

STATE OF CONNECTICUT
MUNICIPAL ACCOUNTABILITY REVIEW BOARD (MARB)

REGULAR MEETING NOTICE AND AGENDA
West Haven Subcommittee of the MARB

Meeting Date and Time: Tuesday, November 17, 2020 10:00 AM – 12:00 PM

Meeting Location: This meeting will be telephonic only. Meeting materials may be accessed at the following website: <https://portal.ct.gov/OPM/Marb/West-Haven-Committee-Meetings-and-Materials>

Call-In Instructions: Meeting participants may use the following telephone number and access code

Telephone Number: (860) 840-2075

Meeting ID: 329 602 61

Agenda

- I. Call to Order & Opening Remarks
- II. Approval of minutes:
 - a. September 22, 2020
 - b. October 20, 2020
- III. Discussion: Fire District Pension and OPEB Valuations
- IV. Update: Status of Tri-District MOU
- V. Update: Corrective Action Plan FY 2019 Audit Findings
- VI. Update: Status of FY 2020 Close and Audit Process
- VII. Update: Status of HR Corrective Action Plan and ADP Implementation
- VIII. Adjourn

DRAFT
STATE OF CONNECTICUT
MUNICIPAL ACCOUNTABILITY REVIEW BOARD (MARB)

REGULAR MEETING NOTICE AND AGENDA
West Haven Subcommittee of the MARB

Meeting Date and Time: Tuesday, September 22, 2020 10:00 AM – 12:00 PM

Meeting Location: This was a telephonic meeting. Meeting materials may be accessed at the following website:
<https://portal.ct.gov/OPM/Marb/West-Haven-Committee-Meetings-and-Materials>

Call-In Instructions:

Telephone Number: (860) 840-2075

Meeting ID: 778 040 839

Members in Attendance: Kimberly Kennison (OPM Secretary designee), Christine Shaw (State Treasurer designee), Stephen Falcigno, Thomas Hamilton, Robert White

City Officials in Attendance: Mayor Rossi, Frank Cieplinski, Lee Tiernan, William Ryan (City labor attorney), West Shore Fire Chief Scafiarello, First Taxation District Chief O'Brien, Allingtown Chief Esposito, City Council Member O'Connor, City Council Member Hoskie, City Council Member Bruneau (also West Shore District Commissioner), First Taxation District Commissioner Carew, Representative DiMassa

OPM Staff Attendance: Mike Walsh, Michael Milone, Julian Freund

I. Call to Order & Opening Remarks

The meeting was called to order at 10:04 AM.

II. Approval of minutes: July 21, 2020

A motion was made by Mr. White with a second by Ms. Shaw to approve the minutes. All voted in favor with Mr. Hamilton abstaining.

III. Review, discussion and possible action: AFSCME Local 681 Tentative Agreement

An overview of the proposed contract was provided. The contract covers about 100 public works and non-managerial City Hall employees. The term of the contract is July 1, 2017 through June 30, 2023. The MARB has until October 15 to take action if it wished. The contract provides 0% general wage increases for the first four years, followed by an increase of 1% in FY 2022 and 2% in FY 2022. It increases the employee cost share for health insurance premiums by 1% for FY 2022 and another 1% for FY 2023. The group's move to the State Partnership Plan, which took effect in January 2020, is codified in the agreement. Mr. Ryan provided additional details in the agreement. After discussion of the fiscal impact and other aspects of the contract, a motion was made to approve the contract.

A motion was made by Mr. Falcigno to recommend approval of the contract by the full MARB, with a second by Mr. Hamilton. The motion passed unanimously.

IV. Discussion: Fire Districts

a. Status of Actuarial Reports

The West Shore District has an updated pension actuarial report, but has not yet received the OPEB valuation. The First District has not received either the pension or OPEB actuarial report. Both are anticipated in October.

b. Fire/EMS Expenditure Benchmarking

Mr. Walsh provided an overview of the benchmarking data. The information illustrated the high cost of Fire service in the City of West Haven compared to two comparable sized municipalities. The disparity in expenditures is primarily attributable to employee and retiree benefits costs. In particular, the legacy costs of defined benefit pension plans and retiree health insurance drive up fire expenditures in West Haven's three fire districts. In each case, the districts have taken steps to bring these costs under more control by closing defined benefit pension plans, and more recently, by increasing mill rates and budgeting for additional contributions to pension and retiree health liabilities in FY 2021. Members discussed employee benefits and contributions toward benefits with the district's representatives.

c. Tri-District MOU Update

Chief O'Brien said that the approval of an MOU is anticipated in October by each district. Certain functions, particularly administrative functions such as investment advisory services and audit services, could be merged and made consistent among the districts in the tri-district commission model. Members expressed interest in seeing a multi-year plan for managing or moderating the impact of legacy costs on taxpayers.

V. Discussion: Allingtown Fire Chief appointment

Mayor Rossi advised the Subcommittee of a plan to fill the Allingtown Fire Chief position. The Assistant Chief, who also serves as the district's Fire Marshal, has been serving as an Acting Fire Chief while the position has been vacant. The current arrangement is not sustainable. Funding for the position is included in the FY 2021 budget. Members asked whether the plan to fill the position is consistent with the plan to create a Tri-District Commission. The City indicated that the intent will be to enter into a short term contract of one to two years for the Fire Chief in order to preserve some flexibility.

VI. Update: Corrective Action Plan FY 2019 Audit Findings

Mr. Cieplinski provided an update on the status of the corrective action plan, referring to the written status report provided in the meeting materials.

VII. Update: Status of FY 2020 Close and Audit Process

Mr. Cieplinski and Mayor Rossi reported on progress on the audit. Weekly open item meetings are being held. The auditors will be on site the week of October 19th.

VIII. Update: Status of HR Corrective Action Plan

a. ADP implementation

Mr. Cieplinski updated the subcommittee on the project implementation. Weekly calls are held with ADP on the overall project. ADP provides a checklist updated weekly depicting the status of individual tasks. The City is currently working on data transfers and dual system maintenance. Plan benefits information is one item on the status report that appears to be off schedule. Mr. Cavallero indicated he would follow-up to make sure the information gets to ADP. Ms. Kennison advised the City to confirm with ADP that any delays will not have a project cost impact as well.

IX. Adjourn

A motion to adjourn was made by Mr. White with a second by Mr. Falcigno. All voted in favor. The meeting adjourned at 11:35 AM.

DRAFT

STATE OF CONNECTICUT
MUNICIPAL ACCOUNTABILITY REVIEW BOARD (MARB)

REGULAR MEETING MINUTES
West Haven Subcommittee of the MARB

Meeting Date and Time: Tuesday, October 20, 2020 10:00 AM – 12:00 PM

Meeting Location: This was a telephonic meeting. Meeting materials may be accessed at the following website:
<https://portal.ct.gov/OPM/Marb/West-Haven-Committee-Meetings-and-Materials>

Call-In Instructions: Meeting participants may use the following telephone number and access code

Telephone Number: (860) 840-2075

Meeting ID: 466 088 99

Members in Attendance: Kimberly Kennison (OPM Secretary designee), Christine Shaw (State Treasurer designee), Robert White

City Officials in Attendance: Mayor Rossi, Frank Cieplinski, Matt Cavallaro, Council President Quagliani, Council Member Hoskie

OPM Staff in Attendance: Bill Plummer, Julian Freund, Michael Milone

I. Call to Order & Opening Remarks

The meeting was called to order at 10:05 AM, with no quorum present.

II. Approval of minutes: September 22, 2020

This item was tabled due to lack of quorum.

III. Update: Corrective Action Plan FY 2019 Audit Findings

City staff updated the Subcommittee on the status of each of the items in the corrective action plan. Among the open items are remedies to address a finding regarding bidding documentation and processes. The Subcommittee discussed the status of a Purchasing position which was funded to be filled January 1, 2021. An internal employee has been identified for the position and is currently working in Payroll. That employee will remain in Payroll until the ADP project has been implemented and then transition to the Purchasing role. Members discussed the potential to accelerate the hiring process, and any possibility of utilizing budgeted Contingency funding. A payroll position, that is also expected to handle benefits management responsibilities, has been posted. The subcommittee discussed the position and its place in the organizational structure. Mr. Cieplinski noted that he expects a finding regarding capital assets will be closed. That item will depend on receiving the required information from the Allingtown Fire District. Mr. Cavallaro discussed the status of steps to address the Student Activities Fund. The Board of Education will be

seeking software to manage the Student Activities Fund. Ms. Kennison noted that, based on the City's latest update, nine prior year findings appear to be resolved. Up to six items may carry forward into the next audit report.

IV. Update: Status of FY 2020 Close and Audit Process

The City reported that the auditors have begun their onsite testing. Some data from external sources has just been received, including IBNR for heart & hypertension and workers compensation, while some data is still outstanding, such as OPEB information. The City anticipates meeting the 12/31/20 deadline for submittal of the audit. Ms. Kennison suggested that a closing meeting be scheduled to provide the auditor with an opportunity to discuss any anticipated audit findings with the City.

V. Update: Status of HR Corrective Action Plan

a. ADP implementation

Mr. Tiernan reported that the corrective actions in the HR Action Plan have been nearly completed with very few outstanding items. The City also reported on the status of the ADP implementation project. The system is projected to go live in December. Open issues include establishing how employee time will be captured for different employees, whether by time clock, computer entry or mobile phone app. A lack of in-house expertise on employee benefits also needs to be resolved. Mr. Cavallaro reported that he will be providing the vendor with benefit plan information related to the BOE within the week. The hiring of the payroll and benefits position may resolve the employee benefits issue to some extent.

VI. Next Steps re: Segal analysis of self-insured and State Partnership health costs for BOE

The Subcommittee received a report prepared by Segal Consulting estimating potential savings that could be achieved by a transition of Board of Education employees to the State Partnership health plan. A presentation of the findings in the analysis will be provided at a subsequent subcommittee meeting. A recommendation from the BOE and City regarding whether to transition to the State Partnership plan will be finalized by the end of the calendar year. If the decision is made to transition some or all BOE groups to the Partnership, a transition plan should be completed by the end of February to allow time to make the change effective July 1, 2021.

VII. Adjourn

The meeting concluded at 10:53 AM.



RETIREMENT PLAN FOR EMPLOYEES OF WEST HAVEN FIRST FIRE DISTRICT

**Actuarial Valuation as of July 1, 2020
To Determine Funding for Fiscal Years 2020-21 and 2021-22**

Prepared by

Jennifer M. Castelhana, FSA
Consulting Actuary

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Table of Contents

	Page
CERTIFICATION	1
I EXECUTIVE SUMMARY	3
II PLAN ASSETS	
A. Summary of Fund Transactions	14
III DEVELOPMENT OF CONTRIBUTION	
A. Past Service Cost	15
B. Actuarially Determined Contribution	16
C. Long Range Forecast	17
D. History of Funded Status	18
E. History of District Contributions	19
IV MEMBERSHIP DATA	
A. Statistics of Active Membership	20
B. Statistics of Inactive Membership	21
C. Distribution of Inactive Members	22
V ANALYSIS OF RISK	
A. Introduction	23
B. Risk Identification and Assessment	24
C. Maturity Measures	27
APPENDICES	
A. Actuarial Funding Method	28
B. Actuarial Assumptions	29
C. Summary of Plan Provisions	31
D. Glossary	33

Certification

We have performed an actuarial valuation of the Plan as of July 1, 2020 to determine funding for fiscal years 2020-21 and 2021-22. This report presents the results of our valuation.

The ultimate cost of a pension plan is the total amount needed to provide benefits for plan members and beneficiaries and to pay the expenses of administering the plan. Pension costs are met by contributions and by investment return on plan assets. The principal purpose of this report is to set forth an actuarial recommendation of the contribution, or range of contributions, which will properly fund the plan, in accordance with applicable government regulations. In addition, this report provides:

- A valuation of plan assets and liabilities to review the year-to-year progress of funding.
- Information needed to meet disclosure requirements.
- Review of plan experience for the previous year to ascertain whether the assumptions and methods employed for valuation purposes are reflective of actual events and remain appropriate for prospective application.
- Assessment of the relative funded position of the plan, i.e., through a comparison of plan assets and projected plan liabilities.
- Comments on any other matters which may be of assistance in the funding and operation of the plan.

This report may not be used for purposes other than those listed above without Milliman's prior written consent. If this report is distributed to other parties, it must be copied in its entirety, including this certification section.

Milliman's work is prepared solely for the internal business use of the West Haven First Fire District ("District"). To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the District may provide a copy of Milliman's work, in its entirety, to the District's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the District; and (b) the District may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law. No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

In preparing this report, we relied on employee census data and financial information as of the valuation date, furnished by the District. We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have found them to be reasonably consistent and comparable with data used for other purposes. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete and our calculations may need to be revised. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Certification

The calculations reported herein have been made on a basis consistent with our understanding of ERISA and the related sections of the tax code. Additional determinations may be needed for purposes other than meeting funding requirements, such as judging benefit security at plan termination or meeting employer accounting requirements. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices.

The valuation results were developed using models employing standard actuarial techniques. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP). The models, including all input, calculations, and output, may not be appropriate for any other purpose.

Figures reported herein for periods prior to July 1, 2020 are taken from actuarial reports prepared by the prior actuary.

We further certify that, in our opinion, each actuarial assumption, method and technique used is reasonable taking into account the experience of the Plan and reasonable expectations. Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurement.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Jennifer M. Castelhana, FSA
Consulting Actuary

Section I - Executive Summary Changes Since the Prior Valuation

Plan Changes

None.

Changes in Actuarial Methods and Assumptions

We updated the Mortality Table to the PubS-2010 Mortality Table with generational projection per the MP-2019 ultimate scale, with employee rates before benefit commencement and healthy or disabled annuitant rates after benefit commencement.

We lowered the interest rate from 6.75% to 5.00% to better reflect anticipated experience.

The combined impact of these changes was an increase in the Unfunded Accrued Liability of about \$11.9 million and an increase in the Actuarially Determined Contribution of about \$880,000.

Other Significant Changes

None.

Section I - Executive Summary Assets

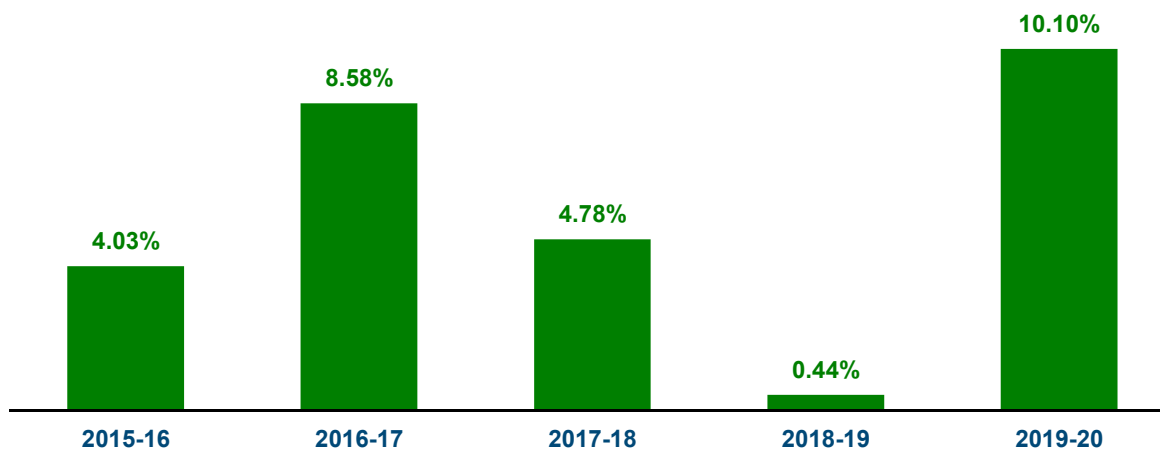
The Market Value of Assets is a snapshot of the plan's investments as of the valuation date.

	Market
Value as of July 1, 2017	\$12,511,979
District and Member Contributions	9,378,808
Investment Income	1,979,873
Benefit Payments and Administrative Expenses	(9,172,444)
Value as of July 1, 2020	14,698,216

For fiscal year 2017-18, the plan's assets earned 4.78% on a Market Value basis. The actuarial assumption for this period was 6.25%; the result is an asset loss of about \$181,090 on a Market Value basis.

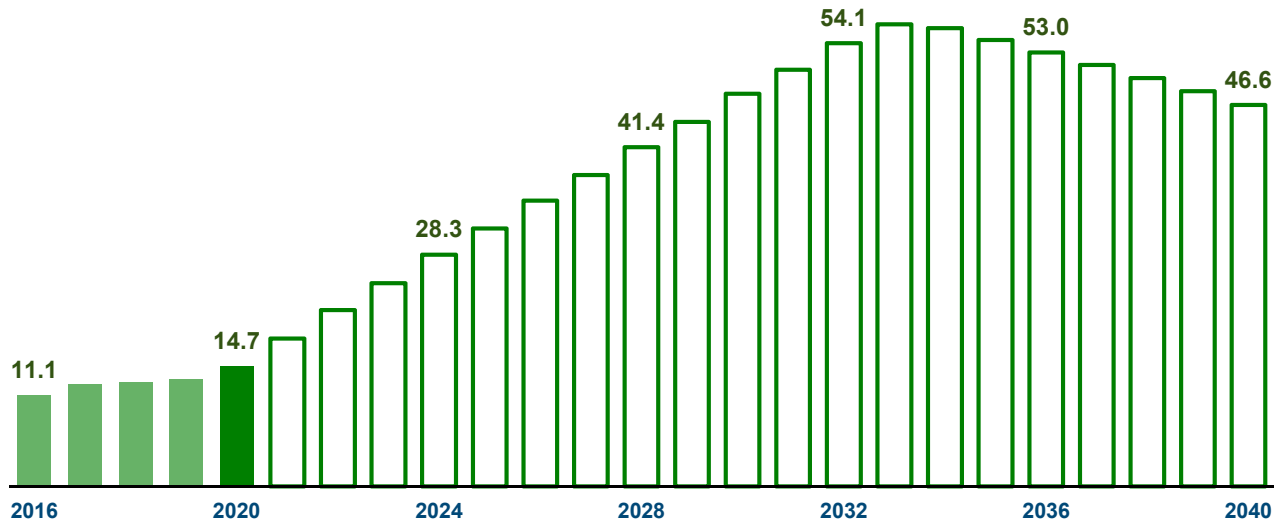
For fiscal year 2018-19, the plan's assets earned 0.44% on a Market Value basis. The actuarial assumption for this period was 6.25%; the result is an asset loss of about \$741,171 on a Market Value basis.

For fiscal year 2019-20, the plan's assets earned 10.10% on a Market Value basis. The actuarial assumption for this period was 6.25%; the result is an asset gain of about \$508,845 on a Market Value basis.

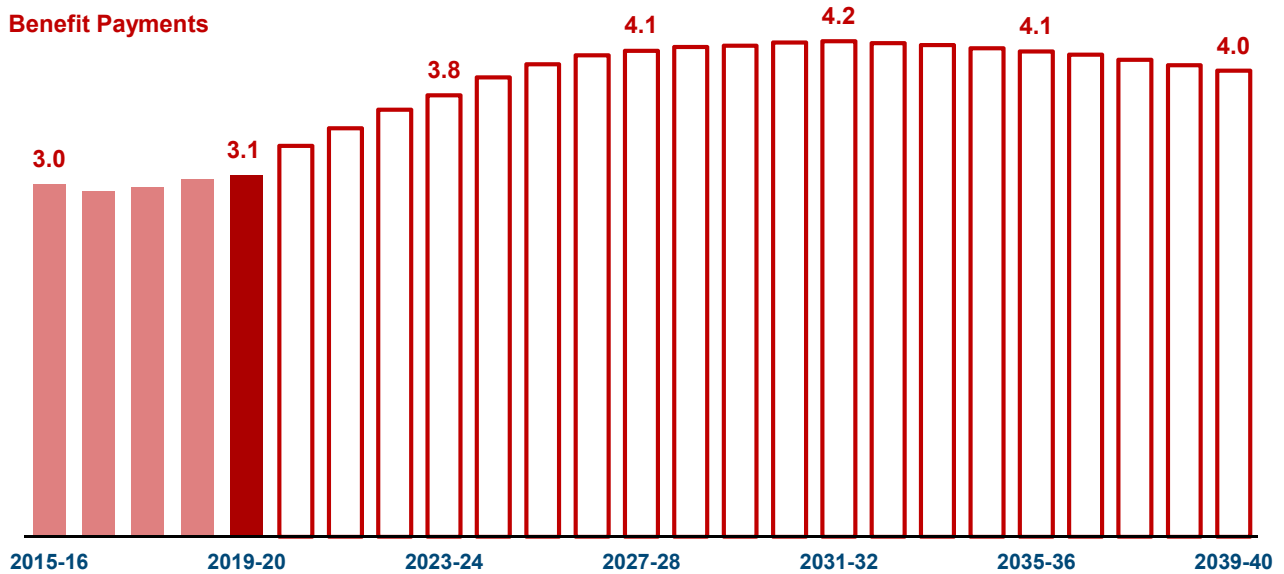


Section I - Executive Summary Assets (continued)

The graph below shows how this year's asset values compare to where the plan's assets have been over the past several years and how they are projected to change over the next 20 years. For purposes of this projection, we have assumed that the District always contributes the Actuarially Determined Contribution and the investments always earn the assumed interest rate each year.

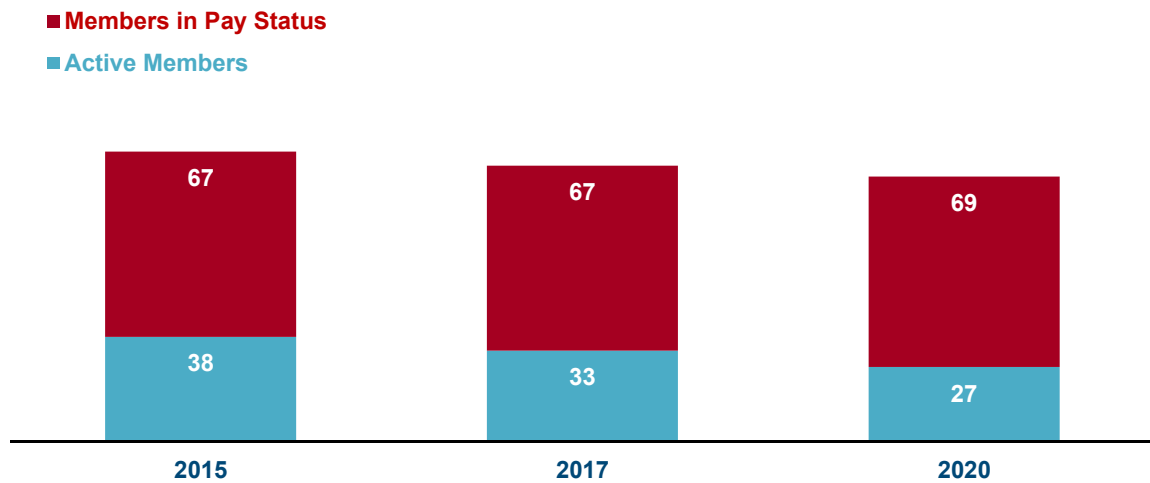


In 2019-20, the plan paid out \$3.1 million in benefits to members. Over the next 20 years, the plan is projected to pay out a total of \$80 million in benefits to members.



Section I - Executive Summary Membership

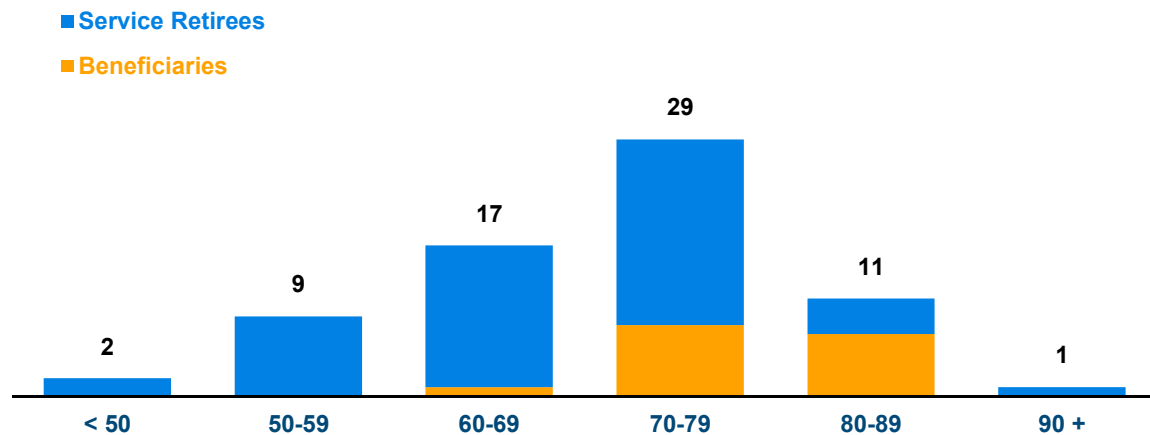
There are two basic categories of plan members included in the valuation: (1) members who are receiving monthly pension benefits, and (2) active employees who have met the eligibility requirements for membership. Full valuations have not been performed annually in the past, so membership information is not available for all years.



Members in Pay Status on July 1, 2020

Service Retirees	53	Average Age	70.6
Disabled Retirees	0	Total Annual Benefit	\$3,206,613
Beneficiaries	<u>16</u>	Average Annual Benefit	46,473
Total	69		

The members in pay status fall across a wide distribution of ages:



Section I - Executive Summary Membership (continued)

Terminated Vested Members on July 1, 2020

Count	0
Average Age	0.0
Total Annual Benefit	\$0
Average Annual Benefit	0

Active Members on July 1, 2020

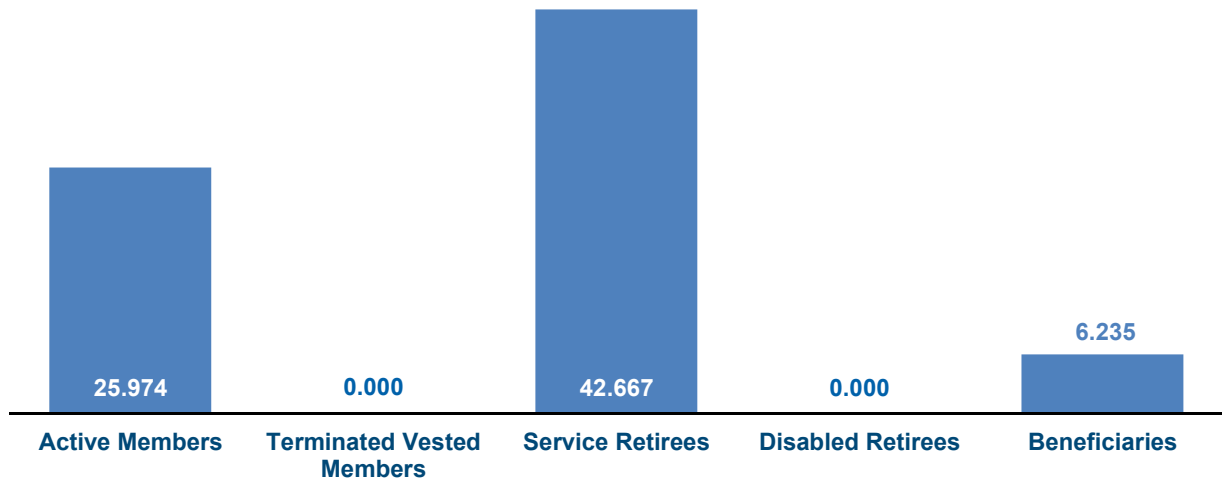
Count	27
Average Age	51.2
Average Service	23.3
Payroll	\$2,086,248
Average Payroll	77,268

The table below illustrates the age and years of service of the active membership:

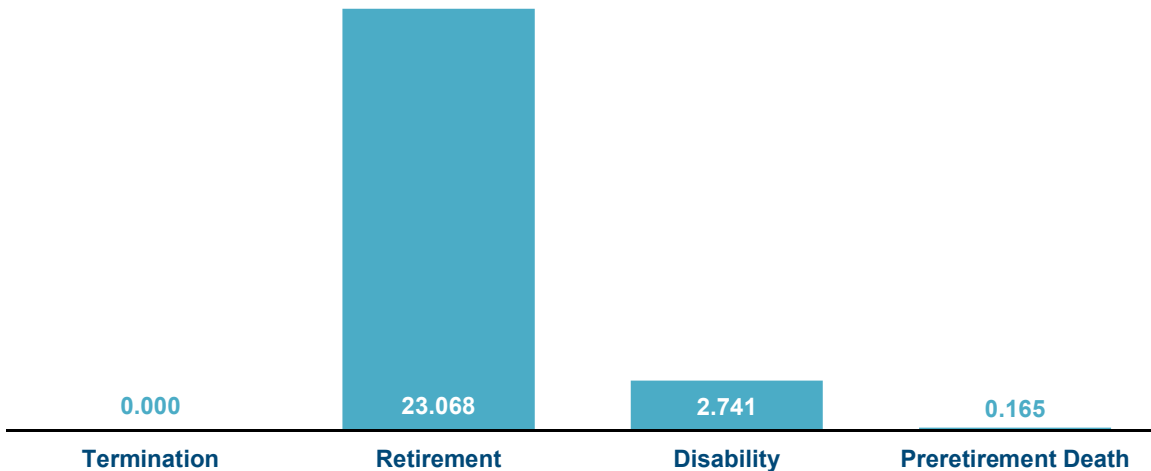
Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25								0
25-29								0
30-34								0
35-39			1	2				3
40-44			1					1
45-49				4	2			6
50-54					5	4		9
55-59				1	1	1	2	5
60-64						1	1	2
65+					1			1
Total	0	0	2	7	9	6	3	27

Section I - Executive Summary Accrued Liability

The Accrued Liability as of July 1, 2020 equals \$74,877,118, which consists of the following pieces (in \$ millions):



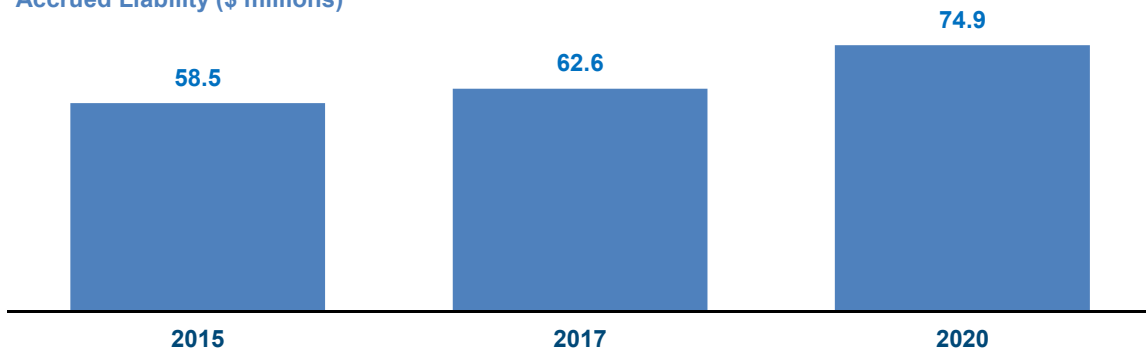
The Accrued Liability for active members can be broken down further by the different types of benefits provided by the plan:



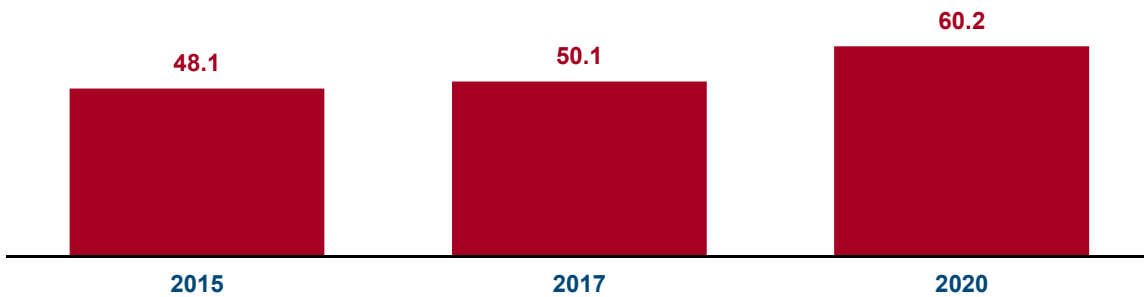
Section I - Executive Summary Funded Status

The Accrued Liability grows over time as active members earn additional benefits, and goes down over time as members receive benefits; it may also change when there are changes to the plan provisions or changes in the actuarial assumptions. The Unfunded Accrued Liability is the dollar difference between the Accrued Liability and the Actuarial Value of Assets; the Funded Ratio is the ratio of the two.

