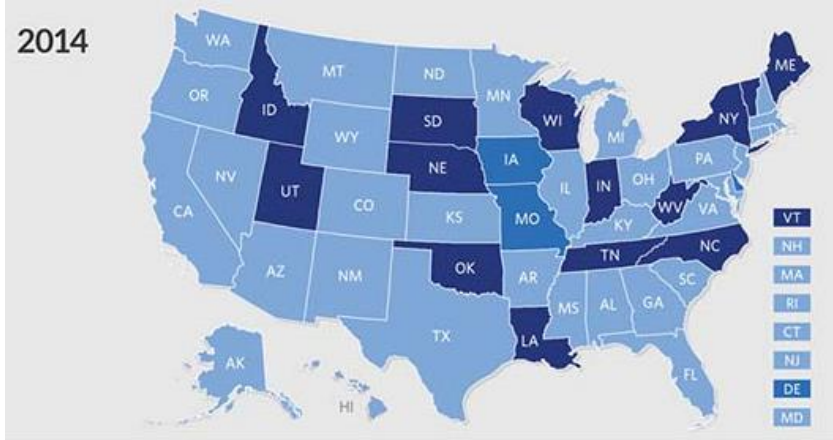
Improvement in Funding Policies



Negative Amortization: When the contributions do not cover the interest accruals, thus the UAAL is expected to increase year over year



A Growing Share of States Have Achieved Positive Amortization



■ Positive amortization ■ Stable amortization ■ Negative amortization

<https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2021/09/the-state-pension-funding-gap-plans-have-stabilized-in-wake-of-pandemic>

Categories of Funding Policies

- Actuarially Determined: Contributions change annually based on a predetermined formula with specific goals and parameters
- Fixed Statutory Contributions: Contributions are set by Statute, or the legislative budget process. Requires legislative action to change, and almost always has no requirement to change.
 - Doing nothing is an option
- Hybrid approach with mostly fixed or legislatively set contributions, but requires change based on specific limitations
 - If a limitation is hit, there is a requirement for change

NASRA Survey Data Grouped by Contribution Policy

(Best Practices would not incorporate negative amortization)

	Actuarially Determined Contributions	Statutorily Set Contributions, But Requirement for Change	Fixed Statutory Contributions, No Requirement for Change
Parameters Outside of Best Practices	22 Plans Avg Fund Ratio: 59% Average Funding Period: 23	8 Plans Avg Fund Ratio: 69% Average Funding Period: 23	18 Plans Avg Fund Ratio: 68% Average Funding Period: 37
Parameters Follow Best Practices	60 Plans Avg Fund Ratio: 81% Average Funding Period: 10	6 Plans Avg Fund Ratio: 80% Average Funding Period: 9	2 Plans Avg Fund Ratio: 59% Average Funding Period: 15

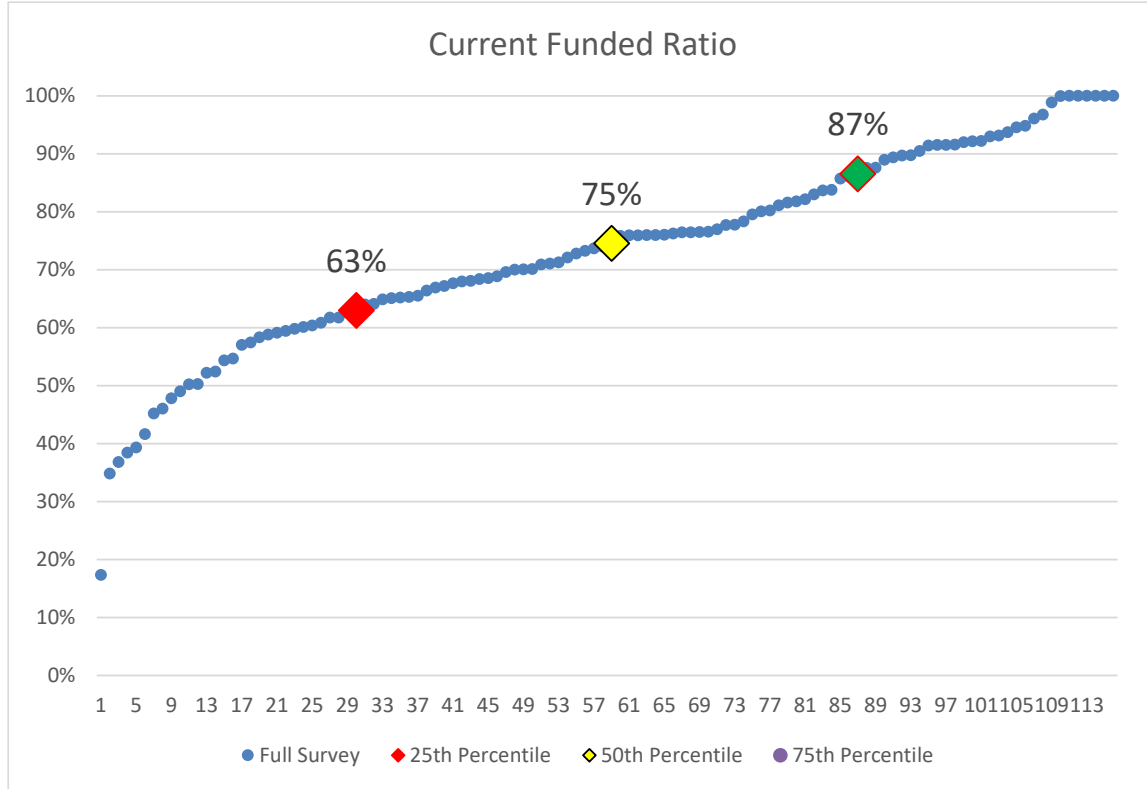
When projected 10-Years into future, plans with best practice funding policies are trending much stronger than ones that are not

