Horizon
Actuarial Services, LLC®

Buffalo Laborers' Pension Fund

Trustees' Meeting: August 24, 2021

Mary Ann Dunleavy, ASA, EA
Lindey Settle, ASA

August 17, 2021

Dear Trustees:

We have prepared the following materials for discussion at the August 24th board meeting.

These materials include updated actuarial projections. The following are some things to keep in mind when reviewing the results.

Preliminary PPA Status Certification

Because its funded percentage is over 80% and there are no projected funding deficiencies (i.e., the credit balance is projected to remain positive), we expect to certify the Pension Fund to be in the "green zone" for the fiscal year beginning July 1, 2021.

Please note that we need to confirm with the Trustees the future hours assumption, currently 700,000 hours per year. Unless the Trustees advise us that the assumption should be lowered significantly, the "green zone" certification result will not be affected.

Review of Assumptions

Each year we review our assumptions to make sure they are in line with actual plan experience. For the 2021 valuation, we will implement updates to two plan assumptions: interest rate as well as mortality.

The valuation interest rate is set in consideration of the Plan's investment policy and asset allocation, as well as the results of the annual Survey of Capital Market Assumptions by Horizon Actuarial Services, LLC. The interest rate is currently 7.50%, but in light of recent information and expectations, we believe that the time is right to lower the interest rate to 7.25%. We will discuss the details provided in the presentation during the meeting.

The demographic actuarial assumptions used in our annual actuarial valuations are developed based on a review of past experience and anticipated future experience for the Plan. Over the past decade, the actuarial gains or losses on liabilities have been small, indicating that the assumptions used have been reasonable.

We also reviewed the mortality that is used to value the plan's liabilities. While there have not been large mortality gains or losses to the plan in recent years, we want to make sure that we are using a mortality table that is recent and up to date with actuarial standards. Therefore, we are illustrating forecast scenarios which incorporate an updated mortality table as well as projections of mortality improvements in the future. The use of this table will not materially impact the plan's funding.

Benefit Study

As requested at the May meeting, we have analyzed the impact of restoring benefit accruals to either $90 or $100 a month (based on working 2,000 hours in a plan year). This study includes either restoring only future accruals effective July 1, 2021 or retroactively restoring accruals for current Active participants back to July 1, 2011 as well as going forward into the future.

We look forward to reviewing these materials with you at the meeting. If you have any questions in the meantime, please let us know.

Lindey and Mary Ann

Presentation Contents

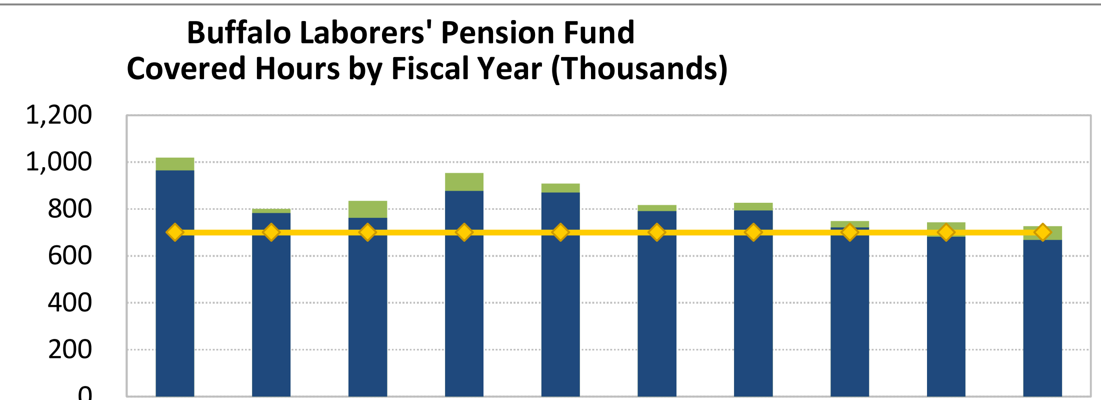
Preliminary PPA Status Certification

Status Certification: Fiscal Year Beginning July 1, 2021

- **Certification to be completed by September 28, 2021**
  - **Note: Must confirm future work level assumption with Trustees (see next slide)**
- **Pension Fund will be in green zone for sixth year**
  - "Green Zone" certification status as of July 1, 2021
    - Funded percentage as of July 1, 2021 is over 80% (estimated = 97.0%)
    - No projected funding deficiencies for current or next six fiscal years
- **Key assumptions:**
  - Investment return
    - Estimated return for fiscal year ending 6/30/2021 = 29.29%
    - Future returns of 7.50% per year assumed beginning 7/1/2021
  - Future contributions
    - 700,000 hours per year
      - Estimate used in prior years, based on information provided by the Trustees in good faith
    - Contribution rate $10.00 / hour
  - Plan provisions: same as 7/1/2020 valuation plus 13th check to be paid September 2021

Hours Worked Assumption

- **Assumption used in recent years = 700,000 covered hours per year**
- **Exhibit below shows covered hours in recent years**
  - Covered hours = total contributions / required contribution rate
  - Actual hours for total participants are based on financial statements (June 30 fiscal year)
  - 2021 hours for Active participants are estimated using ratio of active to total hours during 2020
  - Figures for 2021 are based on preliminary financials
    - Decrease in total hours of about 2.2% from 2020 to 2021



Fiscal Year Ending 6/30	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Actual: Total Participants	1,019	800	834	952	908	816	826	749	742	726
Actual: Active Participants	964	783	761	877	870	790	793	721	682	667
Expected: Total Participants	700	700	700	700	700	700	700	700	700	700

- **Any expected changes?**

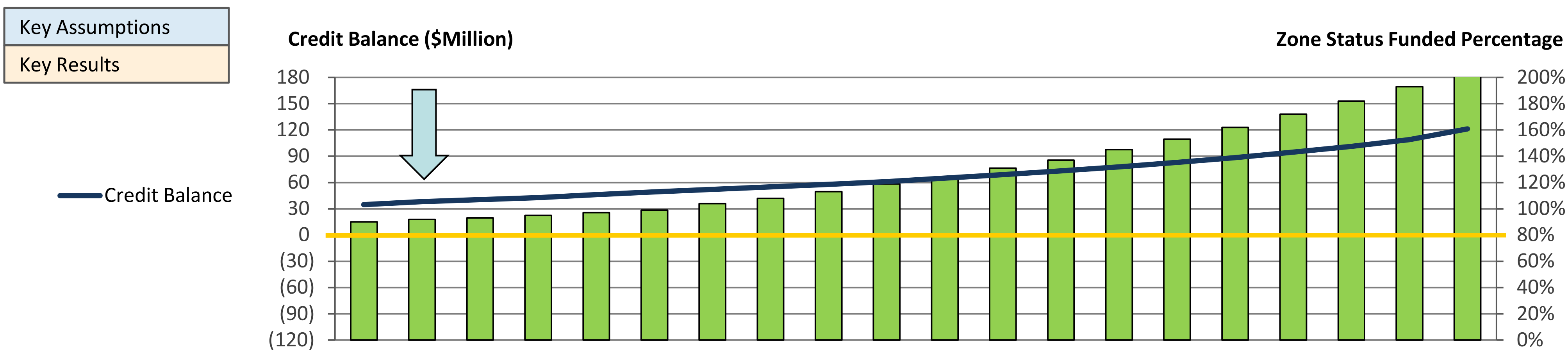
July 1, 2020 Valuation Baseline w/ 13th Check

7/1/2020 valuation results | Future work levels: 700,000 hours per year
Asset returns: 7.50% per year beginning 7/1/2020

Future Accruals: $75.00 X Hours/2,000
Accrual Rate as % of Contribs = 0.38%

Valuation Interest Rate = 7.50%
Hourly Contribution Rate = $10.00 as of July 1, 2020

Buffalo Laborer's Pension Fund



	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
(1) Plan Year Beginning 7/1	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
(2) Investment Return (%)	0.65	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
(3) Hours Worked (thousands)	742	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
(4) Contribution Rate ($)	9.30	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	107	108	110	111	112	114	118	123	127	132	138	144	150	157	164	172	181	190	200	211
(6) Zone Status Liability ($M)	118	118	118	116	115	114	114	113	112	111	110	110	109	108	107	106	105	104	103	102
(7) Credit Balance ($M)	35	38	40	43	46	49	52	55	58	61	65	69	73	78	83	88	94	101	109	121
(8) Zone Status Funded Percentage	90%	92%	93%	95%	97%	99%	104%	108%	113%	119%	124%	131%	137%	145%	153%	162%	172%	182%	193%	206%

Preliminary Certification July 1, 2021 – June 30, 2022

7/1/2020 valuation results | Future work levels: 700,000 hours per year

Asset returns: 29.3% for FYB 7/1/2020; 7.50% per year beginning 7/1/2021

Future Accruals: $75.00 X Hours/2,000

Accrual Rate as % of Contribs = 0.38%

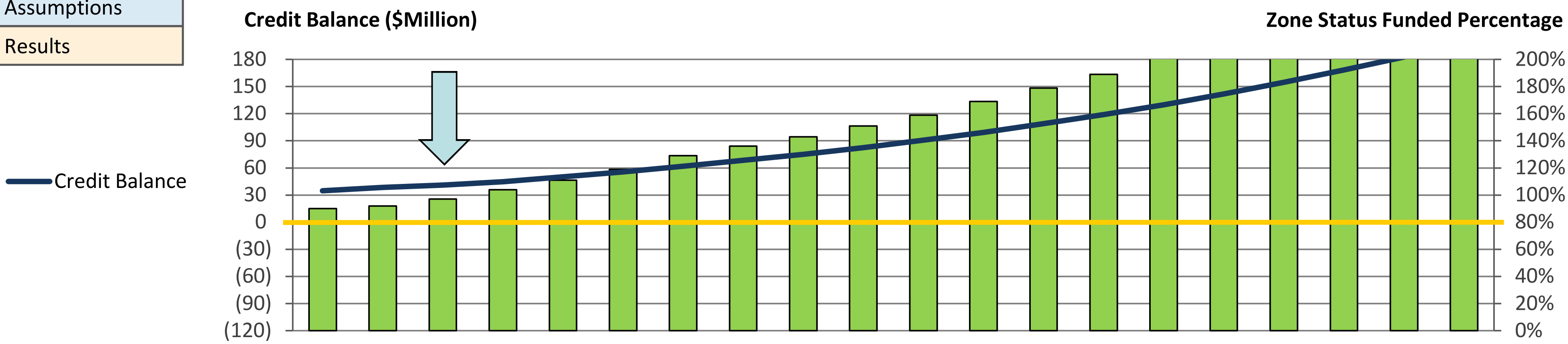
Valuation Interest Rate = 7.50%

Hourly Contribution Rate = $10.00 as of July 1, 2020

Buffalo Laborer's Pension Fund

Key Assumptions

Key Results



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(1) Plan Year Beginning 7/1	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
(2) Investment Return (%)	0.65	29.29	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
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(5) Actuarial Value of Assets ($M)	107	108	115	122	129	138	148	155	162	169	178	187	196	207	218	229	242	256	271	287
(6) Zone Status Liability ($M)	118	118	118	117	116	115	114	113	112	112	111	110	110	109	108	107	106	105	104	103
(7) Credit Balance ($M)	35	38	41	45	50	56	62	68	75	82	91	99	109	119	130	142	155	168	182	201
(8) Zone Status Funded Percentage	90%	92%	97%	104%	111%	119%	129%	136%	143%	151%	159%	169%	179%	189%	201%	214%	228%	243%	260%	278%

Assumption Review

Review of Assumptions

- **In order to determine the present value of benefits promised to plan participants (actuarial liabilities), we must make assumptions regarding the future experience of the Plan.**
- **Economic assumptions - primarily investment return**
- **Demographic assumptions include**
  - Mortality
  - Retirement Rates
  - Disability Rates
  - Withdrawal Rates

Review of Assumptions

- **In general, the use of overly optimistic assumptions defers costs to the future and the use of overly pessimistic assumptions increases current costs.**

- **Selecting assumptions that closely align with anticipated experience results in more stable and more predictable costs over time, whereas assumptions that are overly optimistic or pessimistic result in more volatile and less predictable costs over time.**

- **Other considerations for setting assumptions**
  - Purpose of the measurement
  - Legal requirements under ERISA and the Internal Revenue Code
  - Actuarial Standards of Practice (ASOPs) that set forth the standards for appropriate actuarial practice in the United States

Review of Assumptions

- **We report on Plan experience in each valuation.**
  - One measure we review is the experience gain or loss from other sources (demographic assumptions) measured as a percentage of the actuarial accrued liability of the Plan.