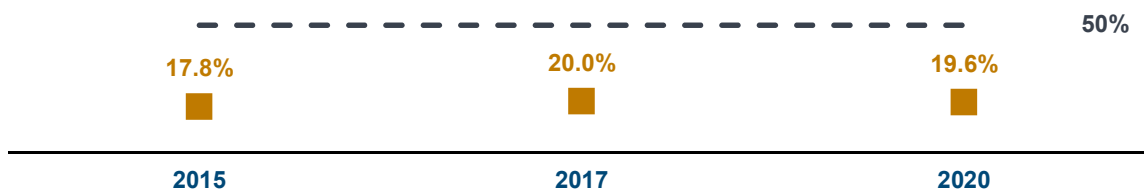
Accrued Liability (\$ millions)



Unfunded Accrued Liability (\$ millions)



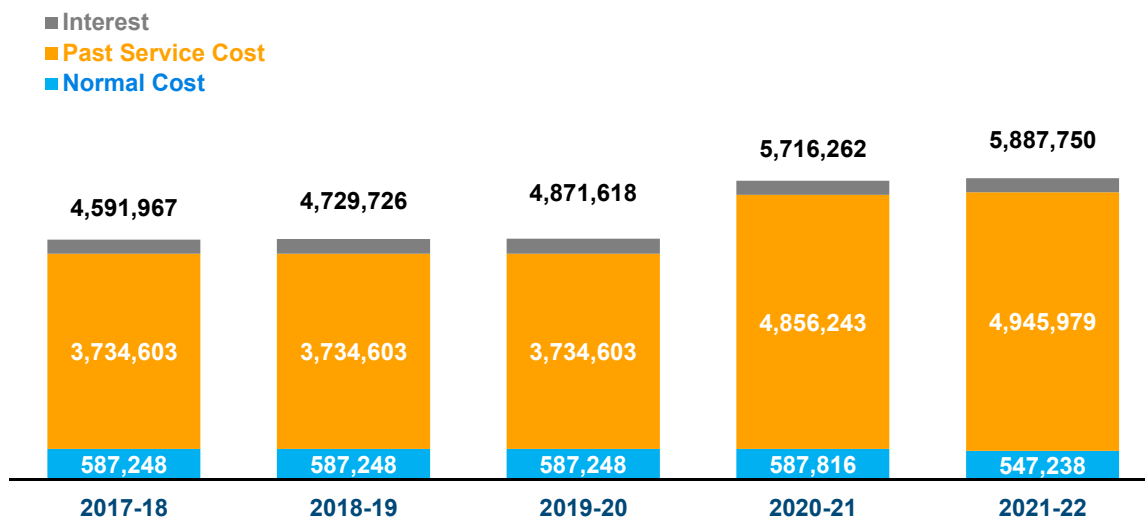
Funded Ratio



Section I - Executive Summary Actuarially Determined Contribution

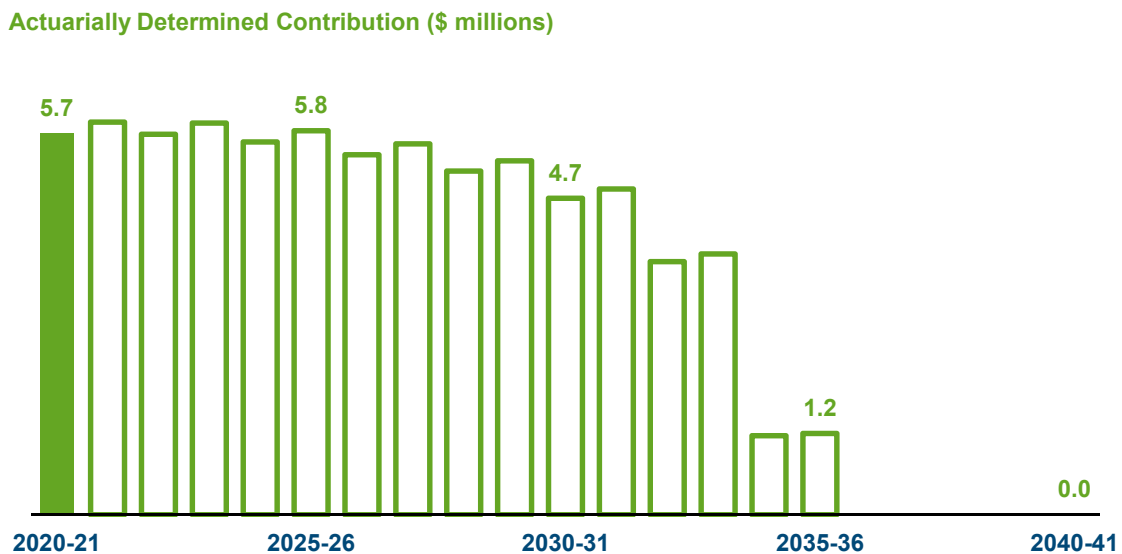
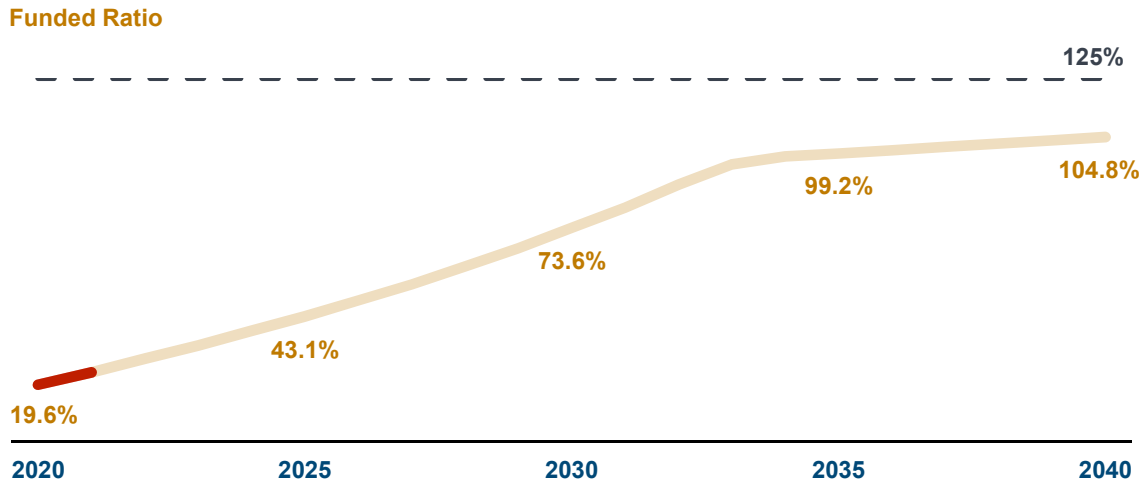
The Actuarially Determined Contribution consists of three pieces: a Normal Cost payment to fund the benefits earned each year, a Past Service Cost to gradually reduce any unfunded or surplus liability, and Interest to reflect the timing of the contribution relative to the valuation date.

The Actuarially Determined Contributions for fiscal year 2020-21 and fiscal year 2021-22 is shown graphically below, along with the comparable figures for the preceding three fiscal years.



Section I - Executive Summary Long-Range Forecast

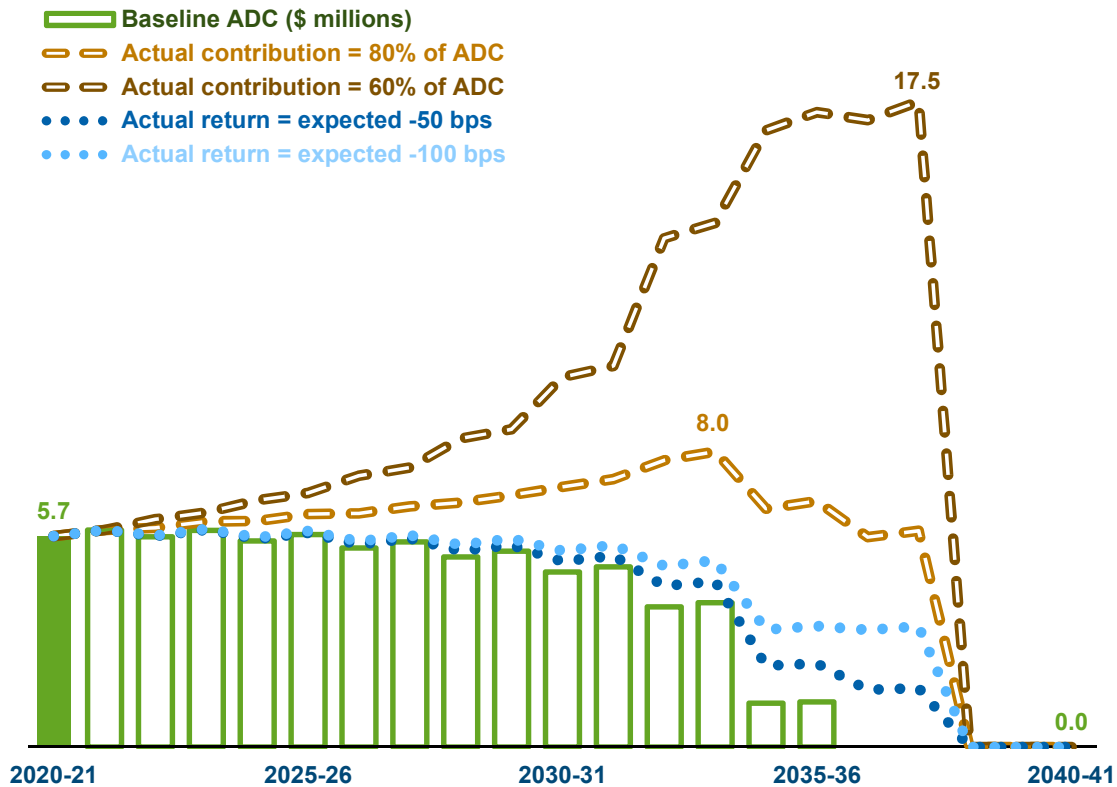
If the District pays the Actuarially Determined Contribution each year, the investments earn exactly the assumed interest rate each year, and there are no changes in the plan provisions or in the actuarial methods and assumptions, then we project the following changes in the plan's funded status and the long-range contribution levels:



To the extent that there are future investment or liability gains or losses, changes in the actuarial assumptions or methods, or plan changes, the actual valuation results will differ from these forecasts. Please see Section III C for more details of the long range forecast.

Section I - Executive Summary Long-Range Forecast (continued)

Pension benefits are paid for through a combination of contributions from the District and from employees, and from investment income. If the District pays less than the Actuarially Determined Contribution each year, or if the investments persistently earn less than the assumed interest rate, then the plan's funded status would suffer, and to compensate, the District's contribution levels would be pushed higher. The risks of underfunding and underearning are illustrated in the hypothetical scenarios below:



The scenarios illustrated above are based on deterministic projections that assume emerging plan experience always exactly matches the actuarial assumptions; in particular that actual asset returns will be constant in every year of the projection period. Variation in asset returns, contribution amounts, and many other factors may have a significant impact on the long-term financial health of the plan, the liquidity constraints on plan assets, and the District's future contribution levels. Stochastic projections could be prepared that would enable the District to understand the potential range of future results based on the expected variability in asset returns and other factors. Such analysis was beyond the scope of this engagement.

Section I - Executive Summary Summary of Principal Results

Membership as of	July 1, 2017	July 1, 2020
Active Members	33	27
Terminated Members	0	0
Members in Pay Status	<u>67</u>	<u>69</u>
Total Count	100	96
 Payroll	 \$2,549,073	 \$2,086,248
 Assets and Liabilities as of	 July 1, 2017	 July 1, 2020
Market Value of Assets	\$12,511,979	\$14,698,216
Accrued Liability for Active Members	21,095,037	25,974,356
Accrued Liability for Terminated Members	0	0
Accrued Liability for Members in Pay Status	<u>41,510,006</u>	<u>48,902,762</u>
Total Accrued Liability	62,605,043	74,877,118
 Unfunded Accrued Liability	 50,093,064	 60,178,902
 Funded Ratio	 20.0%	 19.6%
 Actuarially Determined Contribution for Fiscal Year	 2017-18	 2020-21
Normal Cost	\$587,248	\$587,816
Past Service Cost	3,734,603	4,856,243
Interest	<u>270,116</u>	<u>272,203</u>
Actuarially Determined Contribution	4,591,967	5,716,262
	 2018-19	 2021-22
Actuarially Determined Contribution	4,729,726	5,887,750
	 2019-20	
Actuarially Determined Contribution	4,871,618	

Section II - Plan Assets

A. Summary of Fund Transactions

Market Value as of July 1, 2017	\$12,511,979
District Contributions	2,420,507
Member Contributions	162,522
Net Investment Income	588,850
Benefit Payments	(2,972,559)
Administrative Expenses	(70)
 Market Value as of July 1, 2018	 12,711,229
District Contributions	3,263,275
Member Contributions	148,728
Net Investment Income	56,130
Benefit Payments	(3,038,393)
Administrative Expenses	(83,508)
 Market Value as of July 1, 2019	 13,057,461
District Contributions	3,243,245
Member Contributions	140,531
Net Investment Income	1,334,893
Benefit Payments	(3,077,914)
Administrative Expenses	0
 Market Value as of June 30, 2020	 14,698,216
Expected Return on Market Value of Assets for 2017-18	769,940
Market Value (Gain)/Loss	181,090
Approximate Rate of Return *	4.78%
 Expected Return on Market Value of Assets for 2018-19	 797,301
Market Value (Gain)/Loss	741,171
Approximate Rate of Return *	0.44%
 Expected Return on Market Value of Assets for 2019-20	 826,048
Market Value (Gain)/Loss	(508,845)
Approximate Rate of Return *	10.10%

* The rate shown here is not the dollar or time weighted investment yield rate which measures investment performance. It is an approximate net return assuming all activity occurred on average midway through the fiscal year.

Section III - Development of Contribution

A. Past Service Cost

In determining the Past Service Cost, the Unfunded Accrued Liability is amortized as a level percent over a closed 30 year period starting on July 1, 2004.

	July 1, 2020
1. Accrued Liability	
Active Members	\$25,974,356
Terminated Members	0
Service Retirees	42,667,499
Disabled Retirees	0
Beneficiaries	<u>6,235,263</u>
Total Accrued Liability	74,877,118
2. Actuarial Value of Assets (see Section IIB)	14,698,216
3. Unfunded Accrued Liability: (1) - (2)	60,178,902
4. Funded Ratio: (2) / (1)	19.6%
5. Amortization Period	14
6. Amortization Growth Rate	3.00%
7. Past Service Cost: (3) amortized over (5)	4,856,243

Section III - Development of Contribution

B. Actuarially Determined Contribution

First Fiscal Year	2017-18	2020-21
Second Fiscal Year	2018-19	2021-22
1. Total Normal Cost	\$762,226	\$723,114
2. Expected Member Contributions	174,978	135,298
3. Net Normal Cost: (1) - (2)	587,248	587,816
4. Past Service Cost (see Section IIIA)	3,734,603	4,856,243
5. Interest on (3) + (4) to the end of the fiscal year	270,116	272,203
6. Actuarially Determined Contribution for First Fiscal year (3) + (4) + (5)	4,591,967	5,716,262
7. Actuarially Determined Contribution for Second Fiscal year (6) increased by 3%	4,871,618	5,887,750

Section III - Development of Contribution C. Long Range Forecast

This forecast is based on the results of the July 1, 2020 actuarial valuation and assumes that the District will pay the Actuarially Determined Contribution each year, the assets will return the assumed interest rate on a market value basis each year, and there are no future changes in the actuarial methods or assumptions or in the plan provisions. For purposes of this forecast the amortization period declines to 1 year to illustrate the progress of the plan towards becoming fully funded; in actual practice the amortization period will not be less than 10 years in order to shield the District from contribution volatility. Actual results at each point in time will yield different values, reflecting the actual experience of the plan membership and assets.

Valuation Date	Values as of the Valuation Date				Fiscal Year	Cash Flows Projected to the Following Fiscal Year			
	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio		District Contributions	Member Contributions	Benefit Payments	Net Cash Flows
7/1/2020	\$74,877,118	\$14,698,216	\$60,178,902	19.6%	2020-21	\$5,716,262	\$135,298	(\$3,323,502)	\$2,528,058
7/1/2021	75,463,000	18,024,000	57,439,000	23.9%	2021-22	5,888,000	102,000	(3,474,000)	2,516,000
7/1/2022	75,295,000	21,504,000	53,791,000	28.6%	2022-23	5,706,000	91,000	(3,631,000)	2,166,000
7/1/2023	74,812,000	24,799,000	50,013,000	33.1%	2023-24	5,877,000	78,000	(3,756,000)	2,199,000
7/1/2024	74,071,000	28,292,000	45,779,000	38.2%	2024-25	5,592,000	57,000	(3,908,000)	1,741,000
7/1/2025	73,031,000	31,492,000	41,539,000	43.1%	2025-26	5,760,000	42,000	(4,019,000)	1,783,000
7/1/2026	71,730,000	34,893,000	36,837,000	48.6%	2026-27	5,398,000	36,000	(4,095,000)	1,339,000
7/1/2027	70,238,000	38,011,000	32,227,000	54.1%	2027-28	5,560,000	29,000	(4,134,000)	1,455,000
7/1/2028	68,616,000	41,402,000	27,214,000	60.3%	2028-29	5,155,000	22,000	(4,167,000)	1,010,000
7/1/2029	66,878,000	44,507,000	22,371,000	66.5%	2029-30	5,310,000	17,000	(4,178,000)	1,149,000
7/1/2030	65,067,000	47,910,000	17,157,000	73.6%	2030-31	4,744,000	12,000	(4,205,000)	551,000
7/1/2031	63,146,000	50,870,000	12,276,000	80.6%	2031-32	4,887,000	10,000	(4,215,000)	682,000
7/1/2032	61,142,000	54,112,000	7,030,000	88.5%	2032-33	3,798,000	7,000	(4,199,000)	(394,000)
7/1/2033	59,106,000	56,413,000	2,693,000	95.4%	2033-34	978,000	4,000	(4,181,000)	(3,199,000)
7/1/2034	57,038,000	55,955,000	1,083,000	98.1%	2034-35	0	2,000	(4,156,000)	(4,154,000)
7/1/2035	54,949,000	54,494,000	455,000	99.2%	2035-36	0	0	(4,129,000)	(4,129,000)
7/1/2036	52,842,000	52,987,000	(145,000)	100.3%	2036-37	0	0	(4,099,000)	(4,099,000)
7/1/2037	50,719,000	51,434,000	(715,000)	101.4%	2037-38	0	0	(4,058,000)	(4,058,000)
7/1/2038	48,605,000	49,847,000	(1,242,000)	102.6%	2038-39	0	0	(4,011,000)	(4,011,000)
7/1/2039	46,510,000	48,227,000	(1,717,000)	103.7%	2039-40	0	0	(3,964,000)	(3,964,000)

Section III - Development of Contribution
D. History of Funded Status

Valuation Date	Actuarial Value of Assets	Accrued Liability	Unfunded Accrued Liability	Funded Ratio
July 1, 2015	\$10,424,632	\$58,522,159	\$48,097,527	17.8%
July 1, 2017	12,511,979	62,605,043	50,093,064	20.0%
July 1, 2020	14,698,216	74,877,118	60,178,902	19.6%

Section III - Development of Contribution

E. History of District Contributions

Fiscal Year	Actuarially Determined Contribution	Actual District Contribution	Payroll	Actual Contribution as a Percent of Payroll
2013-14	\$4,425,027	\$3,051,346	\$2,942,254	103.7%
2014-15	4,579,903	3,078,180	2,942,254	104.6%
2015-16	4,336,496	3,125,098	3,045,233	102.6%
2016-17	4,467,041	3,188,936	2,864,599	111.3%
2017-18	4,591,967	2,420,507	2,549,073	95.0%
2018-19	4,729,726	3,263,275	2,549,073	128.0%
2019-20	4,871,618	3,243,245	2,549,073	127.2%
2020-21	5,716,262	TBD	2,086,248	TBD
2021-22	5,887,750	TBD	2,086,248	TBD

Section IV - Membership Data
A. Statistics of Active Membership

	As of July 1, 2017	As of July 1, 2020
Number of Active Members	33	27
Average Age	48.7	51.2
Average Service	21.7	23.3
Total Payroll	\$2,549,073	\$2,086,248
Average Payroll	77,245	77,268

Section IV - Membership Data

B. Statistics of Inactive Membership

	As of July 1, 2017	As of July 1, 2020
Terminated Vested Members		
Number	0	0
Total Annual Benefit	\$0	\$0
Average Annual Benefit	0	0
Average Age	0.0	0.0
Service Retirees		
Number	51	53
Total Annual Benefit	\$2,414,340	\$2,545,043
Average Annual Benefit	47,340	48,020
Average Age	66.3	68.1
Disabled Retirees		
Number	0	0
Total Annual Benefit	\$0	\$0
Average Annual Benefit	0	0
Average Age	0.0	0.0
Beneficiaries		
Number	16	16
Total Annual Benefit	\$617,856	\$661,570
Average Annual Benefit	38,616	41,348
Average Age	76.8	79.0

Section IV - Membership Data
C. Distribution of Inactive Members as of July 1, 2020

	Age	Number	Annual Benefits
Terminated Vested Members	< 50	0	\$0
	50 - 59	0	0
	60 - 69	0	0
	70 - 79	0	0
	80 - 89	0	0
	90 +	<u>0</u>	<u>0</u>
	Total	0	0
Service Retirees	< 50	2	\$86,945
	50 - 59	9	435,803
	60 - 69	16	800,259
	70 - 79	21	1,011,144
	80 - 89	4	174,344
	90 +	<u>1</u>	<u>36,548</u>
	Total	53	2,545,043
Disabled Retirees	< 50	0	\$0
	50 - 59	0	0
	60 - 69	0	0
	70 - 79	0	0
	80 - 89	0	0
	90 +	<u>0</u>	<u>0</u>
	Total	0	0
Beneficiaries	< 50	0	\$0
	50 - 59	0	0
	60 - 69	1	35,754
	70 - 79	8	296,957
	80 - 89	7	328,859
	90 +	<u>0</u>	<u>0</u>
	Total	16	661,570

Section V - Analysis of Risk

A. Introduction

The results of this actuarial valuation are based on one set of reasonable assumptions. However, it is almost certain that future experience will not exactly match these assumptions. As an example, the plan's investments may perform better or worse than assumed in any single year and over any longer time horizon. It is therefore important to consider the potential impacts of these likely differences when making decisions that may affect the future financial health of the plan, or of the plan's members.

In addition, as plans mature they accumulate larger pools of assets and liabilities. The increase in size in turn increases the potential magnitude of adverse experience. As an example, the dollar impact of a 10% investment loss on a plan with \$1 billion in assets and liabilities is much greater than the dollar impact for a plan with \$1 million in assets and liabilities. Since pension plans make long-term promises and rely on long-term funding, it is important to consider how mature the plan is today, and how mature it may become in the future.

Actuarial Standard of Practice No. 51 (ASOP 51) directs actuaries to provide pension plan sponsors with information concerning the risks associated with the plan:

- Identify risks that may be significant to the plan.
- Assess the risks identified as significant to the plan. The assessment does not need to include numerical calculations.
- Disclose plan maturity measures and historical information that are significant to understanding the plan's risks.

This section of the report uses the framework of ASOP 51 to communicate important information about significant risks to the plan, the plan's maturity, and relevant historical plan data.

Please see Section III C for more information on the basis for the projected results shown on the following pages.

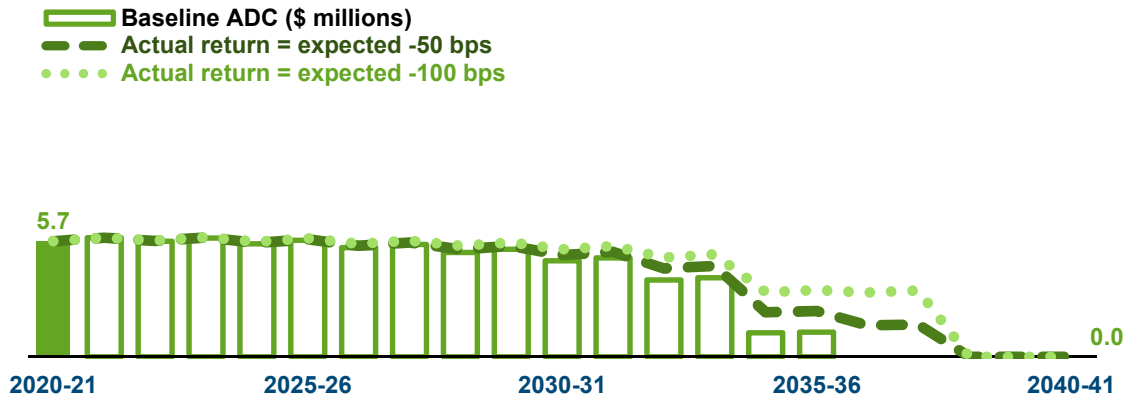
Section V - Analysis of Risk

B. Risk Identification and Assessment

Investment Risk

Definition: This is the potential that investment returns will be different than expected.

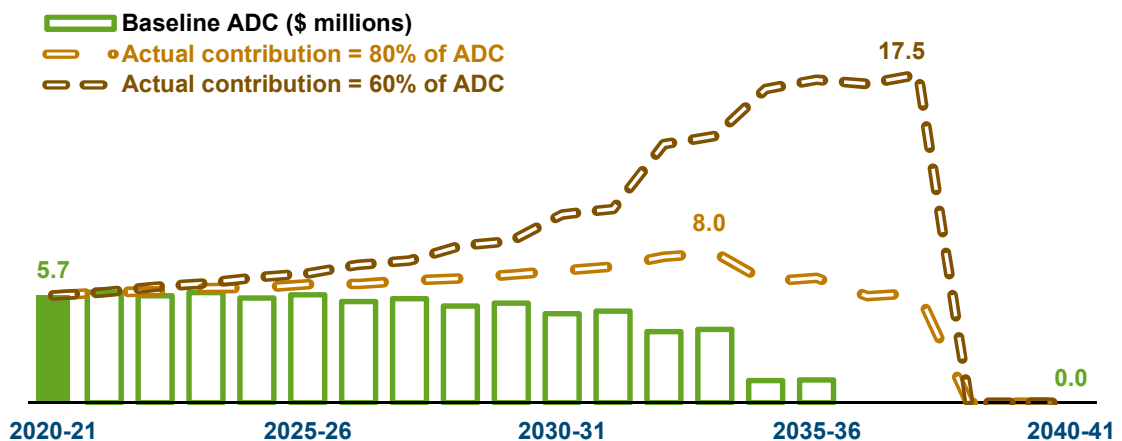
Identification: To the extent that actual investment returns differ from the assumed investment return, the plan's future assets, Actuarially Determined Contributions, and funded status may differ significantly from those presented in this valuation. The consequences of persistent underperformance on future Actuarially Determined Contribution levels are illustrated below:



Contribution Risk

Definition: This is the potential that actual future contributions will be less than the Actuarially Determined Contribution.

