Recap of Asset-Liability Study Results

Strategy. Implementation. Execution.

Town of Wilton, Connecticut
February 10, 2021

Aon
Empower Results®

Asset-Liability Study Schedule

Meeting	Meeting Outcomes	Target Dates
Planning Meeting	▪ Pension/OPEB risk management overview ▪ Current asset-liability profile ▪ Initial strategy assessment ▪ Capital market assumptions and methods	April 1, 2020
Results Meeting	▪ Review stochastic modeling ▪ Asset-liability projection results ▪ Identify proposed strategic asset allocation for consideration ▪ Present Recommended Asset Allocation	May 19, 2020
Additional Results Meeting	▪ Review stochastic modeling ▪ Asset-liability projection results ▪ Identify proposed strategic asset allocation for consideration ▪ Present Recommended Asset Allocation	February 10, 2021
Implementation and Investment Policy Development (if needed)	▪ Optimal portfolio structure ▪ Investment Policy Statement document ▪ Governance model and procedures	TBD

Table of Contents

Recap of Asset-Liability Study Results

Summary and Conclusions

Additional Analysis

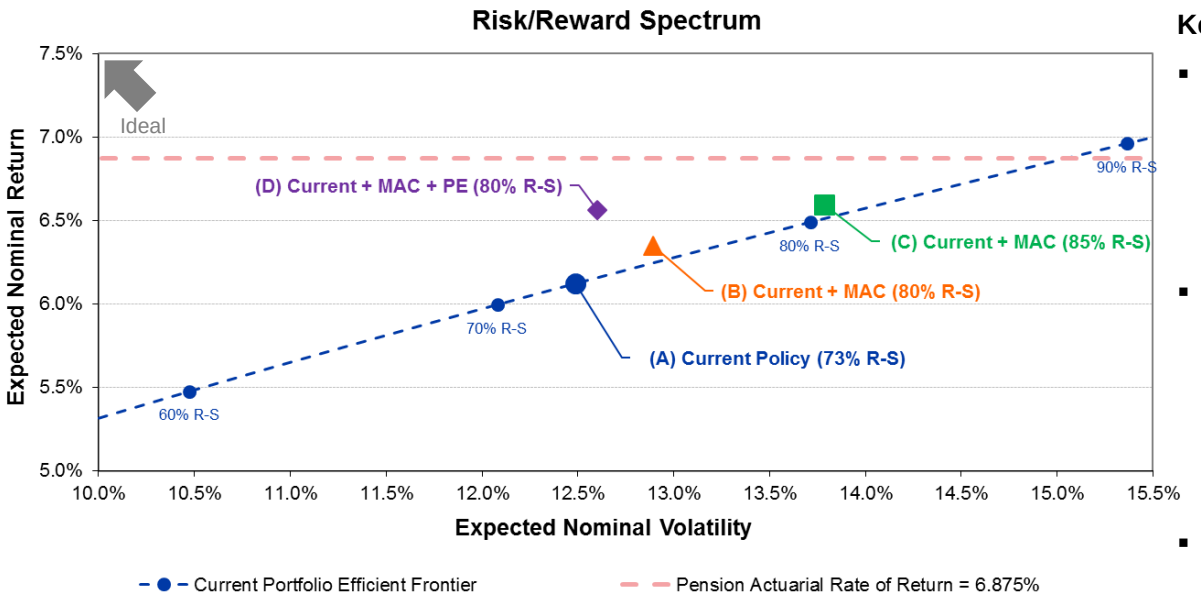
- The Investment Committee expressed a desire to simplify the current fixed income portfolio and target a higher expected return. This follow-up analysis considers the following portfolios:
  A. Current Policy
  B. Current Policy with consolidation of TIPS, Global Bonds, and High Yield Bonds into Multi-Asset Credit
  C. Portfolio B + increasing Public Equity allocation by 5% (pulling from Core Fixed Income)
  D. Portfolio B + adding an allocation to Private Equity and increasing the allocations to Private Debt and Real Estate (pulling from Public Equity) for a total 20% allocation to illiquid assets

Conclusions

- Depending on the degree of additional diversification and tolerance for illiquidity, the proposed portfolios are practical solutions for accomplishing the Committee's goals of simplifying the current fixed income portfolio and/or targeting a higher expected return
  - There are risk/return trade-offs proposed portfolios
- Relative to the Current Policy, Portfolios B, C & D result in increased projected funded ratios in both our median (50th percentile) and downside (5th percentile) expectations

[1] Expected returns are using Aon Investments' Q4 2020 Capital Market Assumptions. Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See capital market assumptions disclosure pages in Appendix.

Portfolio Analysis



Key Takeaways:

- Aon generally favors careful diversification into a broad set of asset classes with attractive risk and return properties to improve portfolio efficiency, as exhibited by Aon's Model Portfolios
- Considering the constraints on illiquid and quasi-liquid assets, the proposed portfolios are practical solutions for accomplishing the Committee's goals of simplifying the current fixed income portfolio and targeting a higher expected return
- There are risk/return trade-offs with the proposed portfolios

				Return-Seeking Assets						Risk-Reducing / Safety Assets		
	Expected Nominal Return	Expected Nominal Volatility	Sharpe Ratio	Public Equity	Private Equity	High Yield Bonds	Multi Asset Credit	Private Debt	Real Estate	TIPS	Core Bonds	Global Bonds
(A) Current Policy (73% R-S)	6.12%	12.48%	0.402	60%	0%	3%	0%	5%	5%	2%	21%	5%
(B) Current + MAC (80% R-S)	6.35%	12.89%	0.407	60%	0%	0%	10%	5%	5%	0%	20%	0%
(C) Current + MAC (85% R-S)	6.60%	13.79%	0.399	65%	0%	0%	10%	5%	5%	0%	15%	0%
(D) Current + MAC + PE (80% R-S)	6.56%	12.60%	0.434	50%	7%	0%	10%	7%	6%	0%	20%	0%

[1]Expected returns are using Aon Investments Q4 2020 Capital Market Assumptions. Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See capital market assumptions disclosure pages in Appendix.
Percentages in table may not sum to 100% due to rounding

Portfolio Analysis | Detailed Portfolio Construction

Asset Class	(A) Current Policy (73% R-S)	(B) Current + MAC (80% R-S)	(C) Current + MAC (85% R-S)	(D) Current + MAC + PE (80% R-S)
Equity				
- Public Equity	60.0%	60.0%	65.0%	50.0%
- Private Equity	0.0%	0.0%	0.0%	7.0%
- Subtotal	60.0%	60.0%	65.0%	57.0%
Return-Seeking Fixed Income				
- High Yield Bonds	2.5%	0.0%	0.0%	0.0%
- Multi-Asset Credit	0.0%	10.0%	10.0%	10.0%
- Private Debt	5.0%	5.0%	5.0%	7.0%
- Subtotal	7.5%	15.0%	15.0%	17.0%
Real Assets				
- Real Estate (Non-Core)	5.0%	5.0%	5.0%	6.0%
- Subtotal	5.0%	5.0%	5.0%	6.0%
Risk-Reducing				
- Core Fixed Income	21.0%	20.0%	15.0%	20.0%
- Global Fixed Income	5.0%	0.0%	0.0%	0.0%
- TIPS	1.5%	0.0%	0.0%	0.0%
- Subtotal	27.5%	20.0%	15.0%	20.0%
Expected Return[1]	**6.12%**	**6.35%**	**6.60%**	**6.56%**
Expected Risk[1]	12.48%	12.89%	13.79%	12.60%
Sharpe Ratio	0.402	0.407	0.399	0.4337
Increase in Expected Return (%)	0.00%	0.23%	0.47%	0.44%
Increase in Expected Return ($ millions)[2]	$0.0	$0.3	$0.6	$0.6
Level of Quasi-Liquid Assets (Liquid Alts, CRE)	0%	0%	0%	0%
Level of Illiquid Assets (PE, PD, NCRE, Infra)	10%	10%	10%	20%

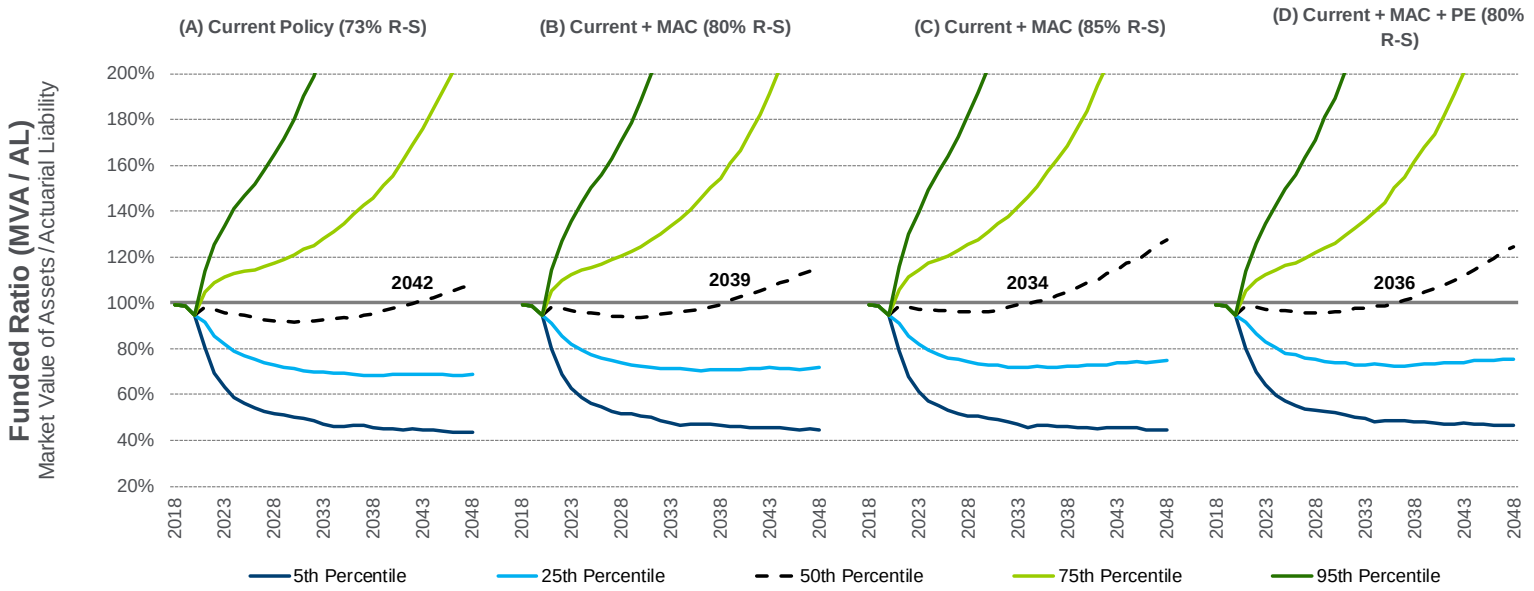
Indicates Changes from Current Policy

[1] Expected returns based on Aon Investments Q4 2020 30 year Capital Market Assumptions assuming the detailed portfolios found in the Appendix. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See Appendix for the Capital Market Assumptions.