Exhibit 8.1 - Historical Experience Gains and (Losses)

Plan Year Ended June 30	From Investment Experience*	From Other Sources	Total Experience Gain / (Loss)	Percent Gain/(Loss) from Other Sources**
2020	(2,315,084)	372,793	(1,942,291)	0.32%
2019	(1,737,422)	257,180	(1,480,242)	0.22%
2018	(154,146)	(432,933)	(587,079)	-0.37%
2017	260,070	688,591	948,661	0.58%
2016	(1,614,744)	70,533	(1,544,211)	0.06%
2015	1,786,881	393,380	2,180,261	0.33%
2014	3,700,049	293,201	3,993,250	0.24%
2013	2,647,042	697,555	3,344,597	0.54%
2012	2,328,007	(1,037,836)	1,290,171	-0.80%
2011	3,065,229	(978,322)	2,086,907	-0.76%
5-Year Average	(1,112,265)	191,233	(921,032)	
10-Year Average	796,588	32,414	829,002	

* Based on the Actuarial Value of Assets
** As a percent of Actuarial Accrued Liability

  - In aggregate, the small (as a percent of liabilities) gains and losses generally indicate that the demographic assumptions are appropriate.

2021 Survey of Capital Market Assumptions

2021 Survey: Evaluating the Return Assumption

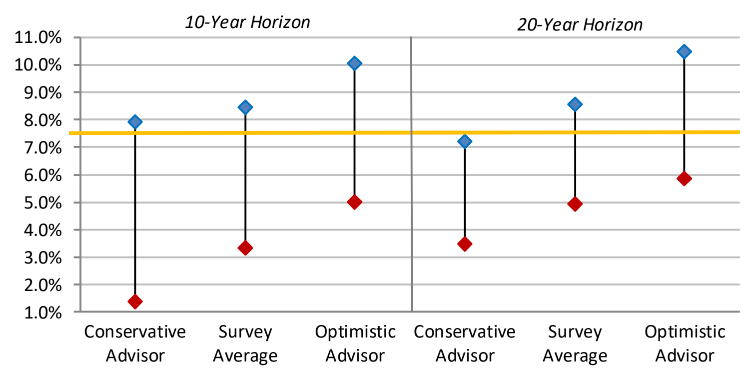
Buffalo Laborers' Pension Fund

2021 Survey of Capital Market Assumptions

		Average Survey Assumptions		
Asset Class	Portfolio Weight	10-Year Horizon	20-Year Horizon	Standard Deviation
US Equity - Large Cap	22.0%	5.78%	6.65%	16.42%
US Equity - Small/Mid Cap	8.0%	6.27%	7.04%	20.17%
Non-US Equity - Developed	13.0%	6.38%	7.14%	18.32%
Non-US Equity - Emerging		7.24%	7.81%	24.33%
US Corporate Bonds - Core	10.0%	2.09%	3.23%	5.52%
US Corporate Bonds - Long Duration		2.18%	3.43%	10.39%
US Corporate Bonds - High Yield		3.78%	4.98%	9.88%
Non-US Debt - Developed		1.40%	2.25%	7.18%
Non-US Debt - Emerging		4.24%	5.32%	11.26%
US Treasuries (Cash Equivalents)		1.15%	1.90%	1.30%
TIPS (Inflation-Protected)		1.60%	2.38%	5.64%
Real Estate	10.0%	5.50%	6.21%	17.62%
Hedge Funds	25.0%	4.46%	5.33%	8.09%
Commodities		3.06%	3.96%	17.31%
Infrastructure	5.0%	6.20%	6.79%	17.04%
Private Equity	7.0%	8.82%	9.65%	22.25%
Private Debt		6.45%	6.87%	11.42%
Inflation	N/A	2.12%	2.23%	2.05%
TOTAL PORTFOLIO	**100.0%**	*Expected returns are geometric.*		

	10-Year Horizon			*20-Year Horizon*		
	Conservative Advisor	**Survey Average**	**Optimistic Advisor**	**Conservative Advisor**	**Survey Average**	**Optimistic Advisor**
Expected Returns						
Average Annual Return (Arithmetic)	5.76%	6.55%	8.15%	6.04%	7.41%	9.23%
Annualized Return (Geometric)	4.65%	5.88%	7.50%	5.32%	6.74%	8.15%
Annual Volatility (Standard Deviation)	15.31%	11.91%	11.84%	12.34%	11.99%	15.33%
Range of Expected Annualized Returns						
75th Percentile	7.91%	8.42%	10.03%	7.18%	8.54%	10.46%
25th Percentile	1.38%	3.34%	4.98%	3.46%	4.93%	5.84%
Probabilities of Exceeding Certain Returns						
7.50% per Year, Annualized	27.8%	33.3%	50.0%	21.5%	38.8%	57.5%
7.25% per Year, Annualized	29.6%	35.8%	52.7%	24.2%	42.4%	60.4%
7.00% per Year, Annualized	31.4%	38.3%	55.4%	27.1%	46.1%	63.2%

Ranges of Expected Annualized Returns



Considerations and Limitations

- Allocations may be approximated if certain asset classes are not included in the survey.
- Many investment advisors provided only shorter-term assumptions (10 years or less).
- Assumptions are generally based on indexed returns and do not reflect anticipated alpha.
- Assumptions do not reflect investment opportunities or fee considerations available to larger funds.

SOURCE: Horizon Actuarial 2021 Survey of Capital Market Assumptions

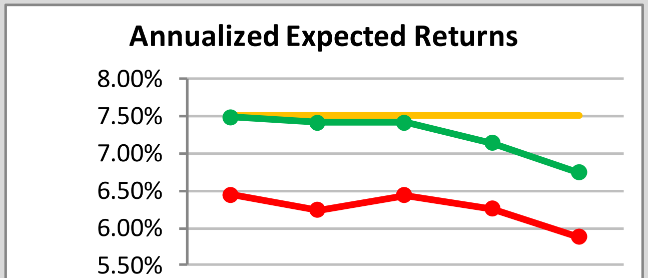
Expected returns over a 10-year horizon include all 39 survey participants.

Expected returns over a 20-year horizon are based a subset of 24 survey participants who provided long-term assumptions.

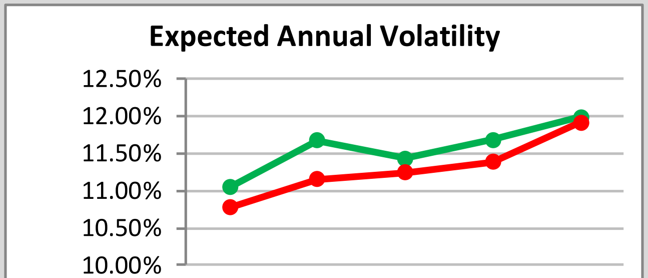
The exhibit above evaluates the investment return assumption for the portfolio shown above (highlighted in yellow). Note that the most conservative and optimistic advisors for the 10-year horizon are not necessarily the same as the most conservative and optimistic advisors for the 20-year horizon.

Changes in Expected Returns

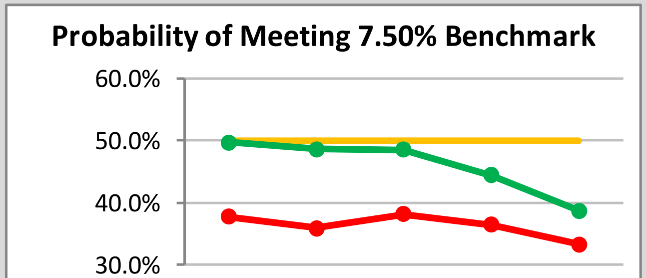
- **Average assumptions change each year**
  - Mostly driven by changing return expectations
  - Changes in survey participants is also a factor
- **Focus on sustained trends**
  - It is generally not appropriate to change the investment return assumption each year
  - More appropriate to consider sustained trends when evaluating and updating assumption
- **The following graphs show the survey average results for the past five years**
  - Changes in individual plan results shown below may also be driven by changes in asset allocation



Survey Year	2017	2018	2019	2020	2021
20-Yr	7.49%	7.41%	7.41%	7.14%	6.74%
10-Yr	6.44%	6.23%	6.43%	6.26%	5.88%



Survey Year	2017	2018	2019	2020	2021
20-Yr	11.0%	11.7%	11.4%	11.7%	12.0%
10-Yr	10.8%	11.2%	11.2%	11.4%	11.9%



Survey Year	2017	2018	2019	2020	2021
20-Yr	49.8%	48.7%	48.6%	44.5%	38.8%
10-Yr	37.8%	36.0%	38.2%	36.5%	33.3%

Alternative Interest Rate 7.25%

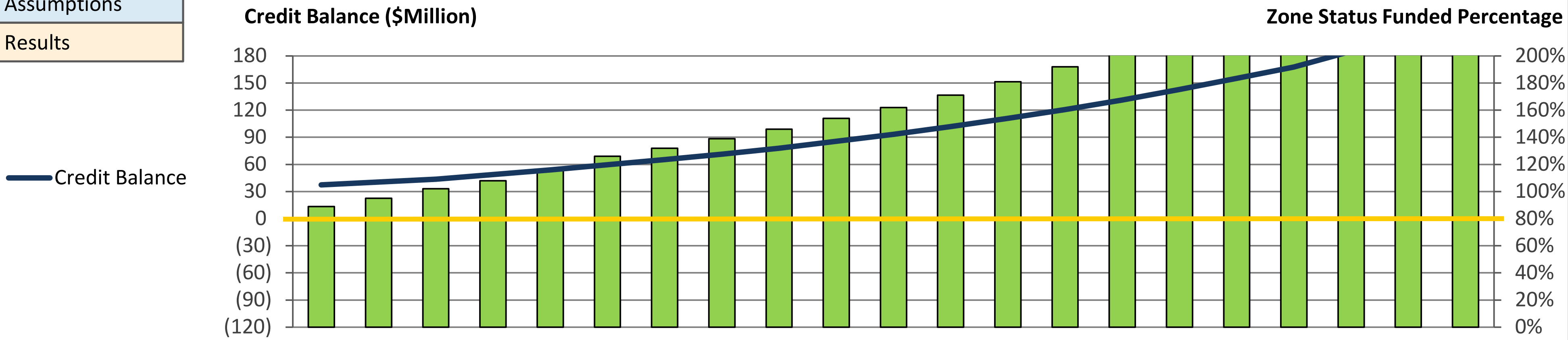
7/1/2020 valuation results using 7.25% interest rate | 700,000 hours per year | Asset returns: preliminary 29.3% for FYB 2020;
Future Asset Returns: 7.25% per year beginning 7/1/2021

Future Accruals: $75.00 X Hours/2,000
Accrual Rate as % of Contribs = 0.38%

Buffalo Laborer's Pension Fund

Valuation Interest Rate = 7.25% effective July 1, 2021
Hourly Contribution Rate = $10.00 as of July 1, 2020

Key Assumptions
Key Results



(1) Plan Year Beginning 7/1	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(2) Investment Return (%)	29.29	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
(3) Hours Worked (thousands)	726	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
(4) Contribution Rate ($)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	108	115	122	129	137	147	153	159	166	174	182	191	200	210	221	233	245	259	273	288	305
(6) Zone Status Liability ($M)	120	120	119	118	117	116	115	114	114	113	112	111	110	109	108	107	106	105	104	103	102
(7) Credit Balance ($M)	37	40	44	49	54	59	65	71	78	85	93	102	111	121	131	143	155	168	185	203	222
(8) Zone Status Funded Percentage	89%	95%	102%	108%	116%	126%	132%	139%	146%	154%	162%	171%	181%	192%	204%	216%	230%	245%	262%	280%	299%

Alternative Interest Rate 7.00%

7/1/2020 valuation results using 7.00% interest rate | 700,000 hours per year | Asset returns: preliminary 29.3% for FYB 2020;
Future Asset Returns: 7.00% per year beginning 7/1/2021