Identification: Over the past 6 years, actual contributions have been 66.8% of the Actuarially Determined Contribution in total. The consequences of persistent underfunding on future Actuarially Determined Contribution levels are illustrated below:



Section V - Analysis of Risk

B. Risk Identification and Assessment

Liquidity Risk

Definition: This is the potential that assets must be liquidated at a loss earlier than planned in order to pay for the plan's benefits and operating costs. This risk is heightened for plans with negative cash flows, in which contributions are not sufficient to cover benefit payments plus expenses.

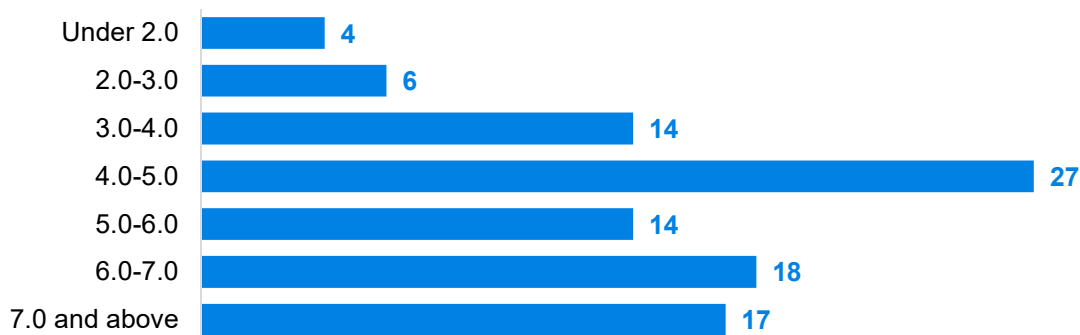
Identification: In 2019-20, the plan had positive cash flow, with district and member contributions to the plan of \$3,383,776 compared to \$3,077,914 of benefit payments and administrative expenses paid out of the plan. We suggest that you consult with your investment advisors with respect to the liquidity characteristics of the plan's investment holdings.

Maturity Risk

Definition: This is the potential for total plan liabilities to become more heavily weighted toward inactive liabilities over time, and for plan assets and/or liabilities to become larger relative to the active member liability.

Identification: The plan is subject to maturity risk because as plan assets and liabilities continue to grow, the dollar impact of any gains or losses on the assets or liabilities also becomes larger.

Assessment: As of July 1, 2020, the plan's Asset Volatility Ratio (the ratio of the market value of plan assets to payroll) is 7.0. According to Milliman's 2019 Public Pension Funding Study, the 100 largest US public pension plans have the following range of Asset Volatility Ratios:



Inflation Risk

Definition: This is the potential for a pension to lose purchasing power over time due to inflation.

Identification: The members of pension plans without fully inflation-indexed benefits are subject to the risk that their purchasing power will be reduced over time due to inflation.

Assessment: This plan provides for some postretirement benefit increases, but the increases are not directly tied to each year's rate of actual inflation; this leaves members bearing some inflation risk.

Section V - Analysis of Risk

B. Risk Identification and Assessment

Insolvency Risk

Definition: This is the potential that a plan will become insolvent; that is, assets will be fully depleted.

Identification: If a plan becomes insolvent, contractually required benefits must be paid from the plan sponsor's other remaining assets.

Assessment: Under the GASB 68 depletion date methodology, the plan is projected to become insolvent by 2056. Please see the GASB 68 report for more details on the underlying analysis.

Demographic Risks

Definition: This is the potential that mortality, turnover, retirement, or other demographic experience will be different than expected.

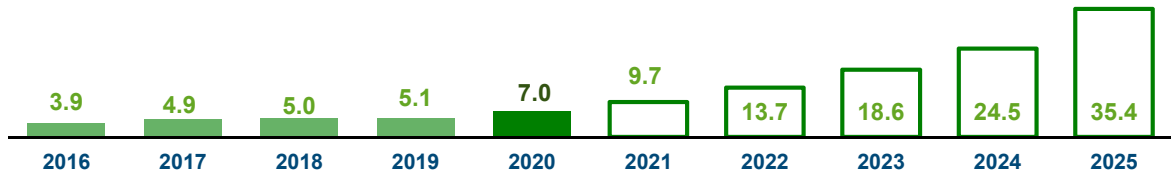
Identification: The pension liabilities reported herein have been calculated by assuming that members will follow patterns of demographic experience as described in Appendix B. If actual demographic experience or future demographic assumptions are different from what is assumed to occur in this valuation, future pension liabilities, Actuarially Determined Contributions, and funded status may differ significantly from those presented in this valuation. Formal Experience Studies performed on a regular basis are helpful in ensuring that the demographic assumptions reflect emerging plan experience.

Section V - Analysis of Risk

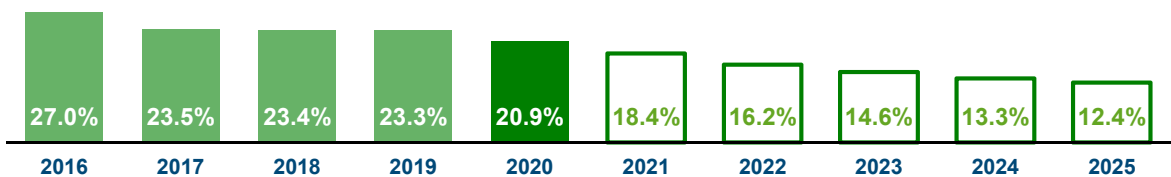
C. Maturity Measures

The metrics presented below are different ways of understanding the plan's maturity level, both in the past and as it is expected to change in the coming years.

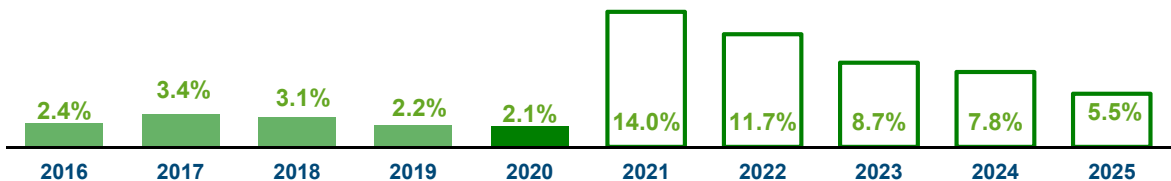
Asset Volatility Ratio: Market Value of Assets compared to Payroll



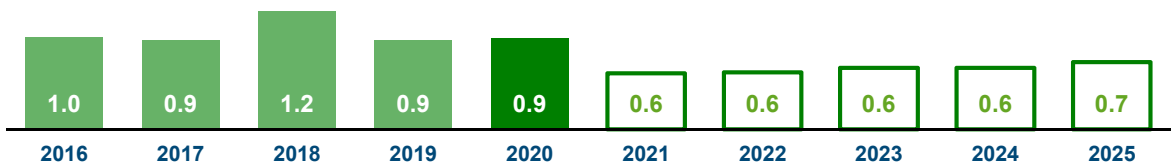
Benefit Payments compared to Market Value of Assets



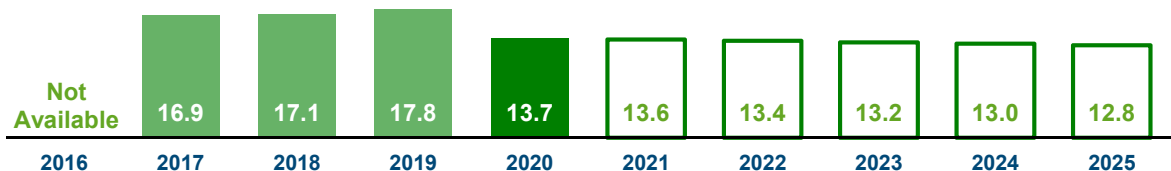
Net Cash Flows compared to Market Value of Assets



Benefit Payments compared to District Contributions



Duration of Accrued Liability (based on GASB 68 sensitivity disclosures)



Appendix A - Actuarial Funding Method

The actuarial funding method used in the valuation of this Plan is known as the Entry Age Normal Method. The Actuarially Determined Contribution consists of three pieces: Normal Cost plus a Past Service Cost payment to gradually eliminate the Unfunded Accrued Liability plus Interest to reflect the timing of the contribution relative to the valuation date.

The Normal Cost is determined by calculating the present value of future benefits for present active Members that will become payable as the result of death, disability, retirement or termination. This cost is then spread as a level percentage of earnings from entry age to termination as an Active Member. If Normal Costs had been paid at this level for all prior years, a fund would have accumulated. Because this fund represents the portion of benefits that would have been funded to date, it is termed the Accrued Liability. In fact, it is calculated by adding the present value of benefits for Retired Members and Terminated Vested Members to the present value of benefits for Active Members and subtracting the present value of future Normal Cost contributions.

The funding cost of the Plan is derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

The Unfunded Accrued Liability is the excess of the Accrued Liability over the assets which have been accumulated for the plan. This Unfunded Accrued Liability is amortized as a level percent over a closed 30 year period starting on July 1, 2004.

The Actuarial Value of Assets is equal to the Market Value of Assets.

The long-range forecasts included in this report have been developed by assuming that members will terminate, retire, become disabled, and die according to the actuarial assumptions with respect to these causes of decrement, and that pay increases, cost of living adjustments, and so forth will likewise occur according to the actuarial assumptions.

Appendix B - Actuarial Assumptions

Each of the assumptions used in this valuation was set based on industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, and our professional judgment regarding future plan experience. We believe the assumptions are reasonable for the contingencies they are measuring, and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Interest Rate	5.00% (prior: 6.25%)
Amortization Growth Rate	3.00% per year
Salary Growth Rate	1.00% for year starting July 1, 2020; 2.50% thereafter. This assumption reflects expected increases as outlined in the current collective bargaining agreement.
Cost of Living Increases	1.00% for year starting July 1, 2020; 2.00% thereafter. This assumption reflects expected increases as outlined in the current collective bargaining agreement.
Healthy Mortality	<p>Current: PubS-2010 Mortality Table with generational projection per the MP-2014 ultimate scale, with employee rates before benefit commencement and healthy annuitant rates after benefit commencement. This assumption includes a margin for mortality improvement beyond the valuation date.</p> <p>Prior: Pre-retirement: RP-2014 Blue Collar Tables (adjusted back to 2006) and generationally projection per Scale MP-2016. Post-retirement: RP-2014 Healthy Annuitant Tables (adjusted back to 2006) and generationally projection per Scale MP-2016.</p>
Disabled Mortality	<p>Current: PubS-2010 Disabled Annuitant Mortality Table with generational projection per the MP-2014 ultimate scale. This assumption includes a margin for mortality improvement beyond the valuation date.</p> <p>Prior: PBGC Sex-Specific Disabled Tables.</p>
Survivor Benefits	100% of participants are assumed to be married with wives 3 years younger than husbands
Turnover	None

Appendix B - Actuarial Assumptions

Retirement

Rates that vary by years of service as follows:

Service	Rate
20	45%
21	15%
22	10%
23 - 27	5%
28 +	25%

100% of participants are assumed to be retired by age 65, regardless of length of service.

Disability

Rates that vary by age as follows:

Age	Service Connected Rate	Non-Service Connected Rate
30	0.12%	0.09%
40	0.36%	0.27%
50	0.98%	0.73%
60	2.40%	1.80%

Expenses

None

Appendix C - Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Plan Year	July 1 to June 30
Eligibility	The plan is closed to members.
Fund 1	Provides benefits to employees hired prior to July 1, 1986. Such employees contribute 7.0% of pay. The District contributes any additional funds needed to pay the benefits for retirees. There are no accumulated assets to invest.
Fund 2	Provides additional benefit security for employees hired prior to July 1, 1986. Such employees contribute 0.5% of pay, which is matched by the District.
Fund 3	Provides benefits to employees hired after July 1, 1986. Such employees contribute 8.5% of pay. The District contributes 10.0% of pay.
Salary Base	Annual base salary received by employee preceding retirement.
Normal Pension	Eligibility: 20 years of service Benefit: 50% of salary base plus 3% of salary base at 25 years of service plus 3% of salary base for each year over 20 years; maximum benefit 77% of salary base
Disability Pension	Eligibility: 10 years of service; permanent physical or mental disability rendering employee unable to perform further fire duties Benefit: 50% of salary base plus plus 3% of salary base at 20 years of service plus 3% of salary base for each year over 20 years Eligibility: less than 10 years of service; non-service connected disability Benefit: 25% of salary base

Appendix C - Summary of Plan Provisions

Vesting	<p>Eligibility: less than 2 years</p> <p>Benefit: refund of employee contributions without interest</p> <p>Eligibility: 10 years</p> <p>Benefit: 2% of salary base for each year of service; maximum benefit 77% of salary base; benefit payable when employee would have reached 20 years of service</p>
Preretirement Death	<p>Eligibility: immediate</p> <p>50% of salary base plus 3% of salary base at 25 years of service plus 3% of salary base for each year over 20 years; maximum benefit 77% of salary base; if there is no spouse or if the spouse dies, the benefit shall be paid to any minor children</p>
Employee Contributions	<p>If hired before July 1, 1986: 7.0% of salary base to Fund 1 and 0.5% of salary base to Fund 2</p> <p>If hired after July 1, 1986: 8.5% of salary base to Fund 3</p> <p>No contributions are made once an employee reaches the maximum 77% benefit, except to reflect wage increases</p>
Cost of Living Increases	<p>50% of the dollar amount of any negotiated pay increase for active duty personnel at the rank which the employee had attained at retirement</p>
Normal Form of Benefit	<p>100% Joint & Survivor Annuity</p>

Appendix D - Glossary

Actuarial Cost Method - This is a procedure for determining the Actuarial Present Value of Benefits and allocating it to time periods to produce the Actuarial Accrued Liability and the Normal Cost.

Accrued Liability - This is the portion of the Actuarial Present Value of Benefits attributable to periods prior to the valuation date by the Actuarial Cost Method (i.e., that portion not provided by future Normal Costs).

Actuarial Assumptions - With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the plan will vary as well. Some examples of key assumptions include the interest rate, salary scale, and rates of mortality, turnover and retirement.

Actuarial Present Value of Benefits - This is the present value, as of the valuation date, of future payments for benefits and expenses under the Plan, where each payment is: a) multiplied by the probability of the event occurring on which the payment is conditioned, such as the probability of survival, death, disability, termination of employment, etc.; and b) discounted at the assumed interest rate.

Actuarial Value of Assets - This is the value of cash, investments and other property belonging to the plan, typically adjusted to recognize investment gains or losses over a period of years to dampen the impact of market volatility on the Actuarially Determined Contribution.

Actuarially Determined Contribution (“ADC”) - This is the employer’s periodic contributions to a defined benefit plan, calculated in accordance with actuarial standards of practice.

Attribution Period - The period of an employee’s service to which the expected benefit obligation for that employee is assigned. The beginning of the attribution period is the employee’s date of hire and costs are spread across all employment.

Interest Rate - This is the long-term expected rate of return on any investments set aside to pay for the benefits. In a financial reporting context (e.g., GASB 68) this is termed the Discount Rate.

Normal Cost - This is the portion of the Actuarial Present Value of Benefits allocated to a valuation year by the Actuarial Cost Method.

Past Service Cost - This is a catch-up payment to fund the Unfunded Accrued Liability over time (generally 10 to 30 years). A closed amortization period is a specific number of years counted from one date and reducing to zero with the passage of time; an open amortization period is one that begins again or is recalculated at each valuation date. Also known as the Amortization Payment.

Return on Plan Assets - This is the actual investment return on plan assets during the fiscal year.

Unfunded Accrued Liability - This is the excess of the Accrued Liability over the Actuarial Value of Assets.



WEST HAVEN FIRST FIRE DISTRICT OTHER POST-EMPLOYMENT BENEFITS PROGRAM

July 1, 2020 Actuarial Valuation

Prepared by

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Table of Contents

Certification	1
Discussion of Experience	3
The Valuation Process	4
Implicit Rate Subsidies	5
Market Value of Assets	6
Accrued Liability	7
Actuarially Determined Contribution	8
Projected Payouts	9
Summary of Census Data	10
Current Premiums	11
Expected Healthcare Costs	12
Glossary	13
Actuarial Method	14
Actuarial Assumptions	15
Summary of Plan Provisions	18

Certification

We have performed an actuarial valuation of the West Haven First Fire District Other Post-Employment Benefits Program as of July 1, 2020. The results of this valuation, along with supporting data, are set forth in the following report. These valuation results will form the basis for GASB 75 reporting for fiscal years ending June 30, 2020 and June 30, 2021.

The ultimate cost of an Other Post-Employment Benefits (OPEB) plan is the total amount needed to provide benefits for plan members and beneficiaries and to pay the expenses of administering the plan. OPEB costs are met by contributions and by investment return on plan assets. The principal purpose of this report is to set forth an actuarial recommendation of the contribution, or range of contributions, which will properly fund the plan, in accordance with applicable actuarial standards of practice. In addition, this report provides:

- A valuation of plan assets and liabilities to review the year-to-year progress of funding.
- Review of plan experience since the last valuation to ascertain whether the assumptions and methods employed for valuation purposes are reflective of actual events and remain appropriate for prospective application.
- Assessment of the relative funded position of the plan, i.e., through a comparison of plan assets and projected plan liabilities.
- Comments on any other matters which may be of assistance in the operation of the plan.

This report may not be used for purposes other than those listed above without Milliman's prior written consent. If this report is distributed to other parties, it must be copied in its entirety, including this certification section. No attempt is being made to offer any accounting opinion or advice. The calculations reported herein have been made on a basis consistent with our understanding of the plan provisions. Additional determinations may be needed for other purposes. Information needed to assist in meeting financial reporting requirements will be contained in separately issued reports at the close of each fiscal year.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law or accounting standards. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

In preparing this report, we relied on employee census data, claims and premium information as of the valuation date, furnished by the District. We performed a limited review of the information used directly in our analysis for reasonableness and consistency and have found them to be reasonably consistent and comparable with data used for other purposes. If the information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete and our calculations may need to be revised. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Certification

In our opinion, each assumption used is individually reasonable (taking into account the experience of the plan and reasonable expectations) and, in combination, offer our best estimate of anticipated experience under the plan. On the basis of the foregoing, we hereby certify that to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries.

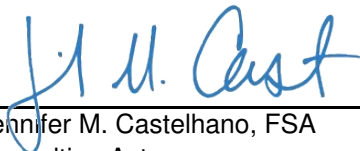
The valuation results were developed using models employing standard actuarial techniques. In addition to the models described previously, Milliman has developed certain models to estimate the claim costs and trend used in this analysis. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP). The models, including all input, calculations, and output may not be appropriate for any other purpose.

Milliman's work is prepared solely for the internal business use of the District. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third-party recipient of its work product. Milliman's consent to release its work product to any third-party may be conditioned on the third-party signing a Release, subject to the following exception(s): (a) The District may provide a copy of Milliman's work, in its entirety, to the District's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the District; and (b) The District may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third-party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Jennifer M. Castelhana, FSA
Consulting Actuary

Discussion of Experience

This valuation reflects a number of changes relative to the July 1, 2017 valuation:

Demographic Changes and Plan Experience

From July 1, 2017 to July 1, 2020, the overall membership increased from 149 to 154. The number of active members increased from 51 to 52, and the number of inactive members increased from 98 to 102.

The average age of active members increased from 45.3 to 45.6, and the average age of retired members increased from 65.2 to 70.6.

We updated expected claims costs based on our analysis of the claims experience and premium information that was provided to us for this valuation.

Assumption Changes

We updated the mortality assumption to the PubS-2010 table and generational projection per the Ultimate MP-2019 Scale. Additionally, we updated the healthcare cost trend rates to an initial rate of 5.90% scaling down to 4.00% over 54 years for medical benefits prior to age 65 and to an initial rate of 2.90% scaling down to 4.10% over 54 years for medical benefits after age 65. We are also no longer valuing the future implementation of the excise tax on medical benefits, as it has been officially repealed as of December 20, 2019.

Given the substantial uncertainty regarding the impact of COVID-19 on plan costs, including whether the pandemic will increase or decrease costs during the term of our projections, we have chosen not to make an adjustment in the expected plan costs. It is possible that the COVID-19 pandemic could have a material impact on the projected costs.

Lastly, we decreased the interest rate assumption from 3.87% to 2.21% since this is the discount rate that will be used to measure the Total OPEB Liability as of June 30, 2020 for purposes of GASB 75. The combined impact of these changes was an increase in the accrued liability.

Other Significant Changes

It is our understanding that an OPEB trust was established during FY 2019-20. Therefore, this valuation develops an Actuarially Determined Contribution to assist the District in funding its OPEB liability.

The Valuation Process

The process of determining the liability for OPEB benefits is based on many assumptions about future events. The key actuarial assumptions are:

Turnover and retirement rates: How likely is it that an employee will qualify for post-employment benefits and when will they start?

Medical growth and claims costs assumptions: When an employee starts receiving post-employment benefits many years from now, how much will be paid each year for the benefits and how rapidly will the costs grow?

Mortality assumption: How long is a retiree likely to receive the benefits?

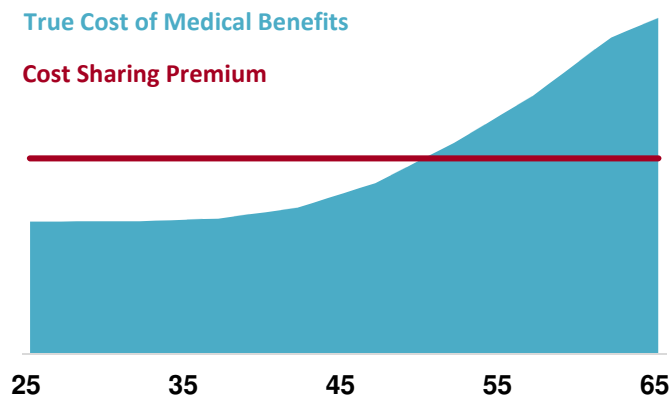
Discount rate assumption: What is the present value of those future benefit payments in terms of today's dollars?

Since the liability is being recognized over the employee's whole career with the District, the present value is divided into three pieces: the part that is attributed to past years (the "Accrued Liability" or "Past Service Liability"), the part that is being earned this year (the "Normal Cost"), and the part that will be earned in future years (the "Future Service Liability").

Implicit Rate Subsidies

In many cases, the cost sharing premium is lower than the true cost of providing the medical benefits, for two reasons:

- The cost sharing premium is usually a fixed amount such as a COBRA premium that does not take into account the age of the retiree and his/her dependents. Since medical costs generally increase with age, the cost sharing premium is often lower than the true cost of the medical benefits:



- The cost sharing premium is usually a blended rate that takes into account the cost of medical benefits for active employees as well as retirees. Medical costs are generally higher for retirees than for active employees of the same age. This means that, again, the cost sharing premium is often lower than the true cost of the medical benefits.

Because of these two factors, a retiree who is paying 100% of the cost sharing premium is most likely not paying 100% of the true cost of the medical benefits. This situation is known as an "implicit rate subsidy." GASB 74 and 75 require the plan sponsor to measure the liability for this subsidy; that is, the difference between the true cost of the medical benefits and the cost sharing premiums paid by the retiree. To do this, our valuation consists of several steps:

First, we calculate the liability for the true cost of medical benefits expected to be received by retirees and their dependents. This liability is based on factors developed by Milliman's health actuaries that reflect how the cost of medical benefits varies by age and gender, as well as the other assumptions discussed in Appendix B. We term this amount the "gross liability."

Next, we calculate the liability for the future premiums expected to be paid by the retiree for their own and their dependents' coverage. This liability is based on the current premium rates without adjustment for age or gender. It also is based on the terms of the Other Post-Employment Benefits Plan – different retirees pay different percentages based on their union, date of retirement, age at retirement, and other factors. We term this amount the "offset liability."

Finally, the net liability for the District is calculated as the difference between the gross liability and the offset liability.

Market Value of Assets

Market Value as of July 1, 2019	\$0
Employer Contributions	150,000
Employee Contributions	0
Transfers In	0
Investment Income	12
Benefit Payments	0
Investment Expense	0
Administrative Expense	0
Market Value as of July 1, 2020	150,012
Approximate Rate of Return FYE 2020	0.01%

Note: The rate shown here is not the dollar or time weighted investment yield rate which measures investment performance. It is an approximate net return assuming all activity occurred on average midway through the fiscal year.

Accrued Liability

We have broken the accrued liability into several pieces: benefits that are expected to be paid prior to age 65 (i.e., prior to Medicare) and after age 65 (i.e., after Medicare) to current active members and their covered dependents after retirement, and the same figures for members who have already retired and are currently receiving benefits. In all cases, the Accrued Liability only reflects benefits that are paid for by the District, taking into account any implicit rate subsidies.

Current active members

Employees under age 65	\$7,005,208
Employees over age 65	4,928,240
Dependents under age 65	6,761,129
Dependents over age 65	<u>4,081,800</u>
Total	22,776,377

Current retired members

Employees under age 65	4,628,848
Employees over age 65	5,449,749
Dependents under age 65	6,667,323
Dependents over age 65	<u>6,325,220</u>
Total	23,071,140

Total Accrued Liability	45,847,517
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Accrued Liability Sensitivity

	1% Decrease	Baseline	1% Increase
Discount Rate	53,563,835	45,847,517	39,796,662
Trend Rate	38,892,300	45,847,517	54,817,650

Actuarially Determined Contribution

The Actuarially Determined Contribution (ADC) for the OPEB program consists of three pieces: a **Normal Cost** (the cost of benefits earned each year should be accrued in that year) plus a **Past Service Cost** (a catch-up accrual to amortize the Unfunded Accrued Liability) plus **Interest** to reflect the time lag between the valuation date and the fiscal year.

The initial amortization period is 20 years. The amortization method produces annual payments that will increase by 3.00% annually. On this basis, the ADC is determined as follows:

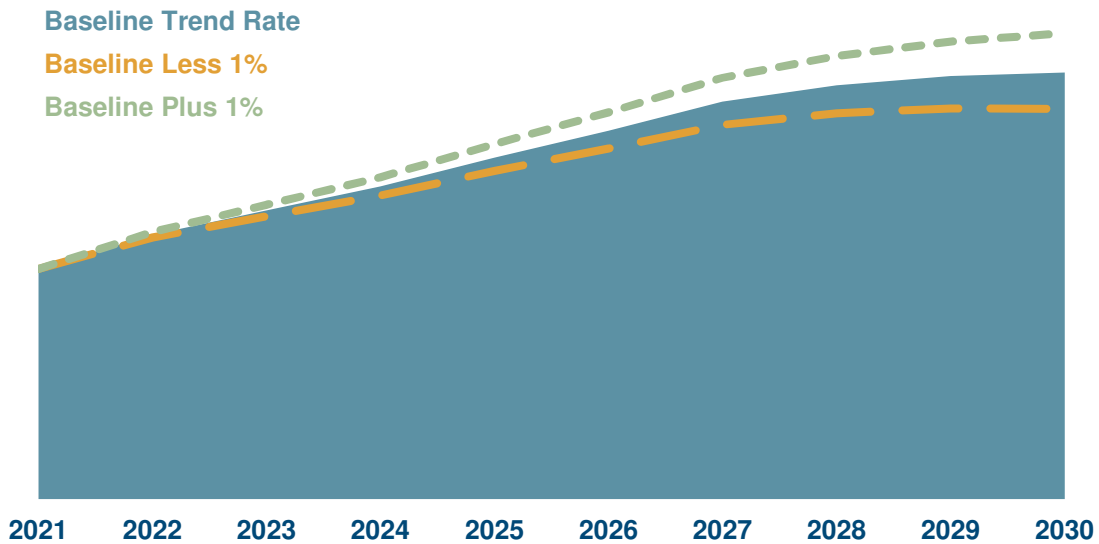
Accrued Liability	45,847,517
Assets	150,012
Unfunded Accrued Liability	45,697,505
Amortization Period	20
Amortization Growth Rate	3.00%
Past Service Cost	2,121,622
Normal Cost	2,774,363
Interest	108,201
ADC for FY 2021	5,004,186
Expected Benefit Payouts for FY 2021	1,336,564
Net Budget Impact for FY 2021	3,667,622
Additional Year of Interest	110,593
ADC for FY 2022	5,114,779
Expected Benefit Payouts for FY 2022	1,535,052
Net Budget Impact for FY 2022	3,579,727

The ADC is assumed to be paid at the end of the Fiscal Year.

Projected Payouts

The table and graph below show the expected annual payments for OPEB benefits for the next 10 years, based on a closed group projection.

Fiscal Year Ending	Baseline Less 1%	Baseline Trend Rate	Baseline Plus 1%
2021	\$1,336,564	\$1,336,564	\$1,336,564
2022	1,520,103	1,535,052	1,550,001
2023	1,642,767	1,675,368	1,708,281
2024	1,762,307	1,815,150	1,869,008
2025	1,905,702	1,982,413	2,061,349
2026	2,035,861	2,138,914	2,245,973
2027	2,173,568	2,306,443	2,445,808
2028	2,240,853	2,401,841	2,572,314
2029	2,268,924	2,456,159	2,656,330
2030	2,266,203	2,477,352	2,705,260



Summary of Census Data

The following were included in our analysis based on information provided as of July 1, 2020 by the District.