	Actuarially Determined Contributions	Statutorily Set Contributions, But Requirement for Change	Statutorily Set Contributions, No Requirement for Change
Parameters Outside of Best Practices	<p>22 Plans</p> <p>Avg Fund Ratio: 72%</p> <p>Average Funding Period: 13</p>	<p>8 Plans</p> <p>Avg Fund Ratio: 80%</p> <p>Average Funding Period: 14</p>	<p>18 Plans</p> <p>Avg Fund Ratio: 76%</p> <p>Average Funding Period: 27</p>
Parameters Follow Best Practices	<p>60 Plans</p> <p>Avg Fund Ratio: 95%</p> <p>Average Funding Period: 2</p>	<p>6 Plans</p> <p>Avg Fund Ratio: 92%</p> <p>Average Funding Period: 3</p>	<p>2 Plans</p> <p>Avg Fund Ratio: 85%</p> <p>Average Funding Period: 6</p>

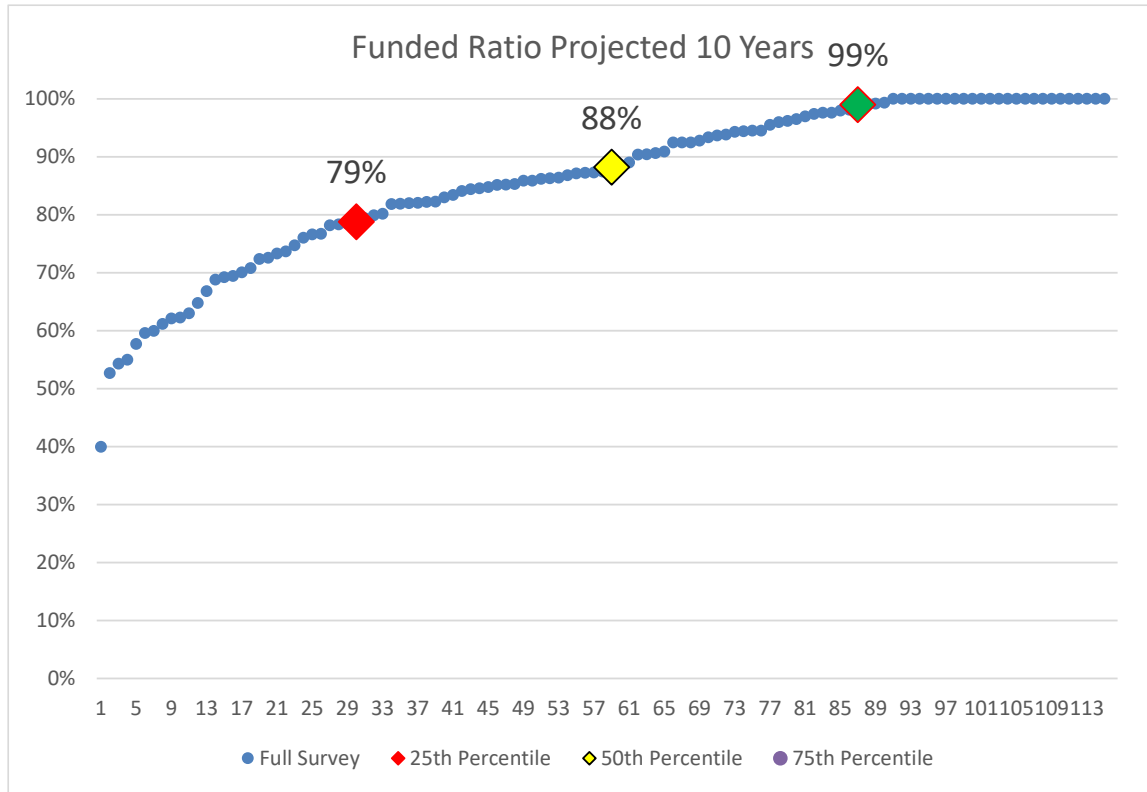
When a stress event is included in the projection, plans with contributions that automatically and appropriately adjust continue to improve, while the ones that do not fall further behind

			Current	Projected 10 Years	Projected 10 Years, 10% Shock Event
Actuarially Determined	Parameters Follow Best Practices	Funded Ratio	81%	95%	88%
		Funding Period	10	2	6
	Parameters Outside of Best Practices	Funded Ratio	59%	72%	73%
		Funding Period	23	13	14
Statutorily Set Contributions, But Requirement for Change	Parameters Follow Best Practices	Funded Ratio	80%	92%	88%
		Funding Period	9	3	6
	Parameters Outside of Best Practices	Funded Ratio	69%	80%	72%
		Funding Period	23	14	18
Statutorily Set Contributions, No Requirement for Change	Parameters Follow Best Practices	Funded Ratio	59%	85%	76%
		Funding Period	15	6	9
	Parameters Outside of Best Practices	Funded Ratio	68%	76%	66%
		Funding Period	37	27	44