Future Accruals: $75.00 X Hours/2,000
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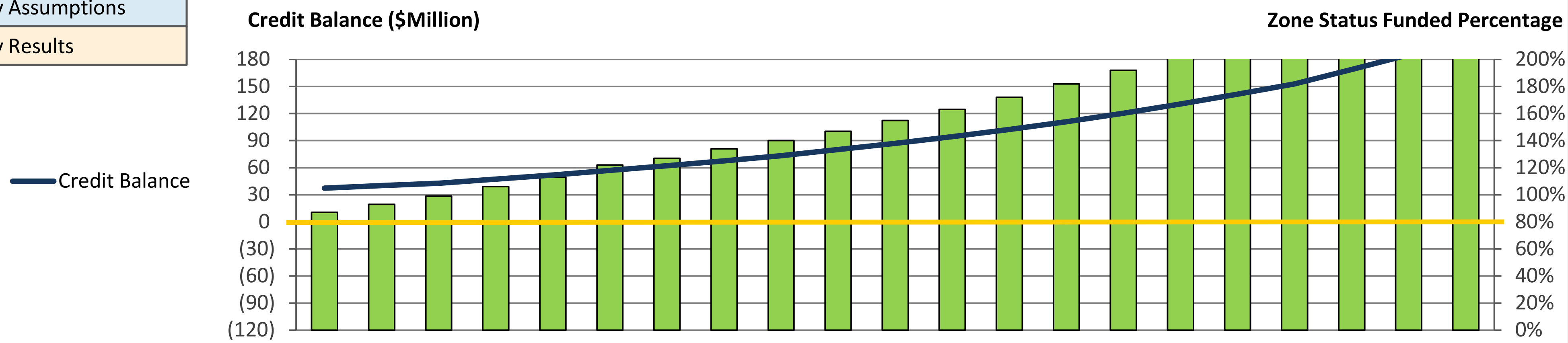
Key Assumptions
Key Results



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(7) Credit Balance ($M)	37	40	43	47	52	57	62	67	73	80	87	94	102	111	120	130	141	153	169	185	202
(8) Zone Status Funded Percentage	87%	93%	99%	106%	113%	122%	127%	134%	140%	147%	155%	163%	172%	182%	192%	204%	216%	230%	245%	260%	277%

Demographic Assumptions

Possible Assumption Changes for 7/1/2021 Valuation

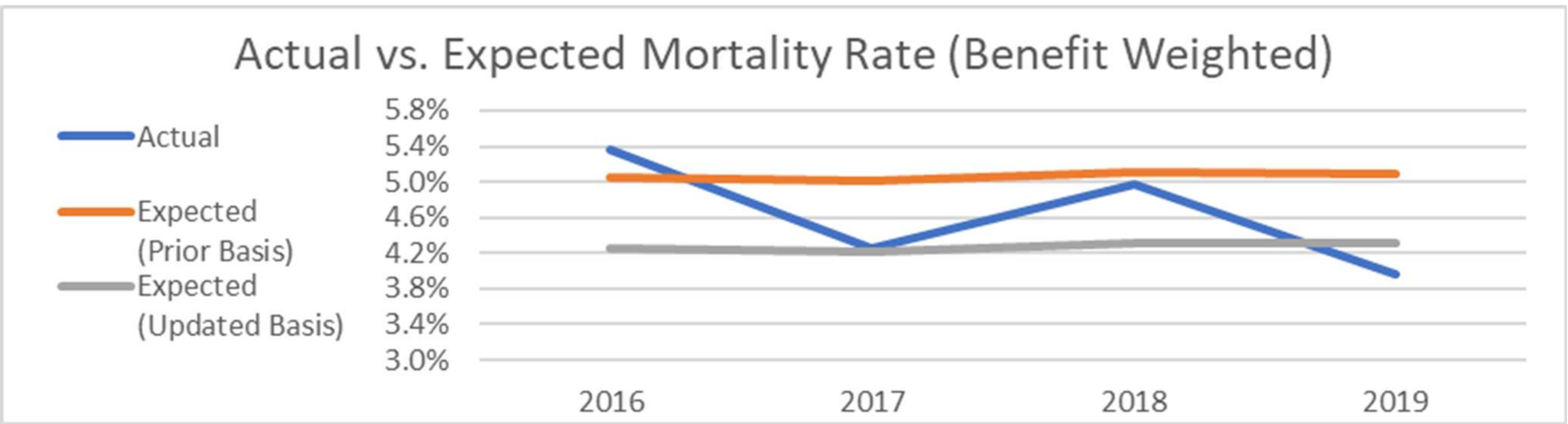
- **Considering whether expectations for the future have changed**
  - The small gains and (losses) on liabilities generally indicate that the demographic assumptions are appropriate.
  - In each year from 2016 through 2019, there were various small and offsetting factors contributing to the overall loss.
  - While the assumptions appear to be reasonable in the aggregate, we have identified the mortality assumption warranting additional consideration.

Assumption	7/1/2020 Valuation	Proposed 7/1/2021 Valuation	Reasons for Potential Change
Mortality	Non-Disabled Lives RP-2000 Combined, Blue Collar Disabled Lives RP-2000 Disabled, Blue Collar Projected Mortality Improvement 50% of Scale BB Generational	Non-Disabled Lives Pri-2012 Blue Collar Disabled Lives Pri-2012 Disabled, Blue Collar Projected Mortality Improvement 50% of Scale MP-2020 Generational	Lower than assumed rates of mortality in recent years (analysis follows). More appropriate to use recent tables based on more recent data.

Mortality Assumption

- As a part of the analysis of the mortality assumption, we performed a comparison between the actual rates of mortality and the expected rates of mortality based on both the prior assumption and the assumption under consideration for the July 1, 2021 actuarial valuation.

- The graph below shows the actual rates of mortality compared with the expected rates of mortality for each of the last four years.



Updated Mortality & Interest Rate 7.25%

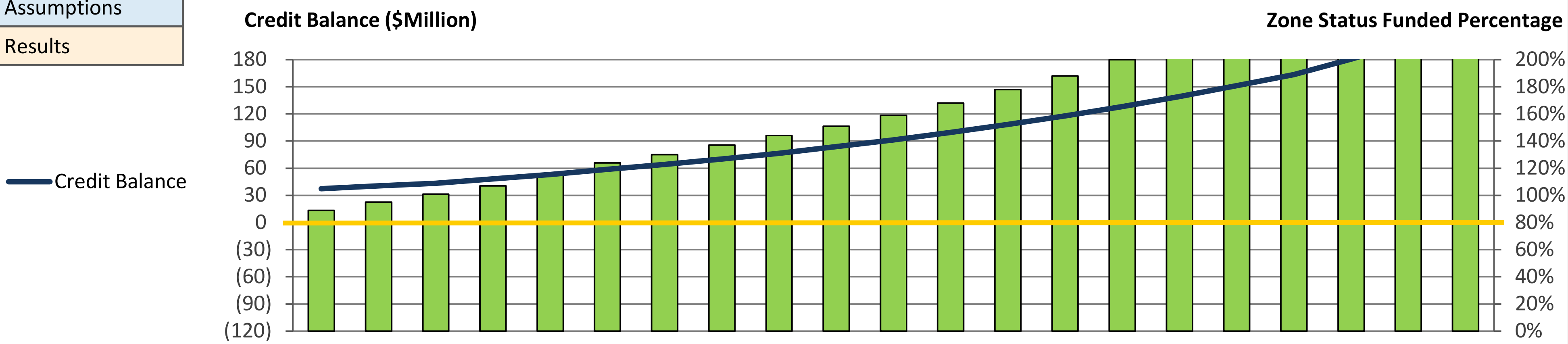
7/1/2020 valuation results using 7.25% interest rate | 700,000 hours per year | Asset returns: preliminary 29.3% for FYB 2020; Future Asset Returns: 7.25% per year beginning 7/1/2021 | Updated mortality rates

Future Accruals: $75.00 X Hours/2,000
Accrual Rate as % of Contribs = 0.38%

Buffalo Laborer's Pension Fund

Valuation Interest Rate = 7.25% effective July 1, 2021
Hourly Contribution Rate = $10.00 as of July 1, 2020

Key Assumptions
Key Results



	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(1) Plan Year Beginning 7/1	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(2) Investment Return (%)	29.29	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
(3) Hours Worked (thousands)	726	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
(4) Contribution Rate ($)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	108	115	121	129	136	146	152	159	166	173	181	190	199	209	219	230	242	256	270	285	301
(6) Zone Status Liability ($M)	121	121	120	119	118	117	116	116	115	114	113	112	111	110	109	108	107	106	105	104	103
(7) Credit Balance ($M)	37	40	43	48	53	59	64	70	76	84	91	99	108	118	128	139	151	163	180	198	217
(8) Zone Status Funded Percentage	89%	95%	101%	107%	115%	124%	130%	137%	144%	151%	159%	168%	178%	188%	200%	212%	226%	241%	257%	274%	293%

Updated Mortality & Interest Rate 7.00%

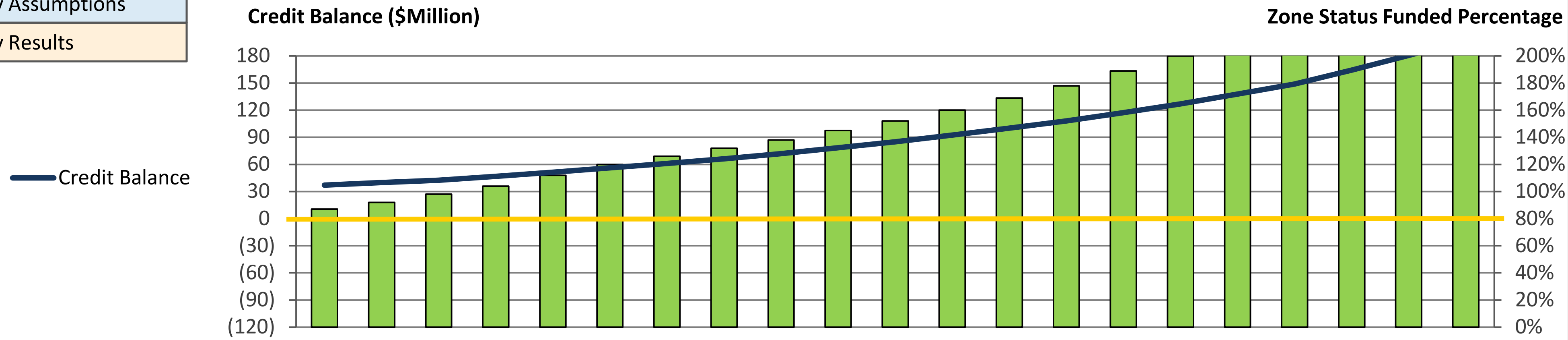
7/1/2020 valuation results using 7.00% interest rate | 700,000 hours per year | Asset returns: preliminary 29.3% for FYB 2020; Future Asset Returns: 7.00% per year beginning 7/1/2021 | Updated mortality rates

Future Accruals: $75.00 X Hours/2,000
Accrual Rate as % of Contribs = 0.38%

Buffalo Laborer's Pension Fund

Valuation Interest Rate = 7.00% effective July 1, 2021
Hourly Contribution Rate = $10.00 as of July 1, 2020

Key Assumptions
Key Results



(1) Plan Year Beginning 7/1	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(2) Investment Return (%)	29.29	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
(3) Hours Worked (thousands)	726	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
(4) Contribution Rate ($)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	108	115	121	128	135	145	150	156	163	169	177	185	193	202	211	222	233	244	257	270	285
(6) Zone Status Liability ($M)	124	124	123	122	121	120	119	118	117	117	116	115	114	113	112	111	109	108	107	106	105
(7) Credit Balance ($M)	37	40	42	47	51	56	61	66	72	78	85	92	100	108	117	127	138	149	164	180	197
(8) Zone Status Funded Percentage	87%	92%	98%	104%	112%	120%	126%	132%	138%	145%	152%	160%	169%	178%	189%	200%	212%	225%	240%	255%	272%

Summary of Key Results

Measurement Date	July 1, 2020	July 1, 2020	July 1, 2020
Mortality Table	7.00%, PRI-2012 with 0.5 MP-2020	7.25%, PRI-2012 with 0.5 MP-2020	7.50%, Current Mortality
A. Normal Cost			
1. Cost of Benefit Accruals	$ 1,407,688	$ 1,347,134	$ 1,262,993
2. Assumed Operating Expenses	794,000	794,000	794,000
3. Total	$ 2,201,688	$ 2,141,134	$ 2,056,993
B. Actuarial Accrued Liability			
1. Active Participants	$ 31,098,194	$ 30,040,025	$ 28,577,734
2. Inactive Vested Participants	8,301,900	8,007,472	7,697,403
3. Retired Participants and Beneficiaries	84,645,385	83,220,794	81,310,904
4. Total	$ 124,045,479	$ 121,268,291	$ 117,586,041
C. Assets			
1. Market Value of Assets	$ 101,729,873	$ 101,729,873	$ 101,729,873
Prior Year Net Investment Return	0.7%	0.7%	0.7%
2. Actuarial Value of Assets	$ 108,226,516	$ 108,226,516	$ 108,226,516
Prior Year Net Investment Return	5.3%	5.3%	5.3%
D. Funded Percentages			
1. Market Value Funded Percentage (C.1. / B.4.)	82.0%	83.9%	86.5%
2. Actuarial Value Funded Percentage (C.2. / B.4.)	87.2%	89.2%	92.0%

Observations

- **We continue to monitor gains and losses with regard to each individual assumption as a part of each year's valuation process.**
- **Note that changes in Plan provisions can influence the behavior of participants, and therefore demographic assumptions.**
  - Major changes to Plan Provisions were last made in conjunction with the Rehabilitation Plan, effective July, 2011.
  - The 13th check for retirees that was approved at the May 27, 2021 board meeting should not affect participant behavior.
  - The following Benefit Improvement Study does not reflect additional changes to demographic assumptions other than mortality.