[2] Increased dollars determined by market value of assets as of September 30, 2020 ($129.7 million)

Percentages in table may not sum to 100% due to rounding

Funded Ratio Projections



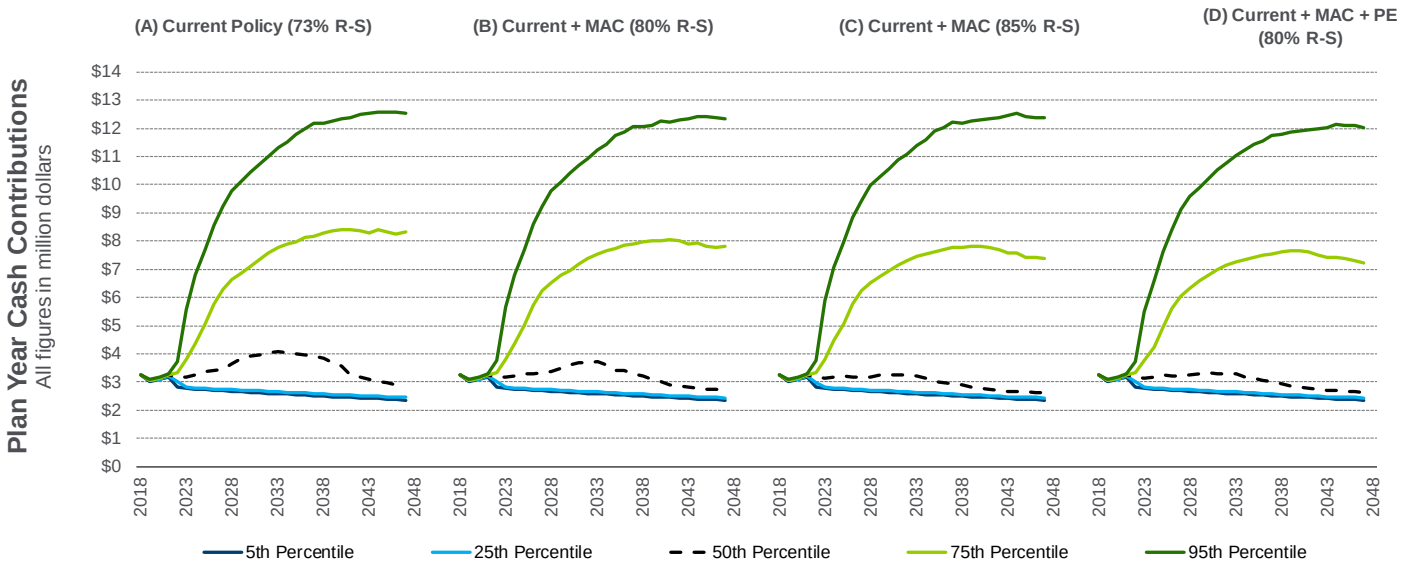
Strategy	(A) Current Policy (73% R-S)			(B) Current + MAC (80% R-S)			(C) Current + MAC (85% R-S)			(D) Current + MAC + PE (80% R-S)		
Year	2028	2038	2048	2028	2038	2048	2028	2038	2048	2028	2038	2048
5th Percentile	51%	46%	43%	52%	46%	45%	51%	46%	45%	53%	48%	47%
25th Percentile	73%	69%	69%	74%	71%	72%	74%	72%	75%	75%	73%	75%
50th Percentile	92%	95%	108%	94%	99%	116%	96%	105%	127%	96%	102%	125%
75th Percentile	117%	146%	>200%	121%	155%	>200%	126%	169%	>200%	122%	161%	>200%
95th Percentile	165%	>200%	>200%	170%	>200%	>200%	182%	>200%	>200%	171%	>200%	>200%
Probability > 100%	42%	48%	55%	45%	50%	59%	47%	54%	63%	46%	52%	63%

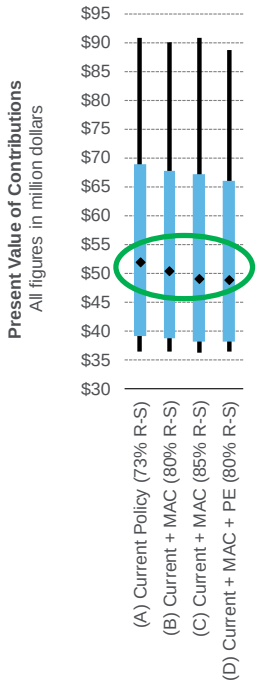
Key Takeaways:

- Plan is expected to move back towards full funding across all investment strategies in the median case
- Portfolios B,C, & D are expected to increase funded ratio and the likelihood of achieving full funding relative to the Current Policy while maintaining similar funding levels in downside scenarios

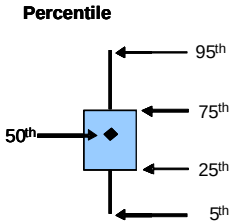
* Liability projections assume discount rates of 6.875% for all investment policies studied

Total Contribution Amount





Strategy	(A) Current Policy (73% R-S)			(B) Current + MAC (80% R-S)			(C) Current + MAC (85% R-S)			(D) Current + MAC + PE (80% R-S)		
Year	2027	2037	2047	2027	2037	2047	2027	2037	2047	2027	2037	2047
5th Percentile	$2.7	$2.5	$2.4	$2.7	$2.5	$2.4	$2.7	$2.5	$2.4	$2.7	$2.5	$2.4
25th Percentile	$2.7	$2.6	$2.4	$2.7	$2.6	$2.4	$2.7	$2.6	$2.4	$2.7	$2.6	$2.4
50th Percentile	$3.5	$3.9	$2.8	$3.3	$3.3	$2.7	$3.2	$3.0	$2.6	$3.2	$3.0	$2.6
75th Percentile	$6.3	$8.2	$8.3	$6.2	$7.9	$7.8	$6.2	$7.8	$7.4	$6.1	$7.5	$7.2
95th Percentile	$9.2	$12.2	$12.5	$9.2	$12.1	$12.3	$9.4	$12.2	$12.4	$9.1	$11.8	$12.0
Probability > $5M	36%	44%	40%	36%	41%	39%	35%	39%	37%	34%	39%	37%



Key Takeaway:

- Portfolios B & D are expected to slightly decrease cash contributions and volatility of cash contributions relative to the Current Policy

* Liability projections assume discount rates of 6.875% for all investment policies studied

Summary of Results

$ millions	30-year Economic Cost		30-year Present Value of Contributions		30-year Ending Funded Ratio (MVA / AL)	
	Expected[1]	Downside[2]	Expected[1]	Downside[2]	Expected[1]	Downside[3]
(A) Current Policy (73% R-S)	$51.0	$99.7	$51.9	$90.8	108%	43%
(B) Current + MAC (80% R-S)	$48.2	$98.4	$50.4	$90.0	116%	45%
(C) Current + MAC (85% R-S)	$45.1	$98.7	$49.1	$90.8	127%	45%
(D) Current + MAC + PE (80% R-S)	$45.3	$96.2	$48.9	$88.7	125%	47%

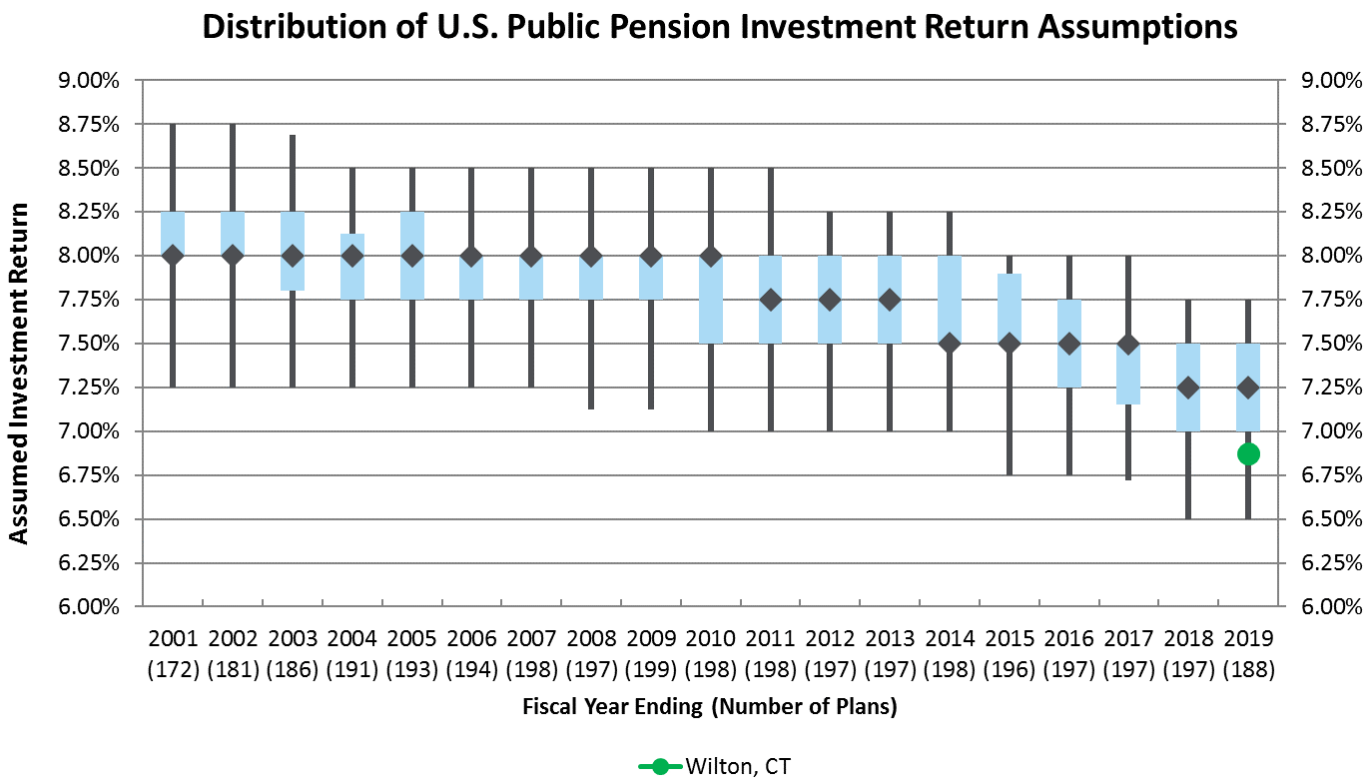
Key Findings:

- Plan is expected to move towards full funding across all investment strategies modeled
- Portfolios B, C, and D…
  - Increase the expected funded ratio and likelihood of achieving full funding relative to the Current Policy while maintaining similar funding levels in downside scenarios
  - Decrease expected Economic Cost and downside risk relative to the Current Policy over a 30-year time horizon

[1] Expected = 50th percentile outcome or central expectation across all 1,000 simulations
[2] Downside = 95th percentile outcome across all 1,000 simulations
[3] Downside = 5th percentile outcome across all 1,000 simulations

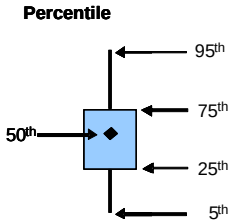
Expected Investment Rate of Return

Wilton versus All Public Peers[1]



Key Takeaways:

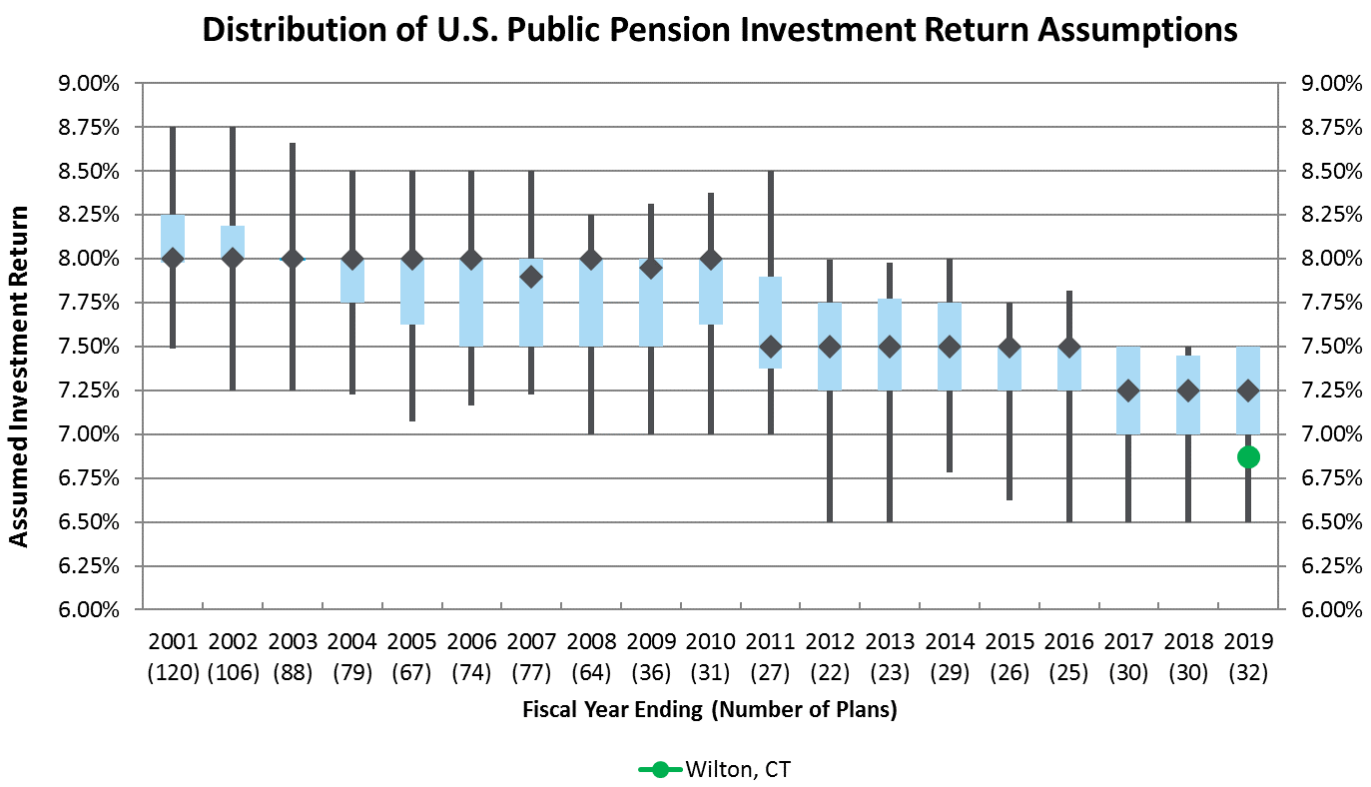
- The public pension peer median actuarial assumption for investment return has declined from 8.00% in 2001-2010 to 7.25%
- **Wilton's assumption for FYE 2019 (6.875%) lied between the 5th and 25th percentile relative to its peers**



Sources: Public Plans Data (publicplansdata.org) as of October 2020; Expected Returns are the assumptions made by the plans included in the data set.
[1] Peers defined as public funds published within publicplansdata.org as of October 2020; Number of plans per year are shown in parentheses

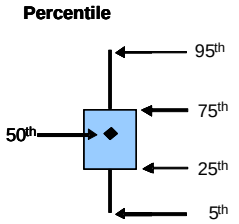
Expected Investment Rate of Return

Wilton versus Peers Funded Great Than 90%[1]



Key Takeaway:

- Plans at least 90% funded have a downward shifted distribution compared to all public pension plans



Sources: Public Plans Data (publicplansdata.org) as of October 2020; Expected Returns are the assumptions made by the plans included in the data set.
[1] Peers defined as public funds published within publicplansdata.org as of October 2020; Number of plans per year are shown in parentheses

Public Sector Pension Topics, Trends and Innovations

Conference Topics

- *Assessing the Health of Your Retirement System*
- *Retirement Readiness: How to Help Your Employees Get Ready for the Big Day*
- *Pension Obligation Bonds: Is the Time Right Now?*

Trends

- Rising Employee (and Employer) contributions
- Auto-triggers/Risk Sharing - variable contributions, retiree risk sharing
- Negative Cash Flow

Innovations Closing the Funding Gap

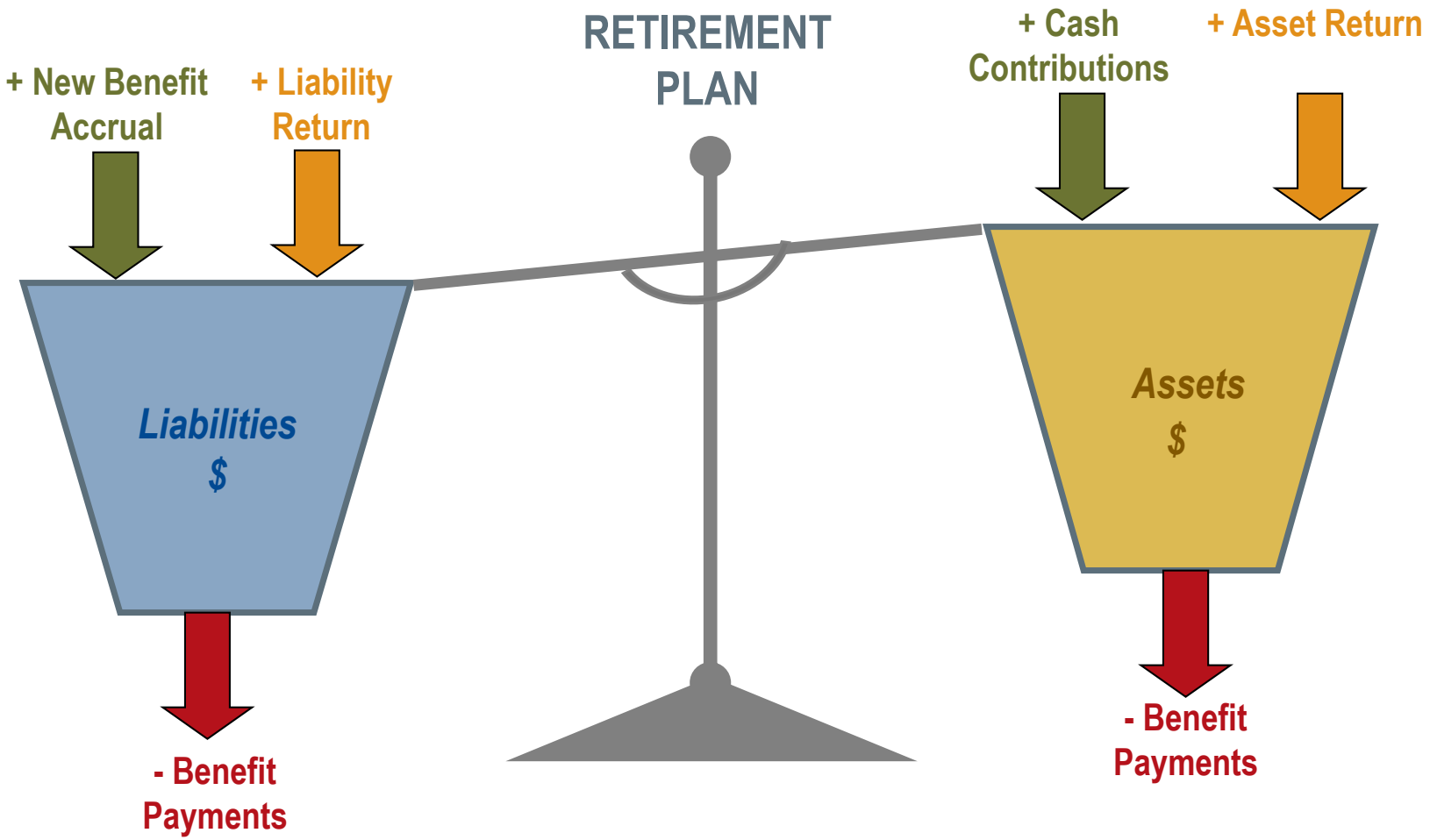
- Securitizing Public Assets
- Exploring Dedicated Revenue Stream
- Establishing a Stabilization Fund