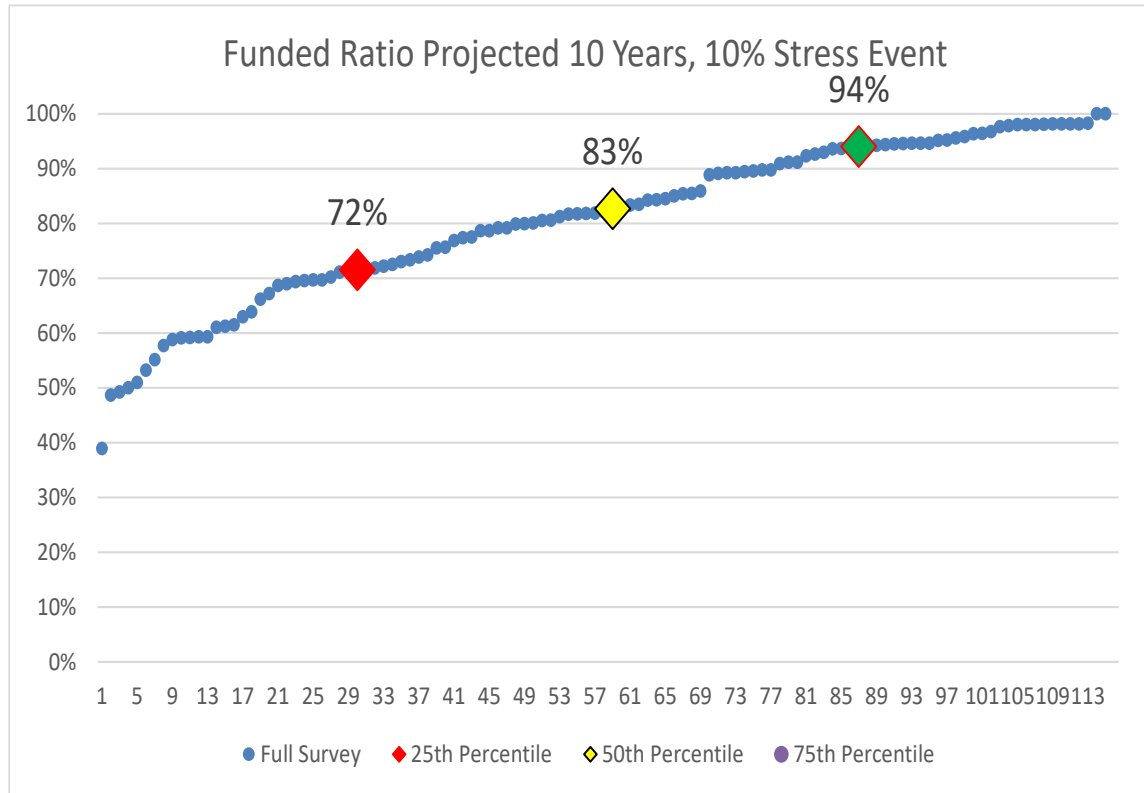
Distribution of Current Funded Ratios



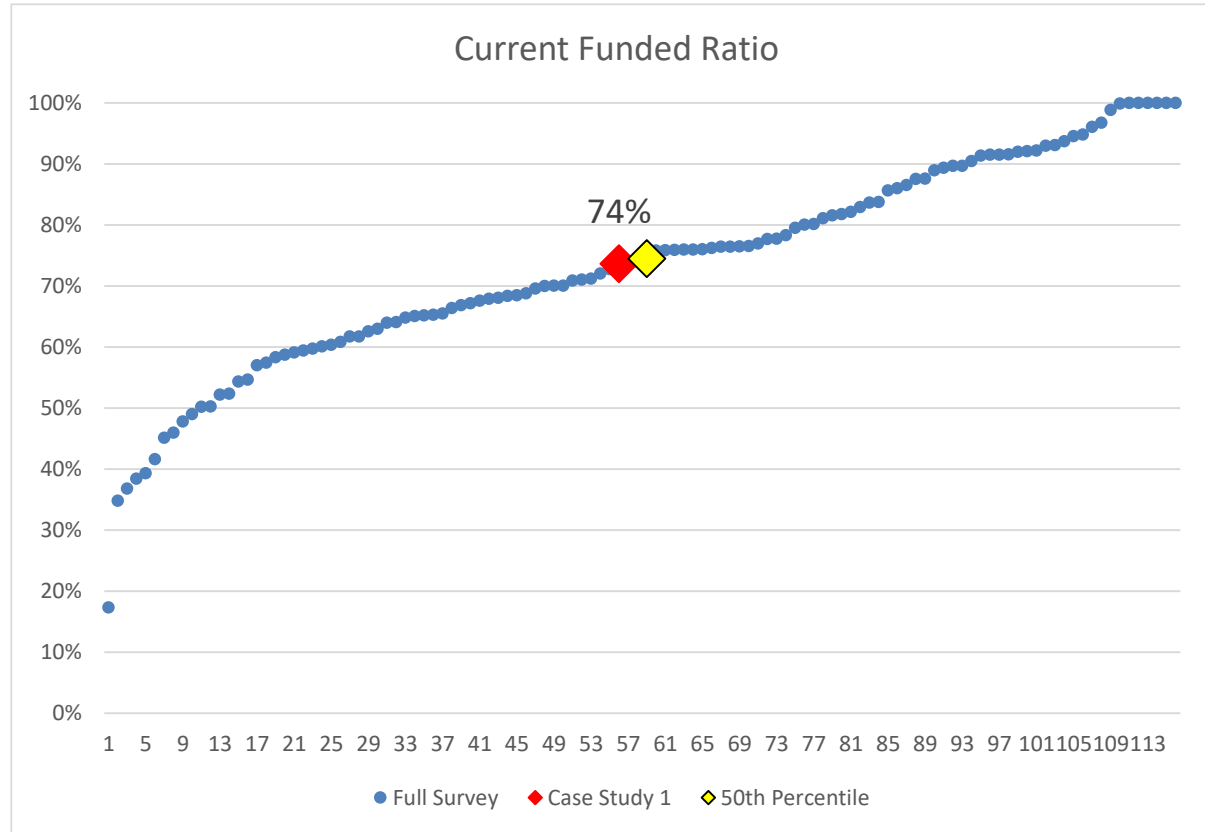
Projected 10 Years into the Future: If assumptions are met, there will be substantial improvement



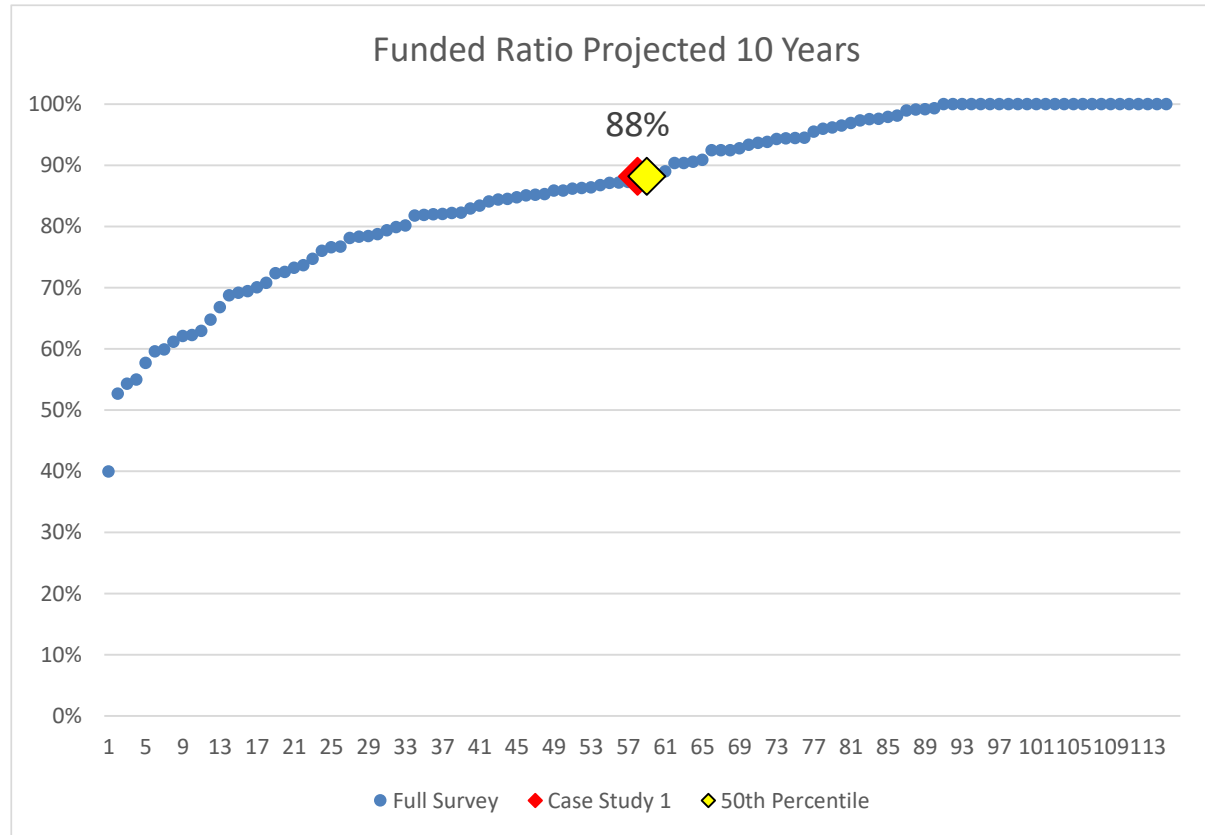
There is substantial improvement even in the stressed scenario



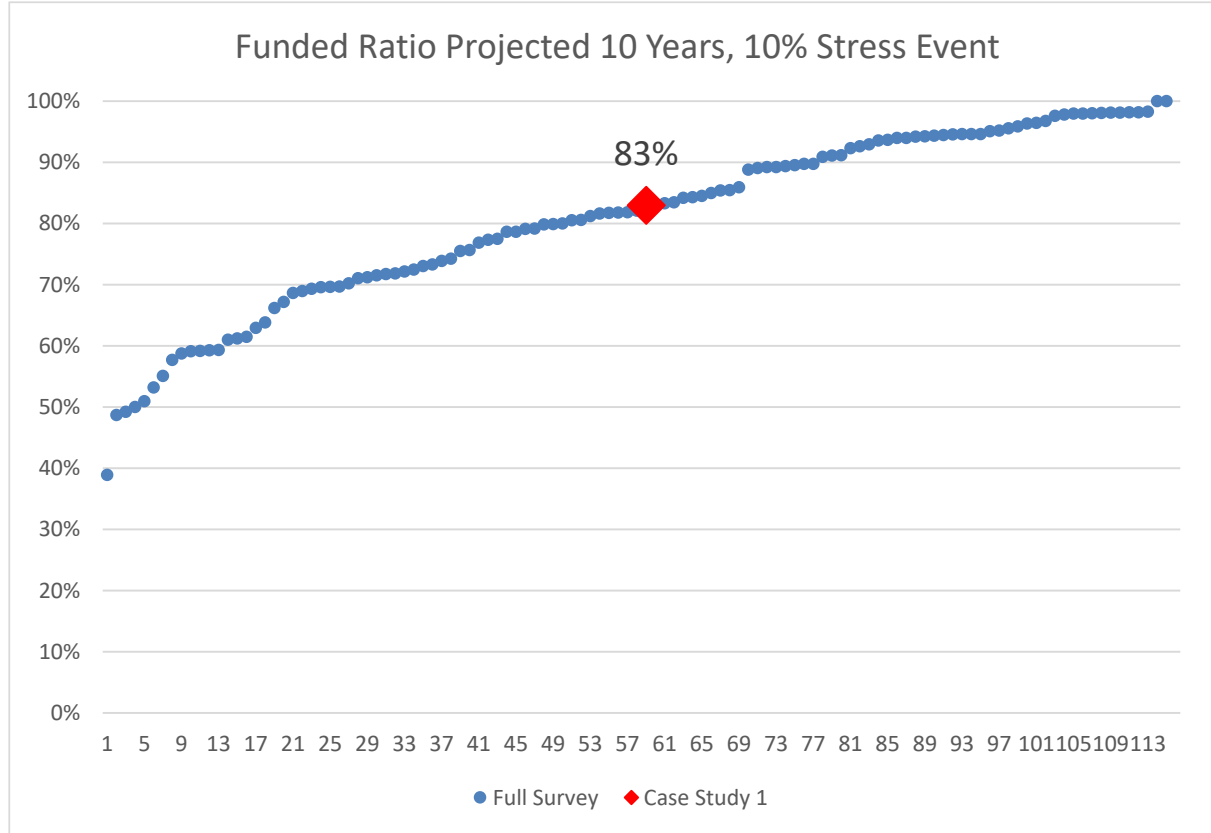
Case Study 1: Actuarial Funding, Just Outside Best Practices