Number of members

Active	52
Retirees	51
Spouses of retirees	38
Beneficiaries	13
Total	154

Average age

Active	45.6
Inactive members	70.6

Average Service

Active	15.8
--------	------

Covered Payroll

N/A

Where complete census data was not available, we have made assumptions which we believe to be reasonable.

Current Premiums

The annual premiums are shown below.

	Employee	Spouse	Effective Date
Pre-65 Medical Plan			
Future Retirees	\$15,518.16	\$15,518.28	7/1/2020
Current Retirees	17,073.12	17,073.00	7/1/2020
Post-65 Medical Plan			
Current and Future Retirees	2,376.12	2,376.12	7/1/2020
Dental Plan			
Current and Future Retirees	470.40	710.04	7/1/2020

Expected Healthcare Costs

Milliman's Health Cost Guidelines were used to develop the expected true cost of healthcare benefits by age and gender, separately for employees and spouses. Representative healthcare cost factors are shown in the table below. These factors were then applied to the plan's healthcare rates for the year beginning July 1, 2020 to arrive at the expected annual per capita claims costs for a 65-year-old, which are also shown below.

Medical

Age	Employee		Spouse	
	Male	Female	Male	Female
45	0.57538	0.93905	0.53216	0.67392
50	0.62998	0.87430	0.60740	0.74428
55	0.68520	0.82287	0.68606	0.81603
60	0.78424	0.87875	0.79950	0.89285
65	1.00000	1.00000	1.00000	1.00000
70	1.03439	1.04517	1.03439	1.04517
75	1.09811	1.08583	1.09811	1.08583
80	1.16964	1.13079	1.16964	1.13079
85	1.25105	1.20820	1.25105	1.20820
90	1.32978	1.28853	1.32978	1.28853

Age 65 per capita claims cost

Pre-65 - Future Retirees	\$33,805.64	\$30,096.03	\$30,331.16	\$28,157.09
Pre-65 - Current Retirees	37,212.00	33,128.60	33,387.42	30,994.28
Post-65	2,188.33	2,169.67	2,188.33	2,169.67

Dental

Age	Employee		Spouse	
	Male	Female	Male	Female
45	0.63678	0.74956	0.68750	0.78528
50	0.69790	0.80744	0.74015	0.83498
55	0.79512	0.88342	0.82394	0.90014
60	0.90267	0.95676	0.91633	0.96299
65	1.00000	1.00000	1.00000	1.00000
70	1.07940	1.02059	1.06784	1.01762
75	1.07940	1.02059	1.06784	1.01762
80	1.07940	1.02059	1.06784	1.01762
85	1.07940	1.02059	1.06784	1.01762
90	1.07940	1.02059	1.06784	1.01762

Age 65 per capita claims cost

Dental	\$632.70	\$617.69	\$734.80	\$720.33
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Glossary

Actuarial Cost Method - This is a procedure for determining the Actuarial Present Value of Benefits and allocating it to time periods to produce the Actuarial Accrued Liability and the Normal Cost. The statement assumes a closed group of employees and other participants unless otherwise stated; that is, no new entrants are assumed. Entry Age Normal is required under GASB 75.

Accrued Liability - This is the portion of the Actuarial Present Value of Benefits attributable to periods prior to the valuation date by the Actuarial Cost Method (i.e., that portion not provided by future Normal Costs).

Actuarial Assumptions - With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the plan will vary as well. Some examples of key assumptions include the discount rate, medical cost inflation, and rates of mortality, turnover and retirement.

Actuarial Present Value of Benefits - This is the value, as of the applicable date, of future payments for benefits and expenses under the Plan, where each payment is: a) Multiplied by the probability of the event occurring on which the payment is conditioned, such as the probability of survival, death, disability, termination of employment, etc.; and b) Discounted at the assumed discount rate.

Actuarially Determined Contribution (“ADC”) - This is the employer’s periodic contributions to an OPEB plan, calculated in accordance with actuarial standards of practice.

Attribution Period - The period of an employee’s service to which the expected postretirement benefit obligation for that employee is assigned. The beginning of the attribution period is the employee’s date of hire and costs are spread across all employment.

Discount Rate - GASB 75 requires that the interest rate used to discount future benefit payments back to the present day be based on a municipal bond index at the measurement date.

Normal Cost - This is the portion of the Actuarial Present Value of Benefits allocated to a valuation year by the Actuarial Cost Method.

Other Post-Employment Benefits (“OPEB”) - This refers to post-employment benefits other than pension benefits, including healthcare benefits regardless of the type of plan that provides them, and all other post-employment benefits provided separately from a pension plan, excluding benefits defined as termination benefits or offers.

Past Service Cost - This is a catch-up payment to fund the Unfunded Accrued Liability over time (generally 10 to 30 years). A closed amortization period is a specific number of years counted from one date and reducing to zero with the passage of time; an open amortization period is one that begins again or is recalculated at each valuation date. Also known as the Amortization Payment.

Substantive Plan - The terms of the postretirement benefit plan as understood by an employer that provides postretirement benefits and the employees who render services in exchange for those benefits. The substantive plan is the basis for the accounting for the plan.

Trend Rate - This is the rate at which medical or dental costs are assumed to increase over time.

Unfunded Accrued Liability - This is the excess of the Accrued Liability over the Actuarial Value of Assets.

Actuarial Method

The actuarial funding method used is the **Entry Age Normal Cost Method**.

The **Normal Cost** is determined by calculating the present value of future benefits for present Active Members. This cost is then spread as a level percentage of earnings from entry age to termination as an Active Member. If Normal Costs had been paid at this level for all prior years, a fund would have accumulated. Because this fund represents the portion of benefits that would have been funded to date, it is termed the **Accrued Liability**. In fact, it is calculated by adding the present value of benefits for Retired Members and Terminated Vested Members to the present value of benefits for Active Members and subtracting the present value of future Normal Cost contributions.

The **Normal Cost** and **Accrued Liability** are derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

The funding cost of the Plan is derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

The Unfunded Accrued Liability is the excess of the Accrued Liability over the assets which have been accumulated for the Plan. This Unfunded Accrued Liability is amortized as a level percent over a closed 20 year period.

Actuarial Assumptions

Each of the assumptions used in this valuation was set based on industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, and our professional judgement regarding future plan experience. We believe the assumptions are reasonable for the contingencies they are measuring, and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Discount Rate	2.21% (based on the Bond Buyer General Obligation 20-Bond Municipal Index as of June 30, 2020).
Inflation Rate	2.50%
Salary Scale	3.50%
Medical Trend	Pre-65: 5.90% - 4.00% over 54 years (Prior: 13.00% - 4.5% over 6 years) Post-65: 2.90% - 4.00% over 54 years (Prior: 5.00% - 4.5% over 1 year)
Dental Trend	4.00% (Prior: -7.50% - 3.0% over 1 year)
Medicare Part B Trend	3.00%
Future Coverage	100% of future eligible retirees are assumed to elect coverage at retirement. Also, 100% of eligible spouses are assumed to elect coverage at retirement and 100% of spouses are assumed to continue medical coverage after the death of the retiree (and be eligible for Medicare Part B reimbursement). 100% of future retirees and spouses are assumed to continue coverage past age 65.
Percent Married	70% of future retirees are assumed to be married, with male spouses assumed to be 3 years older than female spouses. For current retirees, actual census information was used.
Healthy Mortality	Pub-2010 Public Safety Mortality Table with generational projection per the MP-2019 ultimate scale, with employee rates before commencement and healthy annuitant rates after benefit commencement; this assumption includes a margin for mortality improvement beyond the valuation date. (Prior for Participants Hired Prior to July 1, 2008: RP-2014 Headcount Weighted annuitant and non-annuitant Blue Collar tables (adjusted back to 2006), projected generationally with Scale MP-2017; this assumption includes a margin for mortality improvement beyond the valuation date. Prior for Participants Hired On or After July 1, 2008: RP-2000 combined Healthy Mortality Tables, set forward five years for males and set forward one year for females; this assumption does not include a margin for mortality improvement beyond the valuation date.)

Actuarial Assumptions

Disabled Mortality Pub-2010 Public Safety Mortality Table for disabled retirees with generational projection per the MP-2019 ultimate scale, with employee rates before commencement and healthy annuitant rates after benefit commencement; this assumption includes a margin for mortality improvement beyond the valuation date.

(Prior for Participants Hired Prior to July 1, 2008: PBGC Sex-Specific Disabled Tables; this assumption does not include a margin for mortality improvement beyond the valuation date.

Prior for Participants Hired On or After July 1, 2008: RP-2000 combined Healthy Mortality Tables, set forward five years for males and set forward one year for females; this assumption does not include a margin for mortality improvement beyond the valuation date.)

Termination Rates None

Retirement Rates for Members Hired Prior to July 1, 2008 Rates that vary by years of service as follows:

Service	Rate
20	0.45
21	0.15
22	0.10
23-27	0.05
28+	0.25

Retirement Rates for Members On or After July 1, 2008 15% at age 55 with 10 years of service; 40% at any age with 25 years of service. At all other ages:

Age	Rate
45-49	0.25
50	0.20
51	0.16
52	0.14
53-58	0.12
59	0.16
60-62	0.20
63-64	0.25
65+	1.00

Actuarial Assumptions

**Disability Rates for
Members Hired Prior
to July 1, 2008**

Sample rates that vary by age as follows:

	Service Connected Rate	Non-Service Connected Rate
Age		
30	0.0012	0.0009
40	0.0036	0.0027
50	0.0098	0.0073
60	0.0240	0.0180

**Disability Rates for
Members Hired On or
After July 1, 2008**

Sample rates that vary by age as follows:

Age	Rate
20	0.0011
30	0.0015
40	0.0032
50	0.0111
60	0.0688

All disabilities are assumed to be service connected for members hired on or after July 1, 2008.

Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Eligibility for Members Hired Before July 1, 2008 Completion of 20 years of service.

Eligibility for Members Hired On or After July 1, 2008 Age 55 and 5 years of continuous service, 15 years of active aggregate service, or 25 years of aggregate service.

Mandatory Retirement Age 65.

Cost-Sharing **Pre-65:** Retiree and spouse pay current premium rate (currently 15% subject to a maximum annual cap of \$3,500) at the time of retirement, with no future rate increase.

Post-65: 100% paid for by District.

Disability Permanent physical or mental disability rendering employee unable to perform further fire duties. Same benefits and cost-sharing provisions as above are applicable. No minimum age or service requirements.

Non-service connected disabilities are eligible for the same benefits and cost-sharing provisions as above. Eligibility is less than 10 years of service.



RETIREMENT PLAN FOR EMPLOYEES OF WEST SHORE FIRE DISTRICT

Actuarial Valuation as of July 1, 2019

Prepared by

Jennifer M. Castelhana, FSA
Consulting Actuary

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Table of Contents

	Page
CERTIFICATION	1
I SUMMARY OF PRINCIPAL RESULTS	3
II PLAN ASSETS	
A. Summary of Fund Transactions	4
III FUNDED STATUS	5
IV CASH FLOW ANALYSIS	
A. Introduction	6
B. Level Contribution Scenario	7
C. Phase-In to Level Contribution Scenario	8
D. Graphical Results	9
V MEMBERSHIP DATA	
A. Reconciliation of Membership from Prior Valuation	10
B. Statistics of Membership	11
C. Distribution of Active Members	12
VI ANALYSIS OF RISK	
A. Introduction	13
B. Risk Identification and Assessment	14
APPENDICES	
A. Actuarial Funding Method	16
B. Actuarial Assumptions	17
C. Summary of Plan Provisions	18

Certification

We have performed an actuarial valuation of the Plan as of July 1, 2019. This report presents the results of our valuation.

The ultimate cost of a pension plan is the total amount needed to provide benefits for plan members and beneficiaries and to pay the expenses of administering the plan. Pension costs are met by contributions and by investment return on plan assets. The principal purpose of this report is to set forth an actuarial recommendation of the contribution, or range of contributions, which will properly fund the plan, in accordance with the District's funding goals. In addition, this report provides:

- Information needed to meet disclosure requirements.
- Review of plan experience for the previous year to ascertain whether the assumptions and methods employed for valuation purposes are reflective of actual events and remain appropriate for prospective application.
- Assessment of the relative funded position of the plan, i.e., through a comparison of plan assets and projected plan liabilities.
- Comments on any other matters which may be of assistance in the funding and operation of the plan.

This report is **not** intended to develop an actuarially determined contribution amount which would prefund plan benefits according to actuarial funding methods.

This report may not be used for purposes other than those listed above without Milliman's prior written consent. If this report is distributed to other parties, it must be copied in its entirety, including this certification section. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the Fire District may provide a copy of Milliman's work, in its entirety, to the Fire District's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Fire District; and (b) the Fire District may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law. No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

In preparing this report, we relied on employee census data and financial information as of the valuation date, furnished by the Fire District. We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have found them to be reasonably consistent and comparable with data used for other purposes. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete and our calculations may need to be revised. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.


Certification

The calculations reported herein have been made on a basis consistent with our understanding of ERISA and the related sections of the tax code. Additional determinations may be needed for purposes other than meeting funding requirements, such as judging benefit security at plan termination or meeting employer accounting requirements. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices.

We further certify that, in our opinion, each actuarial assumption, method and technique used is reasonable taking into account the experience of the Plan and reasonable expectations. Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurement.

The consultant who worked on this assignment is a pension actuary. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Jennifer M. Castelhana, FSA
Consulting Actuary

Section I Summary of Principal Results

Membership as of	July 1, 2017	July 1, 2019
Active Members	8	6
Terminated Members	0	0
Members in Pay Status	<u>47</u>	<u>49</u>
Total Count	55	55
Payroll	\$712,434	\$596,289
Assets and Liabilities as of	July 1, 2017	July 1, 2019
Market Value of Assets	\$7,856,327	\$8,564,590
Interest Rate Assumption	3.58%	3.50%
Accrued Liability for Active Members	\$11,007,448	\$8,831,298
Accrued Liability for Members in Pay Status	<u>55,092,816</u>	<u>59,872,466</u>
Total Accrued Liability	66,100,264	68,703,764
Unfunded Accrued Liability	58,243,937	60,139,174
Funded Ratio	11.9%	12.5%

Section II Summary of Fund Transactions

Market Value as of July 1, 2017	\$7,856,327
Fire District Contributions	2,640,000
Member Contributions	59,671
Net Investment Income	608,641
Benefit Payments	(2,767,624)
Administrative Expenses	(73,065)
 Market Value as of July 1, 2018	 8,323,950
Fire District Contributions	2,910,000
Member Contributions	52,149
Net Investment Income	462,226
Benefit Payments	(3,112,183)
Administrative Expenses	(71,552)
 Market Value as of June 30, 2019	 8,564,590
Approximate Rate of Return for 2017-18 *	7.82%
Approximate Rate of Return for 2018-19 *	4.70%

* The rate shown here is not the dollar or time weighted investment yield rate which measures investment performance. It is an approximate net return assuming all activity occurred on average midway through the fiscal year.

Section III Funded Status

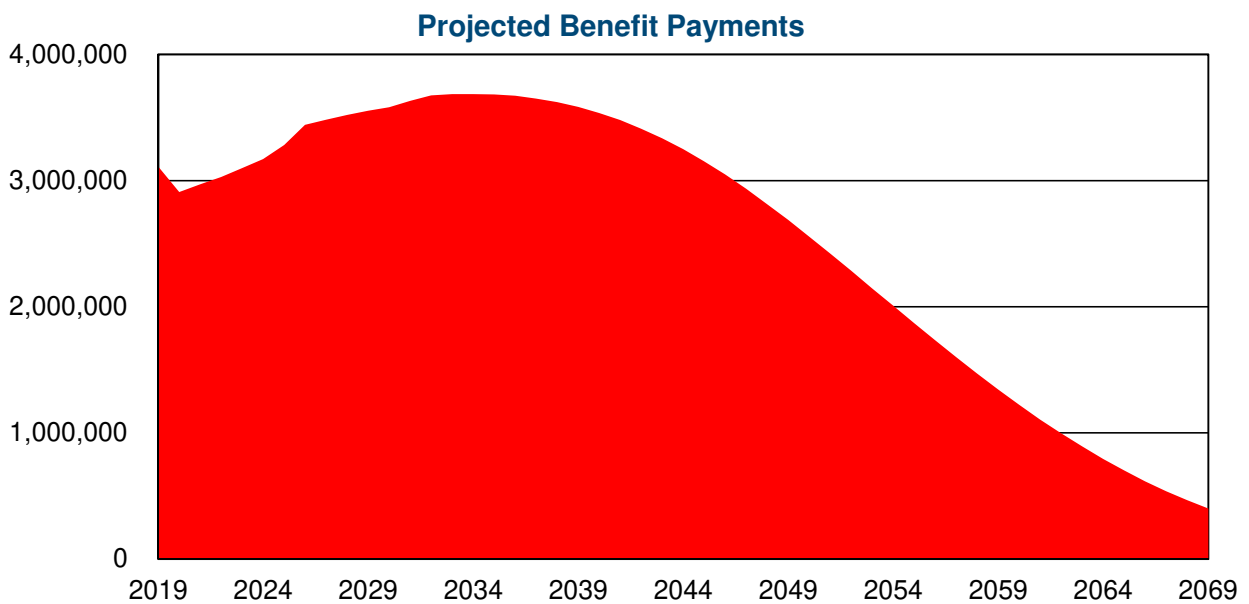
	July 1, 2017	July 1, 2019
1. Interest Assumption	3.58%	3.50%
2. Accrued Liability		
Active Members	\$11,007,448	\$8,831,298
Terminated Members	0	0
Service Retirees	51,212,419	55,466,091
Disabled Retirees	1,117,017	1,201,229
Beneficiaries	<u>2,763,380</u>	<u>3,205,146</u>
Total Accrued Liability	66,100,264	68,703,764
3. Market Value of Assets (see Section II)	7,856,327	8,564,590
4. Unfunded Accrued Liability: (2) - (3)	58,243,937	60,139,174
5. Funded Ratio: (3) / (2)	11.9%	12.5%

Section IV - Cash Flow Analysis

A. Introduction

Historically, triennial valuations have focused on determining an Annual Required Contribution in order to comply with Government Accounting Standards Board No. 25, which required that this amount be calculated and disclosed in the District's financial statements. GASB 25 has now been superseded by GASB 67/68, and the Annual Required Contribution is no longer required to be calculated or disclosed. However, GASB 67/68 does require that the District have an actuarial valuation performed at least biennially in order to determine the Plan's liability.

The Plan has been funded on a "pay as you go" basis. Each year, the District has budgeted an amount which, together with member contributions, will be sufficient to cover expected benefit payments plus leave a modest balance in the pension trust. Because the Plan has been closed to new members since July 1, 2007, the number of active members is shrinking. Over the coming years the amount needed to fund the plan on a pay as you go basis is expected to climb as the current active members retire, and then gradually decline as the retired members and their beneficiaries die. This pattern is shown in the chart below.



The purpose of this section of our valuation report is to provide analysis for the District to use in determining its funding policy over the coming years. The District's goal is to provide a reasonably level funding pattern and to gradually draw down on the asset balance as necessary to achieve this goal. We will update this analysis with each valuation to reflect emerging experience.

Section IV - Cash Flow Analysis

B. Level Contribution Scenario

Based on the current asset allocation, the long-term expected return on trust assets is 6.00%. If the trust assets earn exactly this rate every year, a level District contribution of \$2,760,000 is expected to be sufficient to pay all benefits. Note that the trust assets are expected to be depleted by 2046, but the District's contribution is expected to decline thereafter.

June 30th	Prior Year Trust Assets	District Contributions	Member Contributions	Benefit Payments	Investment Income	End of Year Trust Assets
2019	8,323,950	2,910,000	52,149	(3,112,183)	390,674	8,564,590
2020	8,565,000	2,760,000	40,000	(2,909,000)	511,000	8,967,000
2021	8,967,000	2,760,000	39,000	(2,970,000)	533,000	9,329,000
2022	9,329,000	2,760,000	38,000	(3,029,000)	553,000	9,651,000
2023	9,651,000	2,760,000	35,000	(3,100,000)	570,000	9,916,000
2024	9,916,000	2,760,000	31,000	(3,171,000)	584,000	10,120,000
2025	10,120,000	2,760,000	23,000	(3,282,000)	592,000	10,213,000
2026	10,213,000	2,760,000	9,000	(3,441,000)	593,000	10,134,000
2027	10,134,000	2,760,000	8,000	(3,482,000)	587,000	10,007,000
2028	10,007,000	2,760,000	8,000	(3,519,000)	578,000	9,834,000
2029	9,834,000	2,760,000	7,000	(3,553,000)	566,000	9,614,000
2030	9,614,000	2,760,000	7,000	(3,582,000)	552,000	9,351,000
2031	9,351,000	2,760,000	3,000	(3,631,000)	535,000	9,018,000
2032	9,018,000	2,760,000	0	(3,675,000)	514,000	8,617,000
2033	8,617,000	2,760,000	0	(3,685,000)	489,000	8,181,000
2034	8,181,000	2,760,000	0	(3,687,000)	463,000	7,717,000
2035	7,717,000	2,760,000	0	(3,683,000)	435,000	7,229,000
2036	7,229,000	2,760,000	0	(3,671,000)	406,000	6,724,000
2037	6,724,000	2,760,000	0	(3,650,000)	377,000	6,211,000
2038	6,211,000	2,760,000	0	(3,621,000)	347,000	5,697,000
2039	5,697,000	2,760,000	0	(3,583,000)	317,000	5,191,000
2040	5,191,000	2,760,000	0	(3,536,000)	288,000	4,703,000
2041	4,703,000	2,760,000	0	(3,479,000)	261,000	4,245,000
2042	4,245,000	2,760,000	0	(3,412,000)	235,000	3,828,000
2043	3,828,000	2,760,000	0	(3,335,000)	212,000	3,465,000
2044	3,465,000	2,760,000	0	(3,248,000)	193,000	3,170,000
2045	3,170,000	2,760,000	0	(3,152,000)	178,000	2,956,000
2046	2,956,000	5,000	0	(3,047,000)	86,000	0
2047	0	2,934,000	0	(2,934,000)	0	0
2048	0	2,813,000	0	(2,813,000)	0	0
2049	0	2,687,000	0	(2,687,000)	0	0
2050	0	2,556,000	0	(2,556,000)	0	0
2051	0	2,421,000	0	(2,421,000)	0	0
2052	0	2,284,000	0	(2,284,000)	0	0
2053	0	2,146,000	0	(2,146,000)	0	0
2054	0	2,007,000	0	(2,007,000)	0	0
2055	0	1,869,000	0	(1,869,000)	0	0
2056	0	1,733,000	0	(1,733,000)	0	0
2057	0	1,600,000	0	(1,600,000)	0	0

Section IV - Cash Flow Analysis

C. 7-Year Phase-In to Level Contribution Scenario

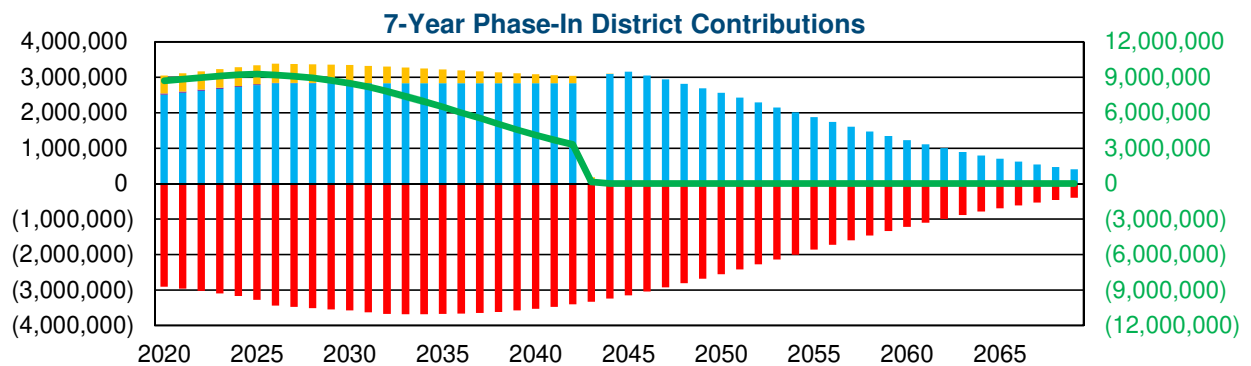
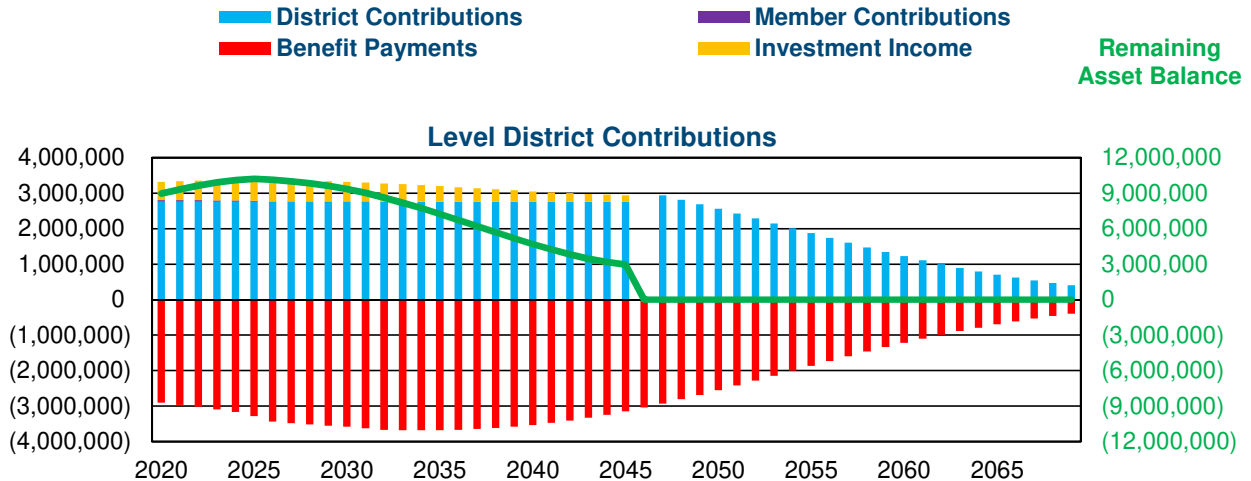
Based on the current asset allocation, the long-term expected return on trust assets is 6.00%. If the trust assets earn exactly this rate every year, a FY2020 District contribution of \$2,500,000 that increases by \$55,000 each year thereafter is expected to be sufficient to pay all benefits. Note that the trust assets are expected to be depleted by 2044, but the District's contribution is expected to decline thereafter.

June 30th	Prior Year Trust Assets	District Contributions	Member Contributions	Benefit Payments	Investment Income	End of Year Trust Assets
2019	8,323,950	2,910,000	52,149	(3,112,183)	390,674	8,564,590
2020	8,565,000	2,500,000	40,000	(2,909,000)	503,000	8,699,000
2021	8,699,000	2,555,000	39,000	(2,970,000)	511,000	8,834,000
2022	8,834,000	2,610,000	38,000	(3,029,000)	519,000	8,972,000
2023	8,972,000	2,665,000	35,000	(3,100,000)	526,000	9,098,000
2024	9,098,000	2,720,000	31,000	(3,171,000)	533,000	9,211,000
2025	9,211,000	2,775,000	23,000	(3,282,000)	538,000	9,265,000
2026	9,265,000	2,830,000	9,000	(3,441,000)	538,000	9,201,000
2027	9,201,000	2,830,000	8,000	(3,482,000)	533,000	9,090,000
2028	9,090,000	2,830,000	8,000	(3,519,000)	525,000	8,934,000
2029	8,934,000	2,830,000	7,000	(3,553,000)	515,000	8,733,000
2030	8,733,000	2,830,000	7,000	(3,582,000)	502,000	8,490,000
2031	8,490,000	2,830,000	3,000	(3,631,000)	485,000	8,177,000
2032	8,177,000	2,830,000	0	(3,675,000)	465,000	7,797,000
2033	7,797,000	2,830,000	0	(3,685,000)	442,000	7,384,000
2034	7,384,000	2,830,000	0	(3,687,000)	417,000	6,944,000
2035	6,944,000	2,830,000	0	(3,683,000)	391,000	6,482,000
2036	6,482,000	2,830,000	0	(3,671,000)	364,000	6,005,000
2037	6,005,000	2,830,000	0	(3,650,000)	336,000	5,521,000
2038	5,521,000	2,830,000	0	(3,621,000)	308,000	5,038,000
2039	5,038,000	2,830,000	0	(3,583,000)	280,000	4,565,000
2040	4,565,000	2,830,000	0	(3,536,000)	253,000	4,112,000
2041	4,112,000	2,830,000	0	(3,479,000)	227,000	3,690,000
2042	3,690,000	2,830,000	0	(3,412,000)	204,000	3,312,000
2043	3,312,000	73,000	0	(3,335,000)	101,000	151,000
2044	151,000	3,093,000	0	(3,248,000)	4,000	0
2045	0	3,152,000	0	(3,152,000)	0	0
2046	0	3,047,000	0	(3,047,000)	0	0
2047	0	2,934,000	0	(2,934,000)	0	0
2048	0	2,813,000	0	(2,813,000)	0	0
2049	0	2,687,000	0	(2,687,000)	0	0
2050	0	2,556,000	0	(2,556,000)	0	0
2051	0	2,421,000	0	(2,421,000)	0	0
2052	0	2,284,000	0	(2,284,000)	0	0
2053	0	2,146,000	0	(2,146,000)	0	0
2054	0	2,007,000	0	(2,007,000)	0	0
2055	0	1,869,000	0	(1,869,000)	0	0
2056	0	1,733,000	0	(1,733,000)	0	0
2057	0	1,600,000	0	(1,600,000)	0	0

Section IV - Cash Flow Analysis

E. Graphical Results

The scenarios described on the preceding pages are illustrated in the graphs below, with the expected cash flows shown in the bars and the trust assets shown by the green line. The District's contribution amounts were determined in such a way as to avoid a significant change in the years around the date the trust assets are expected to be fully depleted.