Appendix

- Additional Pension Analysis

Asset-Liability Study Process & Methodology

Proper Balance of Liabilities and Assets



Current State Asset-Liability Profile – Pension Plan

As of July 1, 2018

Asset-Liability Snapshot as of 7/1/2018		
Metric ($, Millions)	**Value**	**Fund %**
Market Value of Assets	$117.4	99.2%
Actuarial Value of Assets	$117.3	99.2%
Liability Metrics		
Actuarial Liability (AL) - Funding	$118.3[1]	

Key Takeaways:

- Pension plan is 99.2% funded on a market value of assets basis as of July 1, 2018
- Asset allocation is 72.5% return-seeking assets with 27.5% risk-reducing/safety assets to withstand stressed markets
- Asset hurdle rate of 9.32%, via cash funding and investment returns, needed to maintain or improve actuarial funded status

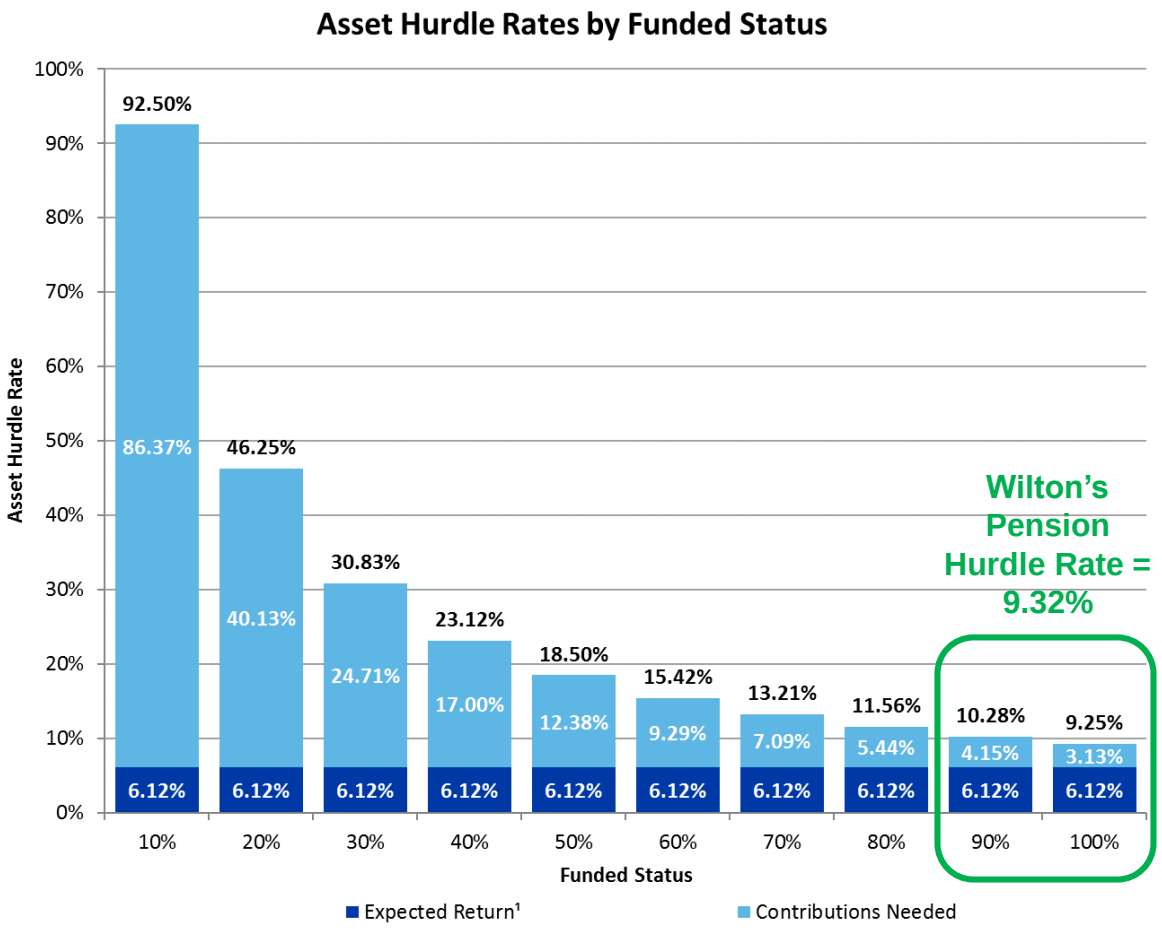
Asset-Liability Growth Metrics			
Metric ($, Millions)	**Value**	**% Liability**	**% Assets**
AL Discount Cost	$8.1	6.88%	6.93%
AL Normal Cost	$2.7	2.27%	2.29%
Plan Expenses	$0.1	0.10%	0.10%
Total Liability Hurdle Rate	**$10.9**	**9.25%**	**9.32%**
Expected Return on Assets[2]	$7.2	6.07%	6.12%
Total Contributions	$3.2	2.74%	2.77%
Total Exp. Asset Growth	**$10.4**	**8.81%**	**8.89%**
Hurdle Rate Shortfall/(Surplus)	**$0.5**	**0.44%**	**0.43%**
Est. Benefit Payments	$6.0	5.11%	5.15%

Target Asset Allocation as of 7/1/2018		
Metric ($, Millions)	**Value**	**Alloc %**
Return-Seeking		
- U.S. Equity	$35.2	30.0%
- International Equity	$35.2	30.0%
- Real Estate	$5.9	5.0%
- High Yield Bonds	$2.9	2.5%
- Private Debt	$5.9	5.0%
- Total	$85.1	72.5%
Risk-Reducing		
- Inflation Linked Bonds	$1.8	1.5%
- Core Bonds	$24.6	21.0%
- Global Bonds	$5.9	5.0%
- Total	$32.3	27.5%
Total	$117.4	100.0%

[1]Based on a 6.875% discount rate consistent with the July 1, 2018 valuation results.
[2]Expected returns are using Aon Investments' Q4 2020 Capital Market Assumptions. Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See capital market assumptions disclosure pages in Appendix.

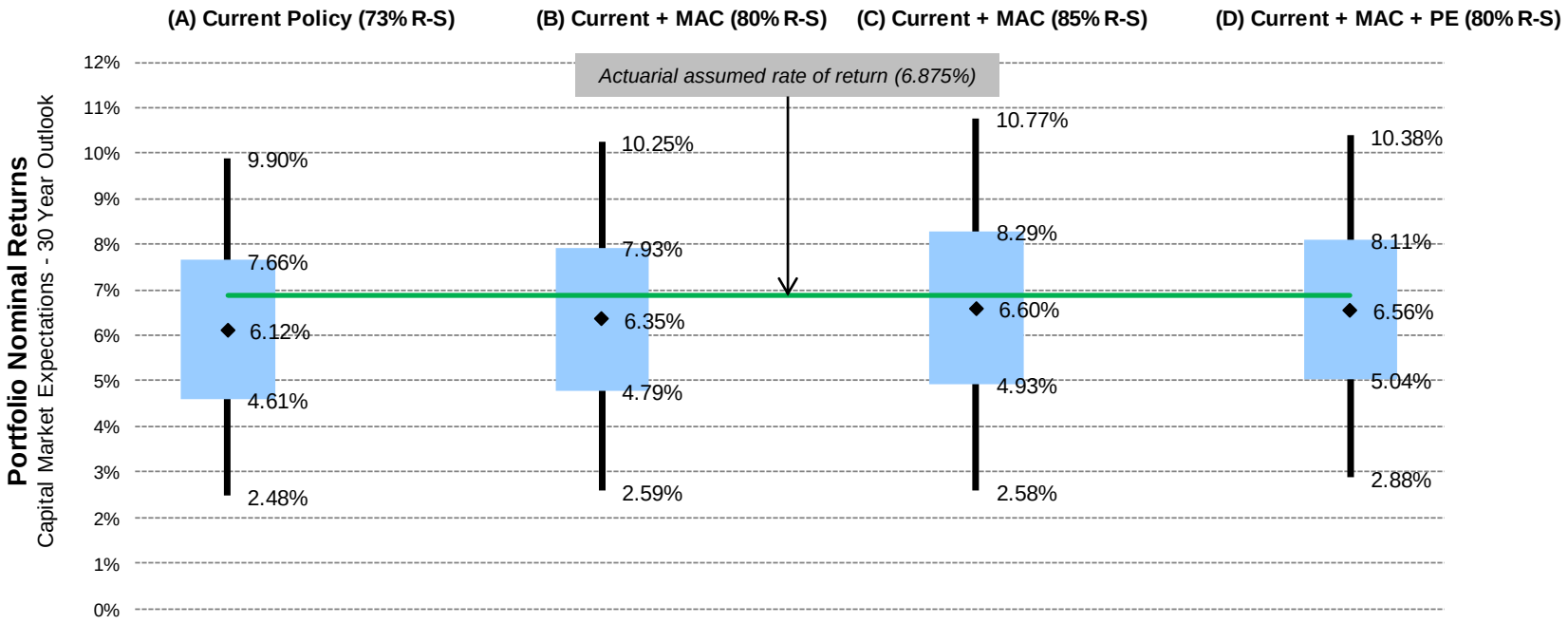
Asset Hurdle Rate

- **Asset Hurdle Rate** is the level of asset growth needed to keep pace with the growth of the Plan liabilities
  - Assets must grow at this rate or more in order to maintain or reduce the existing funding shortfall
- Assets can grow via:
  - Investment performance, and/or
  - Funding contributions
- Asset hurdle rates increase as funded ratio declines, as shown in the chart to the right



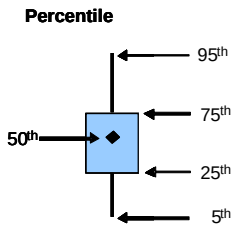
Expected returns are using Aon Investments' Q3 2020 Capital Market Assumptions. Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See capital market assumptions disclosure pages in Appendix.