Benefit Improvement Study

Our Understanding of Objectives

- **Horizon Actuarial has been requested to review benefit improvements.**
- **Our understanding is that the Trustees would like to:**
  - Provide participants with meaningful benefits; value for the contribution dollar
  - Protect the Plan and ensure that Plan participants have a secure pension benefit
  - Ensure that the Fund can withstand years in which investment returns are lower than expected or hours are below average levels
  - Comply with IRS minimum funding rules

Our Understanding of Objectives

- **Our analysis of Plan funding following benefit changes focus on Projected Funded Percentage**
  - Funding will be maintained or improve over time if expected contributions are sufficient to:
    - Cover the annual cost of benefit accruals and operating expenses, plus
    - Pay down (amortize) the unfunded liability
  - The Plan should remain in the Green Zone
- **Projections showing the financial status of the Plan both before and after a benefit improvement include projections with sensitivity testing of assumptions**
  - Future investment returns
  - Future work levels
  - Valuation interest rate
  - We do not include illustration of alternative demographic assumptions

Benefit Accrual

- **Recent Plan History**
  - June 1, 1999 through June 30, 2011
    - $40 times Credited Service
    - Equivalent to $90 for 2,000 or more hours of work in a plan year
  - July 1, 2011 through May 31, 2016
    - $30 times Credited Service
    - Equivalent to $75 for 2,000 or more hours of work in a plan year
  - January 1, 2017 effective for June 1, 2016 and later
    - $75 times hours of service divided by 2,000
    - Additional accruals for more than 2,000 hours of work in a plan year

- **Improvement Options Valued**
  - Prospective: Provide $90 or $100 Accrual for hours worked beginning July 1, 2021
  - Retroactive / Restore: Provide $90 or $100 Accrual for hours worked July 1, 2011 and later

Projections: Key Assumptions and Methods

- **Liability projections**
  - Data, assumptions, methods, and plan provisions from final 7/1/2020 valuation
  - Valuation interest rate = 7.5%
    - *Exception: alternative valuation interest rate sensitivity scenarios*
- **Investment returns**
  - Preliminary return for fiscal year ending 6/30/2021 = 29.3%
  - Assume future returns of 7.5% per year beginning 7/1/2021
    - *Exception: investment return sensitivity scenarios*
- **Future contributions**
  - Baseline assumption = 700,000 hours per year
    - Estimate used in prior years, based on information provided by Trustees in good faith
    - *Exception: hours level sensitivity scenarios*
  - Contribution rate increase to $10.00/hour effective 7/1/2020
- **Other assumptions**
  - Other assumptions may be considered reasonable and could produce materially different results

Projection Roadmap

Scenario	Valuation Interest Rate	Hours (Thousands)	Benefit Changes	7/1/2040 Funded Percentage	"Stay the Course" / Stay Green through 2040: Lowest Annual Return	"Stay the Course" / Stay Green through 2040: Minimum 2021 Investment Return
1	7.50%	700	None	322%	1.5%	-37%
2	7.25%	700	None	293%	2.0%	-35%
3	7.25%	600		272%	3.0%	-30%
4	7.25%	700	*Prospective $90*	267%	3.0%	-33%
5			*$90 since 7/2011*	254%	3.5%	-31%
6			*Prospective $100*	252%	3.5%	-32%
7			*$100 since 7/2011*	233%	4.0%	-28%
8	7.00%	700	None	272%	3.0%	-32%
9	7.00%	600		252%	3.5%	-27%
10	7.00%	700	*Prospective $90*	248%	3.5%	-31%
11			*$90 since 7/2011*	236%	4.0%	-28%
12			*Prospective $100*	234%	4.0%	-28%
13			*$100 since 7/2011*	215%	4.5%	-25%

Notes

1) All scenarios reflect the 13th Check payable September 1, 2021.
2) All scenarios reflect the estimated preliminary return of 29.3% for July 1, 2020 - June 30, 2021 plan year.
3) Scenario 1 reflects old mortality assumption and all other scenarios reflect updated mortality assumption.

2. Updated Mortality & Interest Rate 7.25%

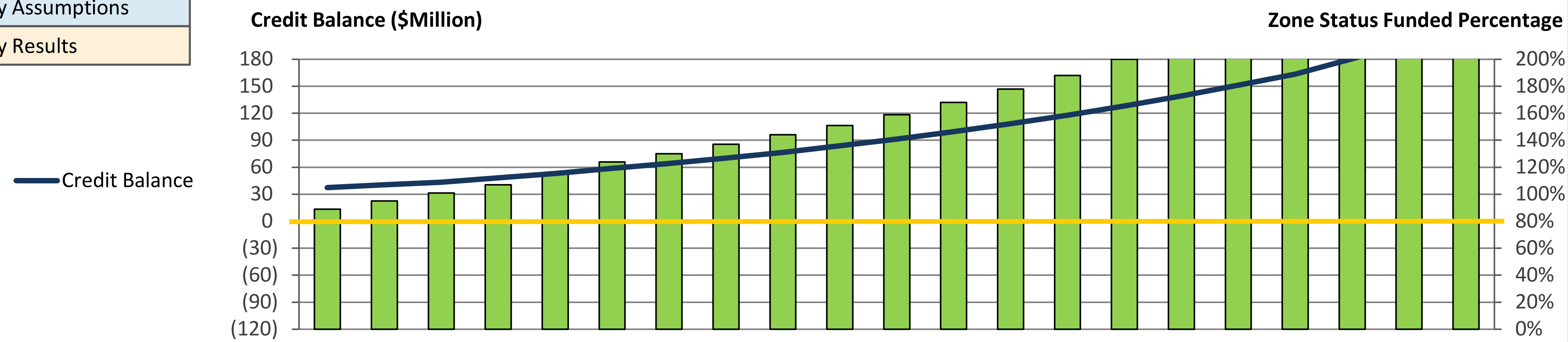
7/1/2020 valuation results using 7.25% interest rate | 700,000 hours per year | Asset returns: preliminary 26% for FYB 2020; Future Asset Returns: 7.25% per year beginning 7/1/2021 | Updated mortality rates

Future Accruals: $75.00 X Hours/2,000
Accrual Rate as % of Contribs = 0.38%

Buffalo Laborer's Pension Fund

Valuation Interest Rate = 7.25% effective July 1, 2021
Hourly Contribution Rate = $10.00 as of July 1, 2020

Key Assumptions
Key Results



	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(1) Plan Year Beginning 7/1	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(2) Investment Return (%)	29.29	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
(3) Hours Worked (thousands)	726	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
(4) Contribution Rate ($)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	108	115	121	129	136	146	152	159	166	173	181	190	199	209	219	230	242	256	270	285	301
(6) Zone Status Liability ($M)	121	121	120	119	118	117	116	116	115	114	113	112	111	110	109	108	107	106	105	104	103
(7) Credit Balance ($M)	37	40	43	48	53	59	64	70	76	84	91	99	108	118	128	139	151	163	180	198	217
(8) Zone Status Funded Percentage	89%	95%	101%	107%	115%	124%	130%	137%	144%	151%	159%	168%	178%	188%	200%	212%	226%	241%	257%	274%	293%

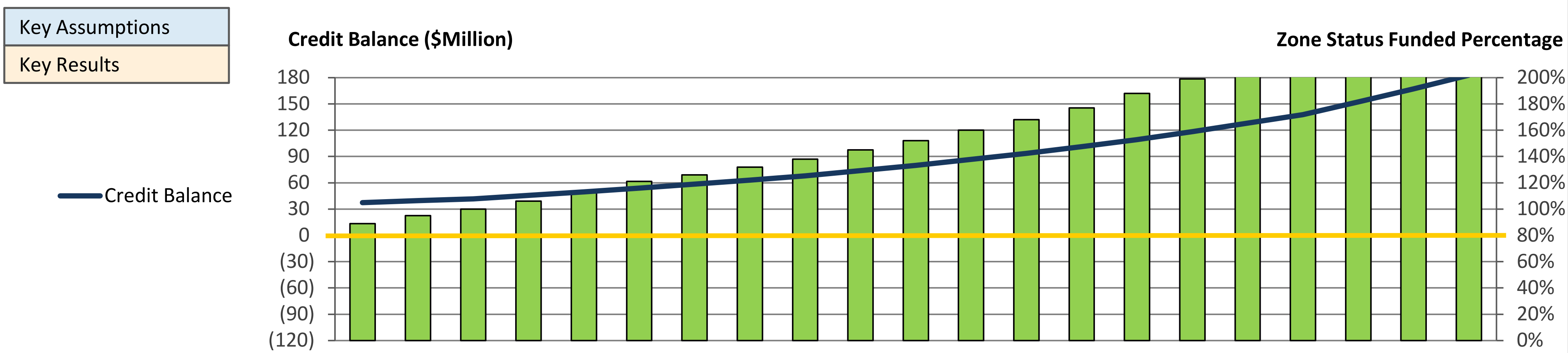
3. Lower Annual Hours

7/1/2020 valuation results using 7.25% interest rate | Future work levels: 600,000 hours per year beginning 7/1/2021 | Future Asset Returns: 7.25% per year beginning 7/1/2021 | Updated mortality rates

Future Accruals: $75.00 X Hours/2,000
Accrual Rate as % of Contribs = 0.38%

Buffalo Laborer's Pension Fund

Valuation Interest Rate = 7.25% effective July 1, 2021
Hourly Contribution Rate = $10.00 as of July 1, 2020



	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(1) Plan Year Beginning 7/1	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(2) Investment Return (%)	29.29	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
(3) Hours Worked (thousands)	726	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
(4) Contribution Rate ($)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	108	115	120	126	133	142	146	151	157	163	169	176	183	190	199	208	217	228	239	251	264
(6) Zone Status Liability ($M)	121	121	120	119	118	116	115	114	113	112	111	110	108	107	106	104	103	101	100	98	97
(7) Credit Balance ($M)	37	39	42	45	49	54	58	63	68	74	80	86	93	101	109	118	128	138	152	167	183
(8) Zone Status Funded Percentage	89%	95%	100%	106%	113%	121%	126%	132%	138%	145%	152%	160%	168%	177%	188%	199%	211%	224%	239%	255%	272%

4. Benefit Accrual Rate $90 Effective July 1, 2021

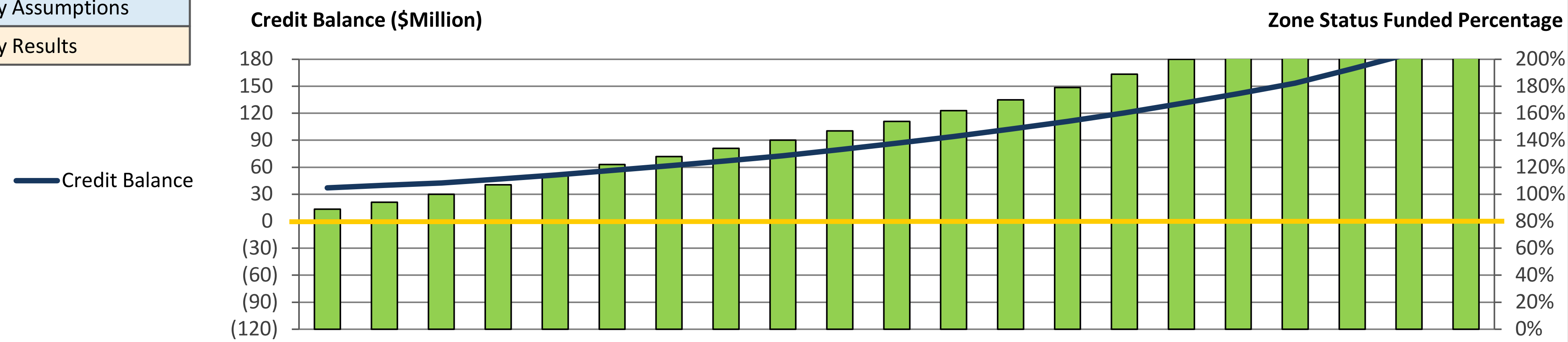
7/1/2020 valuation results using 7.25% interest rate | 700,000 hours per year |
Future Asset Returns: 7.25% per year beginning 7/1/2021 | Updated mortality rates

Benefit Accruals: $90.00 X Hours/2000 effective July 1, 2021
Accrual Rate as % of Contribs = 0.45%

Buffalo Laborer's Pension Fund

Valuation Interest Rate = 7.25% effective July 1, 2021
Hourly Contribution Rate = $10.00 as of July 1, 2020

Key Assumptions
Key Results



(1) Plan Year Beginning 7/1	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(2) Investment Return (%)	29.29	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
(3) Hours Worked (thousands)	726	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
(4) Contribution Rate ($)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	108	115	121	128	136	146	152	158	165	173	181	189	198	208	218	229	240	253	267	281	297
(6) Zone Status Liability ($M)	121	122	121	120	119	119	118	118	118	117	117	117	116	115	115	114	113	113	112	111	111
(7) Credit Balance ($M)	37	40	42	47	51	56	62	67	73	79	86	94	102	111	120	131	142	153	169	186	203
(8) Zone Status Funded Percentage	89%	94%	100%	107%	114%	122%	128%	134%	140%	147%	154%	162%	170%	179%	189%	200%	211%	224%	237%	252%	267%

5. Benefit Accrual Rate $90 Effective July 1, 2011

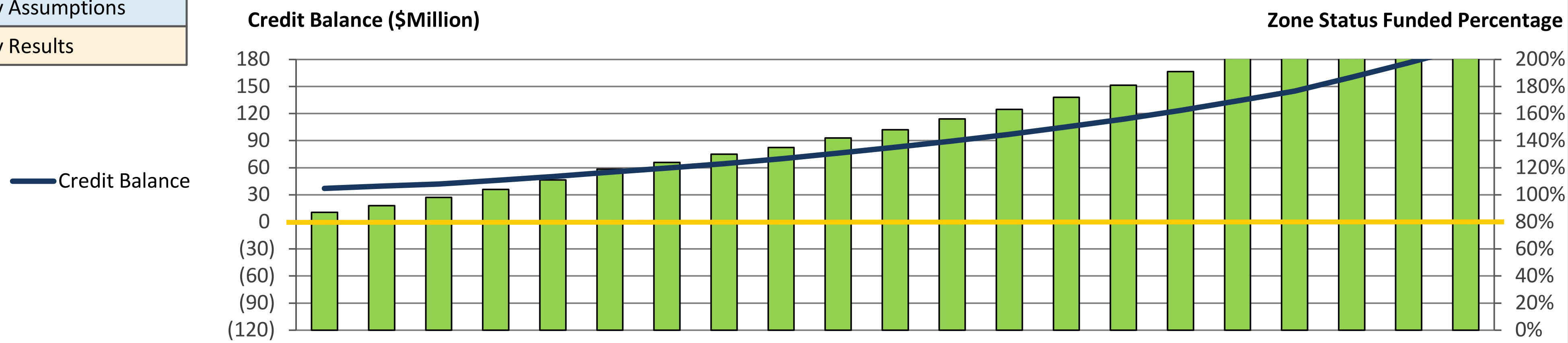
7/1/2020 valuation results using 7.25% interest rate | 700,000 hours per year | Future Asset Returns: 7.25% per year beginning 7/1/2021 | Updated mortality rates

Benefit Accruals: $90.00 X Hours/2000 effective July 1, 2011
Accrual Rate as % of Contribs = 0.45%

Buffalo Laborer's Pension Fund

Valuation Interest Rate = 7.25% effective July 1, 2021
Hourly Contribution Rate = $10.00 as of July 1, 2020

Key Assumptions
Key Results



(1) Plan Year Beginning 7/1	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(2) Investment Return (%)	29.29	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
(3) Hours Worked (thousands)	726	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
(4) Contribution Rate ($)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	108	115	121	128	136	146	152	158	164	172	179	187	196	205	215	225	237	249	261	275	290
(6) Zone Status Liability ($M)	124	124	123	123	122	122	122	121	121	121	120	120	119	119	118	118	117	116	115	115	114
(7) Credit Balance ($M)	37	39	42	46	50	55	60	64	70	76	82	90	97	105	114	123	134	145	160	176	193
(8) Zone Status Funded Percentage	87%	92%	98%	104%	111%	119%	124%	130%	135%	142%	148%	156%	163%	172%	181%	191%	202%	213%	226%	240%	254%

6. Benefit Accrual Rate $100 Effective July 1, 2021

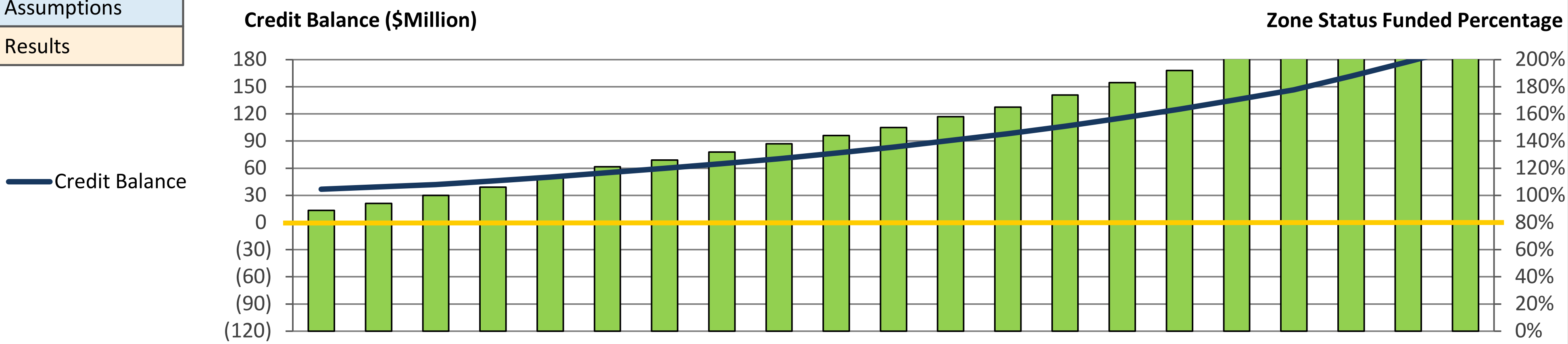
7/1/2020 valuation results using 7.25% interest rate | 700,000 hours per year |
Future Asset Returns: 7.25% per year beginning 7/1/2021 | Updated mortality rates

Benefit Accruals: $100.00 X Hours/2000 effective July 1, 2021
Accrual Rate as % of Contribs = 0.50%

Buffalo Laborer's Pension Fund

Valuation Interest Rate = 7.25% effective July 1, 2021
Hourly Contribution Rate = $10.00 as of July 1, 2020

Key Assumptions
Key Results



(1) Plan Year Beginning 7/1	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(2) Investment Return (%)	29.29	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
(3) Hours Worked (thousands)	726	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
(4) Contribution Rate ($)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	108	115	121	128	136	146	152	158	165	173	180	189	197	207	217	228	239	251	265	279	294
(6) Zone Status Liability ($M)	121	122	121	121	120	120	120	120	120	120	119	119	119	119	119	118	118	117	117	116	116
(7) Credit Balance ($M)	37	39	42	46	50	55	60	65	70	77	83	90	98	106	115	125	136	146	162	178	194
(8) Zone Status Funded Percentage	89%	94%	100%	106%	113%	121%	126%	132%	138%	144%	150%	158%	165%	174%	183%	192%	203%	214%	226%	239%	252%

7. Benefit Accrual Rate $100 Effective July 1, 2011

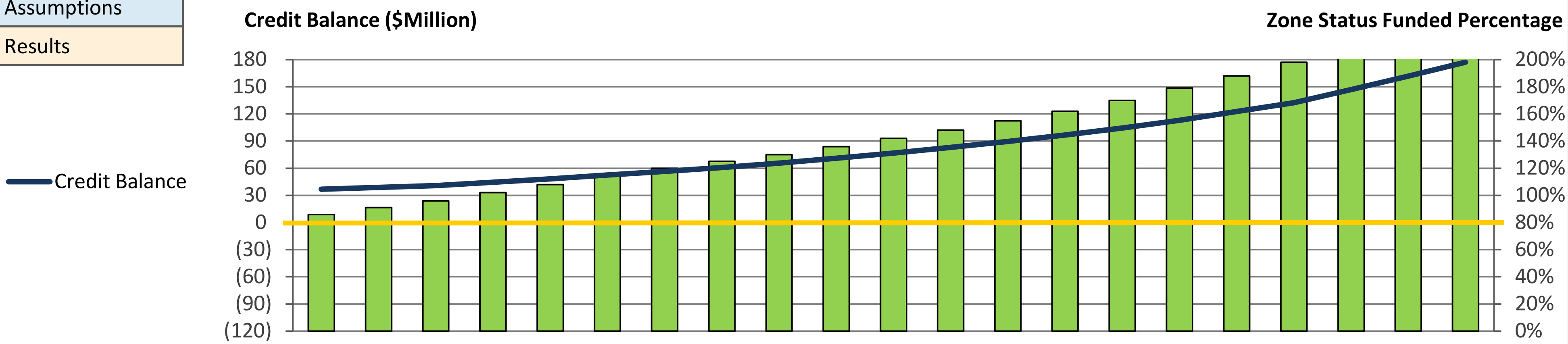
7/1/2020 valuation results using 7.25% interest rate | 700,000 hours per year |
Future Asset Returns: 7.25% per year beginning 7/1/2021 | Updated mortality rates

Benefit Accruals: $100.00 X Hours/2000 effective July 1, 2011
Accrual Rate as % of Contribs = 0.50%

Buffalo Laborer's Pension Fund

Valuation Interest Rate = 7.25% effective July 1, 2021
Hourly Contribution Rate = $10.00 as of July 1, 2020

Key Assumptions
Key Results



(1) Plan Year Beginning 7/1	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
(2) Investment Return (%)	29.29	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
(3) Hours Worked (thousands)	726	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
(4) Contribution Rate ($)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
(5) Actuarial Value of Assets ($M)	108	115	121	128	136	146	151	157	164	171	178	186	194	203	212	222	233	244	256	269	283
(6) Zone Status Liability ($M)	125	126	125	125	125	125	125	125	125	125	125	125	125	125	124	124	123	123	122	122	121
(7) Credit Balance ($M)	37	39	41	44	48	52	56	61	65	71	77	83	89	97	104	113	122	132	147	162	177
(8) Zone Status Funded Percentage	86%	91%	96%	102%	108%	116%	120%	125%	130%	136%	142%	148%	155%	162%	170%	179%	188%	198%	209%	220%	233%

Observations

- **The investment return for the July 1, 2020 - June 30, 2021 plan year has added to the funding cushion.**
  - Future investment returns and contribution levels (hours worked) will impact the projected funding of the Plan.

- **100% funding is approaching in the next 2 – 3 years, if assumptions are realized.**
  - The portion of the contribution that is currently going toward paying down the unfunded liabilities will then build the funding cushion.
    - For the 2021 – 2022 plan year and using the 7.25% interest rate, the normal cost for benefits plus annual operating expenses is $2.1M which compares to the expected contribution of $7.0M, leaving $4.9M to pay down unfunded liabilities or build the funding cushion

- **Implementing benefit changes now:**
  - May delay the year 100% funding is reached
    - Restoring a higher accrual rate for service prior to July 1, 2021 will create additional unfunded liabilities
  - Will slow the growth of the funding cushion in the future

Appendix:
Miscellaneous Exhibits

7/1/2021 – 6/30/2022 Plan Year Timeline

Event	Deadline / Information	Latest Date
Actuarial Certification	90 days into plan year	9/28/2021
Critical Status Notice	30 days after the date of the Actuarial Certification	10/28/2021
Annual Funding Notice	120 days after the end of the plan year	10/30/2021
Schedule MB (Form 5500)	Last day of the 7th month following the end of the Plan Year (2½ month extension available)	1/31/2022 (w/o ext) 4/15/2022 (with ext)
ERISA 104(d) Notice	30 days after Form 5500 filing due date	3/2/2022 (w/o ext) 5/15/2022 (with ext)
PBGC Premium Filing	15th day of the 10th full calendar month in the Plan Year	4/15/2022
Actuarial Valuation		N/A
Review of Actuarial Assumptions	In conjunction with the actuarial valuation	N/A

2021 Survey of Capital Market Assumptions

2021 Survey: Overview

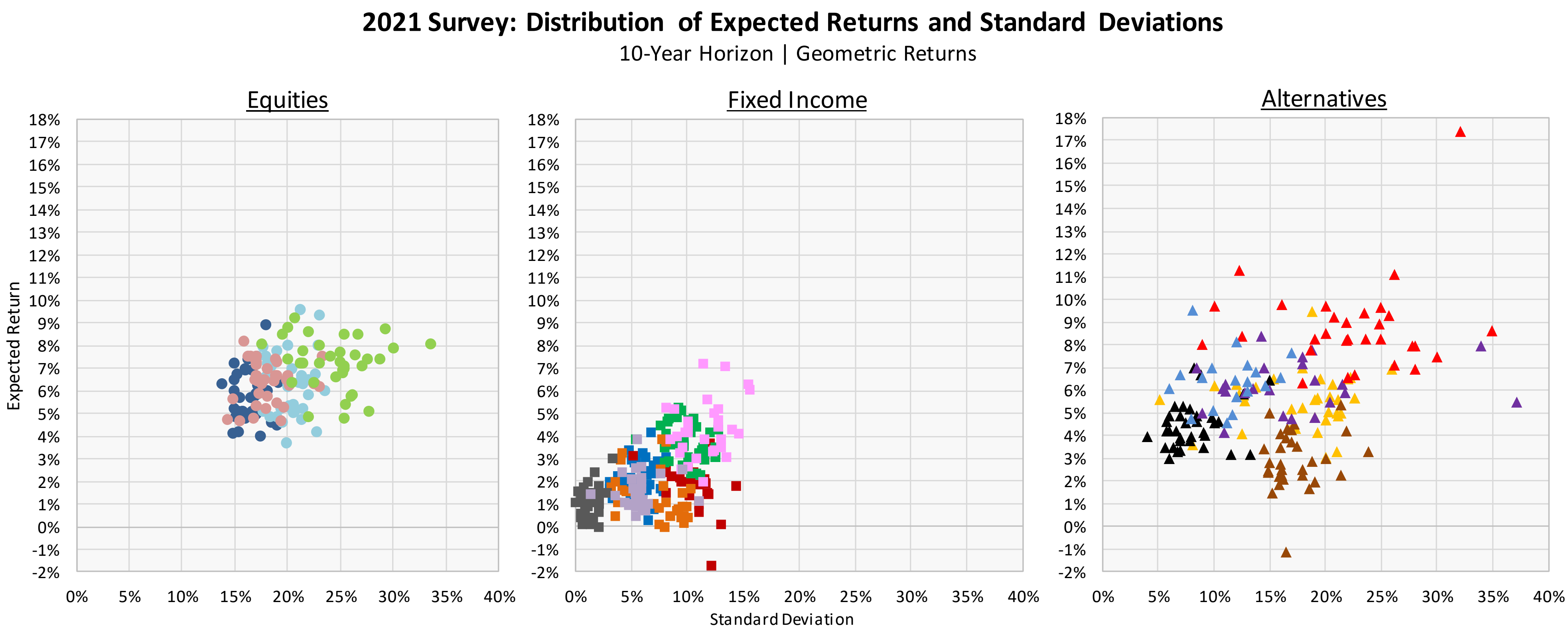
- **Capital market assumptions:**
  - Expected returns by asset class
  - Standard deviations by asset class
  - Correlation coefficient matrix
- **39 survey participants**
  - There were also 39 advisors in the 2020 survey
  - One 2020 advisor did not participate in 2021
  - One new advisor for 2021
- **Short-term vs. long-term:**
  - "Short-term" considered to be 10 years or less
  - "Long-term" considered to be 20 years or more
  - All 39 respondents provided short-term assumptions
  - 24 respondents also provided long-term assumptions

2021 Survey Participants	
AJ Gallagher	*Meketa Investment Group*
Alan Biller	*Mercer*
AndCo Consulting	*Merrill*
Aon	*Milliman*
The Atlanta Consulting Group	*Morgan Stanley Wealth Management*
*Bank of New York Mellon**	*NEPC*
*BlackRock**	*PFM Asset Management, LLC*
Callan Associates	*Research Affiliates, LLC**
Cambridge Associates	*Royal Bank of Canada*
CapTrust	*RVK*
Ellwood Associates	*Segal Marco Advisors*
Envestnet	*SEI*
Goldman Sachs Asset Management	*Sellwood Consulting*
Graystone Consulting	*SunTrust*
*Invesco**	*UBS*
Investment Performance Services, LLC (IPS)	*The Vanguard Group**
Janney Montgomery Scott, LLC	*Verus*
*J.P. Morgan Asset Management**	*Voya Investment Management**
Marquette Associates	*Willis Towers Watson*
	Wilshire

**Assumptions obtained from published white paper.*

The full report can be found at www.horizonactuarial.com.

2021 Survey: Distribution of Assumptions (10-yr)



Asset Class [Avg. Exp. Return | Avg. Std. Dev.]

- US Equity - Large Cap [5.8% | 16.4%]
- US Equity - Small/Mid Cap [6.3% | 20.2%]
- Non-US Equity - Developed [6.4% | 18.3%]
- Non-US Equity - Emerging [7.2% | 24.3%]

Asset Class [Avg. Exp. Return | Avg. Std. Dev.]

- US Corporate Bonds - Core [2.1% | 5.5%]
- US Corporate Bonds - Long Duration [2.2% | 10.4%]
- US Corporate Bonds - High Yield [3.8% | 9.9%]
- Non-US Debt - Developed [1.4% | 7.2%]
- Non-US Debt - Emerging [4.2% | 11.3%]
- US Treasuries (Cash Equivalents) [1.2% | 1.3%]
- TIPS (Inflation-Protected) [1.6% | 5.6%]

Asset Class [Avg. Exp. Return | Avg. Std. Dev.]

- Real Estate [5.5% | 17.6%]
- Hedge Funds [4.5% | 8.1%]
- Commodities [3.1% | 17.3%]
- Infrastructure [6.2% | 17.0%]
- Private Equity [8.8% | 22.3%]
- Private Debt [6.4% | 11.4%]

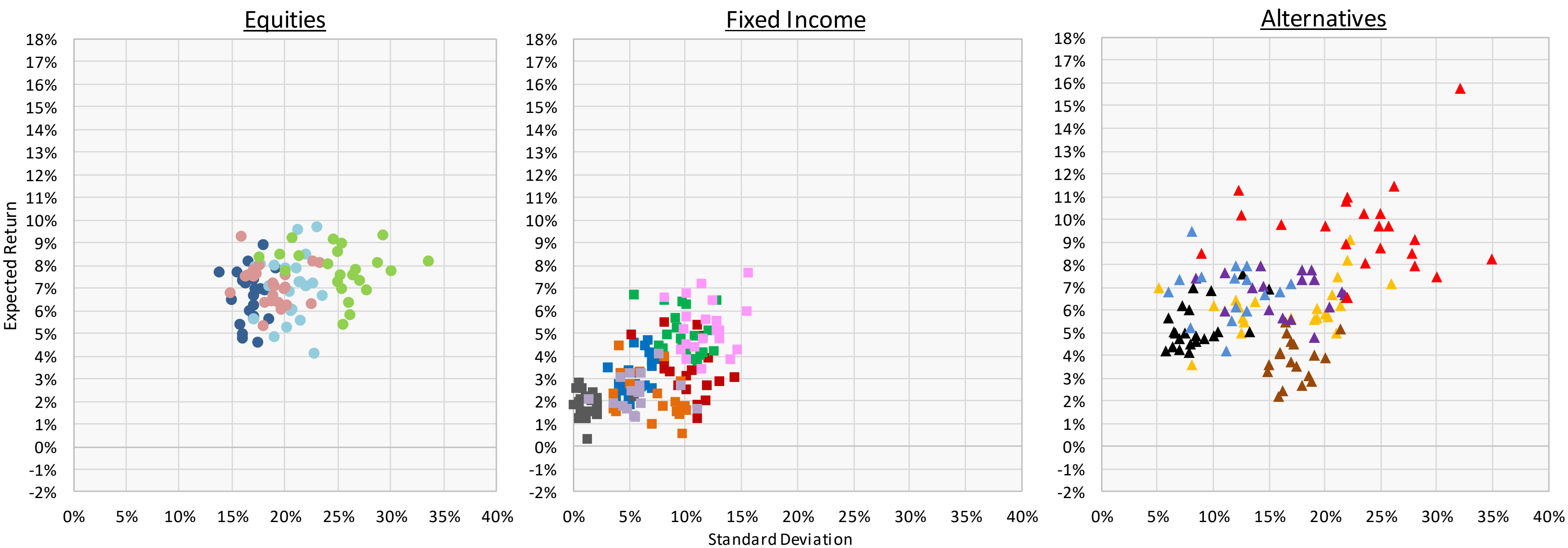
SOURCE: Horizon Actuarial 2021 Survey of Capital Market Assumptions
Expected returns over a 10-year horizon include all 39 survey participants.

For consistency and completeness, assumptions are based on a 10-year horizon. See the full report for a distribution based on a 20-year horizon.

2021 Survey: Distribution of Assumptions (20-yr)

2021 Survey: Distribution of Expected Returns and Standard Deviations

20-Year Horizon | Geometric Returns



Asset Class [Avg. Exp. Return | Avg. Std. Dev.]

- US Equity - Large Cap [6.6% | 16.7%]
- US Equity - Small/Mid Cap [7.0% | 20.6%]
- Non-US Equity - Developed [7.1% | 18.7%]
- Non-US Equity - Emerging [7.8% | 25.2%]

SOURCE: Horizon Actuarial 2021 Survey of Capital Market Assumptions
Expected returns over a 20-year horizon are based a subset of 24 survey participants who provided long-term assumptions.

Asset Class [Avg. Exp. Return | Avg. Std. Dev.]