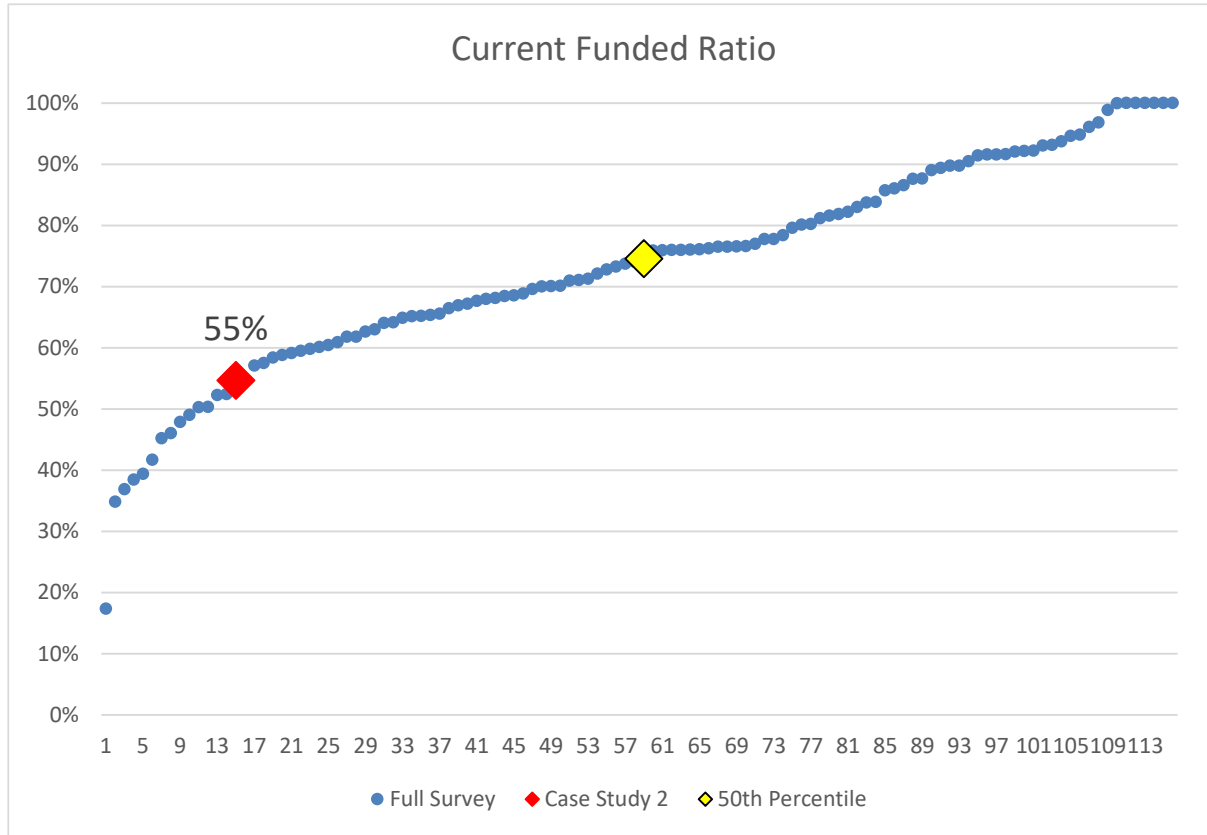
Case Study 1: 10 years funded ratio increases from 74% to 88%



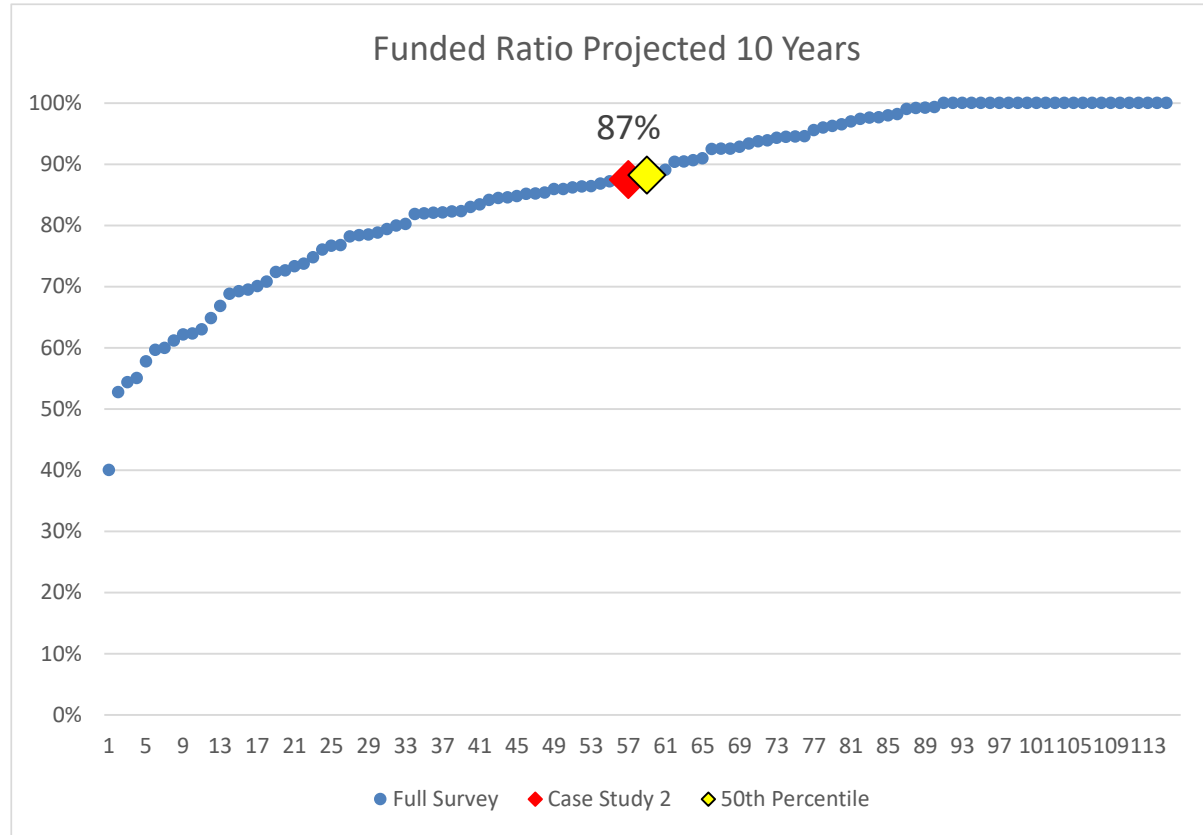
Case Study 1: Under Stress, contributions adjust and do a reasonable job of continuing to improve the funding status



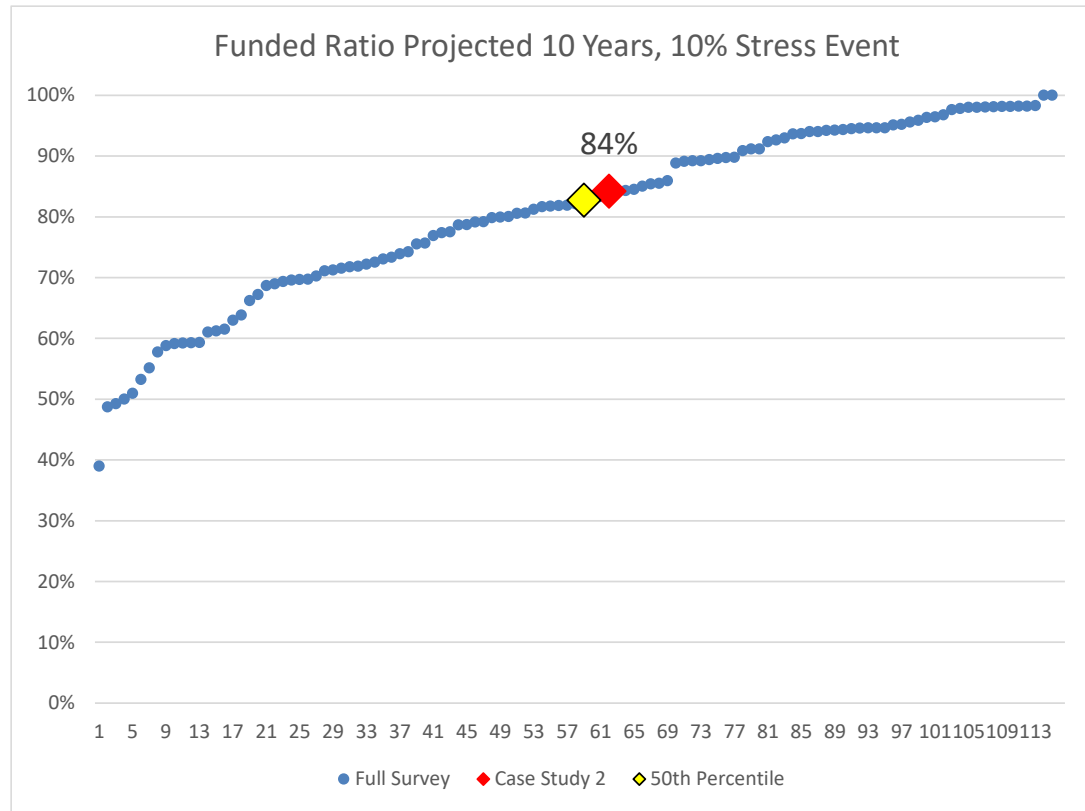
Case Study 2: Currently Underfunded, but Best Practice Actuarially Determined Contributions



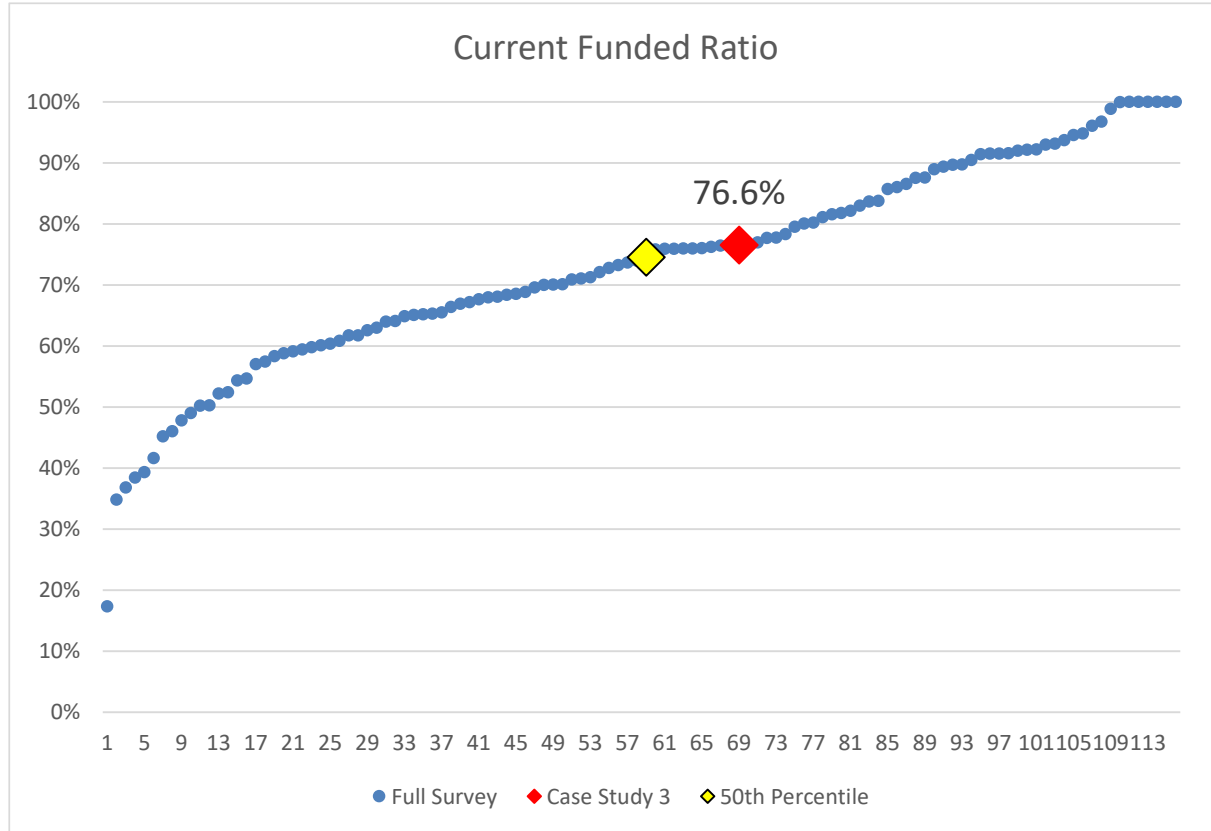
Case Study 2: Improves from 55% to 87% in 10 years