Portfolio Analysis
Range of Nominal Returns



Key Takeaway:

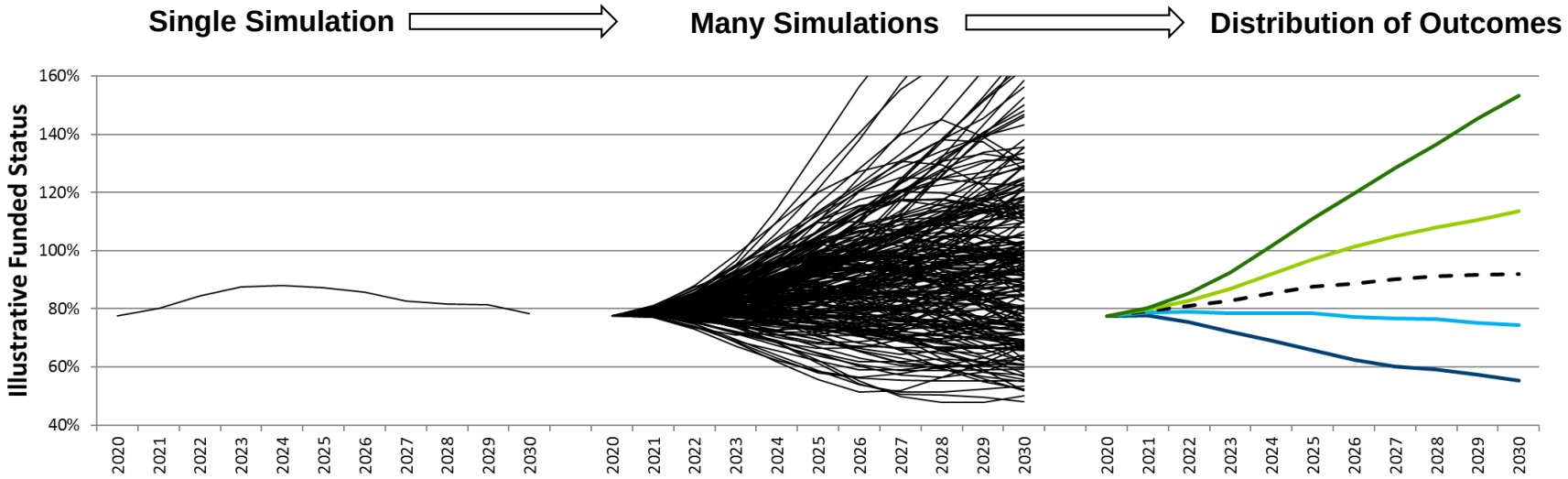
- Portfolios B, C, & D move the expected return closer to the actuarial assumed rate of return



[1] Expected returns are using Aon Investments' Q4 2020 Capital Market Assumptions. Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results. See capital market assumptions disclosure pages in Appendix.

Asset-Liability Simulation Overview

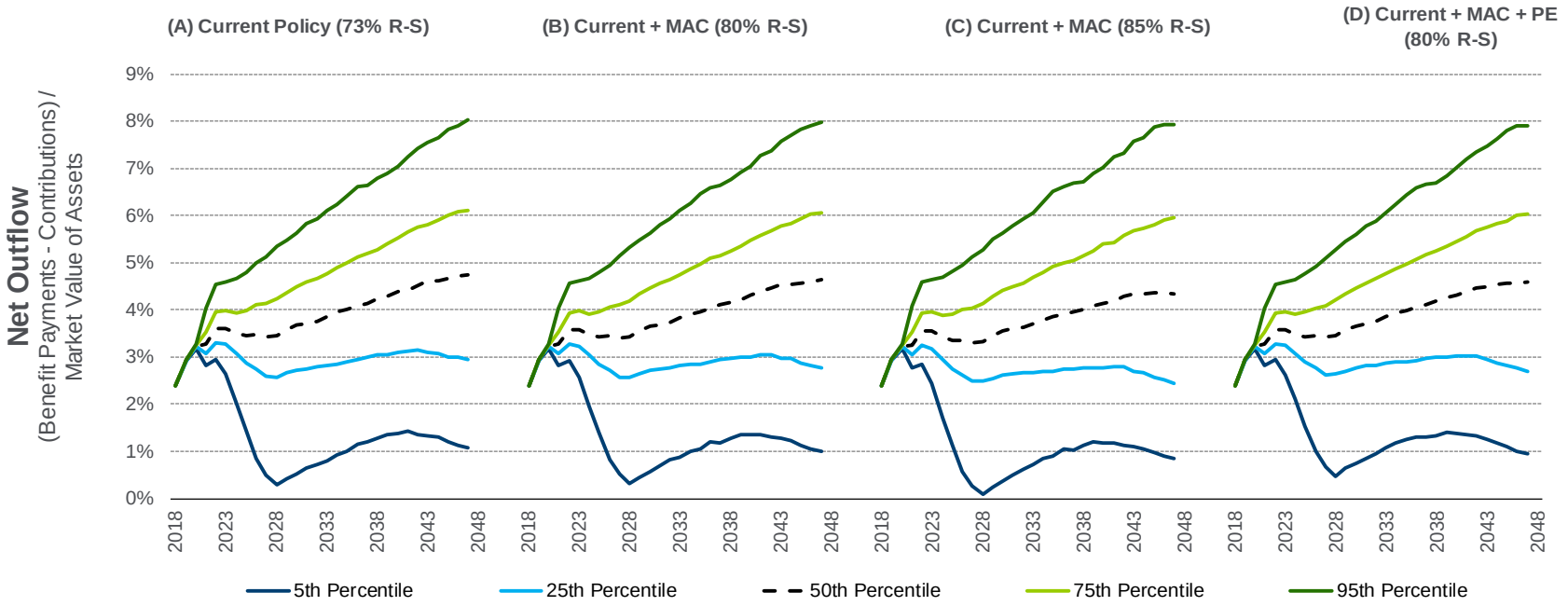
- Thousands of simulations plotted in one graph would be impossible to interpret
- Instead, we rank the simulations at each point over the future
- This produces a distribution of outcomes illustrating the degree of uncertainty of a plan's financial position over the projection period
- Different investment strategies will produce different distributions of outcomes



* The path of a given scenario will follow a much less smooth pattern than the distribution suggests, as illustrated above

Asset-Liability Projection Results

Net Outflow Analysis: (Benefit Payments less Contributions) / Market Value of Assets



Strategy	(A) Current Policy (73% R-S)			(B) Current + MAC (80% R-S)			(C) Current + MAC (85% R-S)			(D) Current + MAC + PE (80% R-S)		
Year	2027	2037	2047	2027	2037	2047	2027	2037	2047	2027	2037	2047
5th Percentile	0%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
25th Percentile	3%	3%	3%	3%	3%	3%	2%	3%	2%	3%	3%	3%
50th Percentile	3%	4%	5%	3%	4%	5%	3%	4%	4%	3%	4%	5%
75th Percentile	4%	5%	6%	4%	5%	6%	4%	5%	6%	4%	5%	6%
95th Percentile	5%	7%	8%	5%	7%	8%	5%	7%	8%	5%	7%	8%

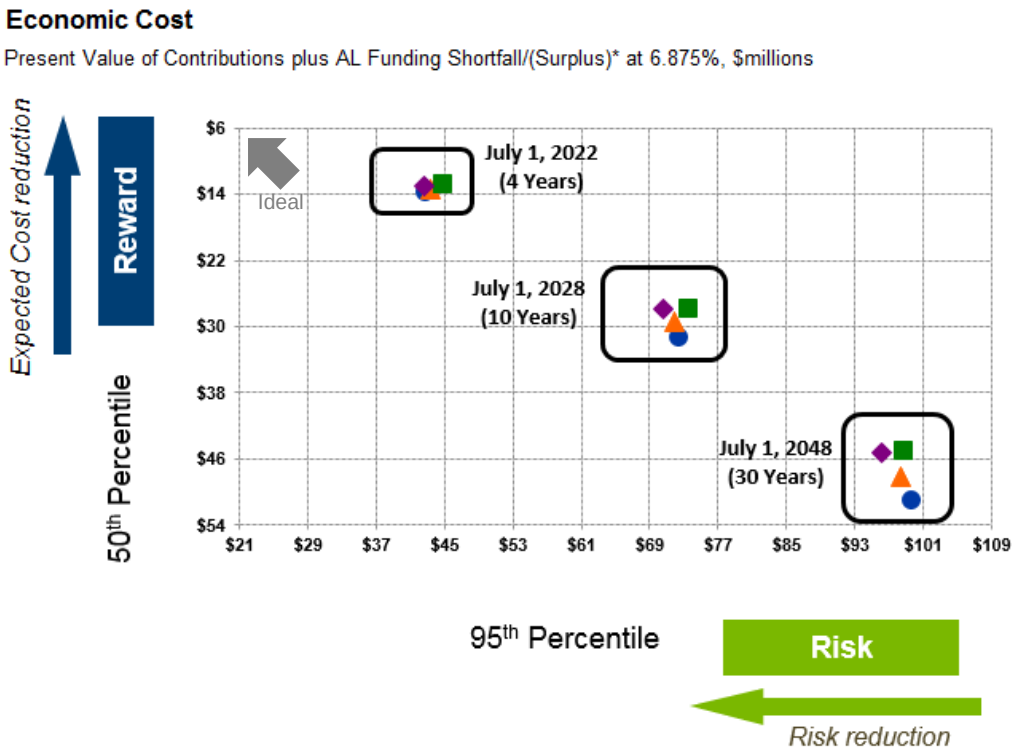
Key Takeaway:

- Net outflow is consistent across the policies modeled with central expectations (50th percentile outcome) in the 3-5% range

* Liability projections assume discount rates of 6.875% for all investment policies studied

Asset-Liability Projection Results

Economic Cost Analysis—3-Year, 10-Year, and 30-Year Horizons



Strategy ($Millions)	Economic Cost July 1, 2022 Cost	Risk
(A) Current Policy (73% R-S)	$13.9	$42.9
(B) Current + MAC (80% R-S)	$13.5	$43.4
(C) Current + MAC (85% R-S)	$12.8	$44.8
(D) Current + MAC + PE (80% R-S)	$13.1	$42.6