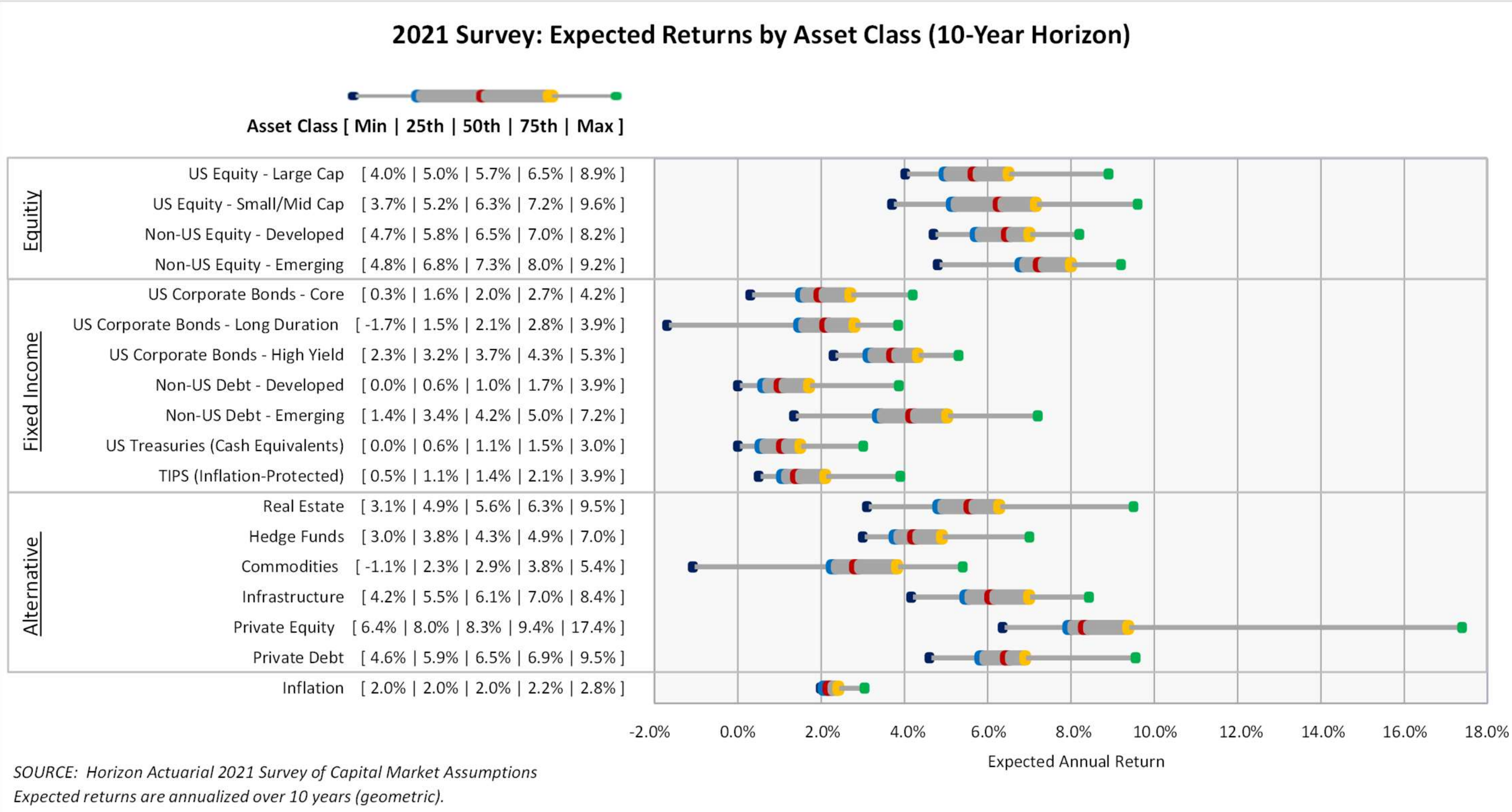
- US Corporate Bonds - Core [3.2% | 5.5%]
- US Corporate Bonds - Long Duration [3.4% | 10.3%]
- US Corporate Bonds - High Yield [5.0% | 10.0%]
- Non-US Debt - Developed [2.3% | 7.1%]
- Non-US Debt - Emerging [5.3% | 11.8%]
- US Treasuries (Cash Equivalents) [1.9% | 1.3%]
- TIPS (Inflation-Protected) [2.4% | 5.7%]

Asset Class [Avg. Exp. Return | Avg. Std. Dev.]

- Real Estate [6.2% | 16.8%]
- Hedge Funds [5.3% | 8.6%]
- Commodities [4.0% | 17.6%]
- Infrastructure [6.8% | 16.3%]
- Private Equity [9.7% | 23.3%]
- Private Debt [6.9% | 11.5%]

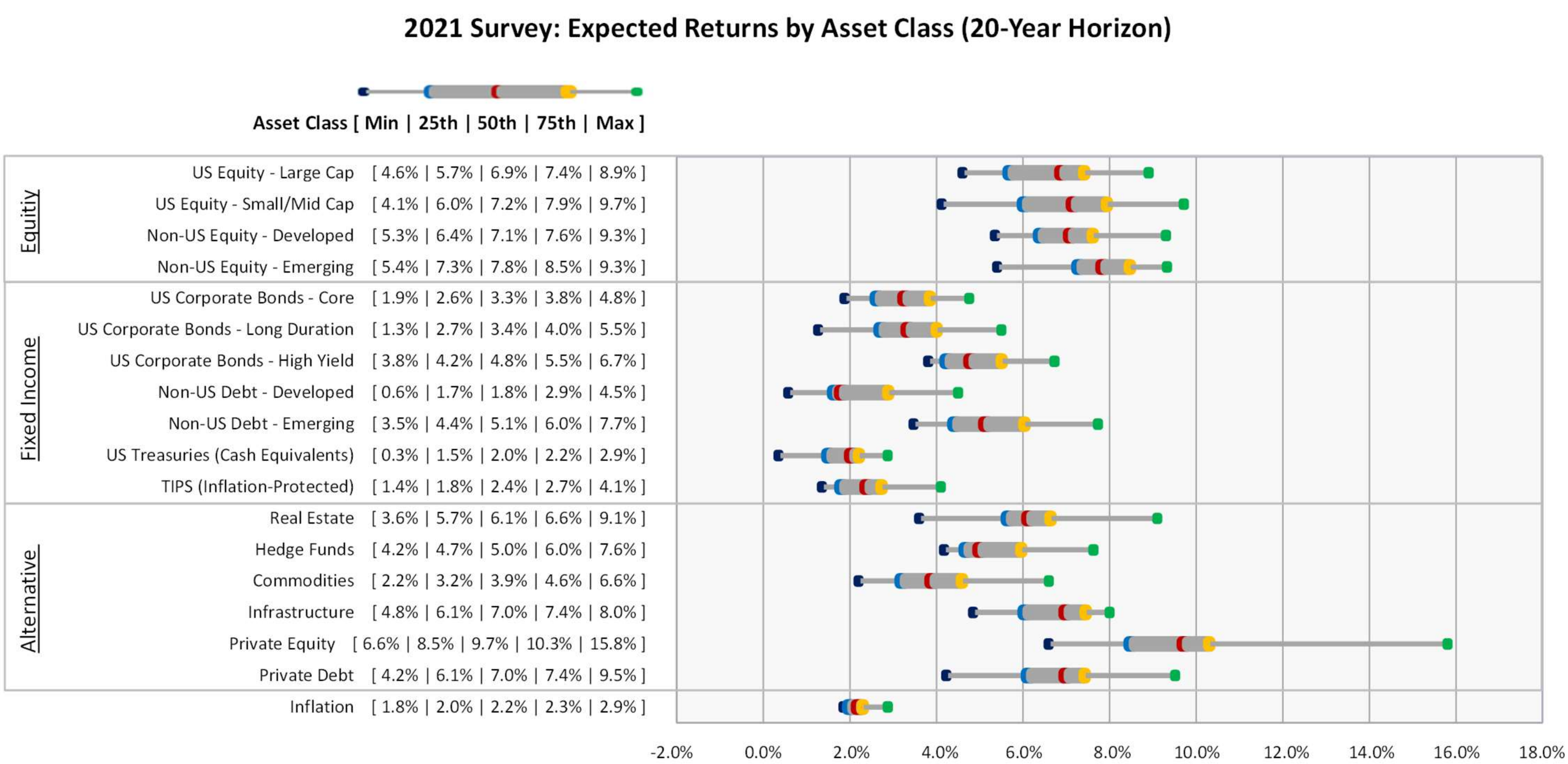
The exhibit above shows a distribution based on a 20-year horizon for the subset of 24 advisors who provided longer-term assumptions. See the full report for a distribution based on a 10-year horizon which includes assumptions from all 39 participating advisors.

2021 Survey: Distribution of Expected Returns (10-yr)



For consistency and completeness, assumptions are based on a 10-year horizon. See the full report for a distribution based on a 20-year horizon.

2021 Survey: Distribution of Expected Returns (20-yr)



SOURCE: Horizon Actuarial 2021 Survey of Capital Market Assumptions

Expected returns are annualized over 20 years (geometric), based on a subset of 24 advisors who provided longer term assumptions.

The exhibit above shows a distribution based on a 20-year horizon for the subset of 24 advisors who provided longer-term assumptions. See the full report for a distribution based on a 10-year horizon which includes assumptions from all 39 participating advisors.

2021 Survey: Average Assumptions

Horizon Actuarial 2021 Survey of Capital Market Assumptions

Average Survey Assumptions

		Expected Returns				
		10-Year Horizon		20-Year Horizon		Standard
	Asset Class	Arith.	Geom.	Arith.	Geom.	Deviation
1	US Equity - Large Cap	7.05%	5.78%	7.96%	6.65%	16.42%
2	US Equity - Small/Mid Cap	8.18%	6.27%	9.01%	7.04%	20.17%
3	Non-US Equity - Developed	7.97%	6.38%	8.79%	7.14%	18.32%
4	Non-US Equity - Emerging	10.01%	7.24%	10.78%	7.81%	24.33%
5	US Corporate Bonds - Core	2.25%	2.09%	3.38%	3.23%	5.52%
6	US Corporate Bonds - Long Duration	2.74%	2.18%	3.97%	3.43%	10.39%
7	US Corporate Bonds - High Yield	4.26%	3.78%	5.46%	4.98%	9.88%
8	Non-US Debt - Developed	1.63%	1.40%	2.53%	2.25%	7.18%
9	Non-US Debt - Emerging	4.86%	4.24%	5.99%	5.32%	11.26%
10	US Treasuries (Cash Equivalents)	1.13%	1.15%	1.91%	1.90%	1.30%
11	TIPS (Inflation-Protected)	1.77%	1.60%	2.56%	2.38%	5.64%
12	Real Estate	7.06%	5.50%	7.65%	6.21%	17.62%
13	Hedge Funds	4.79%	4.46%	5.71%	5.33%	8.09%
14	Commodities	4.43%	3.06%	5.45%	3.96%	17.31%
15	Infrastructure	7.77%	6.20%	8.09%	6.79%	17.04%
16	Private Equity	11.23%	8.82%	12.27%	9.65%	22.25%
17	Private Debt	7.10%	6.45%	7.52%	6.87%	11.42%
	Inflation	2.13%	2.12%	2.24%	2.23%	2.05%

Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1.00																
2	0.90	1.00															
3	0.82	0.77	1.00														
4	0.72	0.70	0.80	1.00													
5	0.19	0.15	0.20	0.18	1.00												
6	0.18	0.13	0.18	0.15	0.86	1.00											
7	0.63	0.63	0.62	0.62	0.43	0.36	1.00										
8	0.15	0.10	0.30	0.26	0.55	0.51	0.24	1.00									
9	0.48	0.45	0.52	0.61	0.49	0.43	0.60	0.41	1.00								
10	(0.06)	(0.06)	(0.04)	(0.03)	0.12	0.09	(0.10)	0.16	0.01	1.00							
11	0.05	0.02	0.07	0.12	0.66	0.59	0.27	0.47	0.35	0.13	1.00						
12	0.60	0.62	0.55	0.49	0.28	0.26	0.52	0.24	0.43	(0.01)	0.19	1.00					
13	0.68	0.68	0.68	0.65	0.22	0.17	0.59	0.19	0.48	(0.01)	0.12	0.45	1.00				
14	0.34	0.34	0.42	0.44	0.08	0.02	0.38	0.21	0.33	0.02	0.18	0.25	0.40	1.00			
15	0.62	0.59	0.65	0.58	0.29	0.32	0.56	0.32	0.50	(0.03)	0.19	0.50	0.52	0.41	1.00		
16	0.74	0.74	0.69	0.61	0.10	0.10	0.51	0.11	0.38	(0.03)	0.01	0.50	0.59	0.33	0.54	1.00	
17	0.54	0.55	0.54	0.52	0.26	0.29	0.71	0.15	0.44	(0.04)	0.11	0.46	0.56	0.37	0.50	0.54	1.00

Expected returns over a 10-year horizon include all 39 survey participants.

Expected returns over a 20-year horizon are based a subset of 24 survey participants who provided long-term assumptions.