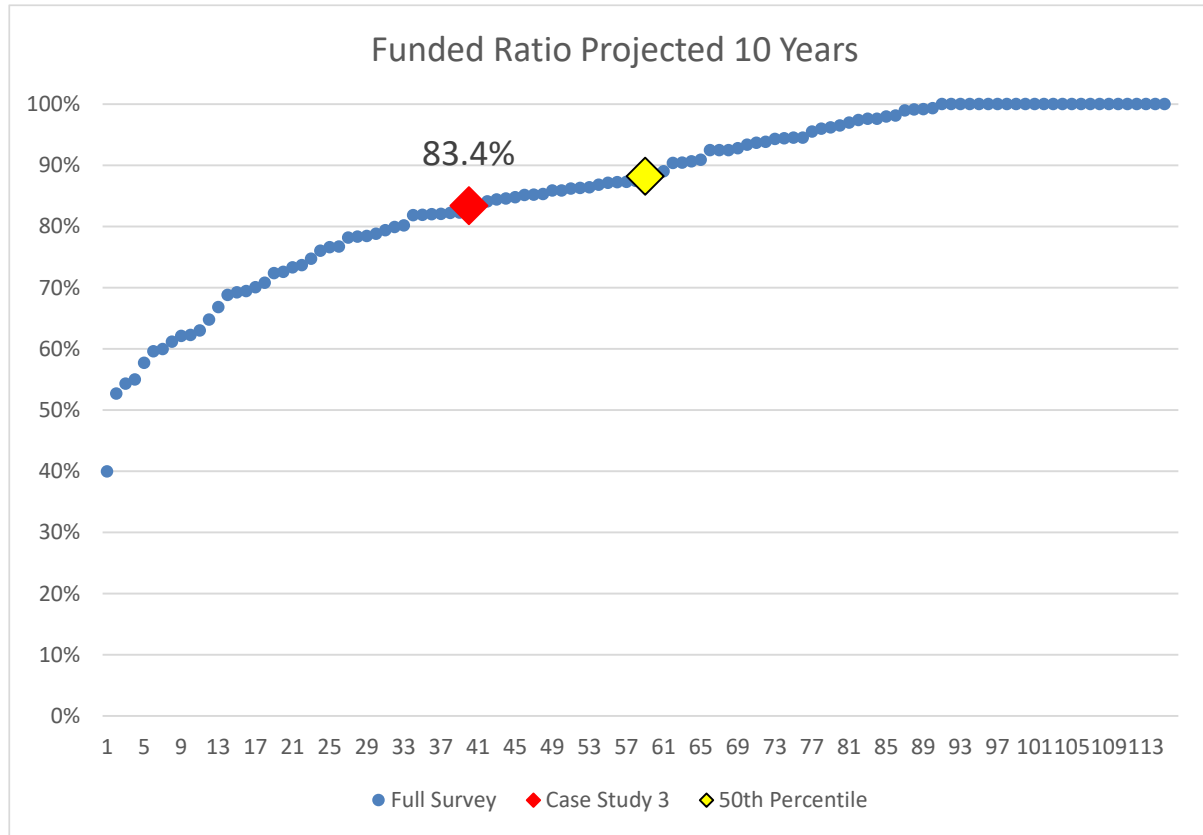
Case Study 2: Significant improvement under stress scenario



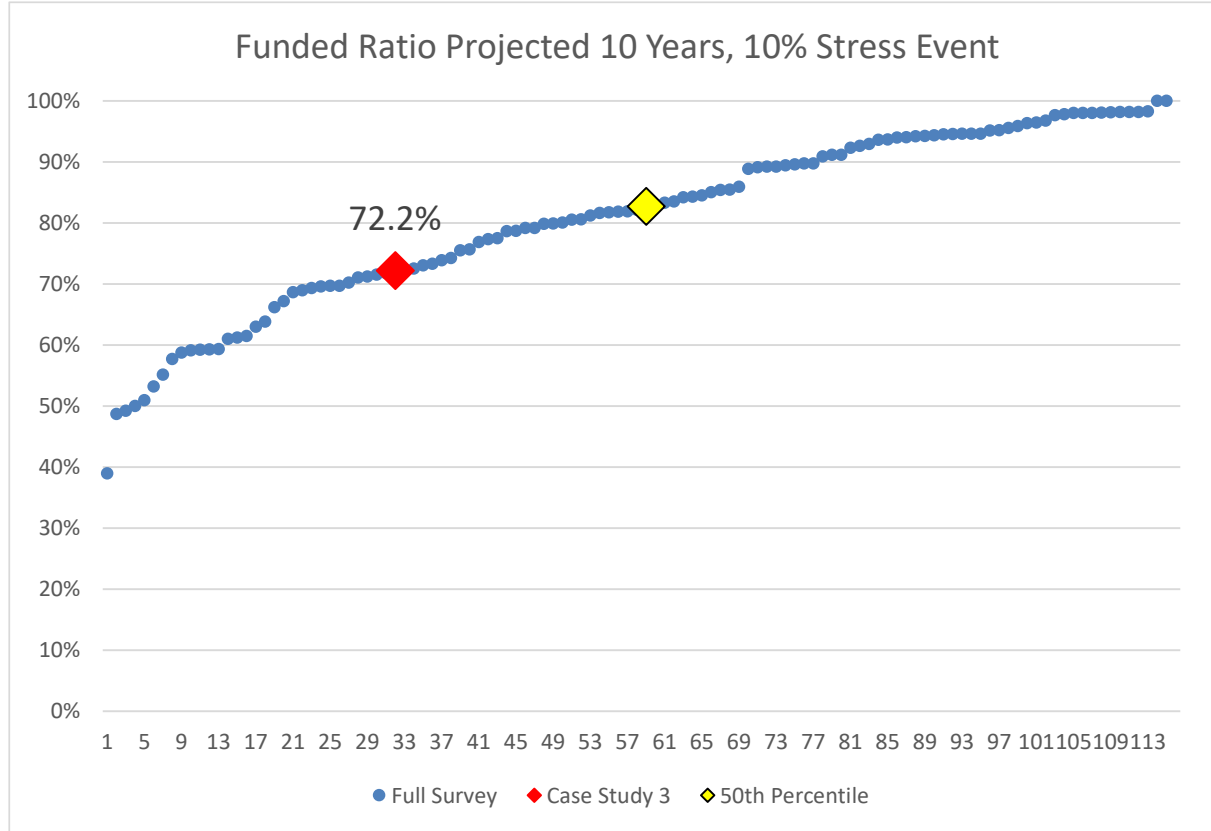
Case Study 3: Fixed Statute Contribution Policy, 27 year period