Strategy ($Millions)	July 1, 2028 Cost	Risk
(A) Current Policy (73% R-S)	$31.4	$72.4
(B) Current + MAC (80% R-S)	$29.5	$72.0
(C) Current + MAC (85% R-S)	$27.8	$73.5
(D) Current + MAC + PE (80% R-S)	$27.8	$70.7

Strategy ($Millions)	July 1, 2048 Cost	Risk
(A) Current Policy (73% R-S)	$51.0	$99.7
(B) Current + MAC (80% R-S)	$48.2	$98.4
(C) Current + MAC (85% R-S)	$45.1	$98.7
(D) Current + MAC + PE (80% R-S)	$45.3	$96.2

Key Takeaways:

- The magnitude of the risk/reward trade-off changes over a longer-term projection
- Under the Current Policy asset allocation over a 30-year time horizon, the expected Economic Cost is $51.0MM and the potential risk is $99.7MM
- Adjustments to the portfolio composition may have desirable risk/reward characteristics relative to the Current Policy

* Liability projections assume discount rates of 6.875% for all investment policies studied; Reflects a *utility function:* Excludes 50% of surplus in excess of 120% of Actuarial liability, and includes twice the shortfall below 30% of Actuarial liability, on a market value basis

Appendix

- Assumptions and Methods

Actuarial Assumptions and Methods

- Actuarial assumptions:
  - Valuation Rate of Interest = 6.875% (Pension)
  - Inflation = 2.60%
  - Actuarial Value of Assets: Equal to a 5-year smoothed value of Plan assets
    - Without details from the actuarial valuation report, the actuarial value of assets was set equal to the market value of assets
  - Actuarially Determined Contribution Calculation = Normal Cost plus a level dollar amortization of the unfunded actuarial liability
    - Amortization of Unfunded Actuarial Liability uses an open, 20-year amortization period
  - The Town's contribution policy makes additional contribution to the Pension/OPEB Plans, depending on the Plan's funded ratio:

Funded Ratio	Employer's Contribution
≤ 85%	120% of actuary's recommendation
85% to < 90%	115% of actuary's recommendation
90% to < 95%	110% of actuary's recommendation
95% to < 100%	105% of actuary's recommendation
100%+	100% of actuary's recommendation

- Due to the closed nature of the pension plan, future benefit accruals were assumed to decrease over the projection period
- Actuarial asset returns through September 30, 2020 have been included in the analysis
- All other assumptions will be taken from the July 1, 2018 actuarial valuation report

Aon Investments' Capital Market Assumptions

As of September 30, 2020 (30 Years)

		Expected Real Return[1]	Expected Nominal Return[1]	Expected Nominal Volatility
	Equity			
1	Large Cap U.S. Equity	4.2%	6.4%	17.0%
2	Small Cap U.S. Equity	4.7%	6.9%	23.0%
3	Global Equity IMI	5.1%	7.3%	18.5%
4	International Equity (Developed)	5.3%	7.5%	20.0%
5	Emerging Markets Equity	5.6%	7.8%	27.0%
	Fixed Income			
6	TIPS	-0.4%	1.7%	3.5%
7	Core Fixed Income	-0.3%	1.8%	4.5%
8	Market-Duration (5-Yr) Non-Govt Bonds	0.3%	2.4%	5.5%
9	High Yield Bonds	1.7%	3.8%	12.0%
10	Non-US Developed Bond (0% Hedged)	-0.7%	1.4%	10.5%
11	Multi-Asset Credit[2]	2.6%	4.8%	10.0%
	Alternatives			
12	Direct Hedge Funds[2,3]	3.9%	6.1%	9.5%
13	Non Core Real Estate	5.1%	7.3%	25.0%
14	Core Real Estate	3.4%	5.6%	15.0%
15	Private Equity	7.0%	9.2%	25.0%
16	Private Debt	3.5%	5.7%	17.0%
	Inflation			
17	Inflation	0.0%	2.1%	1.5%

Notes:

[1] All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees.

[2] Alpha incorporated in Expected Nominal Return.

[3] Represents diversified portfolio of direct hedge fund investments.

Aon Investments' Capital Market Assumptions

As of September 30, 2020

	Nominal Correlations	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Large Cap U.S. Equity	**1.00**	0.92	0.96	0.79	0.73	-0.03	0.02	0.11	0.61	-0.02	0.58	0.54	0.48	0.38	0.69	0.36	0.09
2	Small Cap U.S. Equity	0.92	**1.00**	0.91	0.72	0.68	-0.04	0.02	0.10	0.57	-0.02	0.53	0.50	0.45	0.35	0.65	0.34	0.08
3	Global Equity IMI	0.96	0.91	**1.00**	0.90	0.85	-0.04	0.02	0.11	0.66	0.15	0.64	0.53	0.49	0.39	0.67	0.40	0.09
4	International Equity (Developed)	0.79	0.72	0.90	**1.00**	0.75	-0.04	0.01	0.09	0.59	0.42	0.60	0.46	0.45	0.35	0.56	0.37	0.09
5	Emerging Markets Equity	0.73	0.68	0.85	0.75	**1.00**	-0.03	0.02	0.10	0.66	0.20	0.64	0.38	0.42	0.32	0.53	0.41	0.08
6	TIPS	-0.03	-0.04	-0.04	-0.04	-0.03	**1.00**	0.55	0.46	0.05	0.05	0.02	-0.08	0.02	0.04	-0.02	-0.12	0.25
7	Core Fixed Income	0.02	0.02	0.02	0.01	0.02	0.55	**1.00**	0.95	0.27	0.15	0.22	0.00	0.04	0.05	0.03	-0.04	0.06
8	Market-Duration (5-Yr) Non-Govt Bonds	0.11	0.10	0.11	0.09	0.10	0.46	0.95	**1.00**	0.46	0.14	0.40	0.14	0.08	0.08	0.10	0.16	0.05
9	High Yield Bonds	0.61	0.57	0.66	0.59	0.66	0.05	0.27	0.46	**1.00**	0.19	0.93	0.50	0.33	0.25	0.46	0.71	0.16
10	Non-US Developed Bond (0% Hedged)	-0.02	-0.02	0.15	0.42	0.20	0.05	0.15	0.14	0.19	**1.00**	0.29	0.04	0.03	0.01	0.00	0.11	0.12
11	Multi-Asset Credit[4]	0.58	0.53	0.64	0.60	0.64	0.02	0.22	0.40	0.93	0.29	**1.00**	0.51	0.29	0.22	0.39	0.66	0.14
12	Direct Hedge Funds[3,4]	0.54	0.50	0.53	0.46	0.38	-0.08	0.00	0.14	0.50	0.04	0.51	**1.00**	0.25	0.19	0.36	0.38	0.06
13	Non Core Real Estate	0.48	0.45	0.49	0.45	0.42	0.02	0.04	0.08	0.33	0.03	0.29	0.25	**1.00**	0.96	0.38	0.18	0.10
14	Core Real Estate	0.38	0.35	0.39	0.35	0.32	0.04	0.05	0.08	0.25	0.01	0.22	0.19	0.96	**1.00**	0.32	0.14	0.10
15	Private Equity	0.69	0.65	0.67	0.56	0.53	-0.02	0.03	0.10	0.46	0.00	0.39	0.36	0.38	0.32	**1.00**	0.28	0.07
16	Private Debt	0.36	0.34	0.40	0.37	0.41	-0.12	-0.04	0.16	0.71	0.11	0.66	0.38	0.18	0.14	0.28	**1.00**	0.10
17	Inflation	0.09	0.08	0.09	0.09	0.08	0.25	0.06	0.05	0.16	0.12	0.14	0.06	0.10	0.10	0.07	0.10	**1.00**

Aon Investments' Capital Market Assumptions

Explanation of Capital Market Assumptions—Q4 2020

The following capital market assumptions were developed by Aon's Global Asset Allocation Team and represent the long-term capital market outlook (i.e., 30 years) based on data at the end of the third quarter of 2020. The assumptions were developed using a building block approach, reflecting observable inflation and interest rate information available in the fixed income markets as well as Consensus Economics forecasts. Our long-term assumptions for other asset classes are based on historical results, current market characteristics, and our professional judgment.

Inflation – Expected Level (2.1%)

Based on Consensus Economics long-term estimates and our near-term economic outlook, we expect U.S. consumer price inflation to be approximately 2.1% during the next 30 years.

Real Returns for Asset Classes

Fixed Income

- **Cash (-1.0%)** – Over the long run, we expect the real yield on cash and money market instruments to produce a real return of -1.0% in a moderate to low-inflationary environment.
- **TIPS (-0.4%)** – We expect intermediate duration Treasury Inflation-Protected Securities to produce a real return of about -0.4%.
- **Core Fixed Income (i.e., Market Duration) (-0.3%)** – We expect intermediate duration Treasuries to produce a real return of about -0.9%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults and downgrades) to be 0.6%, resulting in a long-term real return of -0.3%.
- **Long Duration Bonds – Government and Credit (-0.1%)** – We expect Treasuries with a duration comparable to the Long Government Credit Index to produce a real return of -0.6%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults and downgrades) to be 0.5%, resulting in an expected real return of -0.1%.

Aon Investments' Capital Market Assumptions

Explanation of Capital Market Assumptions—Q4 2020

- **Long Duration Bonds – Credit (0.4%)** – We expect Treasuries with a duration comparable to the Long Credit Index to produce a real return of -0.6%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults and downgrades) to be 1.0%, resulting in an expected real return of 0.4%.
- **Long Duration Bonds – Government (-0.6%)** – We expect Treasuries with a duration of ~12 years to produce a real return of -0.6% during the next 30 years.
- **High Yield Bonds (1.7%)** – We expect intermediate duration Treasuries to produce a real return of about -0.9%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults and downgrades) to be 2.8%, resulting in an expected real return of 1.7%.
- **Bank Loans (2.2%)** – We expect LIBOR to produce a real return of about -0.6%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults) to be 2.8%, resulting in an expected real return of 2.2%.
- **Non-US Developed Bonds: 50% Hedged (-0.6%) –** We forecast real returns for non-US developed market bonds to be -0.6% over a 30-year period after adjusting for a 50% currency hedge. We assume a blend of one-third investment grade corporate bonds and two-thirds government bonds. We also produce assumptions for 0% hedged and 100% hedged non-US developed bonds.
- **Emerging Market Bonds (Sovereign; USD) (1.6%) –** We forecast real returns for emerging market sovereign bonds denominated in US dollars to be 1.6% over a 30-year period.
- **Emerging Market Bonds (Corporate; USD) (1.2%) –** We forecast real returns for emerging market corporate bonds denominated in US dollars to be 1.2% over a 30-year period.
- **Emerging Market Bonds (Sovereign; Local) (1.6%)** – We forecast real returns for emerging market sovereign bonds denominated in local currency to be 1.6% over a 30-year period.
- **Multi Asset Credit (MAC) (2.6%) –** We assume real returns from beta exposure to high yield, bank loans and emerging market debt to add 1.8% plus 0.8% from alpha (net of fees) over a 30-year period.
- **Private Debt-Direct Lending (3.5%) –** The base building block is bank loans 2.2% + spread 1.3% (net of management fees and performance incentives). There is 100% leverage included in the assumption with the cost of financing at LIBOR + 2.5%.