Section V - Membership Data

A. Reconciliation of Membership from Prior Valuation

Details of the changes in the Plan membership since the last valuation are shown below. Additional details on the Plan membership are provided in the remainder of Section IV.

	Active Members	Terminated Vested Members	In Pay Status	Total
Count July 1, 2017	8	0	47	55
Terminated				
- no benefits due	-	-	-	0
- paid refund	-	-	-	0
- vested benefits due	-	-	-	0
Retired	(2)	-	2	0
Died				
- with beneficiary	-	-	(1)	(1)
- no beneficiary	-	-	-	0
Benefits expired	-	-	-	0
New member	-	-	1	1
Rehired	-	-	-	0
New Alternate Payee	-	-	-	0
Correction	-	-	-	0
Count July 1, 2019	6	0	49	55

Section IV - Membership Data

B. Statistics of Membership

	As of July 1, 2017	As of July 1, 2019
Active Members		
Number	8	6
Average Age	52.5	53.3
Average Service	21.1	21.4
Terminated Vested Members		
Number	0	0
Total Annual Benefit	\$0	\$0
Average Annual Benefit	0	0
Average Age	0.0	0.0
Retired Members		
Number	40	42
Total Annual Benefit	\$2,341,258	\$2,444,571
Average Annual Benefit	58,531	58,204
Average Age	64.5	65.6
Disabled Members		
Number	1	1
Total Annual Benefit	\$56,190	\$56,805
Average Annual Benefit	56,190	56,805
Average Age	65.9	67.9
Beneficiaries		
Number	6	6
Total Annual Benefit	\$281,334	\$316,266
Average Annual Benefit	46,889	52,711
Average Age	75.7	80.7

Section IV - Membership Data
C. Distribution of Active Members as of July 1, 2019

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25								0
25-29								0
30-34								0
35-39								0
40-44								0
45-49					1			1
50-54				2	2			4
55-59								0
60-64						1		1
65+								0
Total	0	0	0	2	3	1	0	6

Section V - Analysis of Risk

A. Introduction

The results of this actuarial valuation are based on one set of reasonable assumptions. However, it is almost certain that future experience will not exactly match these assumptions. As an example, the plan's investments may perform better or worse than assumed in any single year and over any longer time horizon. It is therefore important to consider the potential impacts of these likely differences when making decisions that may affect the future financial health of the plan, or of the plan's members.

In addition, as plans mature they accumulate larger pools of assets and liabilities. The increase in size in turn increases the potential magnitude of adverse experience. As an example, the dollar impact of a 10% investment loss on a plan with \$1 billion in assets and liabilities is much greater than the dollar impact for a plan with \$1 million in assets and liabilities. Since pension plans make long-term promises and rely on long-term funding, it is important to consider how mature the plan is today, and how mature it may become in the future.

Actuarial Standard of Practice No. 51 (ASOP 51) directs actuaries to provide pension plan sponsors with information concerning the risks associated with the plan:

- Identify risks that may be significant to the plan.
- Assess the risks identified as significant to the plan. The assessment does not need to include numerical calculations.
- Disclose plan maturity measures and historical information that are significant to understanding the plan's risks.

This section of the report uses the framework of ASOP 51 to communicate important information about significant risks to the plan, the plan's maturity, and relevant historical plan data.

Please see Section III C for more information on the basis for the projected results shown on the following pages.

Section V - Analysis of Risk

B. Risk Identification and Assessment

Investment Risk

Definition: This is the potential that investment returns will be different than expected.

Identification: To the extent that actual investment returns differ from the assumed investment return, the plan's future assets, Actuarially Determined Contributions, and funded status may differ significantly from those presented in this valuation.

Contribution Risk

Definition: This is the potential that actual future contributions will be less than the Actuarially Determined Contribution.

Identification: The Plan has been funded on a "pay as you go" basis. Each year, the District has budgeted an amount which, together with member contributions, will be sufficient to cover expected benefit payments plus leave a modest balance in the pension trust. Because the Plan has been closed to new members since July 1, 2007, the number of active members is shrinking. Over the coming years the amount needed to fund the plan on a pay as you go basis is expected to climb as the current active members retire, and then gradually decline as the retired members and their beneficiaries die.

Liquidity Risk

Definition: This is the potential that assets must be liquidated at a loss earlier than planned in order to pay for the plan's benefits and operating costs. This risk is heightened for plans with negative cash flows, in which contributions are not sufficient to cover benefit payments plus expenses.

Identification: In 2018-19, the plan had negative cash flow, with fire district contributions to the plan of \$2,910,000 compared to \$3,112,183 of benefit payments paid out of the plan. We suggest that you consult with your investment advisors with respect to the liquidity characteristics of the plan's investment holdings.

Section V - Analysis of Risk

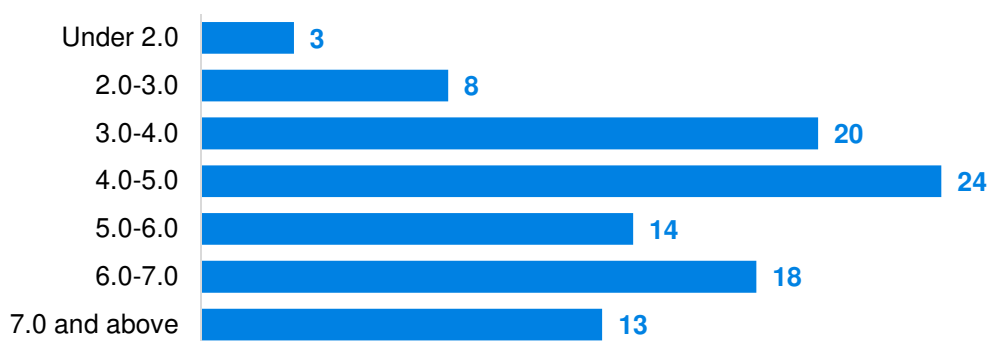
B. Risk Identification and Assessment

Maturity Risk

Definition: This is the potential for total plan liabilities to become more heavily weighted toward inactive liabilities over time, and for plan assets and/or liabilities to become larger relative to the active member liability.

Identification: The plan is subject to maturity risk because as plan assets and liabilities continue to grow, the dollar impact of any gains or losses on the assets or liabilities also becomes larger.

Assessment: As of July 1, 2019, the plan's Asset Volatility Ratio (the ratio of the market value of plan assets to payroll) is 14.4. According to Milliman's 2018 Public Pension Funding Study, the 100 largest US public pension plans have the following range of Asset Volatility Ratios:



Inflation Risk

Definition: This is the potential for a pension to lose purchasing power over time due to inflation.

Identification: The members of pension plans without fully inflation-indexed benefits are subject to the risk that their purchasing power will be reduced over time due to inflation.

Assessment: This plan provides for some postretirement benefit increases, but the increases are not directly tied to each year's rate of actual inflation; this leaves members bearing some inflation risk.

Insolvency Risk

Definition: This is the potential that a plan will become insolvent; that is, assets will be fully depleted.

Identification: If a plan becomes insolvent, contractually required benefits must be paid from the plan sponsor's other remaining assets.

Assessment: Under the GASB 68 depletion date methodology, the plan is projected to become insolvent by 2044.

Appendix A - Actuarial Funding Method

The actuarial funding method used in the valuation of this Plan is known as the Entry Age Normal Method.

The Normal Cost is determined by calculating the present value of future benefits for present active Members that will become payable as the result of death, disability, retirement or termination. This cost is then spread as a level percentage of earnings from entry age to termination as an Active Member. If Normal Costs had been paid at this level for all prior years, a fund would have accumulated. Because this fund represents the portion of benefits that would have been funded to date, it is termed the Accrued Liability. In fact, it is calculated by adding the present value of benefits for Retired Members and Terminated Vested Members to the present value of benefits for Active Members and subtracting the present value of future Normal Cost contributions.

The funding cost of the Plan is derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

The Unfunded Accrued Liability is the excess of the Accrued Liability over the assets which have been accumulated for the plan.

The long-range forecasts included in this report have been developed by assuming that members will terminate, retire, become disabled, and die according to the actuarial assumptions with respect to these causes of decrement, and that pay increases, cost of living adjustments, and so forth will likewise occur according to the actuarial assumptions. For those unions whose new employees are eligible to participate in this plan, members who are projected to leave active employment are assumed to be replaced by new active members with the same age, service, gender, and pay characteristics as those hired in the past few years.

Appendix B - Actuarial Assumptions

Each of the assumptions used in this valuation was set based on industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, and our professional judgment regarding future plan experience. We believe the assumptions are reasonable for the contingencies they are measuring, and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Interest Rate	3.50% (prior: 3.58%)										
Inflation	2.75%										
Cost of Living	2.00%										
Mortality	<p>PubS-2010 Mortality Table with generational projection per MP Ultimate Scale. This reflects mortality improvements beyond the valuation date.</p> <p>Prior: RP-2000 Combined Healthy Mortality Table with generational projection per Scale AA.</p>										
Turnover	None.										
Retirement	50% are assumed to retire after 20 years of service; 100% are assumed to retire by age 65 or 28 years of service; 10% are assumed to retire at all other ages.										
Disability	<p>Rates that vary by age as follows:</p> <table border="0" style="margin-left: 40px;"> <thead> <tr> <th style="text-align: left;">Age</th> <th style="text-align: left;">Rate</th> </tr> </thead> <tbody> <tr> <td>30</td> <td>0.06%</td> </tr> <tr> <td>40</td> <td>0.18%</td> </tr> <tr> <td>50</td> <td>0.49%</td> </tr> <tr> <td>60</td> <td>1.20%</td> </tr> </tbody> </table>	Age	Rate	30	0.06%	40	0.18%	50	0.49%	60	1.20%
Age	Rate										
30	0.06%										
40	0.18%										
50	0.49%										
60	1.20%										
Survivor Benefits	80% of participants are assumed to be married with wives 3 years younger than husbands.										
Expenses	None										

Appendix C - Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Normal Pension	Eligibility: 20 years of service Benefit: 50% of highest annual salary plus 3.5% of highest annual salary for each year over 20 years; maximum 78% of highest annual salary; minimum \$4,000.
Disability Pension	Eligibility: immediate Benefit: Normal pension accrued to date. Non Duty disabilities with less than 10 years of service: 25% of normal pension accrued to date.
Vesting	Eligibility: 10 years of service Benefit: 100% of normal pension accrued to date, payable at age 60 or on completion of 20 years. Eligibility: 2 years of service Benefit: Return of employee contributions with interest.
Deferred Retirement	Retirement at age 62 with 25 years of service.
Preretirement Death	Surviving spouse receives 100% of normal pension accrued to date. If no spouse or if spouse dies, child receives above benefit until age 18.
Normal Form of Benefit	100% Joint & Survivor Annuity
Cost of Living Increases	50% of salary increase; none for terminated vested members.
Employee Contributions	8.50% of pay. No interest is credited.
Employees hired on or after July 1, 2007 are not covered by this plan.	



CITY OF WEST HAVEN FIRE DEPARTMENT ALLINGTOWN PENSION PLAN

**Actuarial Valuation as of July 1, 2019
To Determine Funding for Fiscal Years 2020-21 and 2021-22**

Prepared by

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Table of Contents

	Page
CERTIFICATION	1
I EXECUTIVE SUMMARY	3
II PLAN ASSETS	
A. Summary of Fund Transactions	14
III DEVELOPMENT OF CONTRIBUTION	
A. Past Service Cost	15
B. Actuarially Determined Contribution	16
C. Long Range Forecast	17
D. History of Funded Status	18
E. History of City Contributions	19
IV MEMBERSHIP DATA	
A. Reconciliation of Membership from Prior Valuation	20
B. Statistics of Active Membership	21
C. Statistics of Inactive Membership	22
D. Distribution of Inactive Members	23
V ANALYSIS OF RISK	
A. Introduction	24
B. Risk Identification and Assessment	25
C. Maturity Measures	28
APPENDICES	
A. Actuarial Funding Method	29
B. Actuarial Assumptions	30
C. Summary of Plan Provisions	32
D. Glossary	35

Certification

We have performed an actuarial valuation of the Plan as of July 1, 2019 to determine funding for fiscal years 2020-21 and 2021-22. This report presents the results of our valuation.

The ultimate cost of a pension plan is the total amount needed to provide benefits for plan members and beneficiaries and to pay the expenses of administering the plan. Pension costs are met by contributions and by investment return on plan assets. The principal purpose of this report is to set forth an actuarial recommendation of the contribution, or range of contributions, which will properly fund the plan, in accordance with applicable government regulations. In addition, this report provides:

- A valuation of plan assets and liabilities to review the year-to-year progress of funding.
- Information needed to meet disclosure requirements.
- Review of plan experience for the previous year to ascertain whether the assumptions and methods employed for valuation purposes are reflective of actual events and remain appropriate for prospective application.
- Assessment of the relative funded position of the plan, i.e., through a comparison of plan assets and projected plan liabilities.
- Comments on any other matters which may be of assistance in the funding and operation of the plan.

This report may not be used for purposes other than those listed above without Milliman's prior written consent. If this report is distributed to other parties, it must be copied in its entirety, including this certification section.

Milliman's work is prepared solely for the internal business use of the City ("City"). To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the City may provide a copy of Milliman's work, in its entirety, to the City's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the City; and (b) the City may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law. No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

In preparing this report, we relied on employee census data and financial information as of the valuation date, furnished by the City. We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have found them to be reasonably consistent and comparable with data used for other purposes. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete and our calculations may need to be revised. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.


Certification

The calculations reported herein have been made on a basis consistent with our understanding of ERISA and the related sections of the tax code. Additional determinations may be needed for purposes other than meeting funding requirements, such as judging benefit security at plan termination or meeting employer accounting requirements. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices.

We further certify that, in our opinion, each actuarial assumption, method and technique used is reasonable taking into account the experience of the Plan and reasonable expectations. Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurement.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Jennifer M. Castelhana, FSA
Consulting Actuary

Section I - Executive Summary Changes Since the Prior Valuation

Plan Changes

This valuation reflects that the employee contribution rate for Plan 1 increased from 10.00% to 10.50% and the employee contribution rate for Plans 2, 3, and 4 increased from 12.00% to 12.50%.

This change caused the Actuarially Determined Contribution to decrease by about \$5,000.

Changes in Actuarial Methods and Assumptions

The Mortality Table was changed from RP-2000 Combined Mortality Tables with Blue Collar Adjustments and generational projection of future mortality improvements per Scale AA to the PubS-2010 Mortality Table with generational projection per the MP-2014 ultimate scale, with employee rates before benefit commencement and healthy or disabled annuitant rates after benefit commencement.

This change caused the Unfunded Accrued Liability to increase by about \$1.6 million and the Actuarially Determined Contribution to increase by about \$162,000.

Other Significant Changes

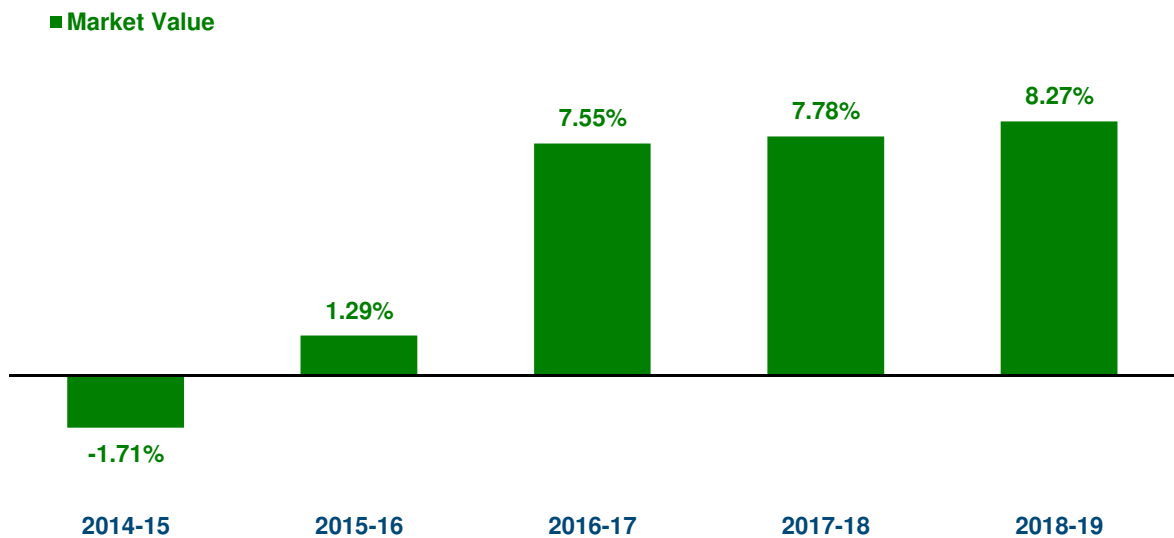
None.

Section I - Executive Summary Assets

The Market Value of Assets is a snapshot of the plan's investments as of the valuation date.

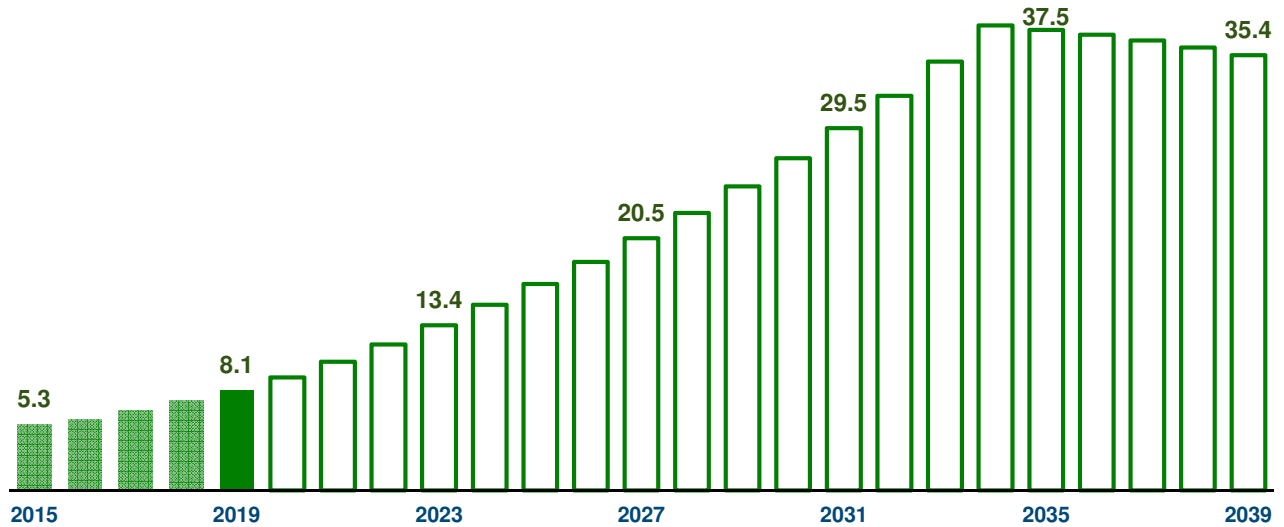
	Market
Value as of July 1, 2017	\$6,498,293
City and Member Contributions	4,269,150
Investment Income	1,125,645
Benefit Payments and Administrative Expenses	(3,786,964)
Value as of July 1, 2019	8,106,124

For fiscal year 2017-18, the plan's assets earned 7.78% on a Market Value basis. The actuarial assumption for this period was 6.75%; the result is an asset gain of about \$68,250 on a Market Value basis. For fiscal year 2018-19, the plan's assets earned 8.27% on a Market Value basis. The actuarial assumption for this period was 6.75%; the result is an asset gain of about \$112,140 on a Market Value basis. Historical rates of return are shown in the graph below.



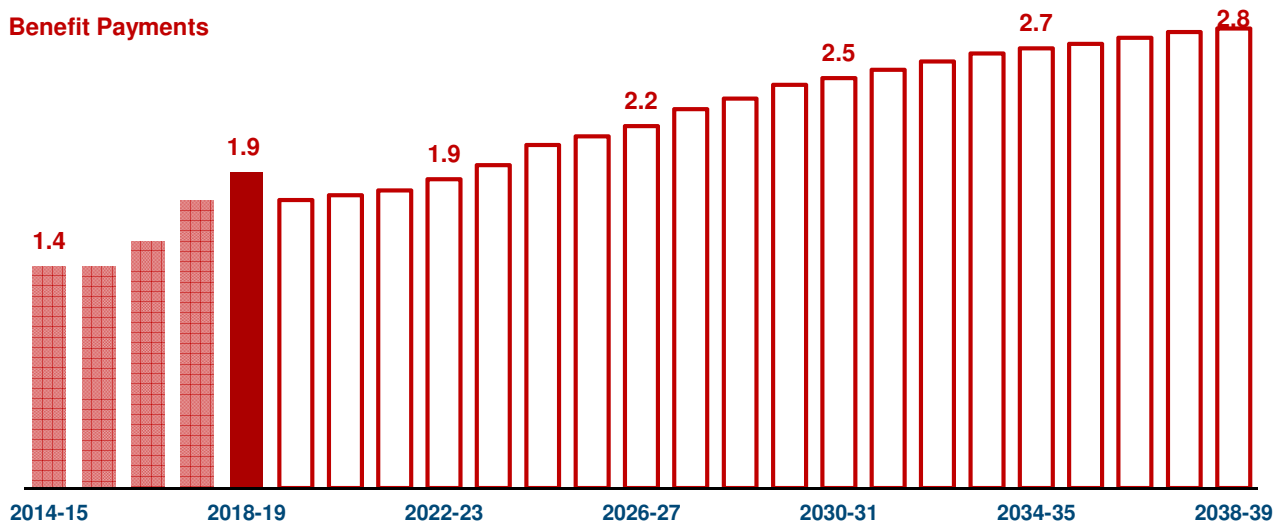
Section I - Executive Summary Assets (continued)

The graph below shows how this year's asset values compare to where the plan's assets have been over the past several years and how they are projected to change over the next 20 years. For purposes of this projection, we have assumed that the City always contributes the Actuarially Determined Contribution and the investments always earn the assumed interest rate each year.



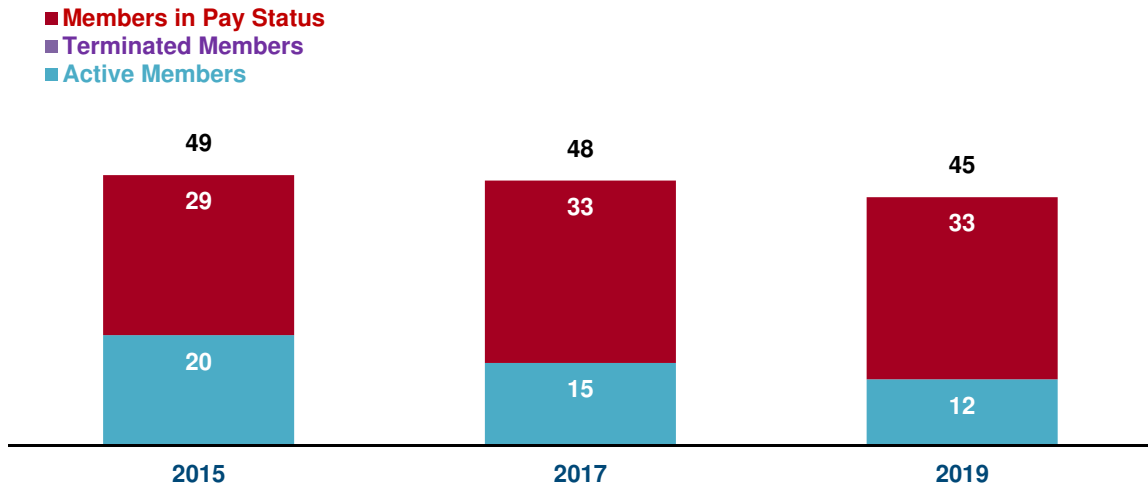
In 2018-19, the plan paid out \$1.9 million in benefits to members. Over the next 20 years, the plan is projected to pay out a total of \$47 million in benefits to members.

Benefit Payments



Section I - Executive Summary Membership

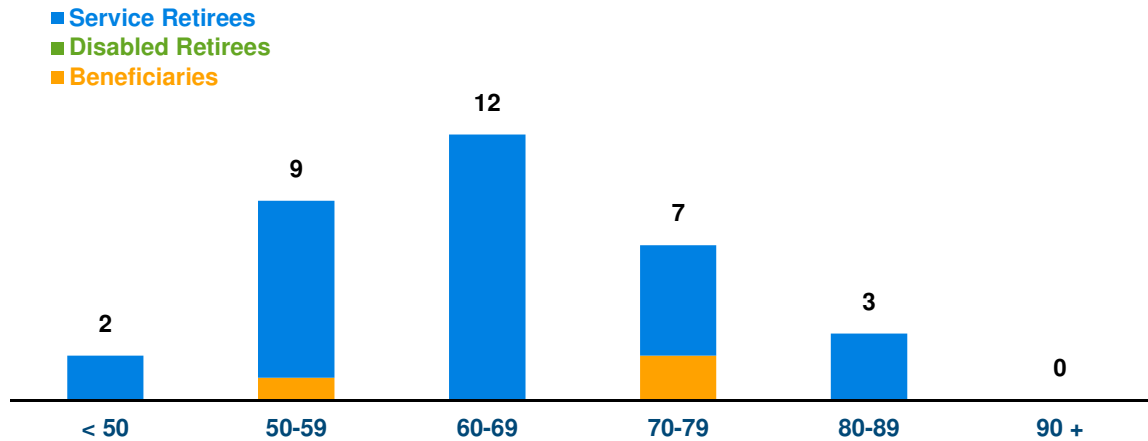
There are three basic categories of plan members included in the valuation: (1) members who are receiving monthly pension benefits, (2) former employees who have a vested right to benefits but have not yet started collecting, and (3) active employees who have met the eligibility requirements for membership. Full valuations are only performed in odd-numbered years, so membership information is not available for even-numbered years.