Case Study 3: Funded Status has improved, but fallen behind other plans

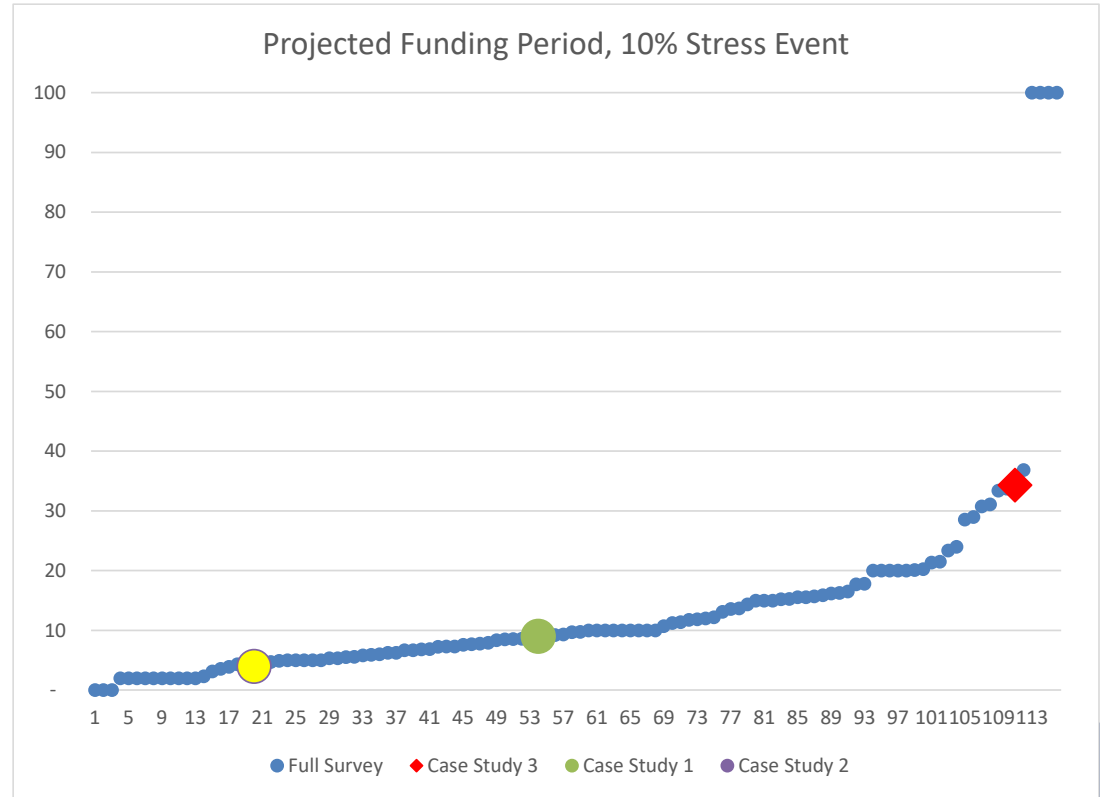


Case Study 3: Falls quite behind in stressed scenario, has not regained funded status



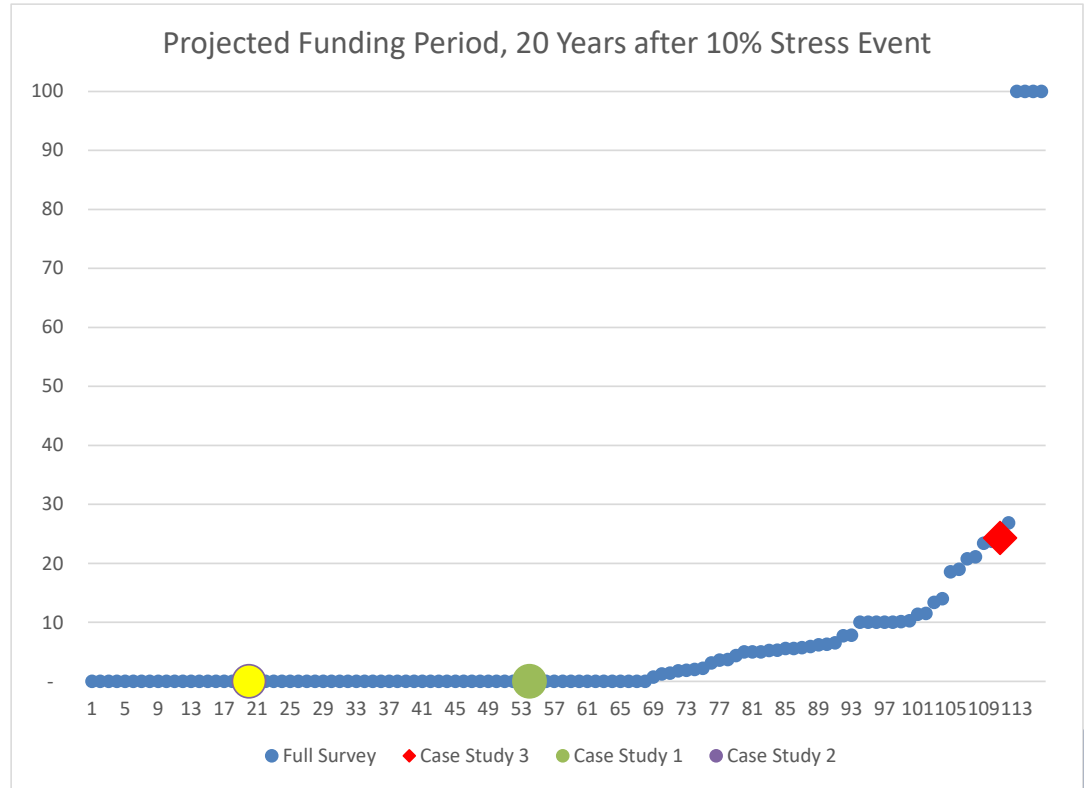
After 10 years, both plans using Actuarial Funding have less than 10 years remaining to reach full funding, Case Study 3 still has 34 years to go

NASRA Public Funds Survey, projected by GRS



After 20 years more than half the plans have fully amortized not only their current UAAL, but the new UAAL created by the stress event. Case Study 3 would still be at 24 years and the UAAL would not have begun to decline

NASRA Public Funds Survey, projected by GRS



Summary

- A plan's current funded ratio only tells part of the story.
- Plans with funding policies that automatically adjust have a much higher probability of success than ones that take legislative action to respond
- Plans utilizing negative amortization are falling behind

Questions to Ask

- Does our contribution automatically adjust when necessary?
 - Is doing nothing an option?
- Is our planned response within best practices?
 - Are we utilizing negative amortization?
 - It might be necessary for the current UAAL, but any new response should begin positive amortization immediately

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