- *Each of the assumption sets was given equal weight in determining the average assumptions.*
- *For reference, expected returns are shown over 10-year and 20-year horizons.*
- *Expected returns are also provided on both an arithmetic basis (one-year average) and geometric basis (multi-year annualized).*
- *The standard deviations (volatilities) and correlations apply to both arithmetic and geometric expected returns.*

Recap: 2008 to 2020

Fiscal Year	Events
7/1/2009	- Unprecedented investment losses in prior fiscal year (-34.2% actual vs. 7.5% expected) - Fund certified in "Seriously Endangered" status; - Trustees elected to remain in the "Green Zone" under WRERA 2008
7/1/2010	- Investment gains in prior fiscal year (14.9% actual vs. 7.5% expected) - Nevertheless, Fund certified in "Critical" status - Trustees adopted a Rehabilitation Plan, as required under PPA - Trustees elected to use funding relief under the Pension Relief Act of 2010
7/1/2011	- Investment gains in prior fiscal year (19.0% actual vs. 7.5% expected) - Fund certified in "Endangered" status, due to effect of funding relief - Trustees adopted a Funding Improvement Plan, as required under PPA, since Rehab plan no longer valid
7/1/2012	- Investment *losses* in prior fiscal year (+0.50% actual vs. 7.5% expected) - Fund certified in "Endangered" status again; Funding Improvement Plan adopted in 2011 is still in effect
7/1/2013	- Investment gains in prior fiscal year (+13.0% actual vs. 7.5% expected) - Fund certified in "Endangered" status again; Funding Improvement Plan adopted in 2011 still in effect
7/1/2014	- Investment gains in prior fiscal year (+15.5% actual vs. 7.5% expected) - Fund certified in "Endangered" status again; Funding Improvement Plan adopted in 2011 still in effect
7/1/2015	- Investment *losses* in prior fiscal year (+2.3% actual vs. 7.5% expected) - Fund certified in "Endangered" status again; Funding Improvement Plan adopted in 2011 still in effect
7/1/2016	- Investment *losses* in prior fiscal year (+0.8% actual vs. 7.5% expected) - Fund was certified in Green Zone; Funding Improvement Plan adopted in 2011 no longer applies
7/1/2017	- Investment *gains* in prior fiscal year (+13.3% actual vs. 7.5% expected); Effective 1/1/2017: $75 x Hours / 2,000 for hours ≥ 500 - Fund was certified in Green Zone.
7/1/2018	- Investment *gain* in prior fiscal year (+8.12% actual vs. 7.5% expected); Fund was certified in Green Zone.
7/1/2019	- Investment *losses* in prior fiscal year (+3.93% actual vs. 7.5% expected); Fund was certified in Green Zone.
7/1/2020	- Investment *losses* in prior fiscal year (+0.65 actual vs. 7.5% expected); Fund was certified in Green Zone.

Key Plan Provisions

Provision	Description
Vesting Service	500 hours worked during a Plan Year
Accrual Rate *(updated 7/1/2017)*	Prior to 1/1/2017: $30.00 per Year of Credited Service (note: 1,200 hours = $45.00) Effective 1/1/2017: $75 x Hours / 2,000 for hours ≥ 500
Normal Retirement	Age 65 with 5 years of participation
Early Retirement	Age 55 with 10 years of Vesting Service, benefit reduced by 6% per year (1/2% per month) that benefit is received prior to age 65
"Old" Special Retirement	25 Years of Vesting Service. Grandfather unreduced benefit for participants with 25 years of Vesting Service as of 6/30/2011. Reduction is 1% per year (1/12% per month) prior to age 65 for participants with 24 years of Vesting Service as of 6/30/2011, "sliding" to 5% per year (5/12% per month) for participants with 20 years of Vesting Service as of 6/30/2011.
"New" Special Retirement	"Rule of 85" – Unreduced benefit if attained age plus Vesting Service is at least 85
Disability Retirement	75% of accrued benefit payable if (i) Social Security disability award or independent medical examination, (ii) 15 years of Vesting Service, (iii) 500 hours worked in past year
Required Hourly Contribution Rate	$10.00 per hour beginning 7/1/2020

Key Valuation Assumptions and Methods: July 1, 2020

Assumption	Description
Interest Rate	7.50% per annum, net of investment manager fees
Mortality Rates	Non-disabled: RP-2000 Blue Collar, with projected generational mortality improvements using 0.50 Scale BB Disabled: RP-2000 Disabled, with projected generational mortality improvements using 0.50 Scale BB
Retirement Rates	15% per year prior to age 62, 100% at age 62, if eligible for unreduced Early or Special Retirement, 3% per year from age 55 to 61, 5% per year from age 62 to age 64, if eligible for reduced Early Retirement 100% at normal retirement age (usually age 65) Rates are pro-rated, if eligible for “sliding” reductions in partially-grandfathered Special Retirement benefit
Termination Rates	30% at age 20, graded to 0% at age 42
Disability Rates	500% of the U.A.W. Male Disability Rates
Future Hours	Hours worked in future years are the maximum of hours worked in the past 2 fiscal years
Admin. Expenses	Based on actual expenses for prior year ($735,000 at 7/1/2019, $794,000 at 7/1/2020)

Method	Description
Cost Method	Unit Credit method effective 7/1/2014
Asset Method	Begin 5-year smoothing of investment gains and losses effective 7/1/2009. Actuarial value of assets is limited to not less than 80% and not more than 120% of market value.

Projection Assumptions

- **Future hours**
  - 700,000 per year.
  - For projecting contributions, use stated hours worked assumption.
  - For projecting liabilities and benefits, achieve expected hours through new entrant profile (see below).
    - Assume current actives will earn benefits according to hours assumption in valuation.
    - New entrants will replace departing active participants to achieve assumed work levels over time.
    - Alternative approach (less conservative; not used): assume level active headcounts and reduce the assumed hours per active participant and new entrant.

- **New entrant profile**
  - New entrants will replace departing active participants.
  - Counts based on observed experience.
  - Counts are reasonable given new entrants over the past two years.
  - Hours worked will be 1,200 per new entrant, per year.
  - Assume 1.0 years of credited service per new entrant at entry.

- **Fund assets will return 7.5% per year beginning 7/1/2020**
  - In all future years, unless otherwise stated.

New Entrants – Counts per 100		
Age	Male	Female
25	16	
30	24	
35	24	4
40	16	
45	8	
50	4	
55	4	
TOTAL	96	4

Glossary

Funding Standard Account Credit Balance as of June 30

The Funding Standard Account (FSA) is the notional account that determines the Fund's amount of the minimum required contribution under ERISA and the Internal Revenue Code. To the extent that contributions actually made to the Fund exceed the minimum requirements, the Funding Standard Account will have a credit balance. The credit balance accumulates with interest (at the valuation rate of 7.5% per year) and reduces the amount of future minimum contribution requirements. If actual contributions are not sufficient to cover the minimum contribution requirement, then the Funding Standard Account has a funding deficiency.

In the projection graphs, the FSA credit balance is represented by the lines whose values are shown on the primary (left) vertical axis. If the FSA balance is projected to go negative in the future (i.e., there is a projected funding deficiency), that may cause the plan to be certified as either critical or endangered in the future. Note that the line for zero credit balance is highlighted on the graphs.

Also note that the FSA credit balance is as of the end of the year (EOY), i.e., as of June 30. So, for example, the FSA credit balance of $30 million under the column for the fiscal year beginning 7/1/2019 is actually as of 6/30/2020.

In some cases, there are two different FSA projections to consider.

- Solid light blue line: **(Not applicable for Buffalo Laborers)** FSA reflecting future "automatic" 5-year amortization extensions under PPA. This is a projection of the "actual" FSA that will be used for meeting statutory funding obligations, which will reflect any amortization extensions that have been granted by the IRS. This line will not exist in scenarios where amortization extension do not apply (most likely because the Fund does not meet the requirements for an extension).
- Solid dark blue line; item (8): FSA reflecting NO amortization extensions. This measure is used for purposes of determining whether the Fund is in critical status under PPA. If there is a deficiency under this FSA measure projected in the next 4 years (5 in some cases), then the Fund will be in the "Red Zone". (This is only true for scenarios where future investment returns are assumed to be equal to the valuation interest rate, 7.5% per year.)

Glossary (cont.)

PPA Funded Percentage as of July 1

The PPA Funded Percentage is the ratio of the Plan's actuarial value of assets over its actuarial accrued liability, measured at the beginning of each fiscal year The actuarial value of assets may reflect up to five-year smoothing of prior investment gains and losses, if elected by the Trustees. The actuarial accrued liability, determined using the "traditional unit credit" (TUC) cost method, is also known as the present value of accumulated plan benefits, which is used by the auditors under ASC 960.

Under the Pension Protection Act of 2006 (PPA), if a plan is less than 80% funded on this basis, it is in endangered status ("Yellow Zone"), unless it has already been certified in critical status ("Red Zone").

In the projection graphs, the PPA Funded Percentage is represented by the colored bars, whose values are shown on the secondary (right) vertical axis. Note that the line for being 80% funded is highlighted on the graphs. Its values are shown in item (12) in the tables below the graphs.

PPA Certification Status or "Zone" as of July 1

Under PPA, multiemployer pension plans must be certified in endangered status ("Yellow Zone"), seriously endangered status ("Orange Zone"), critical status ("Red Zone"), or none of the above ("Green Zone"). Trustees of a plan that is certified in endangered, seriously endangered, or critical status must take action to improve or rehabilitate the plan's funded status. The annual certifications are based on funded percentage, whether there are projected deficiencies in the Funding Standard Account, and other measures.

In the projection graphs, the PPA certification status as of July 1 is indicated by the color of each of the funded percentage bars – red indicates critical status, orange indicates seriously endangered status, yellow indicates endangered status, and green indicates the Fund is neither critical nor endangered. A bar that is green and yellow striped means that the plan would be deemed yellow but for special rule that allows the plan to be certified as green.

Actuarial Certification

We have prepared this actuarial report for use by the Board of Trustees of the Buffalo Laborers' Pension Fund (the "Trustees"). This report has been prepared solely for the benefit of the Trustees, and it is not complete without the accompanying discussion with a representative of Horizon Actuarial Services, LLC. This report should not be distributed to others not affiliated with the Plan or relied upon by any other person without prior written consent from Horizon Actuarial Services, LLC.

In preparing this report, we have relied on all the information and data provided by the Trustees and its affiliates, including plan provisions and asset information, as being complete and accurate. We have not independently verified the accuracy or completeness of the data or information provided, but we have reviewed the data for reasonableness to the extent that we believe appropriate based on the purpose for which it has been used.

The analysis summarized in this report involves actuarial calculations that require assumptions about future events. These calculations are performed using actuarial models, the intended purpose of which is the estimation and projection of the Plan's liabilities, assets, zone status, and other related information summarized herein. We believe that the assumptions and methods used in this report are reasonable individually and in the aggregate, and are appropriate for the purposes for which they have been used. However, other assumptions and methods could also be reasonable and could generate materially different results. We have relied on the input of experts in developing certain assumptions, such as mortality and the valuation interest rate Because it is not possible or practical to model all aspects of a situation, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are immaterial in our judgment.

Future events and actual experience will vary from the assumptions we have used, and calculations prepared with actual data will vary from estimates or summaries used for modeling purposes. Actual future results will differ from our projections. As these differences arise, contributions and/or benefits may need to be adjusted to take these changes into account.

We have not performed a detailed analysis of the potential range of future results in this report, but various reports provided throughout the year include information regarding the significant risks inherent in the Plan. A more detailed assessment of the risks – including additional scenario tests, sensitivity tests, stress tests, and stochastic modeling – would allow the Trustees to better understand how deviations from the assumptions may affect the Plan.

In our opinion, all methods, assumptions, and calculations are in accordance with the applicable provisions of the Internal Revenue Code and ERISA, and the procedures followed and presentation of results conform with generally accepted actuarial principles and practices. The undersigned consultants of Horizon Actuarial Services, LLC with actuarial credentials meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. There is no relationship between the Board of Trustees of the Buffalo Laborers' Pension Fund and Horizon Actuarial Services, LLC that affects our objectivity.

Mary Ann Dunleavy

Mary Ann Dunleavy, ASA, EA, MAAA
Consulting Actuary

Lindey L. Settle

Lindey L. Settle, ASA
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Contact Us

If you have any questions regarding the analysis presented in this report, please contact one of the consultants whose contact information is provided below.

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