Aon Investments' Capital Market Assumptions

Explanation of Capital Market Assumptions—Q4 2020

Equities

- **Large Cap U.S. Equity (4.2%)** – This assumption is based on our 30-year outlook for large cap U.S. company dividends and real earnings growth. Adjustments are made for valuations as needed.
- **Small Cap U.S. Equity (4.7%)** – Adding a 0.5% return premium for small cap U.S. equity over large cap U.S. equity results in an expected real return of 4.7%. This return premium is theoretically justified by the higher risk inherent in small cap U.S. equity versus large cap U.S. equity, and is also justified by historical data. In recent years, higher small cap valuations relative large cap equity has reduced the small cap premium.
- **Global Equity (Developed & Emerging Markets) (5.1%)** – We employ a building block process similar to the U.S. equity model using the developed and emerging markets that comprise the MSCI All-Country World Index. Our roll-up model produces an expected real return of 5.1% for global equity.
- **International (Non-U.S.) Equity, Developed Markets (5.3%)** – We employ a building block process similar to the U.S. equity model using the non-U.S. developed equity markets that comprise the MSCI EAFE Index.
- **Emerging Market Stocks (5.6%)** - We employ a building block process similar to the U.S. equity model using the non-U.S. emerging equity markets that comprise the MSCI Emerging Markets Index.
- **Equity Risk Insurance Premium Strategies-High Beta (4.0%) –** We expect real returns from 50% equity + 50% cash beta of 1.9% plus 2.1% insurance risk premium over the next 30 years.

Alternative Asset Classes

- **Hedge Fund-of-Funds Universe (1.2%)** – The generic category "hedge funds" encompasses a wide range of strategies accessed through "fund-of-funds" vehicles. We also assume the ***median*** manager is selected and also allow for the additional costs associated with Fund-of-Funds management. A top-tier portfolio of funds (hedge fund-of-funds buy-list) could add an additional 1.2% in return at similar volatility based on alpha, lower fees and better risk management.

Aon Investments' Capital Market Assumptions

Explanation of Capital Market Assumptions—Q4 2020

- **Hedge Fund-of-Funds Buy List (2.4%)** – The generic category of top-tier "hedge funds" encompasses a wide range of strategies accessed through "fund-of-funds" vehicles. We assume additional costs associated with Funds-of-Funds management. To use this category the funds must be buy rated or we advise on manager selection.
- **Broad Hedge Funds Universe (2.5%)** – Represents a diversified portfolio of direct hedge fund investments. This investment will tend to be less diversified than a typical "fund-of-funds" strategy as there will be fewer underlying managers and will not include the extra layer of fees found in a Fund-of-Funds structure.
- **Broad Hedge Funds Buy List (3.9%)** – Represents a diversified portfolio of top-tier direct hedge fund investments. This investment will tend to be less diversified than a typical "fund-of-funds" strategy as there will be fewer underlying managers and will not include the extra layer of fees found in a Fund-of-Funds structure. To use this category the funds must be buy rated or we advise on manager selection.
- **Core Real Estate (3.4%)** -- Our real return assumption for core real estate is based a gross income of about 3.6%, management fees of roughly 1%, and future capital appreciation near the rate of inflation during the next 30 years. We assume a portfolio of equity real estate holdings that is diversified by property and by geographic region.
- **Non-Core Real Estate (5.1%)** -- Core real estate is levered approximately 100% as the base building block for this assumption. We subtract financing costs for the leverage and 2% management costs. We also assume nominal alpha of 3%. We assume a 50/50 mix of value-add and opportunistic investments.
- **U.S. REITs (3.9%)** – Our real return assumption for U.S. REITs is based on income of about 3.9% and future capital appreciation near the rate of inflation during the next 30 years. REITs are a sub-set of U.S. small/mid cap equity universe.
- **Commodities (1.5%)** – Our commodity assumption is for a diversified portfolio of commodity futures contracts. Commodity futures returns are composed of three parts: spot price appreciation, collateral return, and roll return (positive or negative change implied by the shape of the future curve). We believe that spot prices will converge with CPI over the long run (i.e., 2.1%). Collateral is assumed to be LIBOR cash (-0.6%). Also, we believe the roll effect will be near zero, resulting in a real return of about 1.5% for commodities.

Aon Investments' Capital Market Assumptions

Explanation of Capital Market Assumptions—Q4 2020

- **Private Equity (7.0%)** – Our private equity assumption reflects a diversified fund of funds with exposure to buyouts, venture capital, distressed debt, and mezzanine debt.
- **Infrastructure (6.4%)** – Our infrastructure assumption is formulated using a cash flow based approach that projects cash flows (on a diversified portfolio of assets) over a 30-year period. Income and capital growth as well as gearing levels, debt costs and terms, relevant tax and management expenses are all taken into consideration. Our approach produces an expected real return of 6.4% for infrastructure.
- **Equity Risk Insurance Premium Strategies-Low Beta (2.4%) –** We assume real returns from cash of -1.0% + 3.4% from alpha.
- **Alternative Risk Premia (ARP) (3.3%) –** Real return target LIBOR -0.6% plus 3.9% alpha (net of fees)

Volatility / Correlation Assumptions

Assumed volatilities are formulated with reference to implied volatilities priced into option contracts of various terms, as well as with regard to historical volatility levels. For asset classes which are not marked to market (for example real estate), we "de-smooth" historical returns before calculating volatilities. Importantly, we consider expected volatility trends in the future – in recent years we assumed the re-emergence of an economic cycle and a loss of confidence in central bankers would lead to an increase in volatility. Correlation assumptions are generally similar to actual historical results; however, we do make adjustments to reflect our forward-looking views as well as current market fundamentals.

Appendix

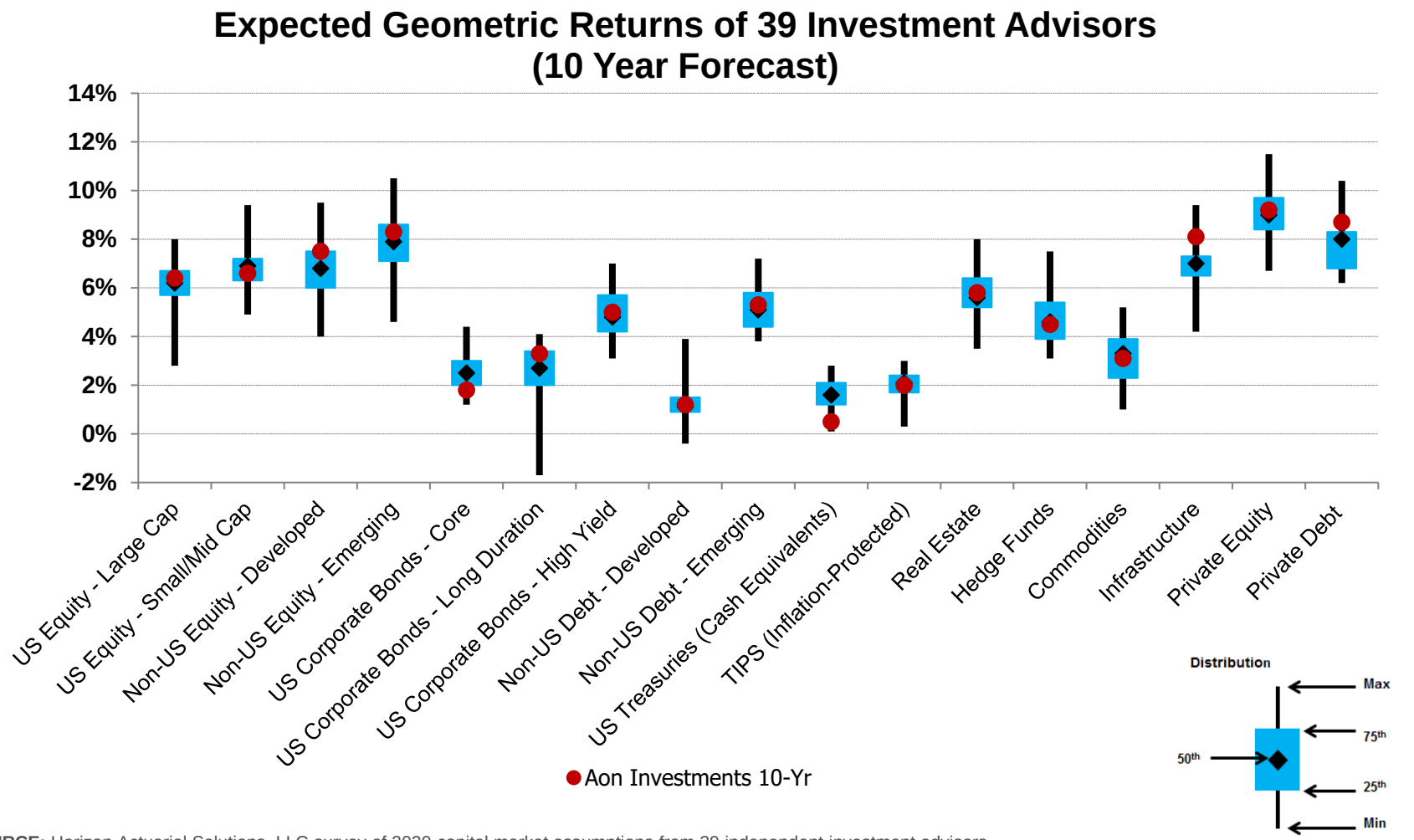
- Horizon Survey of Capital Market Assumptions