Members in Pay Status on July 1, 2019

Service Retirees	30	Average Age	65.9
Disabled Retirees	0	Total Annual Benefit	\$1,776,331
Beneficiaries	<u>3</u>	Average Annual Benefit	53,828
Total	33		

The members in pay status fall across a wide distribution of ages:



Section I - Executive Summary Membership (continued)

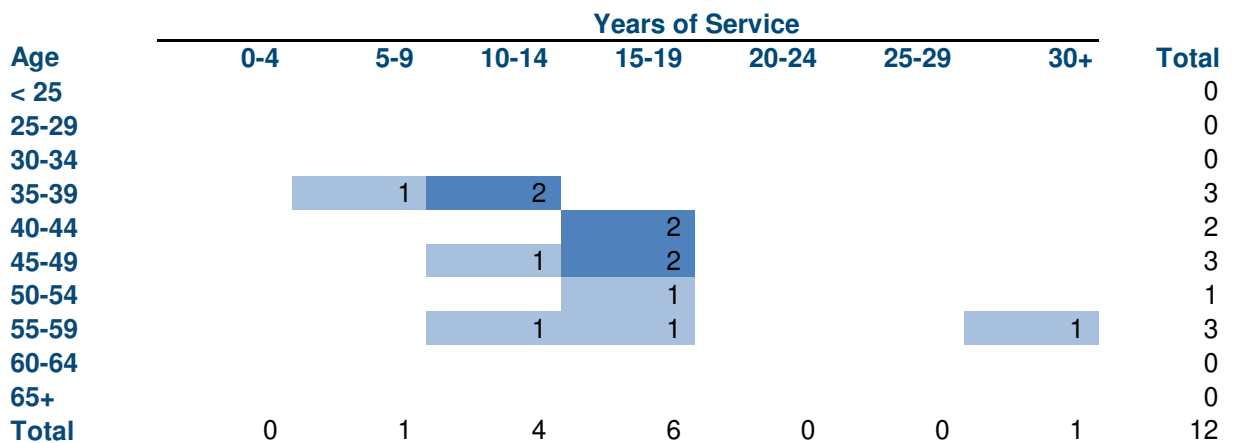
Terminated Vested Members on July 1, 2019

Count	0
Average Age	0.0
Total Annual Benefit	\$0
Average Annual Benefit	0

Active Members on July 1, 2019

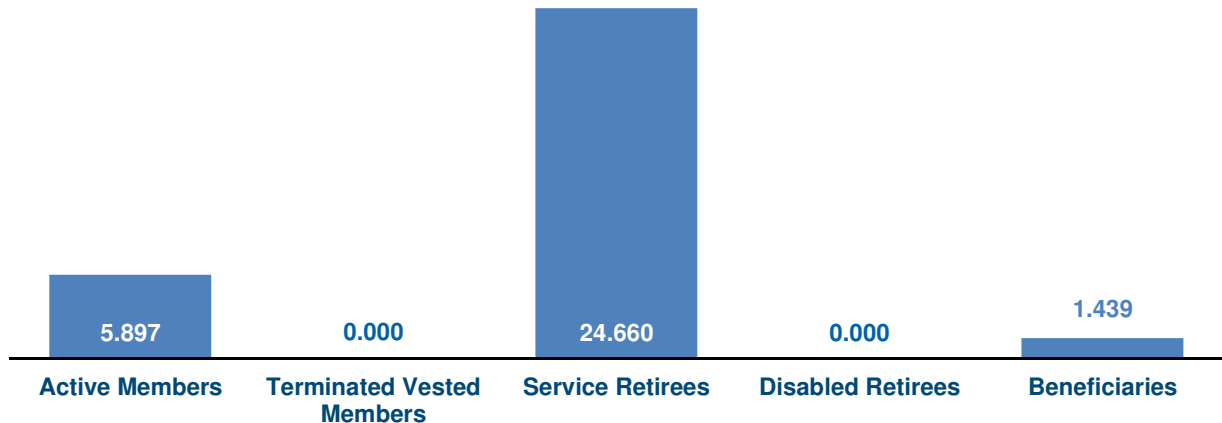
Count	12
Average Age	48.1
Average Service	16.1
Payroll	\$984,212
Average Payroll	82,018

The table below illustrates the age and years of service of the active membership:

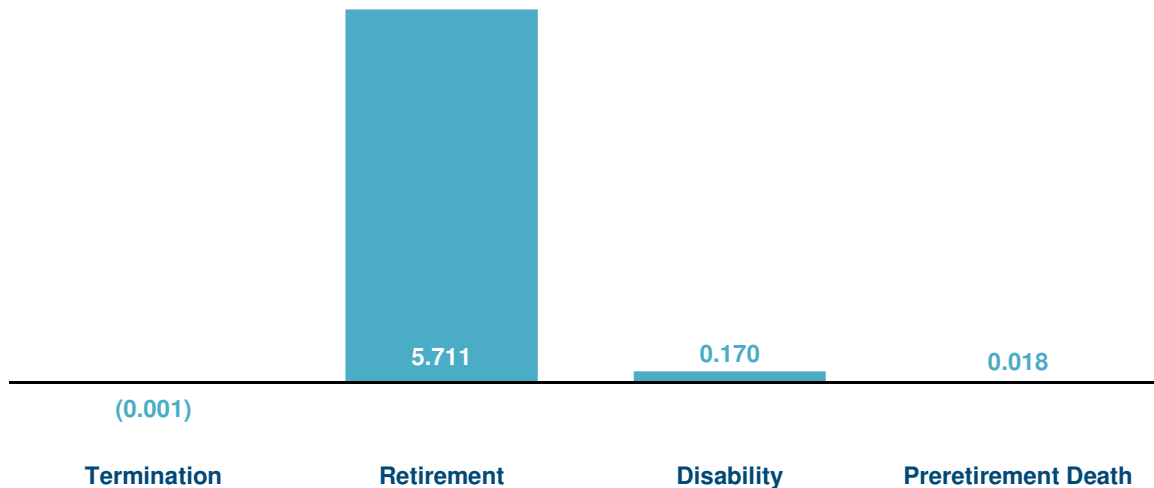


Section I - Executive Summary Accrued Liability

The Accrued Liability as of July 1, 2019 equals \$31,996,436, which consists of the following pieces (in \$millions):



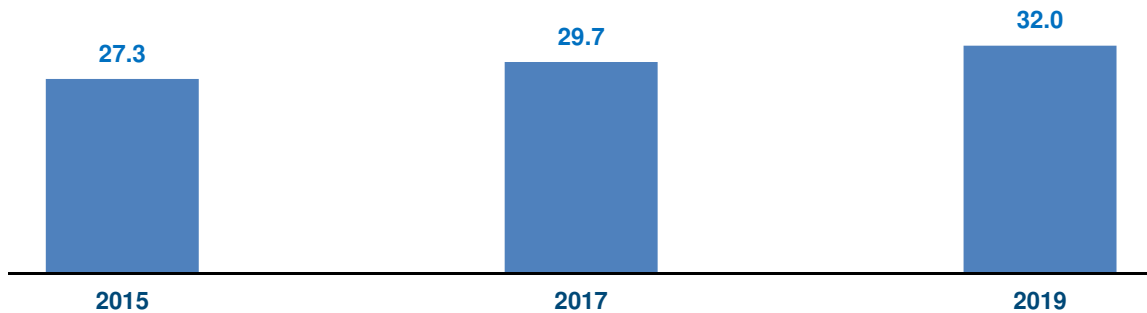
The Accrued Liability for active members can be broken down further by the different types of benefits provided by the plan:



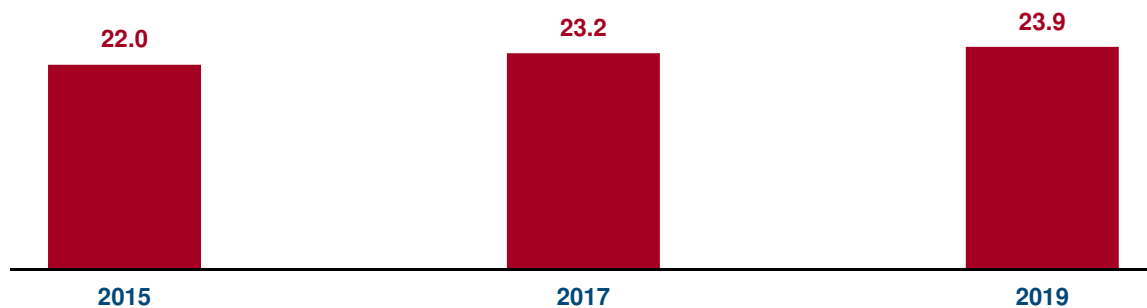
Section I - Executive Summary Funded Status

The Accrued Liability grows over time as active members earn additional benefits, and goes down over time as members receive benefits; it may also change when there are changes to the plan provisions or changes in the actuarial assumptions. The Unfunded Accrued Liability is the dollar difference between the Accrued Liability and the Actuarial Value of Assets; the Funded Ratio is the ratio of the two.

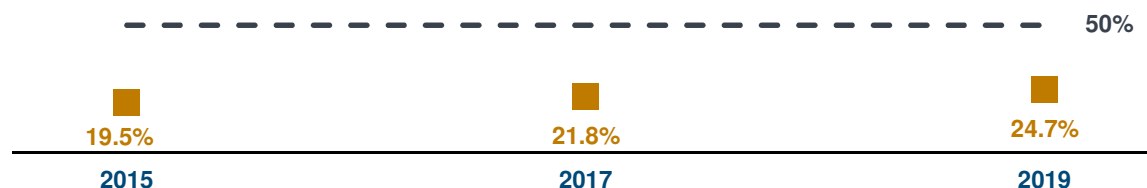
Accrued Liability (\$ millions)



Unfunded Accrued Liability (\$ millions)



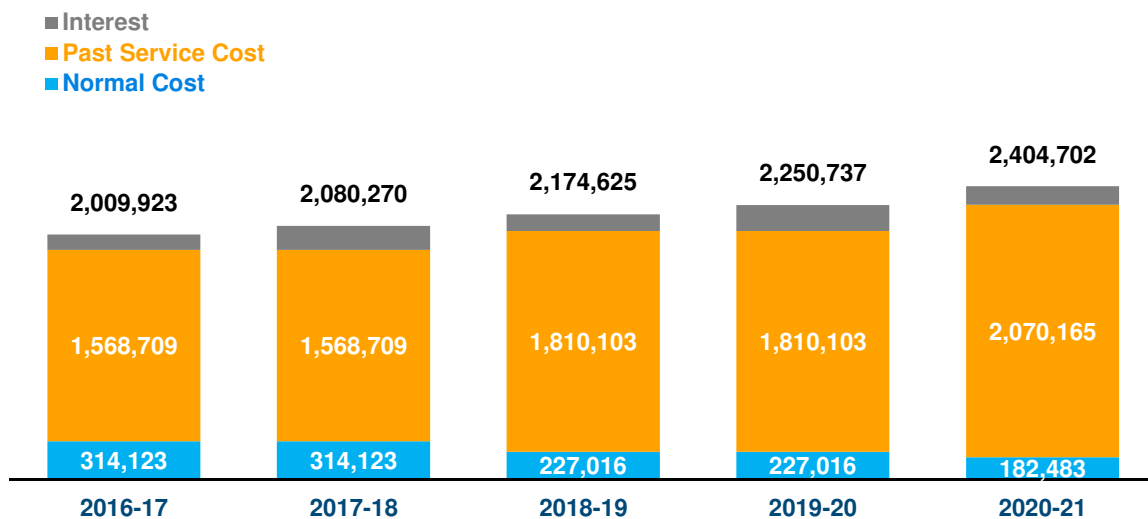
Funded Ratio



Section I - Executive Summary Actuarially Determined Contribution

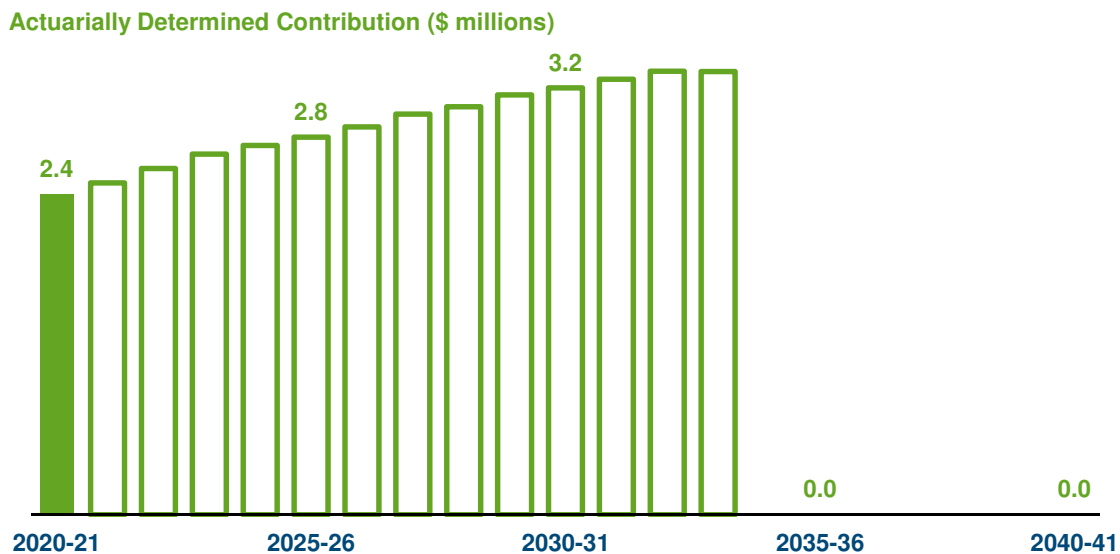
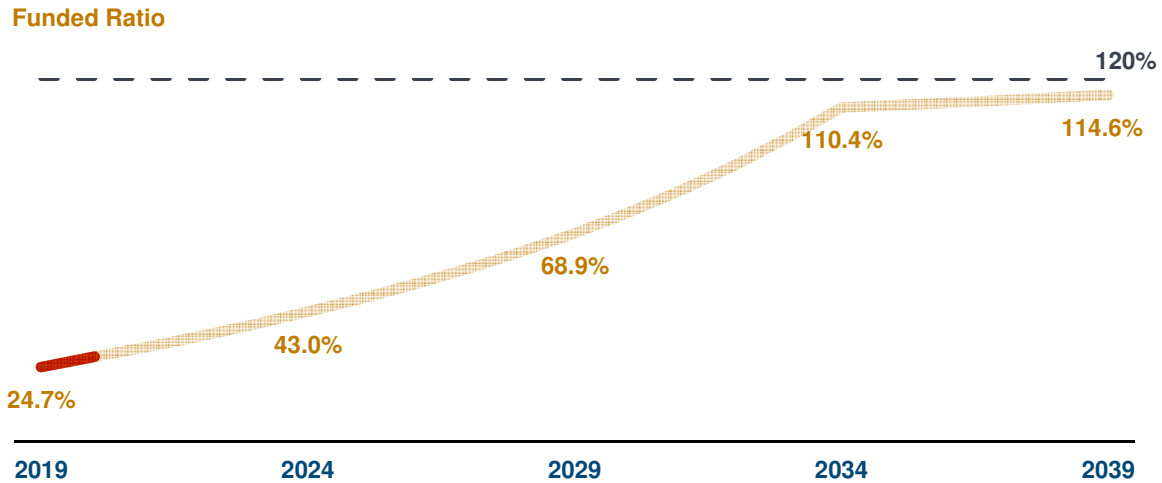
The Actuarially Determined Contribution consists of three pieces: a Normal Cost payment to fund the benefits earned each year, a Past Service Cost to gradually reduce any unfunded or surplus liability, and Interest to reflect the timing of the contribution relative to the valuation date.

The Actuarially Determined Contribution for fiscal year 2020-21 is shown graphically below, along with the comparable figures for the preceding four fiscal years. Note that the Normal Cost is relatively consistent from year to year, whereas the Past Service Cost tends to be more volatile since it reflects the impact of asset performance.



Section I - Executive Summary Long-Range Forecast

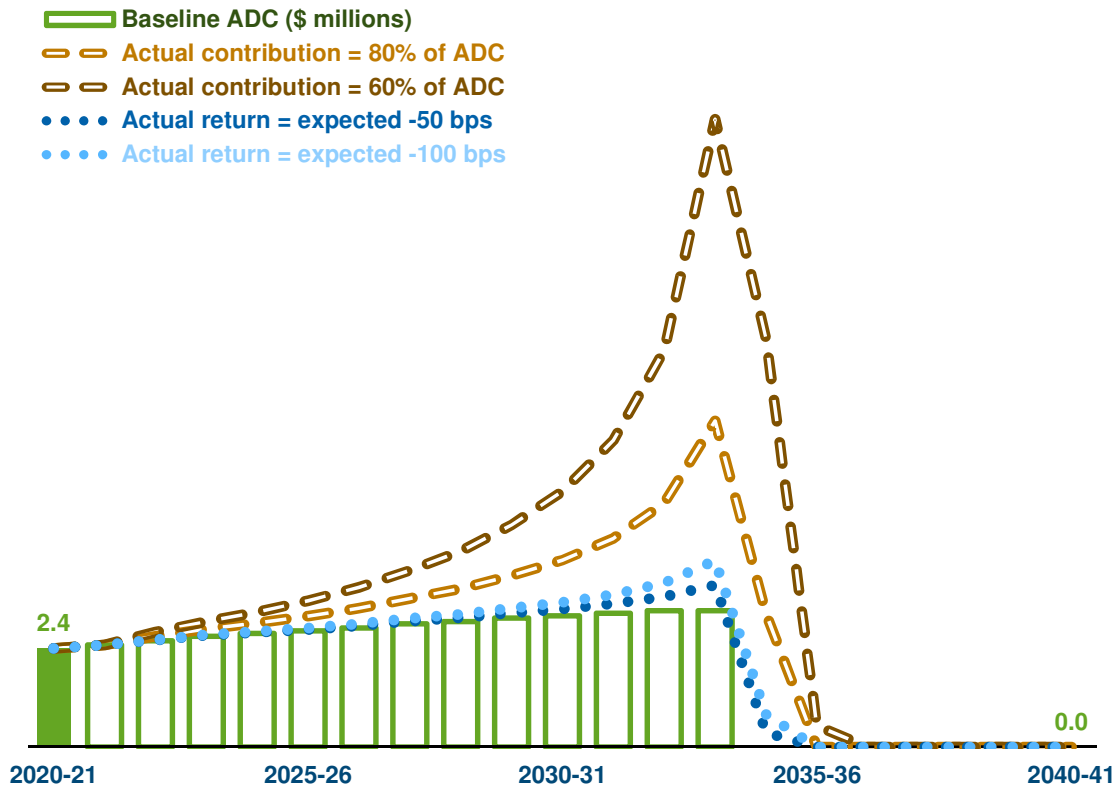
If the City pays the Actuarially Determined Contribution each year, the investments earn exactly the assumed interest rate each year, and there are no changes in the plan provisions or in the actuarial methods and assumptions, then we project the following changes in the plan's funded status and the long-range contribution levels:



To the extent that there are future investment or liability gains or losses, changes in the actuarial assumptions or methods, or plan changes, the actual valuation results will differ from these forecasts. Please see Section III C for more details of the long range forecast.

Section I - Executive Summary Long-Range Forecast (continued)

Pension benefits are paid for through a combination of contributions from the City and from employees, and from investment income. If the City pays less than the Actuarially Determined Contribution each year, or if the investments persistently earn less than the assumed interest rate, then the plan's funded status would suffer, and to compensate, the City's contribution levels would be pushed higher. The risks of underfunding and underearning are illustrated in the hypothetical scenarios below:



The scenarios illustrated above are based on deterministic projections that assume emerging plan experience always exactly matches the actuarial assumptions; in particular that actual asset returns will be constant in every year of the projection period. Variation in asset returns, contribution amounts, and many other factors may have a significant impact on the long-term financial health of the plan, the liquidity constraints on plan assets, and the City's future contribution levels. Stochastic projections could be prepared that would enable the City to understand the potential range of future results based on the expected variability in asset returns and other factors. Such analysis was beyond the scope of this engagement.

Section I - Executive Summary Summary of Principal Results

Membership as of	July 1, 2017	July 1, 2019
Active Members	15	12
Terminated Members	0	0
Members in Pay Status	<u>33</u>	<u>33</u>
Total Count	48	45
 Payroll	 \$1,275,933	 \$984,212
 Assets and Liabilities as of	 July 1, 2017	 July 1, 2019
Market Value of Assets	\$6,498,293	\$8,106,124
Accrued Liability for Active Members	7,620,879	5,897,477
Accrued Liability for Terminated Members	0	0
Accrued Liability for Members in Pay Status	<u>22,079,061</u>	<u>26,098,959</u>
Total Accrued Liability	29,699,940	31,996,436
 Unfunded Accrued Liability	 23,201,647	 23,890,312
 Funded Ratio	 21.9%	 25.3%
 Actuarially Determined Contribution for Fiscal Year	 2018-19	 2020-21
Normal Cost	\$227,016	\$182,483
Past Service Cost	1,810,103	2,070,165
Interest	<u>137,506</u>	<u>152,054</u>
Actuarially Determined Contribution	2,174,625	2,404,702
 Actuarially Determined Contribution for Fiscal Year	 2019-20	 2021-22
Actuarially Determined Contribution	2,250,737	2,488,867

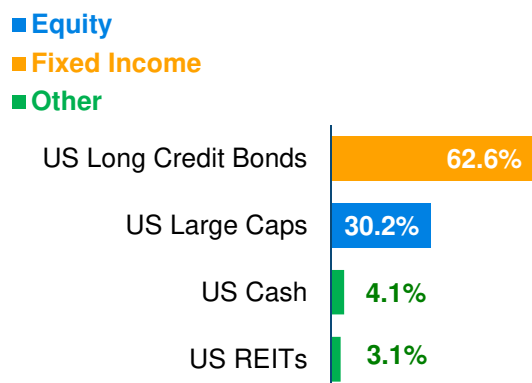
Section II - Plan Assets

A. Summary of Fund Transactions

Market Value as of July 1, 2017	\$6,498,293
City Contributions	1,894,851
Member Contributions	121,477
Net Investment Income	515,517
Benefit Payments	(1,767,724)
Administrative Expenses	(35)
Market Value as of July 1, 2018	7,262,379
City Contributions	2,150,220
Member Contributions	102,602
Net Investment Income	610,128
Benefit Payments	(1,941,719)
Administrative Expenses	(77,486)
Market Value as of June 30, 2019	8,106,124
Expected Return on Market Value of Assets for 2017-18	447,267
Market Value (Gain)/Loss	(68,250)
Approximate Rate of Return *	7.78%
Expected Return on Market Value of Assets for 2018-19	497,988
Market Value (Gain)/Loss	(112,140)
Approximate Rate of Return *	8.27%

* The rate shown here is not the dollar or time weighted investment yield rate which measures investment performance. It is an approximate net return assuming all activity occurred on average midway through the fiscal year.

Actual Asset Allocation as of June 30, 2019



Section III - Development of Contribution

A. Past Service Cost

In determining the Past Service Cost, the Unfunded Accrued Liability is amortized as a level percent. Beginning on July 1, 2003, the amortization period is 30 years; the amortization period will decrease each year until it reaches 10 years, after which point it will remain at 10 years.

	July 1, 2017	July 1, 2019
1. Accrued Liability		
Active Members	\$7,620,879	\$5,897,477
Terminated Members	0	0
Service Retirees	20,090,430	24,659,595
Disabled Retirees	0	0
Beneficiaries	<u>1,988,631</u>	<u>1,439,364</u>
Total Accrued Liability	29,699,940	31,996,436
2. Actuarial Value of Assets (see Section IIB)	6,498,293	8,106,124
3. Unfunded Accrued Liability: (1) - (2)	23,201,647	23,890,312
4. Funded Ratio: (2) / (1)	21.9%	25.3%
5. Amortization Period	16	14
6. Amortization Growth Rate	3.50%	3.50%
7. Past Service Cost: (3) amortized over (5)	1,810,103	2,070,165

Section III - Development of Contribution

B. Actuarially Determined Contribution

	2018-19 2019-20	2020-21 2021-22
1. Total Normal Cost	\$373,143	\$298,122
2. Expected Member Contributions	146,127	115,639
3. Net Normal Cost: (1) - (2)	227,016	182,483
4. Past Service Cost (see Section IIIA)	1,810,103	2,070,165
5. Interest on (3) + (4) to the start of the fiscal year	137,506	152,054
6. Actuarially Determined Contribution for First Fiscal Year: (3) + (4) + (5)	2,174,625	2,404,702
7. Actuarially Determined Contribution for First Fiscal Year: (6) with one year of salary growth	2,250,737	2,488,867

Section III - Development of Contribution C. Long Range Forecast

This forecast is based on the results of the July 1, 2019 actuarial valuation and assumes that the City will pay the Actuarially Determined Contribution each year, the assets will return the assumed interest rate on a market value basis each year, and there are no future changes in the actuarial methods or assumptions or in the plan provisions. For purposes of this forecast the amortization period declines to 1 year to illustrate the progress of the plan towards becoming fully funded; in actual practice the amortization period will not be less than 10 years in order to shield the City from contribution volatility. Actual results at each point in time will yield different values, reflecting the actual experience of the plan membership and assets.

Valuation Date	Values as of the Valuation Date				Fiscal Year	Cash Flows Projected to the Following Fiscal Year			
	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio		City Contributions	Member Contributions	Benefit Payments	Net Cash Flows
7/1/2019	\$31,996,436	\$8,106,124	\$23,890,312	25.3%	2020-21	\$2,404,702	\$117,718	(\$1,803,015)	\$719,405
7/1/2020	32,642,000	9,184,000	23,458,000	28.1%	2021-22	2,489,000	120,000	(1,832,000)	777,000
7/1/2021	33,301,000	10,462,000	22,839,000	31.4%	2022-23	2,595,000	113,000	(1,901,000)	807,000
7/1/2022	33,976,000	11,884,000	22,092,000	35.0%	2023-24	2,704,000	101,000	(1,987,000)	818,000
7/1/2023	34,607,000	13,431,000	21,176,000	38.8%	2024-25	2,769,000	87,000	(2,113,000)	743,000
7/1/2024	35,114,000	15,091,000	20,023,000	43.0%	2025-26	2,831,000	84,000	(2,165,000)	750,000
7/1/2025	35,435,000	16,782,000	18,653,000	47.4%	2026-27	2,907,000	78,000	(2,228,000)	757,000
7/1/2026	35,703,000	18,592,000	17,111,000	52.1%	2027-28	3,004,000	63,000	(2,331,000)	736,000
7/1/2027	35,914,000	20,528,000	15,386,000	57.2%	2028-29	3,061,000	56,000	(2,398,000)	719,000
7/1/2028	35,948,000	22,569,000	13,379,000	62.8%	2029-30	3,148,000	44,000	(2,481,000)	711,000
7/1/2029	35,907,000	24,728,000	11,179,000	68.9%	2030-31	3,202,000	42,000	(2,522,000)	722,000
7/1/2030	35,715,000	27,021,000	8,694,000	75.7%	2031-32	3,265,000	37,000	(2,575,000)	727,000
7/1/2031	35,474,000	29,477,000	5,997,000	83.1%	2032-33	3,326,000	31,000	(2,627,000)	730,000
7/1/2032	35,162,000	32,101,000	3,061,000	91.3%	2033-34	3,324,000	27,000	(2,675,000)	676,000
7/1/2033	34,755,000	34,902,000	(147,000)	100.4%	2034-35	0	25,000	(2,706,000)	(2,681,000)
7/1/2034	34,267,000	37,832,000	(3,565,000)	110.4%	2035-36	0	23,000	(2,734,000)	(2,711,000)
7/1/2035	33,727,000	37,485,000	(3,758,000)	111.1%	2036-37	0	19,000	(2,771,000)	(2,752,000)
7/1/2036	33,135,000	37,080,000	(3,945,000)	111.9%	2037-38	0	15,000	(2,807,000)	(2,792,000)
7/1/2037	32,469,000	36,602,000	(4,133,000)	112.7%	2038-39	0	12,000	(2,829,000)	(2,817,000)
7/1/2038	31,722,000	36,045,000	(4,323,000)	113.6%	2039-40	0	11,000	(2,836,000)	(2,825,000)

Section III - Development of Contribution
D. History of Funded Status

Valuation Date	Actuarial Value of Assets	Accrued Liability	Unfunded Accrued Liability	Funded Ratio
July 1, 2011	3,550,545	21,313,549	17,763,004	16.7%
July 1, 2013	4,379,827	22,738,356	18,358,529	19.3%
July 1, 2015	5,329,960	27,321,401	21,991,441	19.5%
July 1, 2017	6,460,556	29,699,940	23,201,647	21.8%
July 1, 2019	7,894,838	31,996,436	23,890,312	24.7%

Section III - Development of Contribution

E. History of City Contributions

Fiscal Year	Actuarially Determined Contribution	Actual City Contribution	Payroll	Actual Contribution as a Percent of Payroll
2011-12	\$1,404,794	\$1,492,075	\$1,645,791	90.7%
2012-13	1,460,986	1,533,262	N/A	N/A
2013-14	1,519,425	1,495,339	N/A	N/A
2014-15	1,536,083	1,571,325	1,678,136	93.6%
2015-16	1,597,526	1,559,866	1,678,136	93.0%
2016-17	2,009,923	1,691,901	1,689,604	100.1%
2017-18	2,080,270	1,894,851	1,689,604	112.1%
2018-19	2,174,625	2,150,220	1,275,933	168.5%
2019-20	2,250,737	TBD	1,275,933	TBD
2020-21	2,404,702	TBD	984,212	TBD

Section IV - Membership Data

A. Reconciliation of Membership from Prior Valuation

Details of the changes in the Plan membership since the last valuation are shown below. Additional details on the Plan membership are provided in the remainder of Section IV.

	Active Members	Terminated Vested Members	Nonvested Members Due Refunds	Service Retirees	Disabled Retirees	Beneficiaries	Total
Count July 1, 2017	15	0	0	27	0	6	48
Terminated							
- no benefits due	-	-	-	-	-	-	0
- paid refund	-	-	-	-	-	-	0
- vested benefits due	-	-	-	-	-	-	0
Retired	(3)	-	-	3	-	-	0
Died							
- with beneficiary	-	-	-	-	-	-	0
- no beneficiary	-	-	-	-	-	(3)	(3)
Benefits expired	-	-	-	-	-	-	0
New member	-	-	-	-	-	-	0
Rehired	-	-	-	-	-	-	0
New Alternate Payee	-	-	-	-	-	-	0
Correction	-	-	-	-	-	-	0
Count July 1, 2019	12	0	0	30	0	3	45

Section IV - Membership Data
B. Statistics of Active Membership

	As of July 1, 2017	As of July 1, 2019
Number of Active Members	15	12
Average Age	47.9	48.1
Average Service	16.8	16.1
Total Payroll	\$1,275,933	\$984,212
Average Payroll	85,062	82,018

Section IV - Membership Data

C. Statistics of Inactive Membership

	As of July 1, 2017	As of July 1, 2019
Terminated Vested Members		
Number	0	0
Total Annual Benefit	\$0	\$0
Average Annual Benefit	0	0
Average Age	0.0	0.0
Service Retirees		
Number	27	30
Total Annual Benefit	\$1,404,809	\$1,654,684
Average Annual Benefit	52,030	55,156
Average Age	64.5	65.5
Disabled Retirees		
Number	0	0
Total Annual Benefit	\$0	\$0
Average Annual Benefit	0	0
Average Age	0.0	0.0
Beneficiaries		
Number	6	3
Total Annual Benefit	\$225,693	\$121,647
Average Annual Benefit	37,616	40,549
Average Age	76.5	70.0

Section IV - Membership Data
E. Distribution of Inactive Members as of July 1, 2019

	Age	Number	Annual Benefits
Terminated Vested Members	< 50	0	\$0
	50 - 59	0	0
	60 - 69	0	0
	70 - 79	0	0
	80 - 89	0	0
	90 +	<u>0</u>	<u>0</u>
	Total	0	0
Service Retirees	< 50	2	\$72,904
	50 - 59	8	446,107
	60 - 69	12	757,280
	70 - 79	5	251,943
	80 - 89	3	126,449
	90 +	<u>0</u>	<u>0</u>
	Total	30	1,654,684
Disabled Retirees	< 50	0	\$0
	50 - 59	0	0
	60 - 69	0	0
	70 - 79	0	0
	80 - 89	0	0
	90 +	<u>0</u>	<u>0</u>
	Total	0	0
Beneficiaries	< 50	0	\$0
	50 - 59	1	49,769
	60 - 69	0	0
	70 - 79	2	71,878
	80 - 89	0	0
	90 +	<u>0</u>	<u>0</u>
	Total	3	121,647

Section V - Analysis of Risk

A. Introduction

The results of this actuarial valuation are based on one set of reasonable assumptions. However, it is almost certain that future experience will not exactly match these assumptions. As an example, the plan's investments may perform better or worse than assumed in any single year and over any longer time horizon. It is therefore important to consider the potential impacts of these likely differences when making decisions that may affect the future financial health of the plan, or of the plan's members.

In addition, as plans mature they accumulate larger pools of assets and liabilities. The increase in size in turn increases the potential magnitude of adverse experience. As an example, the dollar impact of a 10% investment loss on a plan with \$1 billion in assets and liabilities is much greater than the dollar impact for a plan with \$1 million in assets and liabilities. Since pension plans make long-term promises and rely on long-term funding, it is important to consider how mature the plan is today, and how mature it may become in the future.

Actuarial Standard of Practice No. 51 (ASOP 51) directs actuaries to provide pension plan sponsors with information concerning the risks associated with the plan:

- Identify risks that may be significant to the plan.
- Assess the risks identified as significant to the plan. The assessment does not need to include numerical calculations.
- Disclose plan maturity measures and historical information that are significant to understanding the plan's risks.

This section of the report uses the framework of ASOP 51 to communicate important information about significant risks to the plan, the plan's maturity, and relevant historical plan data.

Please see Section III C for more information on the basis for the projected results shown on the following pages.

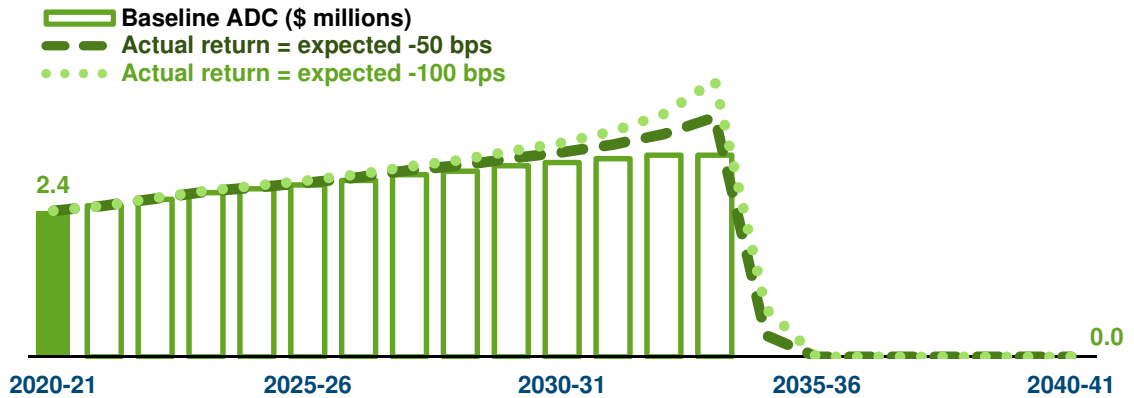
Section V - Analysis of Risk

B. Risk Identification and Assessment

Investment Risk

Definition: This is the potential that investment returns will be different than expected.

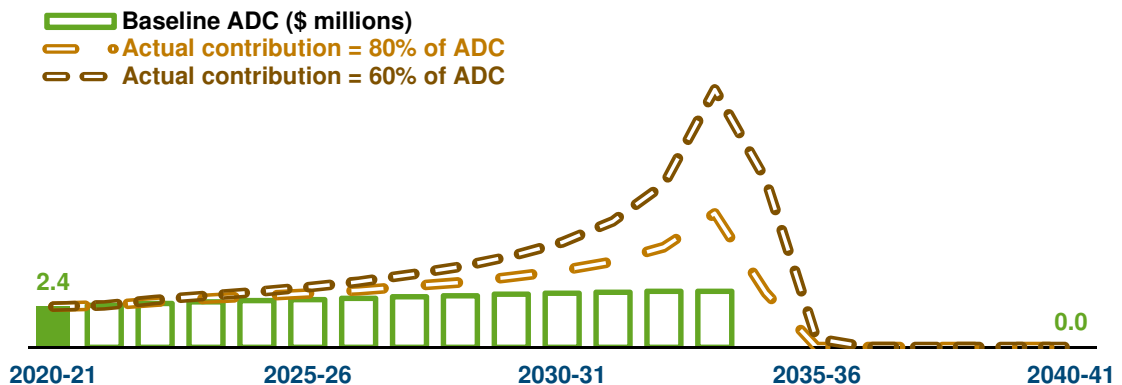
Identification: To the extent that actual investment returns differ from the assumed investment return, the plan's future assets, Actuarially Determined Contributions, and funded status may differ significantly from those presented in this valuation. The consequences of persistent underperformance on future Actuarially Determined Contribution levels are illustrated below:



Contribution Risk

Definition: This is the potential that actual future contributions will be less than the Actuarially Determined Contribution.

Identification: Over the past 8 years, actual contributions have been 97.1% of the Actuarially Determined Contribution in total. The consequences of persistent underfunding on future Actuarially Determined Contribution levels are illustrated below:



Section V - Analysis of Risk

B. Risk Identification and Assessment

Liquidity Risk

Definition: This is the potential that assets must be liquidated at a loss earlier than planned in order to pay for the plan's benefits and operating costs. This risk is heightened for plans with negative cash flows, in which contributions are not sufficient to cover benefit payments plus expenses.

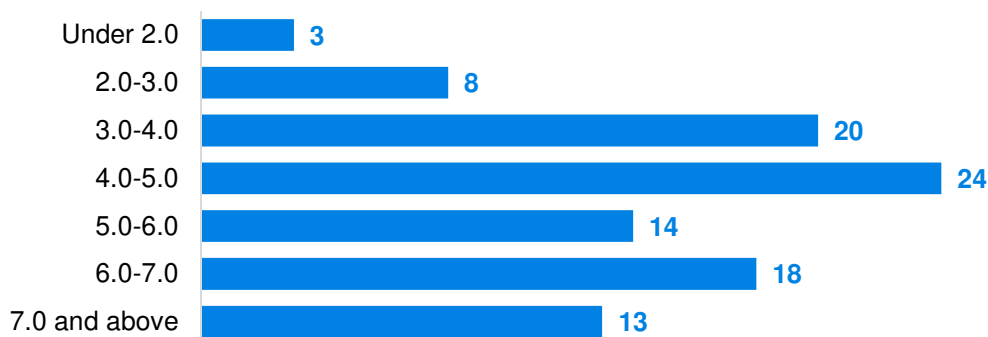
Identification: In 2018-19, the plan had positive cash flow, with city and member contributions to the plan of \$2,252,822 compared to \$2,019,205 of benefit payments and administrative expenses paid out of the plan. We suggest that you consult with your investment advisors with respect to the liquidity characteristics of the plan's investment holdings.

Maturity Risk

Definition: This is the potential for total plan liabilities to become more heavily weighted toward inactive liabilities over time, and for plan assets and/or liabilities to become larger relative to the active member liability.

Identification: The plan is subject to maturity risk because as plan assets and liabilities continue to grow, the dollar impact of any gains or losses on the assets or liabilities also becomes larger.

Assessment: As of July 1, 2019, the plan's Asset Volatility Ratio (the ratio of the market value of plan assets to payroll) is 8.2. According to Milliman's 2018 Public Pension Funding Study, the 100 largest US public pension plans have the following range of Asset Volatility Ratios:



Inflation Risk

Definition: This is the potential for a pension to lose purchasing power over time due to inflation.

Identification: The members of pension plans without fully inflation-indexed benefits are subject to the risk that their purchasing power will be reduced over time due to inflation.

Assessment: This plan provides for some postretirement benefit increases, but the increases are not directly tied to each year's rate of actual inflation; this leaves members bearing some inflation risk.

Section V - Analysis of Risk

B. Risk Identification and Assessment

Insolvency Risk

Definition: This is the potential that a plan will become insolvent; that is, assets will be fully depleted.

Identification: If a plan becomes insolvent, contractually required benefits must be paid from the plan sponsor's other remaining assets.

Assessment: Under the GASB 68 depletion date methodology, the plan is not projected to become insolvent. Please see the GASB 68 report for more details on the underlying analysis.

Demographic Risks

Definition: This is the potential that mortality, turnover, retirement, or other demographic experience will be different than expected.

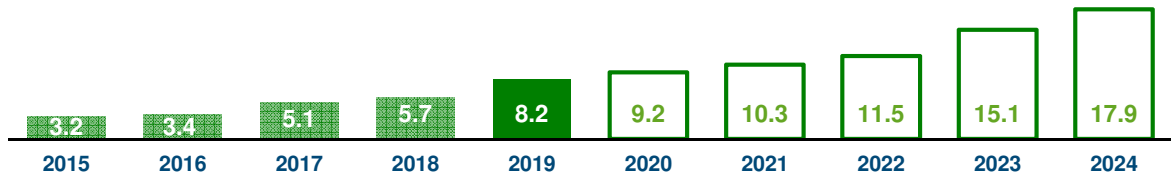
Identification: The pension liabilities reported herein have been calculated by assuming that members will follow patterns of demographic experience as described in Appendix B. If actual demographic experience or future demographic assumptions are different from what is assumed to occur in this valuation, future pension liabilities, Actuarially Determined Contributions, and funded status may differ significantly from those presented in this valuation. Formal Experience Studies performed on a regular basis are helpful in ensuring that the demographic assumptions reflect emerging plan experience.

Section V - Analysis of Risk

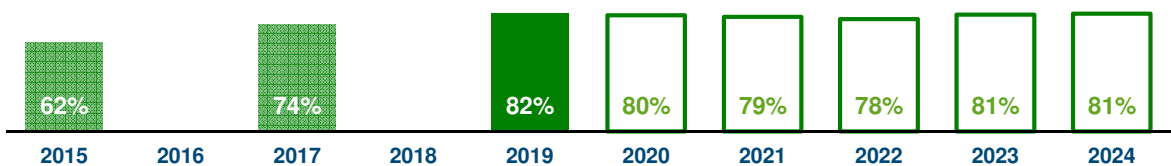
C. Maturity Measures

The metrics presented below are different ways of understanding the plan's maturity level, both in the past and as it is expected to change in the coming years.

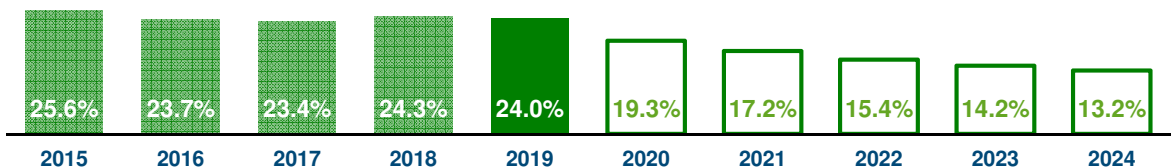
Asset Volatility Ratio: Market Value of Assets compared to Payroll



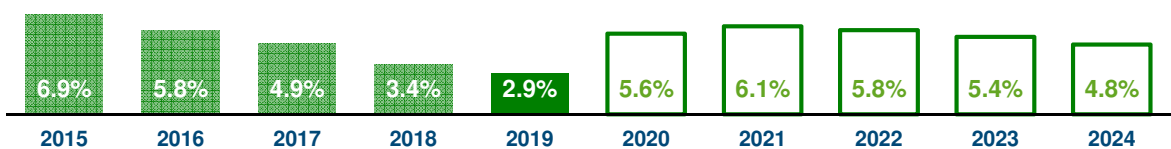
Accrued Liability for members in pay status compared to total Accrued Liability



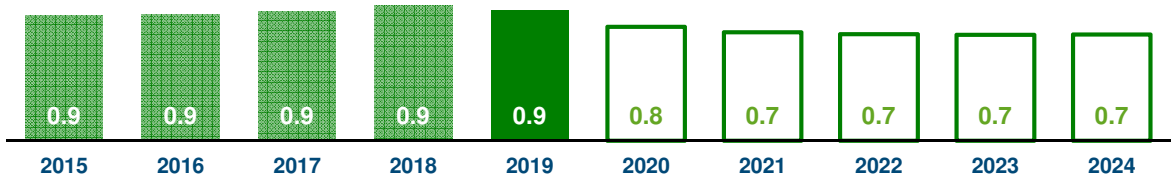
Benefit Payments compared to Market Value of Assets



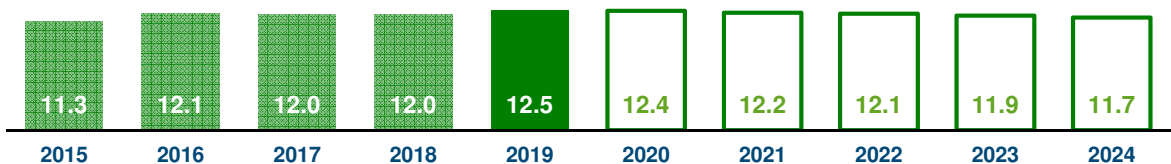
Net Cash Flows compared to Market Value of Assets



Benefit Payments compared to City Contributions



Duration of Accrued Liability (based on GASB 68 sensitivity disclosures)



Appendix A - Actuarial Funding Method

The actuarial funding method used in the valuation of this Plan is known as the Entry Age Normal Method. The Actuarially Determined Contribution consists of three pieces: Normal Cost plus a Past Service Cost payment to gradually eliminate the Unfunded Accrued Liability plus Interest to reflect the timing of the contribution relative to the valuation date.

The Normal Cost is determined by calculating the present value of future benefits for present active Members that will become payable as the result of death, disability, retirement or termination. This cost is then spread as a level percentage of earnings from entry age to termination as an Active Member. If Normal Costs had been paid at this level for all prior years, a fund would have accumulated. Because this fund represents the portion of benefits that would have been funded to date, it is termed the Accrued Liability. In fact, it is calculated by adding the present value of benefits for Retired Members and Terminated Vested Members to the present value of benefits for Active Members and subtracting the present value of future Normal Cost contributions.

The funding cost of the Plan is derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

The Unfunded Accrued Liability is the excess of the Accrued Liability over the assets which have been accumulated for the plan. This Unfunded Accrued Liability is amortized as a level percent. Beginning on July 1, 2003, the amortization period is 30 years; the amortization period will decrease each year until it reaches 10 years, after which point it will remain at 10 years.

The Actuarial Value of Assets is equal to the Market Value of Assets.

The long-range forecasts included in this report have been developed by assuming that members will terminate, retire, become disabled, and die according to the actuarial assumptions with respect to these causes of decrement, and that pay increases, cost of living adjustments, and so forth will likewise occur according to the actuarial assumptions. For those unions whose new employees are eligible to participate in this plan, members who are projected to leave active employment are assumed to be replaced by new active members with the same age, service, gender, and pay characteristics as those hired in the past few years.

Appendix B - Actuarial Assumptions

Each of the assumptions used in this valuation was set based on industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, and our professional judgment regarding future plan experience. We believe the assumptions are reasonable for the contingencies they are measuring, and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Interest Rate	6.75%
Amortization Growth Rate	3.50% per year
Salary Growth Rate	3.50% per year
Cost of Living Increases	Members who retire prior to November 27, 2013: Plans 1 & 2: 1.75% per year Plans 3 & 4: 1.01% per year Members who retire on or after to November 27, 2013: Plans 1, 2, 3, & 4: 2.75%
Healthy Mortality	Current: PubS-2010 Mortality Table with generational projection per the MP-2014 ultimate scale, with employee rates before benefit commencement and healthy annuitant rates after benefit commencement. This assumption includes a margin for mortality improvement beyond the valuation date. Prior: RP-2000 Combined Healthy Mortality Table with Blue Collar Adjustments and generational projection per Scale AA. 25% of deaths assumed to be service related. This assumption includes a margin for mortality improvement beyond the valuation date.
Disabled Mortality	Current: PubS-2010 Disabled Annuitant Mortality Table with generational projection per the MP-2014 ultimate scale. This assumption includes a margin for mortality improvement beyond the valuation date. Prior: RP-2000 Disabled Mortality Table. This assumption does not include a margin for mortality improvement beyond the valuation date.
Turnover	None
Retirement	50% are assumed to retire after age 47 and 20 years of service; 100% are assumed to retire by age 65; 10% are assumed to retire at all other ages on completion of 20 years of service.
Survivor Benefits	80% assumed to be married, wives 3 years younger than husbands.

Appendix B - Actuarial Assumptions

Disability

Rates that vary by age as follows:

Age	Rate
30	0.06%
40	0.18%
50	0.49%
60	1.20%

Expenses

None

Appendix C - Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Plan Year	July 1 to June 30	
Eligibility	Plan 1	Employees hired prior to July 1, 1998
	Plan 2	Employees hired from July 1, 1998 to December 31, 2001
	Plan 3	Employees hired from January 1, 2002 to June 30, 2008
	Plan 4	Employees hired on or after July 1, 2008
	The plan is closed to members hired after June 30, 2013.	
Salary Base	Plan 1	Highest Annual Salary (highest gross salary including overtime, but excluding educational incentives)
	Plan 2	Highest Base Pay (highest gross straight-time pay excluding overtime and educational
	Plan 3	Highest Base Pay (highest gross straight-time pay excluding overtime and educational
	Plan 4	Highest Base Pay (highest gross straight-time pay excluding overtime and educational

Appendix C - Summary of Plan Provisions

Normal Pension

Eligibility: Age 47 and 20 years of service

Benefit: 50% of salary base plus 2% of salary base for each year over 20 years up to 25 years plus 3% of salary base for each year over 25 years; maximum benefit 75% of salary base

Eligibility: Age 60 with less than 20 years of service

Benefit: 2% of salary base for each year of service

Disability Pension

Eligibility: 10 years of service

Benefit: 50% of salary base plus 1% of salary for every six months or portion thereof over 20 years

Eligibility: less than 10 years of service

Benefit: 25% of salary base

Vesting

Eligibility: 5 years

Benefit: 2% of salary base for each year of service, payable after 10th anniversary of employment with no escalation

Preretirement Death

Eligibility: immediate

Duty Related Benefit: surviving spouse receives 50% of highest annual salary until remarriage

Non Duty Related Benefit: surviving spouse receives 25% of highest annual salary until remarriage

If no spouse or if spouse dies, child receives above benefit until age

Appendix C - Summary of Plan Provisions

Employee Contributions

Effective July 1, 2019:
Plan 1: 10.5% of salary
Plans 2, 3 & 4: 12.5% of base pay

Previously:
Plan 1: 10.0% of salary
Plans 2, 3 & 4: 12.0% of base pay

Cost of Living Increases

For members retiring before November 27, 2013:

Plans 1 & 2: 50% of negotiated increase for active duty personnel at same rank

Plans 3 & 4: A cost-of-living increase every other year, odd or even, minimum of 2%. Retiree must have collected 7 months of retirement checks to be eligible for first cost of living increase. Cost-of-living increases will cease after benefit has increased by 50% of the original pension.

For members retiring on or after November 27, 2013:

Effective each July 1st based on the average of the four quarters of CPI-W ending on 12/31 of the preceding calendar year.

Normal Form of Benefit

100% Joint & Survivor Annuity

Appendix D - Glossary

Actuarial Cost Method - This is a procedure for determining the Actuarial Present Value of Benefits and allocating it to time periods to produce the Actuarial Accrued Liability and the Normal Cost.

Accrued Liability - This is the portion of the Actuarial Present Value of Benefits attributable to periods prior to the valuation date by the Actuarial Cost Method (i.e., that portion not provided by future Normal Costs).

Actuarial Assumptions - With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the plan will vary as well. Some examples of key assumptions include the interest rate, salary scale, and rates of mortality, turnover and retirement.

Actuarial Present Value of Benefits - This is the present value, as of the valuation date, of future payments for benefits and expenses under the Plan, where each payment is: a) multiplied by the probability of the event occurring on which the payment is conditioned, such as the probability of survival, death, disability, termination of employment, etc.; and b) discounted at the assumed interest rate.

Actuarial Value of Assets - This is the value of cash, investments and other property belonging to the plan, typically adjusted to recognize investment gains or losses over a period of years to dampen the impact of market volatility on the Actuarially Determined Contribution.

Actuarially Determined Contribution (“ADC”) - This is the employer’s periodic contributions to a defined benefit plan, calculated in accordance with actuarial standards of practice.

Attribution Period - The period of an employee’s service to which the expected benefit obligation for that employee is assigned. The beginning of the attribution period is the employee’s date of hire and costs are spread across all employment.

Interest Rate - This is the long-term expected rate of return on any investments set aside to pay for the benefits. In a financial reporting context (e.g., GASB 68) this is termed the Discount Rate.

Normal Cost - This is the portion of the Actuarial Present Value of Benefits allocated to a valuation year by the Actuarial Cost Method.

Past Service Cost - This is a catch-up payment to fund the Unfunded Accrued Liability over time (generally 10 to 30 years). A closed amortization period is a specific number of years counted from one date and reducing to zero with the passage of time; an open amortization period is one that begins again or is recalculated at each valuation date. Also known as the Amortization Payment.

Return on Plan Assets - This is the actual investment return on plan assets during the fiscal year.

Unfunded Accrued Liability - This is the excess of the Accrued Liability over the Actuarial Value of Assets.

**CITY OF WEST HAVEN
FY18 - 19 Audit Issues**

ID #	Area	Condition	Remedy	Comments	Date Completed	Status
1	Education - Payables	During our testing, we noted that a significant number of invoices that were not properly recorded in the proper fiscal year.	The Board will follow the generally accepted accounting principles set forth by the auditor. Effective immediately, the Board has instituted a new systematic month end cut off procedure. This will require the AP staff to book accruals for any invoices that have not been received prior to the close. This will allow the Board to complete its Month End Budget to Actual reports in a timely fashion and provide the reports to the City for their review and to meet their reporting requirements.	All invoices have been recorded to the proper fiscal year.	06/30/2020	Closed
2	City - Payroll	Currently, the City employees that process payroll have the ability to change employee pay rates. These employees also have the ability to update/edit master files, deductions and are set up as payroll super users with no restrictions.	As of 9/1 an employee in the Personnel Department is responsible for changing rates when needed.	Further controls will be automatically implemented once ADP is in house.	09/01/2020	Closed
3	Education - Payroll	Currently, the Education Department payroll clerk that processes payroll has the ability to change employee pay rates. The employee also has the ability to update/edit employee master files, deductions and are set up as payroll super users with no restrictions.	The Board is awaiting the implementation of the of ADP as they were the company selected by the City from the Payroll RFP. This selection will clear this finding immediately. The Board has also recently hired a new payroll coordinator that will be trained accordingly. This person be taught all aspects of the new payroll system and will be shared with the city as a form of cross-training.	HR. Department enters all new employees, job changes, or salary changes into MUNIS and assigns proper salary step or change. Payroll department now only processes payroll.	07/01/2019	Closed
4	Bidding Documentation	<ul style="list-style-type: none"> • Bid documentation for certain projects could not be located. • Bid waivers approved by City Council were not obtained for emergency projects above the bid threshold. • Items purchased under State bid were not formally documented on the purchase order or voucher 	Finance Director to investigate which projects were missing and identify root cause of deficiency			Open
			Department heads have been notified to contact purchasing director prior to addressing any further issues that may be exposed.	Reminder emails were sent to Department Heads. Finance director will reinforce at the monthly department headed meeting		Open
			Department heads have been notified that all purchases made from the State Approved vendor list need to be properly documented.	Reminder emails were sent to Department Heads. Finance director will reinforce at the monthly department headed meeting		Open
5	City Clerk	Currently, there are no unique separate logins for each City Clerk Department employee. All employees process transactions using the same login.	After the November 2019 election the new City Clerk corrected the situation. Employees now use unique login IDs		12/01/2019	Closed
6	Tax Collector	Currently, voided transactions must be approved by a senior staff member, but there is no review and approval of a monthly void report by the Tax Collector to monitor compliance with the procedure.	New process implemented after the 6/30/19 audit and is now in place	In addition to the 2 signatures required at the window, when the drawers are taken off and counted by an Analyst if there is no second signature as is required by business practice on the Void, it is called to the attention of the Revenue and Asset Manager. Additionally, the attached report is reviewed and balanced with the daily cash report when the month is closed.	09/01/2020	Closed
7	Pension Plans	Currently, the Police Pension Plan and Allingtown Pension Plan investments are managed by separate investment advisors with separate investment strategies.	Corp Counsel is working on an RFP to consolidate investment management	The respective pension commissions will need to be on board prior to any combined management.		Open
8	Alternative Investments	Although the City has their investment manager monitor their pension investments, currently, there is no formal monitoring of the alternative investments by the City Finance Department and/or Pension Commission.	Corp Counsel is working on an RFP to consolidate investment management			Open
9	Account Reconciliation	Currently, the City's withholding liability accounts were not reconciled at year end.	Accounting will implement a process to reconcile the withholding liability accounts		09/01/2020	Closed

**CITY OF WEST HAVEN
FY18 - 19 Audit Issues**

ID #	Area	Condition	Remedy	Comments	Date Completed	Status
10	Allingtown FD - Personnel files	The City Personnel Department does not maintain adequate personnel files and salary related documentation of the Allingtown Fire Department employees.	AFD has agreed to making copies of the personnel files.	Outsourcing payroll and HR will result in electronic records that can be accessed by the City Personnel Dept.		Open
11	Allingtown FD - Capital Assets	Capital asset deletions should be identified and reported annually. We noted that the Allingtown Fire Department have not had any significant deletions over the past two fiscal years.	I will speak to AFD again. They were to complete a physical inventory last year.	AFD is preparing an inventory list for the FY20 audit		Open
12	Allingtown FD - Pension Fund	During the year, the Allingtown Fire Department withdrew monies from the pension fund and recorded the amount as miscellaneous revenue in the general ledger. The monies were then deposited into the pension fund and recorded as a contribution.	AFD was informed and has discontinued the process		09/01/2020	Closed
13	Education - Journal Entries	Currently, the Education Department journal entries are prepared by the Business Manager, recorded by another employee, and approved in the system by the Business Manager.	Education is revising their closing procedures in coordination with Item #1	All common journal entries are performed by a member of the Business Office and approved by the Business Manager. Any entry that needs advanced analysis will be done by the Business Manager and brought to the City Finance Director to be signed off on.	04/30/2020	Closed
14	Education - Student Activity Funds	Various student activity fund accounting records are maintained on a manual basis and are not under general ledger control.	The Board is awaiting a list of software that is used by the auditor's other clients. Once received, the Board will review and select a program. Staff will be trained and the program will be in use for the beginning of next school year (August 2020).	Software systems are still being researched. Staff training and implementation has been delayed due to the challenges of opening schools under the current climate.		Open
		Various student activity fund accounting records are maintained on a manual basis and are not under general ledger control.		Funds are being created within MUNIS to bring the accounting records under general ledger control.		
15	Education - Education Grants	We noted that in some instances certain education grants are overexpended during the year, but are adjusted to the correct balances after year end.	The Board's new systematic month end cut off procedures will extend to the Education Grants as well as the Operating Budget accounts. This procedure will ensure the proper monitoring and reporting of the general fund and grants.	All grant adjustments are made in concert with the BOE's month end close procedure.	04/30/2020	Closed

Updates:

- #7 Corporation Counsel has started putting together an RFP to consolidate investment management including, WHPD Pension, AFD Pension, OPEB Trust, 401k (if possible)
- #8
- #9 New Junior Financial Analyst has started reconciling withholding accounts. This process previously done annually will be built into the normal monthly closing process
- #11 Allingtown Fire is completing a physical inventory for the FY20 audit

Action Items Log (Some Completed Items are Hidden)

CoWH & ADP Workforce Now

Workstream	Title	Notes/Next Steps	Priority	Owner	Start Date	Due Date	Complete Date	Status	Comments
Time	Time Welcome Call	Conduct Time Welcome call	Medium	David and CoWH Team	6/25/20	7/9/20	7/9/20	Complete	
HR	Logo	WH to send City Seal file.	Low	Frank	6/26/20	7/10/20	7/8/20	Complete	
HR	Send School Location Addresses	Need location table (codes and addresses) for schools	High	Erin	7/3/20	7/17/20	7/15/20	Complete	Erin sent today
Payroll	Fed ID Proof	Need Proof of Fed ID	Medium	Erin and Doug	7/3/20	7/17/20	7/20/20	Complete	941 works - anything with IRS letterhead
Time	Business Structure Analysis Call	Conduct Business Structure Analysis call	High	David, CoWH Team	7/9/20	7/23/20		Complete	Will pair this with ongoing Training and have a "Part II" Analysis Session as follow up
HR	WC Codes Needed	Frank to provide WC codes for all jobs School and City	Medium	Frank	7/10/20	7/24/20	7/21/20	Complete	
Payroll	Bank accounts for funding	Need a spec sheet or voided check for the accounts we will be debiting for various services. Decision needs to be made on what account to use for each service by COWH	Low	Erin and Doug	7/10/20	7/24/20	7/20/20	Complete	Bob just uploaded Bank info this a.m. (7/15) to LP. Sample Check as well. Likely complete
Payroll	Shift Differentials	BOE does not have Shift diffs in their union contracts. Need documentation from the City side for shift differentials.	Medium	Doug	7/10/20	7/24/20	7/20/20	Complete	Doug uploaded Xsheet on this to LP this a.m. (7/15) Lori (David) will review and advise.
Payroll	Analysis questions Pension	Doug and Bob to research and report on logic of Pension, Police Insurance, and Met life deductions	Medium	Doug/Bob	7/10/20	7/24/20	7/20/20	Complete	
HR	Create new under 51 file numbers	Two employees with file numbers under 51 will need new numbers.	High	Erin	7/13/20	7/27/20		Complete	Erin advises will have complete by End of week (have to change in Legacy System 1st). Erin addressed on 7/23
Time	Time Policy Analysis Call	Conduct Time Policy Analysis call	High	David, CoWH Team	7/16/20	7/30/20		Complete	
Data Conversion	YTD Balance Source File	WH to send Copy of YTD Source File to ADP for Initial Review	Medium	Bob ?	7/17/20	7/31/20	7/8/20	Complete	Bob uploaded EE Accumulator Monthly_Active & Pension 061920.xlsx
Payroll	Analysis questions	There are a few yellow highlighted items on the payroll config workbook that was loaded to LP on 7-9-20. Need COWH team to review and respond. 7-27- Lori sent a meeting invitation for 8-3-20 to discuss-Lori 8-4- Meeting left some pending items. Added each as an action item below. Marking this complete	Medium	Erin and Doug	7/22/20	8/5/20		Complete	Still need logic of BOE Union dues for 8507 8509 and 8511
Payroll	Employer Match calcs	Need logic of match for 401k	Medium	??	7/23/20	8/6/20		Complete	Will discuss further on 8/4 Mtg as well
HR	Benefit Plans	Send all Current Benefit Plan Info to Daniel (Matt will send Boe, Beth will send City).	High	Matt & Beth	7/24/20	8/7/20	???	Complete	Daniel has been workign with Seth - key outstanding items are Rate Structure, Any remaining SPD's. Also follow up with Vivian as needed.
Payroll	New Pay Codes	New pay codes are needed as a result of the Shift differential discussions. Lori to provide a revised Configuration workbook.	Medium	Lori	7/24/20	8/7/20		Complete	
Time	Business Structure analysis Follow up Meetings	ADP to send out availability dates/times for our next Business Structure analysis session(s)	High	Time IC	7/25/20	8/8/20		Complete	
Time	Board of ED Org Chart/Structure	City of West Have to provide "Board of ED Org Chart/Structure" –	High	COWH-Matthew Cavallaro	7/25/20	8/8/20		Complete	We have City's Org Chart - Matt will facilitate BoE's
Payroll	Pay and Deduction code verification	COWH to validate the deduction and earnings codes in the workbook	High	Lori/Erin/Doug/BofE	7/31/20	8/14/20		Complete	Need this in order to populate Launchpad
Time	WFMgr Entitlement Counts to Order	Finalize OVERALL EE COUNT Of Workforce Manager Entitlement Counts to order (Hourly, Salary, Accruals, Leave, Scheduling, Analytics). Provided estimated count for Managers	Medium	Beth/Matt	7/31/20	8/14/20		Complete	City: 425 (weekly) BOE: 1,027 (Bi-Weekly) H&H: 2 (monthly)
Time	Tenant URL {TAG}	Define the unique Tenant URL {TAG} for your organization which will be used across the UAT and Production Tenants (referenced on page 7 of the Time Welcome Call deck)	Medium	Frank	7/31/20	8/14/20		Complete	

Action Items Log (Some Completed Items are Hidden)

CoWH & ADP Workforce Now

Workstream	Title	Notes/Next Steps	Priority	Owner	Start Date	Due Date	Complete Date	Status	Comments
Integrations	Review Standard Reports	West Haven to review standard reports guide and determine what currently in use reports will not be covered, and will need to be recreated in WFN.	High	Frank/Doug/Erin/Matt	8/1/20	10/18/20		Behind Schedule	Need to define final list of mission critical reports/integrations for go live.
Payroll	Logic of company code assignment	COWH and BOE to provide mapping of Department to Company	High	Doug/Bob/Erin	8/7/20	8/21/20		Complete	any org code that begins with alpha is BOE, Retirees-Location 980
Payroll	Masterfile meeting take aways	Clarification on State marital status	Medium	Bob	8/14/20	8/28/20		Complete	State will always be the same as Fed (for conversion)
Payroll	Logic of Employer H.S.A. calc	COWH and BOE to provide the frequency and amount of the annual and semi annual employer H.S.A. contribution.	Medium	Lori/Erin/Doug/Bob	8/14/20	8/28/20		Complete	Per Mtg on 8/26: Fire Dept = 1 a yr in JUL, Other City entities, JUL & JAN. Matt would be able to provide more detail/Clarity.
Payroll	Fed Proof for retirement group	We never received Fed ID proof for the retirement company	High	Doug	8/14/20	8/28/20		Complete	
Payroll	Union Dues calcs	Erin and Lori to work on fleshing out the requirements for union dues. 7-23- Lori Reviewed contracts. No specifics about amounts. Per Erin, Matt will get back to me with Rates. 8-18- We resolved all but one deduction. Matt to research	High	Matt	8/14/20	8/28/20		Complete	Matt advised he would tackle this specific Union Calc that is due
Payroll	Masterfile meeting take aways	Listing of Police Officers by category- Probably Job class plus some other field.	Medium	Bob	8/14/20	8/28/20		Complete	
Payroll	Taxability of BOE retirement	Erin to work with Matt to provide taxability of BOE Earnings code 863,864	Medium	Erin/Matt	8/14/20	8/28/20		Complete	
Payroll	Payroll Schedule change	In order to keep just 3 co codes COWH has decided to combine all 4 period endings into one. Need to decide which one.	High	COWH team	8/14/20	8/28/20		Complete	As of 7/15, WH team leaning towards combining period ending dates for one group. Per Doug/ Frank they will discuss internally on this to ensure no contractual conflicts. As of 8/26, will go with Monday to Sunday for all.
Payroll	Sit Proof for Retirees	Does the City have to file tax returns to the state that each retiree lives in?	High	Doug/Bob	8/14/20	8/28/20		Complete	
Payroll	SUI ID Numbers	Need SUI ID numbers for all FEINs	High	Doug/Erin	8/14/20	8/28/20		Complete	
Payroll	Upcoming Payroll Analysis Meetings	8-3 Leftover Pay code questions. 8-4 -Special Calculations, 8-11 Employee masterfile and conversion mapping.8-18- Last session will be 8/25, Standard reports	Medium	Lori, Erin, Doug	8/20/20	9/3/20		Complete	One more meeting to discuss DIA
Payroll	Shift Differentials	Further analysis needed for Shift differentials. David L is working on this.	Medium	David Landin/Lori/CO WH	8/20/20	9/3/20		Complete	
Integrations	Conclude Integrations	UBS/Empower already underway. 403B - with different providers. ~ 600 EE's.	High	Doug / Erin / All	9/1/20	10/18/20		Behind Schedule	Mtg w/Empower on 11/5, need to conclude scope of others - will review with Matt on 11/2
Project (All)	Complete Core Training	All CoWH Team members should have all Core training for HR, PR, and Time completed by 10/26	High	Erin, Doug, Frank, Beth, Matt, Josephine, Bob	9/1/20	10/24/20		Behind Schedule	
Time	Complete Remaining Analysis Calls	<ul style="list-style-type: none"> Core Time (Payrules) Paid Time Off Business Structure (Please complete Training in advance) Final Review 	High	David, CoWH Team	9/3/20	9/17/20		Complete	Pay Rules Policies will be reviewed on 9/17, and final review of Time Off as well. May schedule one last meeting re: Scheduling and Corp Structure on 9/24.
HR	Company Policies	West Haven has decided to utilize Company Policy features in WFN. Need organized files.	Medium	Lee	9/4/20	9/18/20		Complete	
HR	Licenses, Certs, etc.	City/Schools to provide list of Licenses/Certifications, Skills, Memberships	Low	Erin/Frank	9/4/20	9/18/20		Complete	Erin sent BoE items on 8/26. & Erin uploaded further City data on 9/10 - this should be all set - ADP to double check
HR	Mission Statement	Need mission statements for employee self-service. City already has this. Schools to research.	Low	Lee	9/4/20	9/18/20		Complete	We have BoE as of 7/29 - need City

Action Items Log (Some Completed Items are Hidden)

CoWH & ADP Workforce Now

Workstream	Title	Notes/Next Steps	Priority	Owner	Start Date	Due Date	Complete Date	Status	Comments
HR	City Property	Someone will speak to Dave in IT to pull list of employee IDs and associated city/school property items	Low	Frank/Doug	9/4/20	9/18/20	10/29/20	Complete	Erin sent over list of Phones - working on Computers
HR	Source Data Issues to be Addressed	See Recap sent on 7/10. All EE's need supervisor "attached" to them for "reports to" Functions in ADP WFN. Per Erin - BoE, Mgr may or may not be same person who covers PTO approvals/Comp, etc.	High	Erin	9/9/20	9/23/20		Complete	As of 9/2 Mtg: Erin advises she is close to done on this effort for BoE. Beth advises she will address City side. Since this will stem from MUNIS, looking to have this complete by 9/23 - before we pull data for go-live/testing
HR	Review Duplicate Positions	West haven to review duplicate positions, file numbers, business units, etc.	High	Frank/Doug	9/9/20	9/23/20		Complete	Per Doug on 8/5, a pattern for some of the "Dupes" are EE's who work for both City and BoE. ADP has put together a report as of 8/26 that breaks out the EE's we see as having more than 3 instances. Will share with CoWH team
Payroll	Deduction frequency Validation	COWH team to validate the deduction frequencies in the config workbook	Medium	Lori/Erin/Doug/Bob	9/11/20	9/25/20		Complete	Doug Uploaded an Update of this to LP on 9/9
Payroll	Analysis Questions Deductions	Frequency of BOE deductions-Erin to upload the BOE deduction manual- No manual as of 7-22- 7-24- Received deduction sheet. Updated workbook. Will discuss on 8-3 meeting	Medium	Erin	9/11/20	9/25/20		Complete	Doug Uploaded an Update of this to LP on 9/9
Payroll	Masterfile meeting take aways	List of employees in Police department who work second and night shift on a permanent basis. ADP needs to assign a field for this	Medium	Lori & Bob	9/11/20	9/25/20		Complete	In ADP's court as of 9/1 - Lori/David will follow up on this which will include Shift Diff
Payroll	Masterfile meeting take aways	Listing of Medicare Only employees	Medium	Bob & Erin	9/11/20	9/25/20		Complete	Erin sent excel version on 9/9 - TY!
GL	Conduct GL Analysis Mtgs	Bob for both Cith and BoE	Medium	Bob & Tia	9/11/20	9/25/20		Complete	
Change Management	Assign formal Change Champion Role @ CoWH	Work with Bernadette Nace from ADP to get action plan underway ASAP.	High	Nicole Jordan (Bernadette Nace)	9/21/20	10/18/20		Behind Schedule	Per Lee on 10/28, feels CoWH will have this person named/in place Wk of 11/2
Data Conversion	Dual Maintenance	Dual Maintenance Data Gathering Begins	High	Erin and Doug	9/28/20	11/4/20		Complete	
HCM	Gather Benefits Enrollment/Dependant Data (BOE)	West Haven to provide dependant, beneficiary, enrollment data.	Medium	Matt	10/1/20	11/20/20		In Progress	We have Beth's/City - still in need of Matt's/BoE
Data Conversion	EE Conversion	Finalize Employee Data Mapping Updates	High		10/4/20	10/18/20		Complete	
Data Conversion	EE Conversion	Post Conversion Data Validation Review - ADP	High	ADP Team	10/10/20	10/24/20		Complete	
Data Conversion	EE Conversion	Time Data Conversion	High	David L.	10/10/20	10/24/20		Complete	
Payroll	Liens and Garnishments	Meet and Clarify Options	Medium	Bob & Erin	10/12/20	10/26/20		Complete	Per Mtg on 9/14, Doug advised that with the 20 or so to address, He/CoWH will key these into WFN once the data base is "up" - Lori will do a demo for this.
Data Conversion	EE Conversion	Go-Live Validation Review	High	ADP Team	10/12/20	10/26/20		Complete	
Data Conversion	EE Conversion	Finalize and Send to WFN	High	ADP Team	10/12/20	10/26/20		Complete	
Data Conversion	EE Conversion	ADP Review of Data Conversion	High	ADP Team	10/12/20	10/26/20		Complete	
Validation/Testing	Validation	Access / Review	Medium	Daniel, Erin, Matt, Doug	10/12/20	10/26/20		Complete	
Data Conversion	EE Conversion	Post Conversion Data Validation Review - CoWH	High	Bob / Frank	10/18/20	10/26/20		Behind Schedule	See files put out on Launch Pad - request review and feedback/sign off asap
Time - CLOCKS	Use of Clocks	Conclude final # of clocks / Kiosks/ PC's for "Punching" Overall	High	Lee	10/19/20	11/2/20		Complete	GV sent revised paperwork to Lee re: 22 clocks on 10/29
Change Management	Sign SOW and Return to Bernadette / Greg		High	Nicole Jordan (Bernadette Nace)	10/29/20	10/30/20		Behind Schedule	Per Lee on 10/28, feels CoWH will have this person named/in place Wk of 11/2
Integrations	Validation	Conduct Validation & Learning Call(s) - Reports	Medium		11/1/20	11/28/20		In Progress	JUNE 30th - ANNUAL for Auditing on the PTO Liability
HCM	Validation	Conduct Validation & Learning Call(s) - WFN HR	Medium	Matt, Beth, Erin, Doug (DANIEL)	11/1/20	11/27/20		In Progress	Meeting Every Monday @ 11a

Action Items Log (Some Completed Items are Hidden)

CoWH & ADP Workforce Now

Workstream	Title	Notes/Next Steps	Priority	Owner	Start Date	Due Date	Complete Date	Status	Comments
Data Conversion	EE Conversion	Address known items from Data Conversion	High	Bob, Erin, Doug, Frank	11/2/20	11/13/20		In Progress	Data Still Needed: •Credit Union Direct Deposit Info for City EE's (Doug) •HSA Info for City EE's Data Issues Found: 1. 7 active missing seniority date 2. 373 active missing race 3. 328 active missing ethnicity 4. 18 missing actual marital status 5. 214 active missing reports to
Payroll	Validation	Conduct Validation & Learning Call(s) - Payroll	High	Lori, Erin, Doug	11/2/20	12/4/20		In Progress	Recurring Call of ???
Data Conversion	Dual Maintenance	Dual Maintenance Period of time = 9/28 to 12/16. Edits can be done in WFN at this point	High	Erin, Doug, Matt, Beth, Josephine	11/2/20	12/14/20		In Progress	Ends with last payroll in legacy system
Change Management	Leadership Briefing	Board/Executive Team • Leadership Team	High	Nicole Jordan (Bernadette Nace)	11/2/20	11/6/20		Behind Schedule	Provide a briefing to leaders about ADP's WFN and Workforce Manager solution and other changes coming • Share details of the communication rollout so that all are aware of the high level plan.
GL	Conclude Analysis & configuration	Tia/Bob to sync up meeting time to address final mapping items	Medium	Bob, Matt, TIA	11/2/20	11/9/20		Complete	Booked for 11/4 @ 3:30p
Time	Use of Schedules	Continue discussions on use/tact of Basic Schedules as it applies to testing/go-live.	Medium	David, Erin, Doug	11/5/20	11/13/20		Complete	
Time	Validation	UAT Plan / Checklist Overview	Medium	David, Erin, Doug	11/5/20	11/5/20	11/5/20	Complete	Mtg on 11/5 @ 1p ET
Payroll	Validation	Process Payroll Comparison Testing	High	Lori, Erin, Doug	11/9/20	12/4/20		In Progress	Discuss Scheduling on 11/10 status Call
HCM	Prepare for Go Live	Complete any setup needed for BOE Manager SS Workflow	High	Matt, Beth, Erin, Doug (DANIEL)	11/9/20	11/28/20		In Progress	Address In Monday Meeting Series (These items are tied to "Change management" items as well)
HCM	Validation	Test Manager Self Service and Workflows (BOE)	High	Matt, Beth, Erin, Doug (DANIEL)	11/9/20	11/28/20		In Progress	Address In Monday Meeting Series (These items are tied to "Change management" items as well)
Time	Ship Clocks Out	Need addresses to send to	Medium	David, CoWH?	11/9/20	11/13/20	11/6/20	Complete	Who from the CoWH team will help oversee the clocks?
Time	Clocks	Assign Clock "lead" at CoWH (Joe?) and make action plan for preparing all clocks in advance of 12/4	Medium	David, Joe?, Frank	11/9/20	12/4/20		In Progress	Who from the CoWH team will help oversee the clocks?
Time	Validation	Test Pay Rules for selected EE	Medium	Erin, Doug	11/9/20	11/20/20		In Progress	Schedule Recurring Time through 1st week in Dec.
Time	Validation	Conduct Validation & Learning Call(s) - Basic Scheduler Config	Medium	David, Erin, Doug	11/9/20	11/11/20		In Progress	

Action Items Log (Some Completed Items are Hidden)

CoWH & ADP Workforce Now

Workstream	Title	Notes/Next Steps	Priority	Owner	Start Date	Due Date	Complete Date	Status	Comments
Change Management	Key Stakeholder Briefing and Toolkit	Principals/Coordinators /Department Heads • On-Site Admins/Secretaries/ Timekeepers/Payroll Processors	High	Nicole Jordan (Bernadette Nace)	11/9/20	11/10/20		Behind Schedule	Provide a briefing about ADP Workforce Now (WFN) and Workforce Manager solution • Share benefits of the tools and timing of rollout so that they are aware of the high level plan • Develop a toolkit with information and resources to help them know what to expect and be able to support the process • Toolkit includes overview of changes (PPT Slides with Notes) and communication process, as well as FAQs • Will develop one version, then once approved, make changes for differences between BOE and City to deliver second version
GL	Testing	Utilize Test Payrolls from 11/9 to 12/4 for review of GL output	Medium	Bob, Matt, TIA	11/9/20	12/4/20		In Progress	Will run test GL outputs in line with the test payroll runs we execute during our validation phase.
Time	ADP Interface Testing (Internal)	Accrual Import/Export; Payroll Export Interface Testing	Medium	David, ADP DIS	11/13/20	11/13/20		In Progress	
Change Management	Announcement	All Employees	High	Nicole Jordan (Bernadette Nace)	11/13/20	11/13/20		In Progress	High level email announcement about changes coming soon; provides overview of the solution, timing and action items. Two versions.
Change Management	FAQs		High	Nicole Jordan (Bernadette Nace)	11/13/20	11/13/20		In Progress	Develop short 1-2 page FAQ document with answers to questions around ADP WFN and Workforce Manager, feature/functionality and highlights of the benefits it brings to them. Two versions.
Time	Prepare Clocks for Go Live	Get online, download EE's data set	Medium	David, CoWH?	11/16/20	11/20/20		In Progress	Who from the CoWH team will help oversee the clocks?
Time	Validation	Test Accrual Profile for selected EE	Medium	Erin, Doug	11/16/20	11/27/20		In Progress	
Payroll	Validation	Produce Preview Wage & Tax Registers & W2	Medium	Lori, Erin, Doug	11/18/20	12/4/20		In Progress	
Project (All)	Validation	Validation Quality Check	High	All Teams	11/25/20	11/25/20		In Progress	
Time	Validation	EPIP Test Run	Medium	David, Erin, Doug	11/18/20	11/23/20		In Progress	
Time	Accrual Balance Reset Testing	Reset EE Accruals to Effective Date	Medium	David, Erin, Doug	11/19/20	11/19/20		In Progress	
Time	Prepare for Go Live	Complete any setup needed for Time Analytics	Medium	Erin, Doug	11/23/20	11/28/20		In Progress	
Time	Validation/Testing	Conduct Validation & Learning Call(s) - Time Analytics	Medium	David, Erin, Doug	11/23/20	11/28/20		In Progress	
Time	Prepare for Go Live	Complete any setup needed for Time Analytics	Medium	David, Erin, Doug	11/23/20	11/28/20		In Progress	
Time	Validation	Conduct Validation & Learning Call(s) - Adjustment Rule Config	Medium	David, Erin, Doug	11/23/20	11/25/20		In Progress	
Time	Hardware Testing	* Clocks Testing * MyADP Kiosks * ADP Mobile Time	Medium	David, Erin, Doug	11/23/20	11/25/20		In Progress	
HCM	Benefits	Assigning benefits to employees and dependents	High	Daniel	12/1/20	1/15/21		In Progress	
Time	Leave Testing	Leave Module Testing for selected EE	Medium	David, Erin, Doug	12/1/20	12/4/20		In Progress	

Action Items Log (Some Completed Items are Hidden)

CoWH & ADP Workforce Now

Workstream	Title	Notes/Next Steps	Priority	Owner	Start Date	Due Date	Complete Date	Status	Comments
Change Management	Talking Points	• Managers/Supervisors /Onsite Admins	High	Nicole Jordan (Bernadette Nace)	12/1/20	1/13/21		In Progress	Talking Points to share with employees about changes; deliver in three sets: 1) Announce Prior to Go Live 2) Reinforce Time Entry 3) Access Pay Statement online • Will develop one version, then once approved, make changes for differences between BOE and City to deliver second version
Project (All)	Prepare for Go Live	Go Live Approval Call	High		12/2/20	12/2/20		In Progress	
Payroll	Prepare for Go Live	Complete Setup for Employment Verification	Medium	Lori, Erin, Doug	12/7/20	12/11/20		In Progress	Any required client input
Time	AdHoc Config Tweaks / Testing Complete	Complete by date for any core/accruals configuration tweaks / updates / testing	High	David, Erin, Doug	12/7/20	12/7/20		In Progress	
Time	Prepare for Go Live	Train Managers & Staff (Internal Rollout)	Medium	CoWH?	12/7/20	12/11/20		In Progress	
Time	Prepare for Go Live	Employee Registration	High	CoWH?	12/7/20	12/11/20		In Progress	
Time	Employees Register on Clocks (Biometric)		Medium	CoWH?	12/7/20	12/17/20		In Progress	
Change Management	Timeclock/Timestamp Demonstration Video	• All Employees	High	Nicole Jordan (Bernadette Nace)	12/9/20	12/9/20		In Progress	Develop short video that shows how to use timeclock/timestamp/mobile app so that inperson demonstrations are not required; have video sent to employees with email addresses, and played in other common areas so that it gets as much exposure as necessary; create paper communications with QR/bar code link to video • One version to be used for all
Change Management	Posters / Fliers / Table Tents	All Employees	High	Nicole Jordan (Bernadette Nace)	12/9/20	12/9/20		In Progress	Highlight the benefits of ADP • Link to video demonstration of timeclock/timestamp/mobile app • Post in break / lunchrooms • Mail postcard to home address if possible • Two versions.
Project (All)	Client Service Team Engatement	Service Team Assignment	Medium	Greg	12/14/20	12/14/20		In Progress	
Time	Prepare for Go Live	BOE Accrual Balances Due	High	Bob?	12/14/20	12/14/20		In Progress	
Change Management	Day One Guide for Employees	All Employees	High	Nicole Jordan (Bernadette Nace)	12/14/20	12/14/20		In Progress	Develop a Day One Guide or Job Aid to introduce employees to ADP WFN and Workforce Manager; include instructions for registration/account set-up, mobile apps, how to access pay statement, how to update information, how to make benefits changes, how to use time system and how to request time off • Include dates in cover message so that we can develop one version for all
Change Management	Day One Guide Insert for Managers	All Managers with Timecard Approval responsibility	High	Nicole Jordan (Bernadette Nace)	12/14/20	12/14/20		In Progress	Develop an insert for managers to show them their responsibilities in timekeeping system • One version for all
Change Management	Narrated PowerPoint	• All Employees	High	Nicole Jordan (Bernadette Nace)	12/15/20	12/15/20		In Progress	Develop a short narrated video to highlight the new tools – what they are, how they will help and what employees and managers need to take action on. • Host on WFN home page. • One version for all

Action Items Log (Some Completed Items are Hidden)

CoWH & ADP Workforce Now

Workstream	Title	Notes/Next Steps	Priority	Owner	Start Date	Due Date	Complete Date	Status	Comments
Time	Prepare for Go Live	Load BOE Accrual Balances	Medium	David	12/16/20	12/16/20		In Progress	
Data Conversion	YTD Balances	ADP has received YTD data along with the 9/28 "pull" - we will need to clarify Mapping and discuss contingency plan of conversion should we not make 1st paychecks of 2021	Medium	Bob, Erin, Doug, Lori, Jane	11/12/20	11/20/20		In Progress	
Time	Production	Live Punches Begin - BoE	High	David, Erin, Doug	12/17/20	12/30/20		In Progress	
Change Management	Open Mic Sessions	Managers/Supervisors /Admins On Site	High	Nicole Jordan (Bernadette Nace)	12/17/20	1/3/21		In Progress	Provide opportunities throughout first pay period for call-in questions/discussion/tips/best practices
Project (All)	Production	Service Team Knowledge Transfer	High		12/21/20	1/21/21		In Progress	
Time	Prepare for Go Live	CITY Accrual Balances Due	High	Bob?	12/21/20	12/21/20		In Progress	
Time	Prepare for Go Live	Load CITY Accrual Balances	Medium	David	12/23/20	12/23/20		In Progress	
Time	Production	Live Punches Begin - City	High	David, Erin, Doug	12/28/20	1/3/21		In Progress	
Payroll	Go Live #1	Maintenance Payroll Run - City	High	Lori, Erin, Doug	12/31/20	12/31/20		In Progress	
Change Management	Pay Statement Reminder Postcard	All Employees	High	Nicole Jordan (Bernadette Nace)	1/4/21	1/4/21		In Progress	Highlight the benefits of ADP • Mail to home address at time of first pay statement in ADP • Two versions
Payroll	Go Live #1	Process First Live Payroll - City	High	Lori, Erin, Doug	1/5/21	1/5/21		In Progress	
Time	Go Live #1	Process First Live Payroll - City	High	David, Erin, Doug	1/5/21	1/5/21		In Progress	
Payroll	Go Live #1	Conduct First Live Payroll Output Learning Call - City	High	Lori, Erin, Doug	1/6/21	1/6/21		In Progress	
Payroll	Go Live #2	Maintenance Payroll Run - BoE	High	Lori, Erin, Doug	1/6/21	1/6/21		In Progress	
Payroll	Go Live #1	Process First Live Payroll - BoE	High	Lori, Erin, Doug	1/7/21	1/7/21		In Progress	
Time	Go Live #1	Process First Live Payroll - BoE	High	David, Erin, Doug	1/7/21	1/7/21		In Progress	
Payroll	Go Live #1	Conduct First Live Payroll Output Learning Call - BoE	High	Lori, Erin, Doug	1/8/21	1/8/21		In Progress	
Change Management	Hiring and Onboarding Communications	New Hires	High	Nicole Jordan (Bernadette Nace)	1/11/21	1/18/21		In Progress	• Review and revise existing communications materials used for onboarding new employees, and leverage materials from launch. • Create short required training in the learning system.
Change Management	Did You Know? Series	All Employees	High	Nicole Jordan (Bernadette Nace)	1/11/21	1/18/21		In Progress	Follow up communications distributed via office managers with helpful hints, reminders of what they can access on the app, in self service, etc.
Payroll	Go Live #2	Process Second Live Payroll - City	High	Lori, Erin, Doug	1/12/21	1/12/21		In Progress	
Time	Go Live #2	Process Second Live Payroll - City	High	David, Erin, Doug	1/12/21	1/12/21		In Progress	
Project (All)	Survey	Greg will send Survey	Medium		1/18/21	1/18/21		In Progress	
HCM	Benefits	Run Data Compare bt Bens & PR - Address Discrepancies	High	Matt, Beth, Erin, Doug (DANIEL)	1/18/21	2/5/21		In Progress	
Payroll	Go Live #2	Process Second Live Payroll - BoE	High	Lori, Erin, Doug	1/21/21	1/21/21		In Progress	

Action Items Log (Some Completed Items are Hidden)

CoWH & ADP Workforce Now

Workstream	Title	Notes/Next Steps	Priority	Owner	Start Date	Due Date	Complete Date	Status	Comments
Time	Go Live #2	Process Second Live Payroll - BoE	High	David, Erin, Doug	1/21/21	1/21/21		In Progress	
Project (All)	Production	Final Service Team Transition Steps	High		1/23/21	1/23/21		In Progress	
Project (All)	Production	CSE to Introduce Service Team to CoWH	High		1/23/21	1/23/21		In Progress	
Project (All)	Production	Project Closure	Low		1/24/21	1/24/21		In Progress	
Project (All)	Production	Finalize Project Quality Check	Low		1/24/21	1/24/21		In Progress	
HCM	Validation	Conduct Validation & Learning Call(s) - ACA Services	Low	Matt, Beth, Erin, Doug (DANIEL)	2/1/21	2/5/21		In Progress	
HCM	Validation	Conduct Validation & Learning Call(s) - ADP DataCloud	Low	Matt, Beth, Erin, Doug (DANIEL)	2/1/21	2/5/21		In Progress	
HCM	Benefits	Make Benefits LIVE in WFN	High	Matt, Beth, Erin, Doug (DANIEL)	2/8/21	2/8/21		In Progress	
HCM	Prepare for ACA Go Live	Complete any setup needed for ACA Services	Medium	Matt, Beth, Erin, Doug (DANIEL)	2/8/21	2/12/21		In Progress	Any required client input
HCM	Prepare for Data Cloud Go Live	Complete any setup needed for ADP DataCloud	Low	Matt, Beth, Erin, Doug (DANIEL)	2/8/21	2/12/21		In Progress	Any required client input
Data Conversion	Check History	ADP will need Terminated EE Records from 2016 through 2019 to convert/load into WFN such that we can pair up the proper Historical Check Detail	Medium	Bob, Greg, Jane	11/12/20	11/20/20		In Progress	
Data Conversion	Check History	Initial Mtg to discuss Check History Extract or Provision	Medium	Bob, Lori, Greg	11/12/20	11/20/20		In Progress	See "City of West Haven Check History" thread sent by Michelle Shaughnessy on 11/9 at 9:53 AM