2020 Horizon Survey Results

- **What is the Horizon Survey?**
  - Since 2010, Horizon Actuarial Services, LLC has conducted a capital market assumption survey of investment firms to aid in determining reasonable assumptions for a pension plan's expected return on assets
    - While Aon does not seek to change our approach based on how we stack up to peers, it is a helpful double-check to make sure we are not too far off from others in the industry

- **How does Aon compare to the 2020 survey results?**
  - 2020 Aon Investments' 10-year forecast assumptions (as of March 31, 2020)
    - ***Equities:*** approximately middle of the pack for US equities and slightly higher for Non-US equities relative to the survey's median level
    - ***Fixed Income:*** approximately middle of the pack relative to the survey's median level; lower for US Treasuries
    - ***Alternatives:*** approximately middle of the pack relative to the survey's median level; slightly higher for Infrastructure and Private Debt

Aon Investments' Capital Market Assumptions vs. Horizon Survey



SOURCE: Horizon Actuarial Solutions, LLC survey of 2020 capital market assumptions from 39 independent investment advisors
Expected returns of the survey are annualized over 10-years (geometric).
Aon Investments' expected returns are annualized over 10-years as of 2Q 2020 (3/31/2020)

Aon Investments vs. Peers (2020 Horizon Survey)—10-Year Forecast

	Horizon Survey		Aon Investments		Difference
	10 Year Horizon		10 Year Forecasts		
Asset Class	**Expected Return**	**Expected Risk**	**Expected Return**	**Expected Risk**	Aon Investments- Horizon Survey
US Equity - Large Cap	6.2%	16.2%	6.4%	17.0%	0.2%
US Equity - Small/Mid Cap	6.9%	20.2%	6.6%	23.0%	-0.3%
Non-US Equity - Developed	6.8%	18.1%	7.5%	20.0%	0.7%
Non-US Equity - Emerging	7.9%	24.2%	8.3%	27.0%	0.4%
US Fixed Income - Core	2.5%	5.5%	1.8%	4.0%	-0.7%
US Fixed Income - Long Duration Corp	2.7%	10.2%	3.3%	11.5%	0.6%
US Fixed Income - High Yield	4.8%	9.8%	5.0%	12.0%	0.2%
Non-US Fixed Income - Developed	1.1%	7.0%	1.2%	5.5%	0.1%
Non-US Fixed Income - Emerging	5.1%	11.0%	5.3%	13.0%	0.2%
Treasuries (Cash Equivalents)	1.6%	1.8%	0.5%	1.0%	-1.1%
TIPS (Inflation-Protected)	2.1%	6.1%	2.0%	4.5%	-0.1%
Real Estate	5.6%	16.8%	5.8%	15.0%	0.2%
Hedge Funds	4.6%	8.0%	4.5%	9.0%	-0.1%
Commodities	3.3%	17.6%	3.1%	17.0%	-0.2%
Infrastructure	7.0%	14.6%	8.1%	14.5%	1.1%
Private Equity	9.0%	22.0%	9.2%	25.0%	0.2%
Private Debt	8.0%	12.1%	8.7%	16.0%	0.7%
Inflation	2.0%	1.7%	2.1%	1.0%	0.1%

Notes (Horizon Survey):

Source: Horizon Actuarial survey of 2020 capital market assumptions from 39 independent investment advisors

Expected returns are median annualized (geometric).

Notes (Aon Investments' Forecasts):

Aon Investments' Forecasts are for Q2 2020

- US Equity - Small/Mid Cap forecasts represents Aon Investments' forecasts for US Small Cap
- US Fixed Income - Long Duration forecasts represents Aon Investments' forecasts for Long Duration Credit
- Non-US Fixed Income - Developed forecasts represents Aon Investments' forecasts for Non-US Fixed Income - Developed (50% Hedged)
- Non-US Fixed Income - Emerging forecasts represents Aon Investments' forecasts for Emerging Market Bonds - Sovereign USD
- Real Estate forecasts represents Aon Investments' forecasts for Core Real Estate
- Hedge Funds forecasts represents Aon Investments' forecasts for Direct Hedge Funds (Universe)

Leading Methodologies & Reasons for Differences

Leading Methodologies

- Building Block
- Global Capital Asset Pricing Model (Global CAPM)
- Surveys
- Historical data (as a guide to future)
- Black-Litterman (combination of building block and CAPM)

Reasons for Differences

- Methodology
- Time Horizon
- Arithmetic vs. Geometric forecasts*
- Alpha (active management)*
- Inflation
- Investment Fees*
- Asset class definition

* While some firms in the Horizon survey responded with arithmetic forecasts, the results have been converted to geometric forecasts for comparison purposes. Additionally, the return expectations included in the Horizon survey are generally market returns that do not reflect active management. Returns for asset classes where passive investments are not available (e.g., hedge funds and private equity) are net of fees.

Appendix

- How Do Public Pensions Impact Credit Ratings?

How Do Public Pensions Impact Credit Ratings?

Summary and Conclusions

Pension Impact on Credit Ratings

- Pension plans have a direct impact on the ultimate state or local credit rating
- Rating agencies are not just looking at where public pension plans stand today; they are looking at the expected future trajectory of the plan based on how it is managed

Credit Ratings and Borrowing Costs

- Taxpayers in lower credit rated jurisdictions are paying higher borrowing costs and could save money through healthier pension plan management

Call to Action

- The Big Three value selecting appropriate actuarial assumptions, avoiding excessive risk taking, and developing an adequate funding policy
- While debt priorities and revenue framework to service such debt will vary on a case-by-case basis, every jurisdiction has the ability to thoughtfully develop a funding policy and set appropriate assumptions
- These initial steps will help pension stakeholders better understand the true economic costs, improve the funding outlook for public pensions, and potentially reduce borrowing costs and further taxpayer burden

How Do Public Pensions Impact Credit Ratings?

Call to Action: Plan Sponsors Have Ability to Impact Credit Rating

Below are three specific actions plan sponsors can take today to directly improve the impact a pension plan will have on the credit rating of its locality:

Action	Considerations
 **1. Conduct an actuarial assumption audit** ▪ Review reasonability of key assumptions: – Salary scale, Mortality, Retirement rates, Turnover rates	▪ Assumptions set to plan-specific expectations will lead to lower contribution volatility ▪ Aggressive assumptions may provide short-term relief but may have long-term consequences
 **2. Consider adjustments to expected return assumption** ▪ Adjustments should be in line with forward-looking expectations for asset returns	▪ Contributing an actuarial amount? – **Yes:** Failing to achieve target returns will necessitate increases in future contributions and make what was intended to be a smooth, budget-friendly progression of contribution increases far more volatile – **No:** The funding gap will widen and become highly volatile as contribution policy will not add enough dollars to replenish losses
 **3. Review the plan's funding policy** ▪ Look far enough into the future to identify potential pain points	▪ Conduct "tread water"/hurdle rate analysis to ensure short-term contributions are sufficient to keep pace with growth of plan liabilities ▪ Consider asset-liability study to understand range of potential future outcomes rather than a single deterministic scenario

Appendix

- About This Material

About This Material

This material includes a summary of calculations and consulting related to the finances of Town of Wilton, CT (Wilton). The following variables have been addressed:

- Contributions
- Economic Cost
- Funded Ratio
- Hurdle Rate
- Net Outflow

This analysis is intended to assist the Investment Committee with a review of the associated issues and options, and its use may not be appropriate for other purposes. This analysis has been prepared solely for the benefit of the Investment Committee. Any further dissemination of this report is not allowed without the written consent of Aon Investments USA Inc.

Our calculations were generally based on the methodologies identified in the actuary's valuation report for Wilton. We believe the methodology used in these calculations conforms to the applicable standards identified in the report.

Models are used to develop alternative scenarios based on the underlying valuation model and project financial results under those scenarios. The models were developed by experts outside and within Aon. Where outside models were used, the models were reviewed by experts within Aon. The models were selected as appropriate for these projections by the undersigned.

Experience different than anticipated could have a material impact on the ultimate costs of the benefits. In addition, changes in plan provisions or applicable laws could have a significant impact on cost. Actual experience may differ from our modeling assumptions.

Our calculations were based on data provided by the plan actuary. The actuarial assumptions and methods and plan provisions reflected in these projections are the same as those used for the 2018 actuarial valuation for Wilton as noted in the actuarial reports, except where noted in this report. Unless specifically noted, our calculations do not reflect any other changes or events after July 1, 2018. Reflecting events after July 1, 2018 would impact the results of the projection.

In conducting these projections, we have relied on plan design, demographic and financial information provided by other parties, including the plan's actuary and plan sponsor. While we cannot verify the accuracy of all of the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results.

These projections have been conducted in accordance with generally accepted actuarial principles and practices, including applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board. The undersigned actuary is familiar with the near-term and long-term aspects of pension valuations and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no colleague of Aon Investments USA Inc. providing services to Wilton has any direct financial interest or indirect material interest in Wilton. Thus, we believe there is no relationship existing that might affect our capacity to prepare and certify this report for Wilton.

Aon Investments USA Inc.

Phil Kivarkis FSA, CFA

Legal Disclosures and Disclaimers

Investment advice and consulting services provided by Aon Investments USA Inc. (“Aon Investments”). The information contained herein is given as of the date hereof and does not purport to give information as of any other date. The delivery at any time shall not, under any circumstances, create any implication that there has been a change in the information set forth herein since the date hereof or any obligation to update or provide amendments hereto.

This document is not intended to provide, and shall not be relied upon for, accounting, legal or tax advice. Any accounting, legal, or taxation position described in this presentation is a general statement and shall only be used as a guide. It does not constitute accounting, legal, and tax advice and is based on Aon Investments’ understanding of current laws and interpretation.

Aon Investments disclaims any legal liability to any person or organization for loss or damage caused by or resulting from any reliance placed on that content. Aon Investments reserves all rights to the content of this document. No part of this document may be reproduced, stored, or transmitted by any means without the express written consent of Aon Investments.

Aon Investments USA Inc. is a federally registered investment advisor with the U.S. Securities and Exchange Commission. Aon Investments is also registered with the Commodity Futures Trading Commission as a commodity pool operator and a commodity trading advisor and is a member of the National Futures Association. The Aon Investments ADV Form Part 2A disclosure statement is available upon written request to:

Aon Investments USA Inc.
200 E. Randolph Street
Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer