

Laborers Pension Trust Fund for Northern California

Actuarial Valuation and Review

As of June 1, 2019



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May 22, 2020

Board of Trustees
Laborers Pension Trust Fund for Northern California
Fairfield, California

Dear Trustees:


We are pleased to submit the Actuarial Valuation and Review as of June 1, 2019. It establishes the funding requirements for the current year and analyzes the preceding year's experience. It also summarizes the actuarial data and includes the actuarial information that is required to be filed with Form 5500 to federal government agencies.

The census information upon which our calculations were based was prepared by the Fund Office, under the direction of Byron Loney. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Mark Hamwee, FSA, MAAA, Enrolled Actuary.

We look forward to reviewing this report with you at your next meeting and to answering any questions you may have.

Sincerely,

Segal

By: 

Timothy J. Losee
Vice President & Benefits Consultant

MAM/gxk

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Table of Contents

Section 1: Actuarial Valuation Summary.....	8
Summary of key valuation results.....	8
Comparison of funded percentages.....	9
Section 2: Actuarial Valuation Results.....	14
Participant information.....	14
Financial information.....	19
Actuarial experience.....	22
Pension Protection Act of 2006.....	27
Funding Standard Account (FSA).....	28
Scheduled Cost.....	31
Risk.....	35
Section 3: Supplementary Information.....	37
Section 4: Certificate of Actuarial Valuation.....	49
Exhibit 1: Summary of Actuarial Valuation Results.....	50
Exhibit 2: Actuarial Present Value of Accumulated Plan Benefits.....	51
Exhibit 3: Current Liability.....	52
Exhibit 4: Information on Plan Status as of June 1, 2019.....	53
Exhibit 5: Schedule of Projection of Expected Benefit Payments.....	54
Exhibit 6: Schedule of Active participant Data.....	55
Exhibit 7: Funding Standard Account.....	56
Exhibit 8: Statement of Actuarial Assumptions/Methods.....	60
Exhibit 9: Summary of Plan Provisions.....	65
Section 5: General Background.....	69

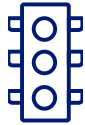
Introduction

There are several ways of evaluating funding adequacy for a pension plan. In monitoring the Plan's financial position, the Trustees should keep in mind all of these concepts.



Funding Standard Account

The ERISA Funding Standard Account (FSA) measures the cumulative difference between actual contributions and the minimum required contributions. If actual contributions exceed the minimum required contributions, the excess is called the credit balance. If actual contributions fall short of the minimum required contributions, a funding deficiency occurs.



Zone Information

The Pension Protection Act of 2006 (PPA'06) called on plan sponsors to actively monitor the projected FSA credit balance, the funded percentage (the ratio of the actuarial value of assets to the present value of benefits earned to date) and cash flow sufficiency. Based on these measures, plans are then categorized as critical (*Red Zone*), endangered (*Yellow Zone*), or neither (*Green Zone*). The Multiemployer Pension Reform Act of 2014 (MPRA), among other things, made the zone provisions permanent.



Solvency Projections

Pension plan funding anticipates that, over the long term, both contributions and investment earnings will be needed to cover benefit payments and expenses. To the extent that contributions are less than benefit payments, investment earnings and fund assets will be needed to cover the shortfall. In some situations, a plan may be faced with insufficient assets to cover its current obligations and may need assistance from the Pension Benefit Guaranty Corporation (PBGC). MPRA provides options for some plans facing insolvency.



Scheduled Cost

The Scheduled Cost is an annual amount based on benefit levels and assets that allows a comparison to current contribution levels, given the expectation of a continuing Plan.







Withdrawal Liability

ERISA provides for assessment of withdrawal liability to employers who withdraw from a multiemployer plan based on unfunded vested benefit liabilities. A separate report is available.

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future uncertain obligations of a pension plan. As such, it will never forecast the precise future contribution requirements or the precise future stream of benefit payments. In any event, the actual cost of the plan will be determined by the benefits and expenses paid, not by the actuarial valuation.

In order to prepare a valuation, Segal relies on a number of input items. These include:

	Plan Provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important for the Trustees to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
	Participant Information	An actuarial valuation for a plan is based on data provided to the actuary by the plan. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. For most plans, it is not possible nor desirable to take a snapshot of the actual workforce on the valuation date. It is not necessary to have perfect data for an actuarial valuation. The uncertainties in other factors are such that even perfect data does not produce a “perfect” result. Notwithstanding the above, it is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
	Financial Information	Part of the cost of a plan will be paid from existing assets – the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the auditor. A snapshot as of a single date may not be an appropriate value for determining a single year’s contribution requirement, especially in volatile markets. Plan sponsors often use an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
	Actuarial Assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan’s benefits for each of those events. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan’s assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions the actuary selects within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Given the above, the user of Segal's actuarial valuation (or other actuarial calculations) needs to keep the following in mind:

The actuarial valuation is prepared for use by the Trustees. It includes information for compliance with federal filing requirements and for the plan's auditor. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.

Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in employment levels and investment losses, not just the current valuation results.

ERISA requires a plan's enrolled actuary to provide a statement in the plan's annual report disclosing any event or trend that the actuary has not taken into account, if, to the best of the actuary's knowledge, such an event or trend may require a material increase in plan costs or required contribution rates. If the Trustees are aware of any event that was not considered in this valuation and that may materially increase the cost of the Plan, they must advise Segal, so that an appropriate statement can be included.

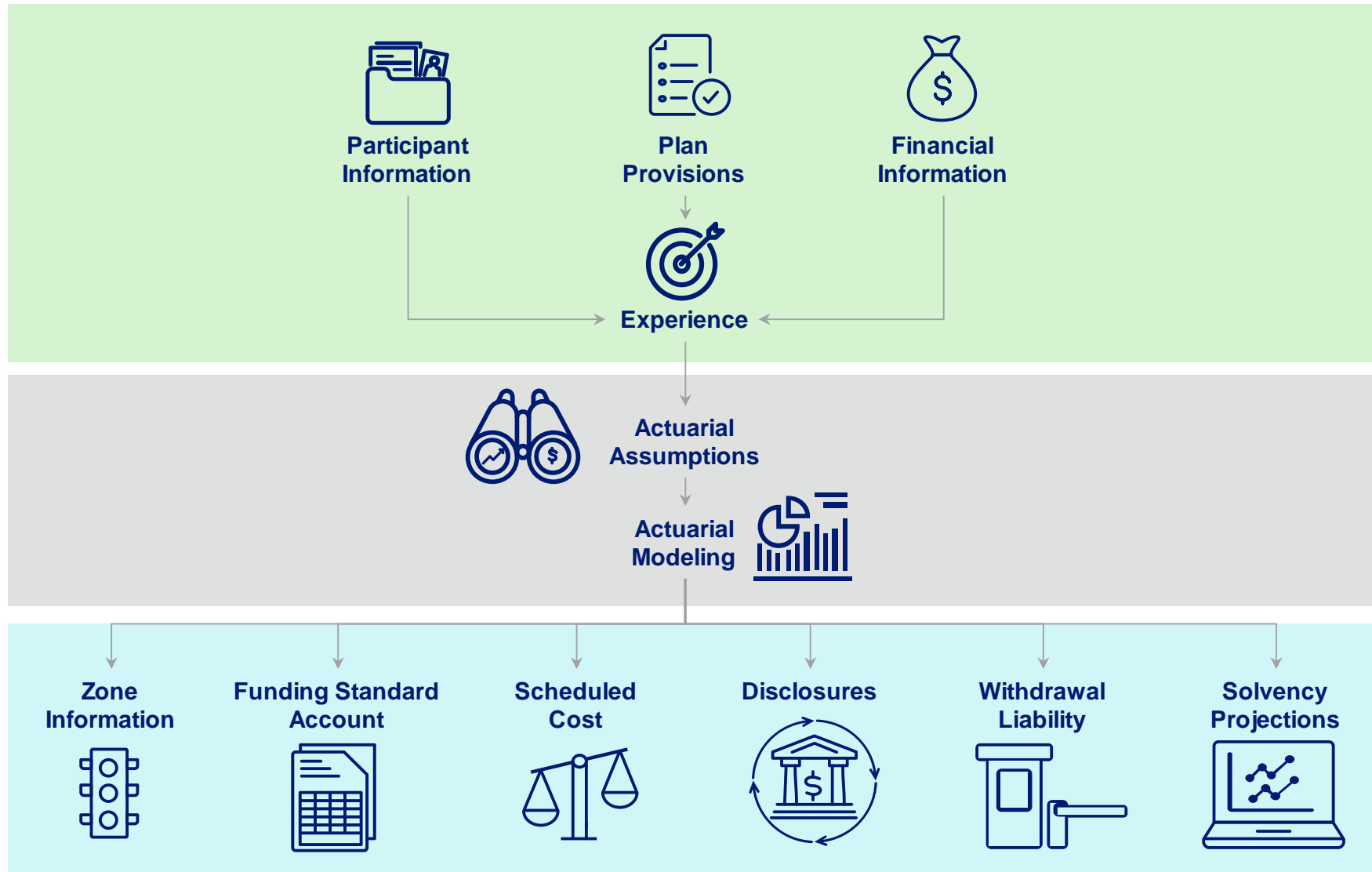
Segal does not provide investment, legal, accounting, or tax advice. This valuation is based on Segal's understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Trustees should look to their other advisors for expertise in these areas.

While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

Segal's report shall be deemed to be final and accepted by the Trustees upon delivery and review. Trustees should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management of assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Actuarial valuation overview



Section 1: Actuarial Valuation Summary

Summary of key valuation results

		2018		2019	
Certified Zone Status		"Green"		"Green"	
Demographic Data:	• Number of active participants	20,108		21,125	
	• Number of inactive participants with vested rights	7,560		8,032	
	• Number of retired participants and beneficiaries	11,671		11,792	
Assets:	• Market value of assets (MVA)	\$2,807,427,836		\$3,089,480,031	
	• Actuarial value of assets (AVA)	2,841,032,249		3,193,720,342	
	• AVA as a percent of MVA	101.2%		103.4%	
Statutory Funding Information:	• Minimum required contribution	\$0		\$0	
	• Maximum deductible contribution	5,417,468,752		5,192,915,621	
	• Annual Funding Notice percentage	89.3%		97.4%	
	• FSA deficiency projected in Plan Year beginning	None		None	
		Amount	Per Hour	Amount	Per Hour
Scheduled Cost and Contributions:	• Projected contributions ¹	\$306,285,056	\$8.96	\$321,776,000	\$8.96
	• Scheduled Cost	150,244,881	4.40	127,904,766	3.56
	• Margin/(Deficit)	156,040,175	4.56	193,871,234	5.40
	• Projected contributions for the upcoming year ¹	306,285,056		321,776,000	
	• Actual contributions	338,629,779		--	
Cost Elements on a Scheduled Cost Basis:	• Normal cost, including administrative expenses	\$63,887,563		\$67,914,519	
	• Actuarial accrued liability	3,475,008,737		3,600,320,884	
	• Unfunded actuarial accrued liability (based on AVA)	633,976,488		406,600,542	

¹ Based on 1,700 hours per active.

Section 1: Actuarial Valuation Summary

Comparison of funded percentages

	Funded Percentages as of June 1		2019	
	2018	2019	Liabilities	Assets
1. Present Value of Future Benefits	74.9%	81.1%	\$3,938,869,304	\$3,193,720,342
2. Actuarial Accrued Liability	81.8%	88.7%	3,600,320,884	3,193,720,342
3. PPA'06 Liability and Annual Funding Notice	89.3%	97.4%	3,279,765,209	3,193,720,342
4. Accumulated Benefits Liability	88.3%	94.2%	3,279,765,209	3,089,480,031
5. Current Liability	48.6%	53.1%	5,820,652,772	3,089,480,031

Notes:

1. The value of benefits earned through the valuation date (accrued benefits) plus the value of benefits projected to be earned in the future for current participants, and includes a plan amendment adopted after the valuation date. Used to develop the actuarial accrued liability, based on the long-term funding investment return assumption of 7.50% and the actuarial value of assets. The funded percentage using market value of assets is 74.0% for 2018 and 78.4% for 2019.
2. The portion of the present value of future benefits allocated by the actuarial cost method to years prior to the valuation date, and includes a plan amendment adopted after the valuation date. Used in determining Scheduled Cost, based on the long-term funding investment return assumption of 7.50% and the actuarial value of assets. The funded percentage using market value of assets is 80.8% for 2018 and 85.8% for 2019.
3. The present value of benefits earned through the valuation date (accrued benefits) defined by PPA'06, based on the long-term funding investment return assumption of 7.50% and compared to the actuarial value of assets.
4. The present value of accrued benefits for disclosure in the audited financial statements, based on the long-term funding investment return assumption of 7.50%, and compared to the market value of assets.
5. The present value of accrued benefits based on a government-prescribed mortality table and investment return assumption of 3.00% for 2018 and 3.08% for 2019, and compared to the market value of assets. Used to develop the maximum tax-deductible contribution and shown on the Schedule MB if less than 70%.

Disclosure: These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations or the need for or the amount of future contributions.

Section 1: Actuarial Valuation Summary

This June 1, 2019 actuarial valuation report is based on financial and demographic information as of that date. It is important to note that this actuarial valuation is based on plan assets as of May 31, 2019. Due to the COVID-19 pandemic, market conditions have changed significantly since the valuation date. The Plan's actuarial status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. While it is impossible to determine how the market will perform over the next several months, and how that will affect the results of next year's valuation, Segal is available to prepare projections of potential outcomes upon request. The current year's actuarial valuation results follow.

A. Developments since last valuation

1. The rate of return on the market value of plan assets was 3.22% for the 2018-2019 plan year. The rate of return on the actuarial value of assets was 5.59%. Given the current interest rate environment, target asset allocation and expectations of future investment returns for various asset classes, we will continue to evaluate the Plan's anticipated investment returns relative to the assumed long-term rate of return on investments of 7.50%.
2. At their meeting of March 5, 2019, the Trustees adopted a plan amendment that increased the benefit accrual rate, effective August 1, 2019, from 2.3% to 3.3% of contributions, based on a benefit contribution rate of \$2.16 per hour, and provided in December 2019 a one-time supplemental check of \$500 to those in pay status who are over age 70. These changes were recognized in the Scheduled Cost in last year's valuation and are recognized in the Funding Standard Account this year.

At the meeting of March 18, 2020, the Trustees adopted a one-time supplemental check of \$500 payable in December 2020 to retirees who have been in good standing with the union for the preceding twelve months. This change increased the Scheduled Cost by less than \$0.01 per hour.

3. The active population increased by 5.1% over the past year. This continued expansion increases the projected future hours and has a favorable effect on the plan's Scheduled Cost margin and credit balance projections.
4. The Hod Carriers Local No. 166 Pension Trust Fund ("Hod Carriers") merged into this plan, effective May 31, 2018. The merger satisfied the definition of a *de minimis* transaction under PBGC Regulation §4231.7(b). The liability for the new participants entering the plan as part of the merger was recognized in the June 1, 2018 valuation. The assets from the prior Hod Carriers plan of \$48.6 million were transferred into this plan during the 2018-2019 plan year.
5. The 2019 certification, issued on August 16, 2019, based on the liabilities calculated in the 2018 actuarial valuation, projected to May 31, 2019, and estimated asset information as of May 31, 2019, classified the Plan as neither endangered nor critical (that is, in the *Green Zone*) because the funded percentage was 96.1% and the credit balance in the FSA was projected to be positive for at least seven years. This projection was based on the Trustees' industry activity assumption of 25 million total contributory hours each year.



Section 1: Actuarial Valuation Summary

B. Funded percentage and Funding Standard Account

1. Based on this June 1, 2019 actuarial valuation, the funded percentage that will be reported on the 2019 Annual Funding Notice is 97.4%.
2. The credit balance in the FSA as of May 31, 2019 was \$689,430,443, an increase of \$179,603,522 from the prior year. Based on this valuation, the credit balance is projected to increase to \$845 million by the end of the current Plan Year. A longer term projection of the FSA indicates that the credit balance is expected to remain positive for at least 30 years, assuming experience emerges as projected and there are no changes in the Plan, actuarial assumptions, law or regulations.
3. We are available to work with the Trustees to develop additional credit balance projections.



Section 1: Actuarial Valuation Summary

C. Scheduled Cost margin

1. The projected annual contributions of \$8.96 per hour exceed the Scheduled Cost of \$3.56 per hour, resulting in a margin of \$5.40 per hour, or 60.3% of contributions as compared to a margin of 51.0% of contributions in the prior valuation. This improvement in the margin is primarily due to contributions exceeding the Scheduled Cost for the prior year and an increase in the active population.
2. The investment experience in the past years has only been partially recognized in the actuarial value of assets. As the deferred net loss is recognized in future years, the Scheduled Cost of the Plan is likely to increase unless the net loss is offset by future experience gains. If the current year's actuarial value of assets were equal to the current market value of assets, the Scheduled Cost margin of \$5.40 per hour would decrease to \$4.99 per hour, or 55.7% of contributions.
3. The amortization period adopted by the Trustees to compute the Scheduled Cost has 10 years remaining as of the valuation date. The period is declining each year to provide an adequate and stable basis for assessing the funding needs of the plan.



Section 1: Actuarial Valuation Summary

D. Risk

1. The actuarial valuation results are dependent on a single set of assumptions; however, there is a risk that emerging results may differ significantly as actual experience proves to be different from the current assumptions. We have included a discussion of various risks that may affect the Plan in Section 2.
2. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition, but have included a brief discussion of some risks that may affect the Plan. We recommend a more detailed assessment of the risks to provide the Trustees with a better understanding of the risks inherent in the Plan. This assessment may include scenario testing, sensitivity testing, stress testing and stochastic modeling. A detailed risk assessment is important for your Plan because the plan recently emerged from endangered status into the "Green Zone" and has not had a detailed risk assessment in a number of years. While the plan's funded position has improved substantially over the past ten years, a severe asset decline and/or reduction in employment levels would significantly reduce the available funding margin.

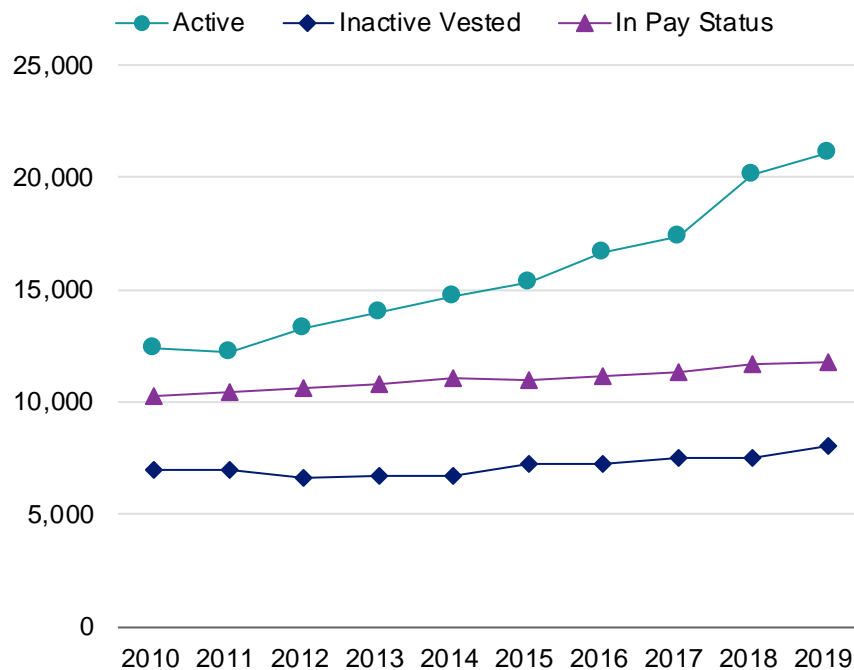


Section 2: Actuarial Valuation Results

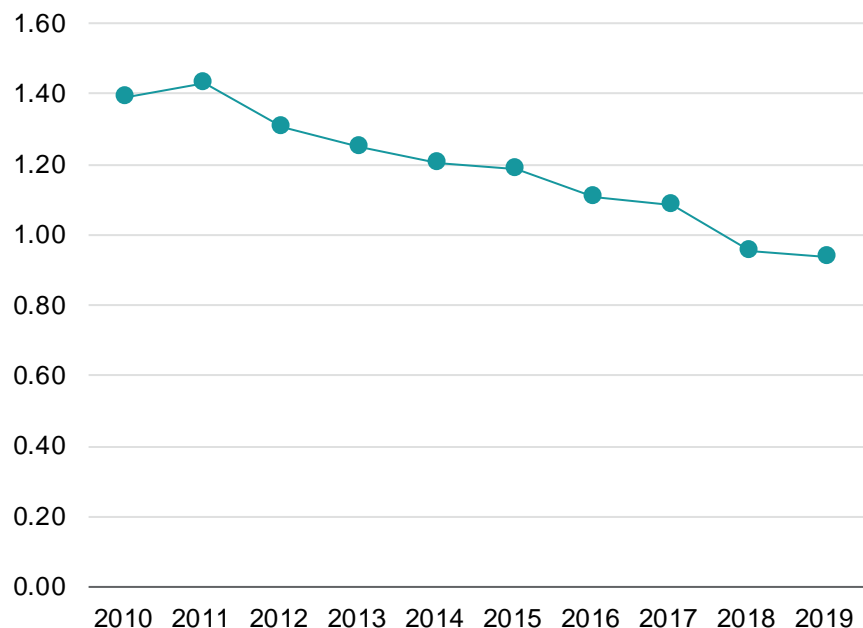
Participant information

- The Actuarial Valuation is based on demographic data as of May 31, 2019.
- There are 40,949 total participants in the current valuation, compared to 39,339 in the prior valuation.
- The ratio of non-actives to actives has decreased to 0.94 from 0.96 in the prior year.
- More details on the historical information are included in Section 3, Exhibits A and B.

Population as of
May 31



Ratio of Non-Actives to Actives
as of May 31



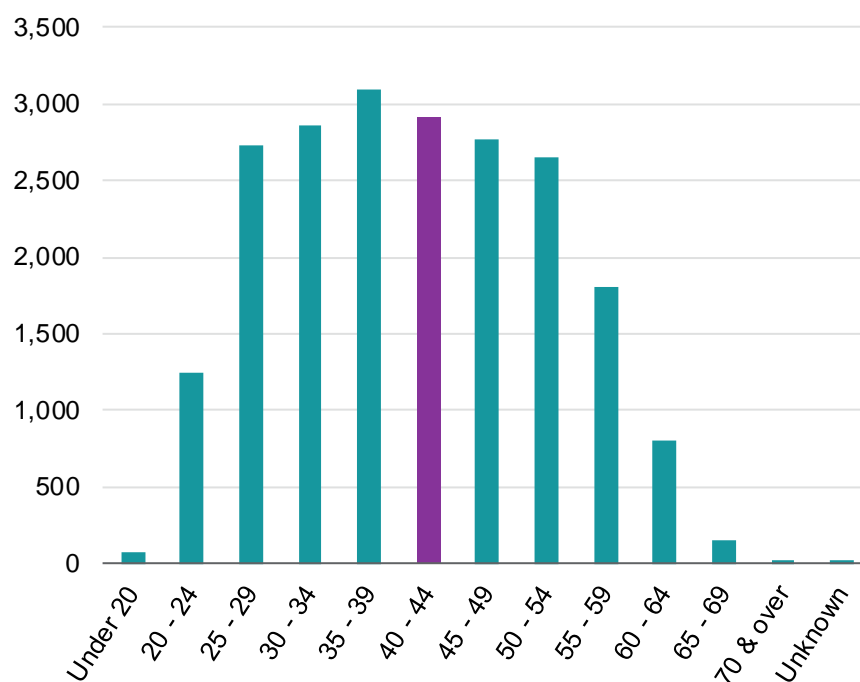
Section 2: Actuarial Valuation Results

Active participants

- There are 21,125 active participants this year, an increase of 5.1% compared to 20,108 in the prior year.
- The age and service distribution is included in Section 4, Exhibit 6.

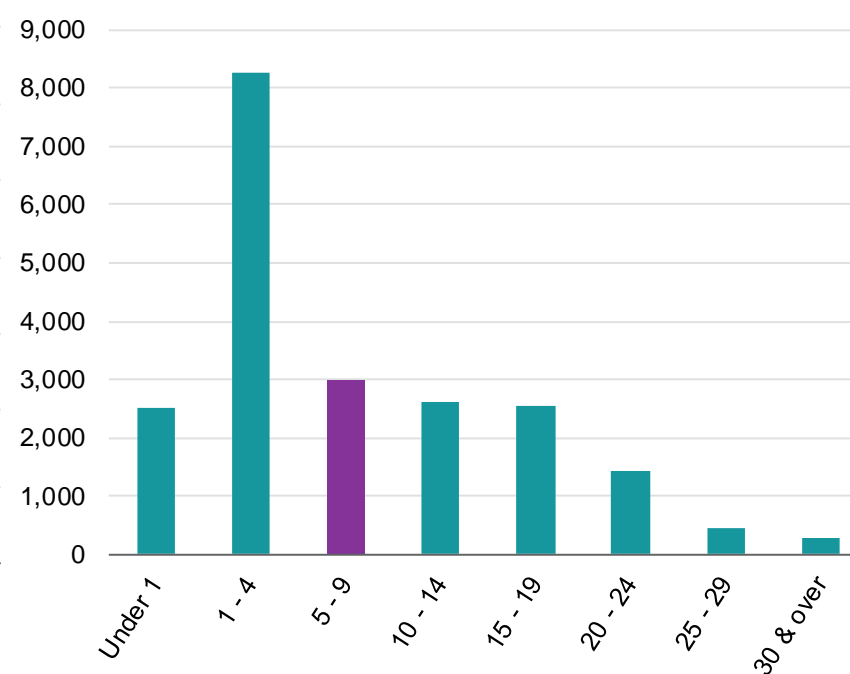
Distribution of Active Participants as of May 31, 2019

by Age



Average age	41.3
Prior year average age	<u>41.3</u>
Difference	0.0

by Years of Credited Service

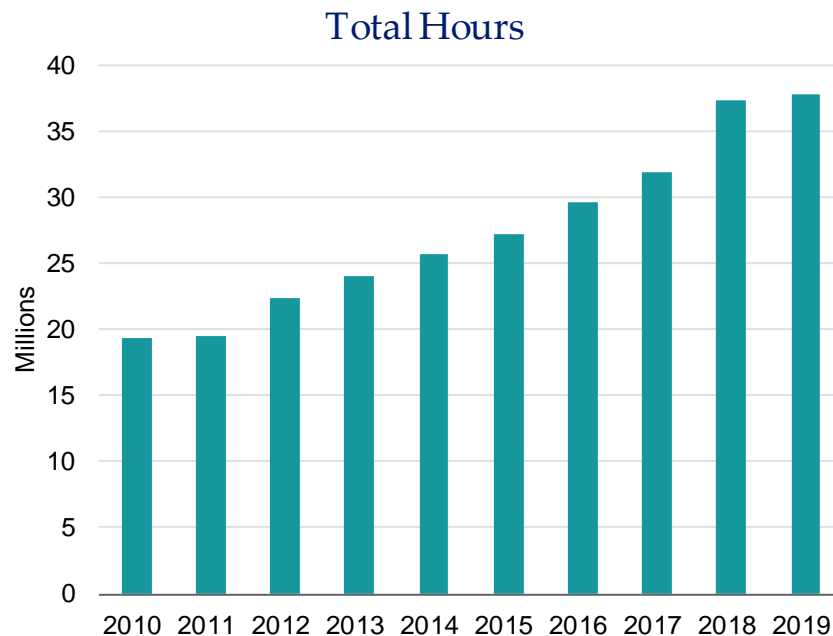


Average years of Credited Service	8.4
Prior year average years of Credited Service	<u>8.5</u>
Difference	-0.1

Section 2: Actuarial Valuation Results

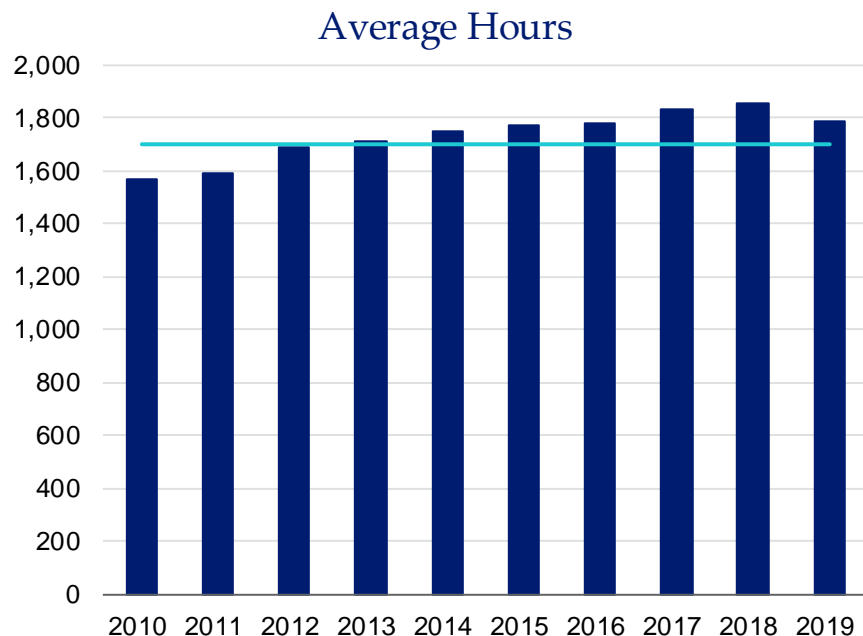
Historical employment

- The 2019 zone certification was based on an industry activity assumption of 25 million total contributory hours per year.
- The valuation is based on 21,125 actives and a long-term employment projection of 1,700 hours per active, or 35.9 million total hours for this valuation.
- Recent total hours have been increasing, and average hours have been above the long-term assumption.
- Additional detail is in Section 3, Exhibit C.



Historical Average Total Hours

Last year	37,765,230
Last five years	32,779,295
Last ten years	27,492,859



Historical Average Hours

Last year	1,788
Last five years	1,806
Last ten years	1,735
Long-term assumption	1,700

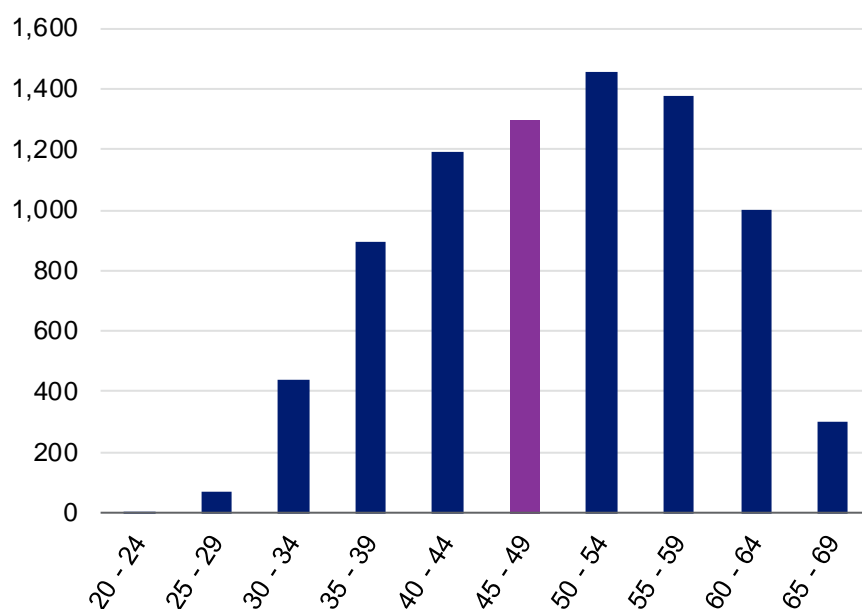
Section 2: Actuarial Valuation Results

Inactive vested participants

- A participant who is not currently active and has satisfied the vesting requirements for, but has not yet commenced, a pension is considered an “inactive vested” participant.
- There are 8,032 inactive vested participants this year, an increase of 6.2% compared to 7,560 last year.
- This excludes 176 inactive vested participants over age 70.

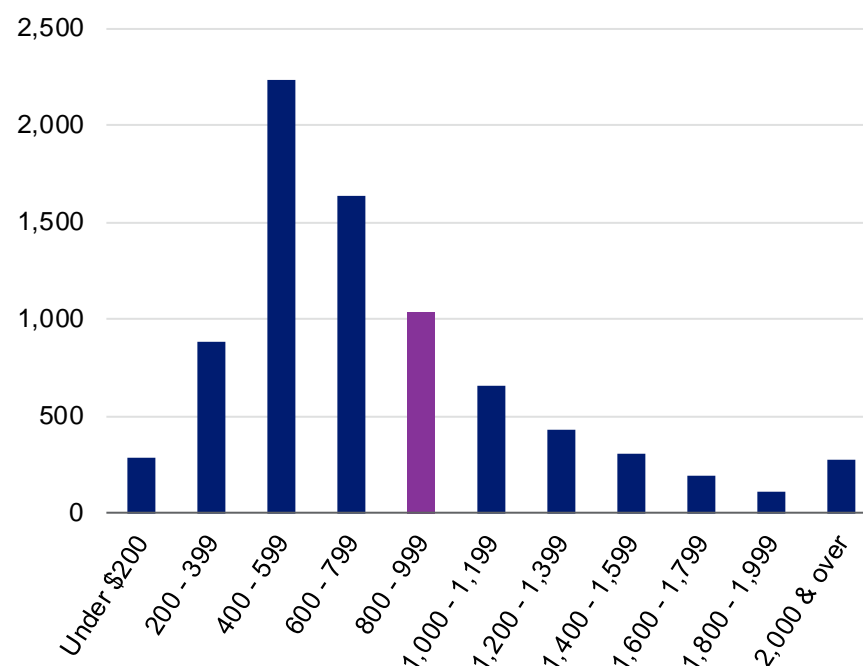
Distribution of Inactive Vested Participants as of May 31, 2019

by Age



Average age	49.4
Prior year average age	49.1
Difference	0.3

by Monthly Amount



Average amount	\$804
Prior year average amount	\$817
Difference	-\$13

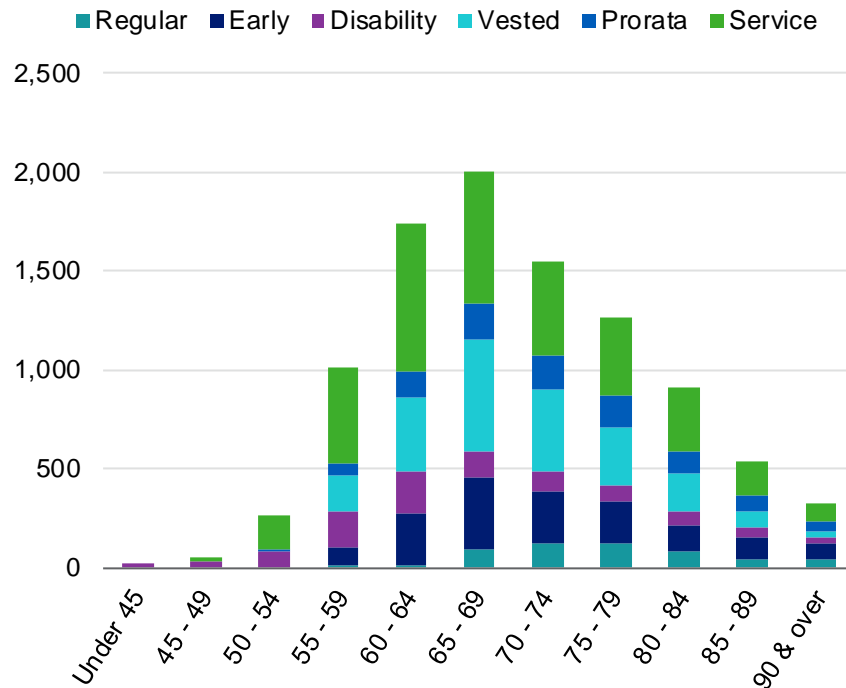
Section 2: Actuarial Valuation Results

Pay status information

- There are 9,679 pensioners and 2,003 beneficiaries this year, compared to 9,603 and 1,975, respectively, in the prior year.
- Monthly benefits for the Plan Year ending May 31, 2019 total \$15,661,578, as compared to \$15,358,710 in the prior year.
- The number of pensions in suspended status increased from 93 last year to 110 this year.

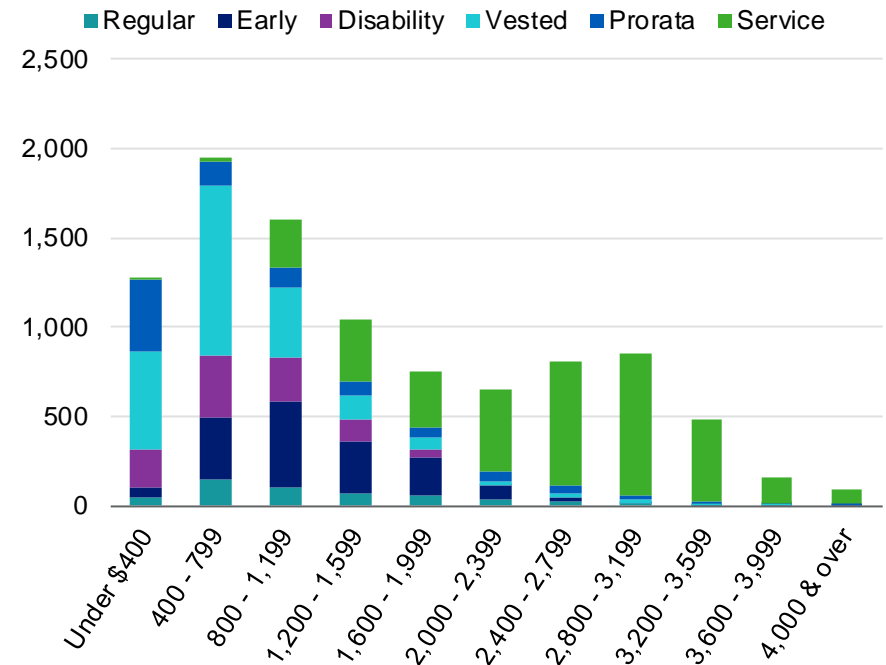
Distribution of Pensioners as of May 31, 2019

by Type and Age



Average age	70.0
Prior year average age	<u>69.8</u>
Difference	0.2

by Type and Monthly Amount



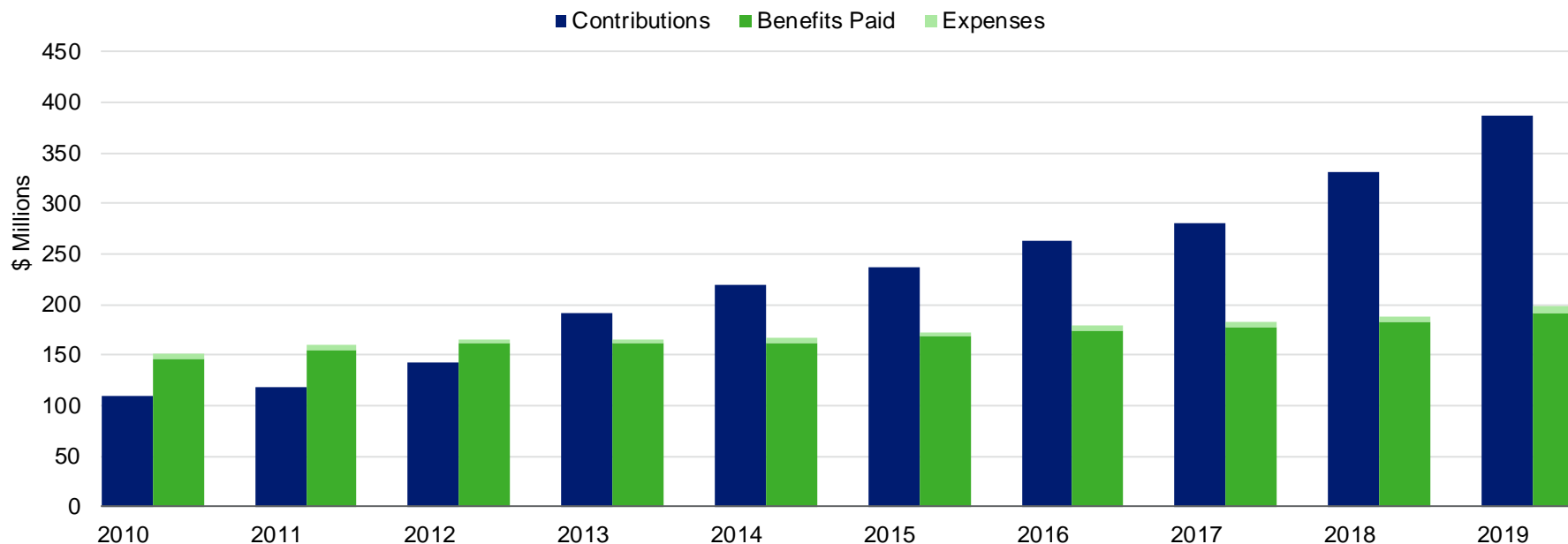
Average amount	\$1,510
Prior year average amount	<u>\$1,494</u>
Difference	\$16

Section 2: Actuarial Valuation Results

Financial information

- Benefits and expenses are funded solely from contributions and investment earnings.
- For the most recent year, benefit payments and expenses were 0.6 times contributions.
- In the chart below, the 2019 contributions include the asset transfer from the Hod Carriers merger.
- Additional detail is in Section 3, Exhibit F.

Comparison of Employer Contributions
with Benefits and Expenses Paid



Section 2: Actuarial Valuation Results

Determination of actuarial value of assets

- The asset valuation method gradually recognizes annual market value fluctuations to help mitigate volatility in the actuarial cost calculations.
- Less volatility in the actuarial cost better aligns with a negotiated contribution rate.
- The return on the market value of assets for the year ending May 31, 2019 was 3.22%, which produced a loss of \$124,220,740 when compared to the assumed return of 7.50%.

1	Market value of assets, May 31, 2019		\$3,089,480,031
2	Calculation of unrecognized return	Original Amount¹	Unrecognized Return²
(a)	Year ended May 31, 2019	-\$124,220,740	-\$99,376,593
(b)	Year ended May 31, 2018	-9,815,745	-5,889,447
(c)	Year ended May 31, 2017	89,964,374	35,985,750
(d)	Year ended May 31, 2016	-174,800,106	-34,960,021
(e)	Year ended May 31, 2015	-49,051,993	<u>0</u>
(f)	Total unrecognized return		-\$104,240,311
3	Preliminary actuarial value: (1) - (2f)		3,193,720,342
4	Adjustment to be within 20% corridor		0
5	Final actuarial value of assets as of May 31, 2019: (3) + (4)		3,193,720,342
6	Actuarial value as a percentage of market value: (5) ÷ (1)		103.4%
7	Amount deferred for future recognition: (1) - (5)		-\$104,240,311

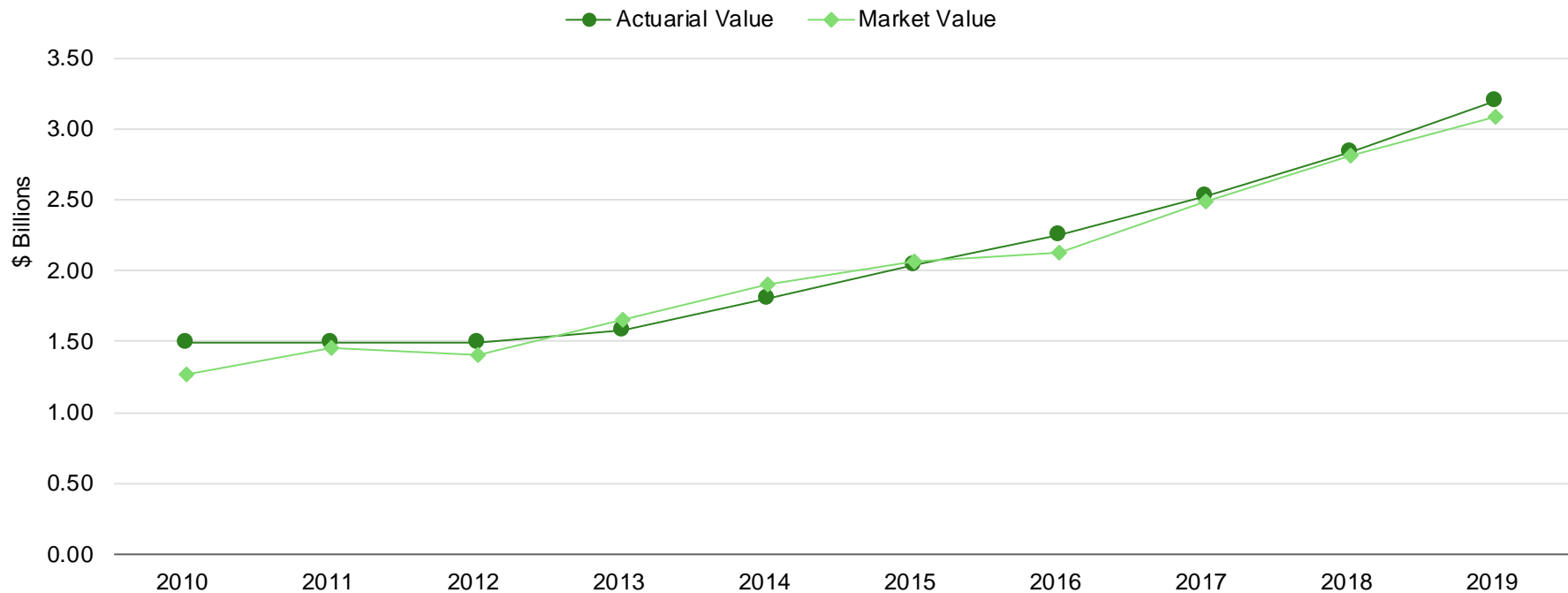
¹Total return minus expected return on a market value basis

²Recognition at 20% per year over five years

Section 2: Actuarial Valuation Results

Asset history for years ended May 31

Actuarial Value of Assets vs. Market Value of Assets



Section 2: Actuarial Valuation Results

Actuarial experience

- Assumptions should reflect experience and should be based on reasonable expectations for the future.
- Each year actual experience is compared to that projected by the assumptions. Differences are reflected in the contribution requirement as an experience gain or loss.
- Assumptions are not changed if experience is believed to be a short-term development that will not continue over the long term.
- The net experience variation for the year, other than investment and administrative expense experience, was 1.6% of the projected actuarial accrued liability from the prior valuation, and was significant when compared to that liability. This was primarily due to the asset transfer during the year from the Hod Carriers merger, whereas the additional liability from the merger was recognized in the prior year's valuation.

Experience for the Year Ended May 31, 2019

1	Loss from investments	
	(a) Net investment income	\$164,046,312
	(b) Average actuarial value of assets	2,935,353,140
	(c) Rate of return: (a) ÷ (b)	5.59%
	(d) Assumed rate of return	7.50%
	(e) Expected net investment income: (b) x (d)	<u>220,151,485</u>
	(f) Actuarial loss from investments: (a) – (e)	-\$56,105,173
2	Loss from administrative expenses	-341,192
3	Net gain from other experience (\$50.4 million due to asset transfer from Hod Carriers merger)	<u>53,294,633</u>
4	Net experience loss: 1(f) + 2 + 3	<u>-\$3,151,732</u>

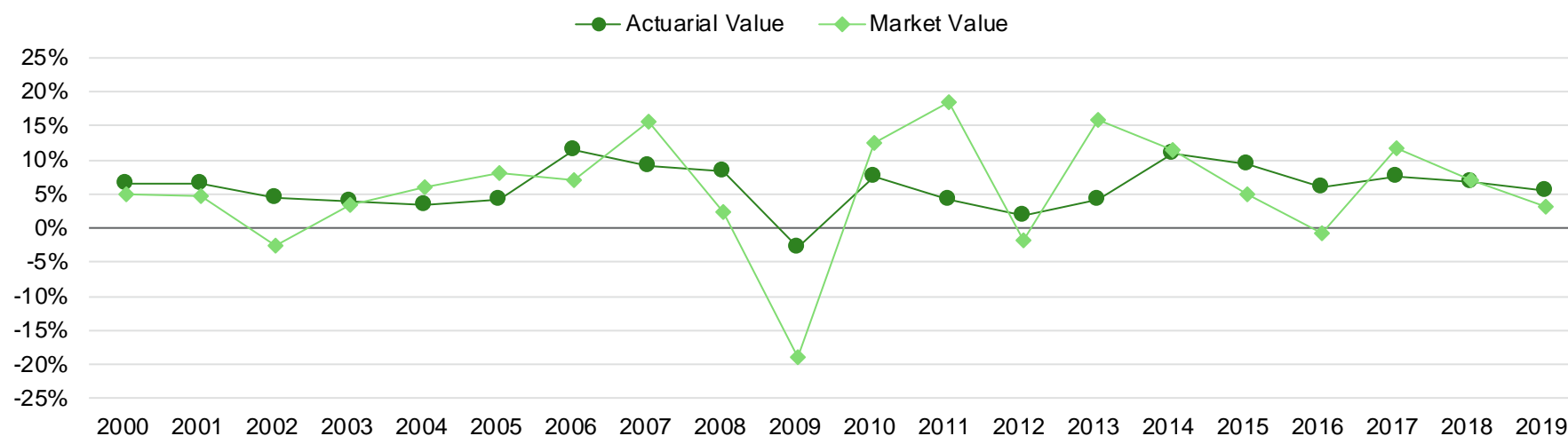
- Net investment income consists of expected investment income at the actuarially assumed rate of return, net of investment expenses, and an adjustment for market value changes.
- The actuarial value of assets does not yet fully recognize past investment gains and losses, which will affect future actuarial investment returns.

Section 2: Actuarial Valuation Results

Historical investment returns

- Actuarial planning is long term. The obligations of a pension plan are expected to continue for the lifetime of all its participants.
- The assumed long-term rate of return of 7.50% considers past experience, the Trustees' asset allocation policy and future expectations.

Market Value and Actuarial Rates of Return for Years Ended
May 31



Average Rates of Return	Actuarial Value	Market Value
Most recent year return:	5.59%	3.22%
Most recent five-year average return:	6.88%	5.21%
Most recent ten-year average return:	6.47%	7.35%
20-year average return:	6.03%	5.43%

Section 2: Actuarial Valuation Results

Non-investment experience

Administrative expenses

- Administrative expenses for the year ended May 31, 2019 totaled \$6,329,997, as compared to the assumption of \$6,000,000.

Mortality experience

- Mortality experience (more or fewer than expected deaths) yields actuarial gains or losses.
- The average number of deaths for nondisabled pensioners over the past five years was 304 per year compared to 266 projected deaths per year.

Other experience

- Other differences between projected and actual experience include the extent of turnover among the participants, retirement experience (earlier or later than projected), the number of disability retirements, and mortality experience of disabled pensioners.

Section 2: Actuarial Valuation Results

Actuarial assumptions

- There were no changes in assumptions since the prior valuation.
- Based on our review of recent experience, the mortality and retirement assumptions do not appear to project the actual incidence of post-retirement deaths and retirements from active status, respectively. In addition, the assumption for future benefit accruals may be understating the actual benefits being earned, on average, by active participants each year. We will continue to monitor these trends and will likely revise these assumptions in a future valuation to better match actual and anticipated future experience.
- Based on the plan's target asset allocation and capital market assumptions from Segal Marco Advisors, it appears the 7.50% net investment return assumption may have to be reduced. We will continue to monitor this situation and advise the Trustees accordingly.
- Details on actuarial assumptions and methods are in Section 4, Exhibit 8.

Section 2: Actuarial Valuation Results

Plan provisions

- At their meeting of March 18, 2020, the Trustees adopted the following plan change:
 - A one-time supplemental check of \$500 will be provided in December 2020 to retirees who have been in good standing with the union for the preceding twelve months. Based on information provided by the Trustees, 2,400 pensioners are estimated to be eligible for the supplemental check.
- This change is reflected only for Scheduled Cost purposes in this valuation.
- This change increased the Scheduled Cost by less than \$0.01 per hour.
- In last year's valuation, the Scheduled Cost recognized an increase in the benefit accrual rate from 2.3% to 3.3% of contributions, effective August 1, 2019 and a one-time supplemental check of \$500 paid in December 2019 to those in pay status who are over age 70. These changes are recognized in the Funding Standard Account in this year's valuation.
- A summary of plan provisions is in Section 4, Exhibit 9.

Contribution rate changes

- There were no changes in contribution rates since the prior valuation.

Section 2: Actuarial Valuation Results

Pension Protection Act of 2006

2019 Actuarial status certification

- PPA'06 requires trustees to actively monitor their plans' financial prospects to identify emerging funding challenges so they can be addressed effectively. Details are shown in Section 3, Exhibit K.
- The 2019 certification, completed on August 16, 2019, was based on the liabilities calculated in the June 1, 2018 actuarial valuation, adjusted for subsequent events and projected to May 31, 2019, and estimated asset information as of May 31, 2019. The Trustees provided an industry activity assumption of 25 million contributory hours each year.
- This Plan was classified as neither endangered nor critical (that is, in the *Green Zone*) because the funded percentage was 96.1% and the credit balance in the FSA was projected to be positive for at least seven years.

Year	Zone Status
2010	YELLOW
2011	YELLOW
2012	YELLOW
2013	YELLOW
2014	YELLOW
2015	YELLOW
2016	YELLOW
2017	GREEN
2018	GREEN
2019	GREEN

Section 2: Actuarial Valuation Results

Funding Standard Account (FSA)

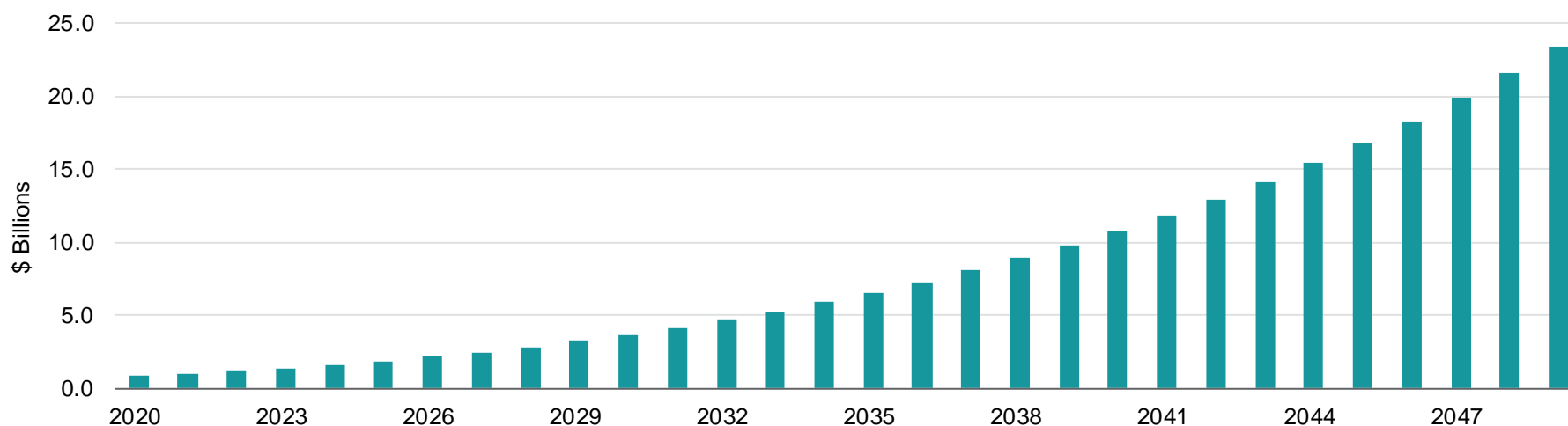
- The minimum funding requirement for the year beginning June 1, 2019 is \$0.
- Based on the assumption that 21,125 participants will work an average of 1,700 hours at an \$8.96 contribution rate, the contributions projected for the year beginning June 1, 2019 are \$321,776,000. The credit balance is projected to increase by approximately \$156 million to \$845 million as of May 31, 2020.

Section 2: Actuarial Valuation Results

Funding Standard Account (FSA) (continued)

- A 30-year projection indicates the credit balance will remain positive, assuming that:
 - The Plan will earn a market rate of return equal to 7.50% each year,
 - All other experience emerges as assumed, no assumption changes are made,
 - There are no additional plan amendments besides those recognized in the Scheduled Cost, and no changes in law/regulation,
 - Administrative expenses are projected to increase 2% per year, and
 - The projection is based on a level number of 21,125 active employees and 1,700 hours per active, with future normal costs increasing by 0.25% per year to reflect the future mortality improvements.

Credit Balance as of May 31

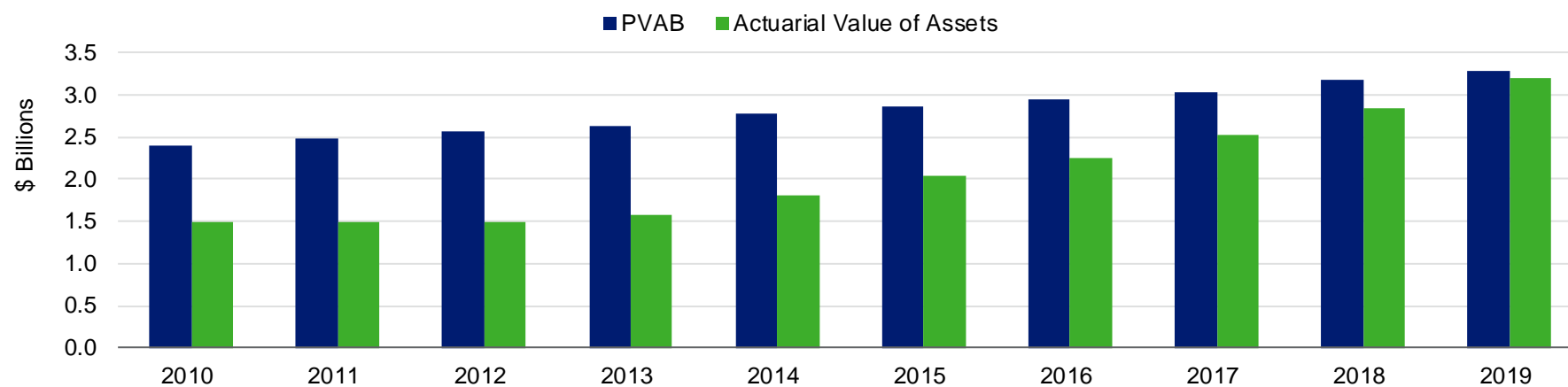


Additional scenarios would demonstrate sensitivity to risk from investment return, employment and other factors.

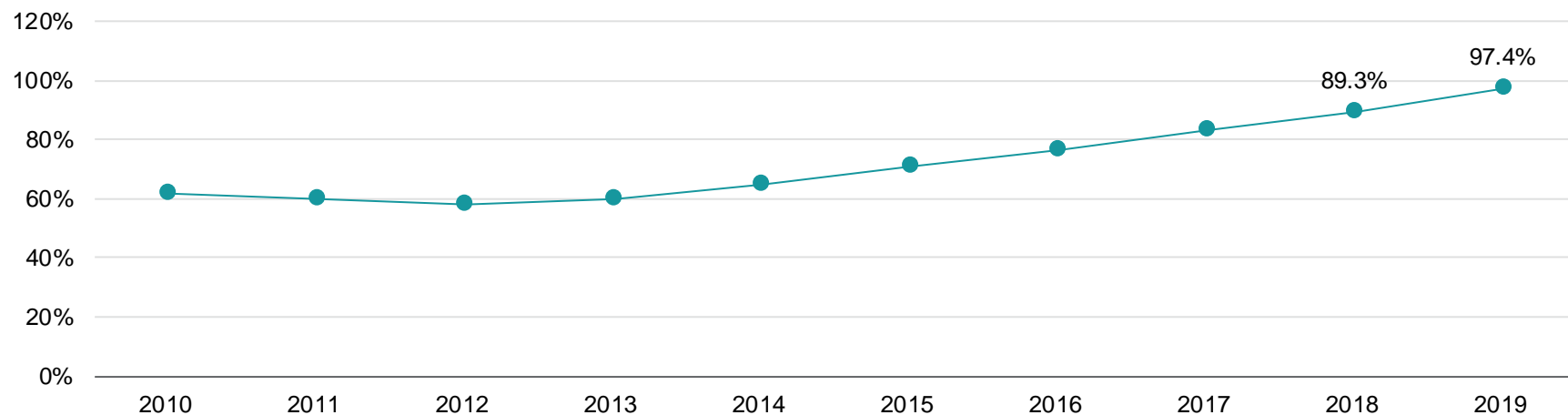
Section 2: Actuarial Valuation Results

PPA '06 funded percentage historical information

Present Value of Accrued Benefits (PVAB) vs.
Actuarial Value of Assets as of June 1



PPA '06 Funded Percentage as of June 1



Section 2: Actuarial Valuation Results

Scheduled Cost

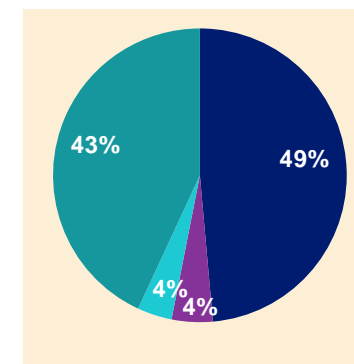
- The Scheduled Cost is an annual contribution objective, reflecting benefit levels and current assets that is compared to projected contributions to assess the Plan's long-term financial position.
- As of June 1, 2019, the unfunded actuarial accrued liability totaled \$406,600,542 (actuarial accrued liability of \$3,600,320,884 less assets of \$3,193,720,342).
- Simply avoiding an FSA funding deficiency is not a stable basis for funding the Plan. The Scheduled Cost uses a single amortization schedule (10 years remaining) for the total unfunded actuarial accrued liability, rather than the ERISA minimum funding approach.
- In addition to the plan of benefits reflected in the FSA, the following plan change is included in the Scheduled Cost:
 - A one-time supplemental check of \$500 will be provided in December 2020 to retirees who have been in good standing with the union for the preceding twelve months.
- The actuarial assumptions are the same as those used for the FSA for the year beginning June 1, 2019.
- The Actuarial Cost Method used to determine Scheduled Cost is Entry Age Normal, different from the Unit Credit method used for the Funding Standard Account.
- The contribution rate is unchanged from that reflected in our prior valuation.

Section 2: Actuarial Valuation Results

Scheduled Cost and reconciliation

Cost Element	Year Beginning June 1	
	2018	2019
Normal cost	\$58,116,812	\$62,143,768
Administrative expenses	5,770,751	5,770,751
Amortization of the unfunded actuarial accrued liability	80,616,730	55,103,234
Adjustment for monthly payments	<u>5,740,588</u>	<u>4,887,013</u>
Annual Scheduled Cost, payable monthly	<u>\$150,244,881</u>	<u>\$127,904,766</u>

2019



Scheduled Cost as of June 1, 2018	\$150,244,881
• Effect of plan amendment	169,087
• Effect of contributions more than Scheduled Cost	-27,615,553
• Effect of investment loss	7,905,530
• Effect of other gains and losses on accrued liability	-6,986,109
• Effect of net other changes, including composition and number of participants	<u>4,186,930</u>
Total change	<u>-\$22,340,115</u>
Scheduled Cost as of June 1, 2019	<u>\$127,904,766</u>

Section 2: Actuarial Valuation Results

Scheduled Cost vs. contributions

- Projected annual employer contributions of \$321,776,000 are based on the Trustees' assumption that 21,125 active participants will work 1,700 hours at the \$8.96 negotiated contribution rate.
- This exceeds the Scheduled Cost of \$127,904,766 by \$193,871,234, or 60.3% of projected contributions.

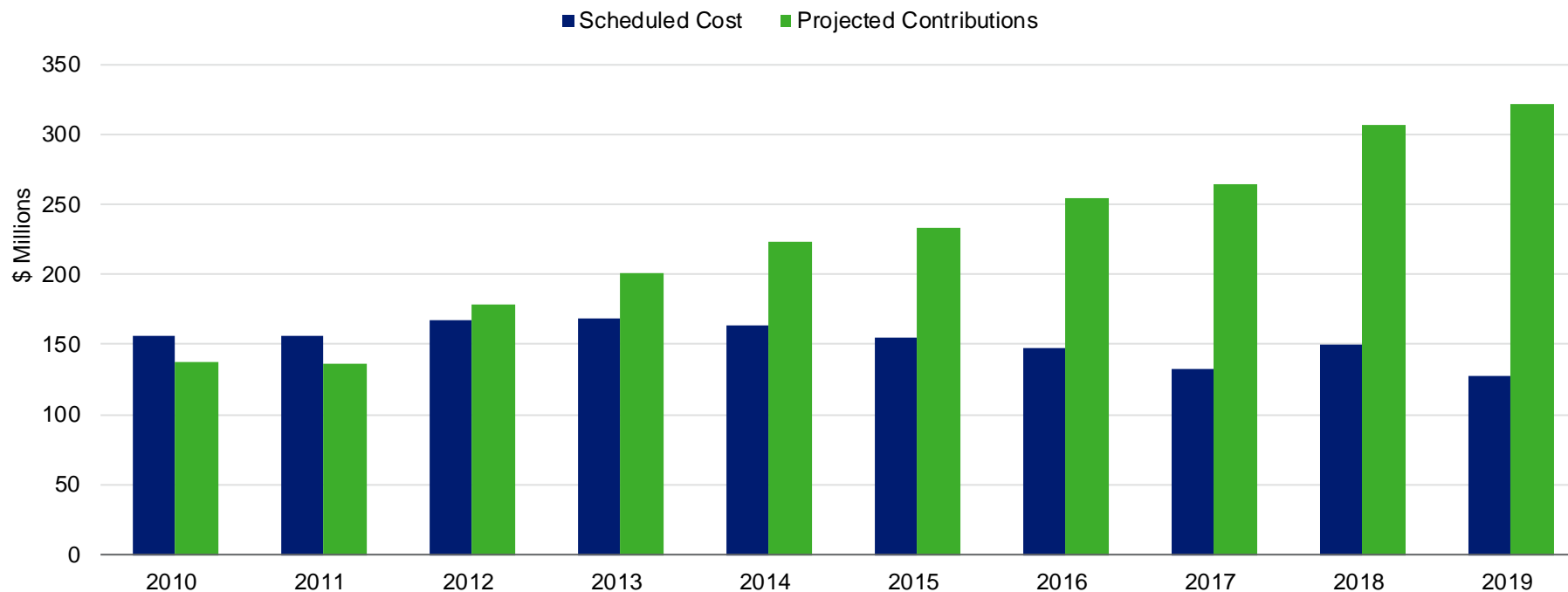


- Prior net investment losses/gains are not fully recognized in the actuarial value of assets. Using the current market value of assets, the margin would be \$179,183,197 (\$4.99 per hour, or 55.7% of projected contributions).

Section 2: Actuarial Valuation Results

Scheduled Cost vs. projected contributions — Historical information

- The margin or deficit is represented by the difference between projected contributions at the negotiated contribution rate and the Scheduled Cost



Section 2: Actuarial Valuation Results

Risk

- The actuarial valuation results are dependent on a single set of assumptions; however, there is a risk that emerging results may differ significantly as actual experience proves to be different from the current assumptions.
- We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition, but have included a brief discussion of some risks that may affect the Plan.
- We recommend a more detailed assessment of the risks to provide the Trustees with a better understanding of the risks inherent in the Plan. This assessment may include scenario testing, sensitivity testing, stress testing, and stochastic modeling.
- A detailed risk assessment is important for your Plan because the plan recently emerged from endangered status into the "Green Zone" and has not had a detailed risk assessment in a number of years. While the plan's funded position has improved substantially over the past 10 years, a severe asset decline and/or reduction in employment levels would significantly reduce the available funding margin.
- Investment Risk (the risk that returns will be different than expected)

Since the Plan's assets are much larger than contributions, investment performance will create volatility in contribution requirements. For example, for each 1% by which the current Plan Year's actual return on market value is less than assumed, the Plan would require a \$0.21 contribution increase to make up the loss within five years.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by annual contributions, provides an indication of the potential contribution volatility for any given level of investment volatility. The current AVR is about 9.12. This means that each 1% asset gain or loss (relative to the assumed investment return) translates to about 9.12% of one year's contribution.

As can be seen in Section 3, the market value rate of return over the last 20 years has ranged from a low of -19.07% to a high of 18.36%.

- Contribution/Employment Risk (the risk that actual contributions will be different from projected contributions)

If the number of active participants declines by 10%, we project the normal cost and contributions would also decrease by 10%, resulting in a decrease in the Scheduled Cost margin of \$0.20 per hour.

- Longevity Risk (the risk that mortality experience will be different than expected)

Section 2: Actuarial Valuation Results

- Other Demographic Risk (the risk that participant experience will be different than assumed)

Examples of this risk include:

- Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply. While it is difficult to quantify the impact of potential experience, this would generally result in higher costs for your plan.
 - More or less active participant turnover than assumed.
 - Return to covered employment of previously inactive participants.
- Actual Experience over the Last Ten Years

Past experience can help demonstrate the sensitivity of key results to the Plan's risk profile. Over the past ten years:

- The investment gain(loss) on market value for a year has ranged from a loss of \$174,800,106 to a gain of \$135,704,098.
 - The funded percentage for PPA purposes has ranged from a low of 58.1% to a high of 97.4%.
- Maturity Measures
- The risk associated with a pension plan increases as it becomes more mature, meaning that the actives represent a smaller portion of the liabilities of the plan. When this happens, there is a greater risk that fluctuations in the experience of the non-active participants or of the assets of the plan can result in large swings in the contribution requirements.
- Over the past ten years, the ratio of non-active participants to active participants has ranged from a low of 0.94 to a high of 1.43.
 - As of May 31, 2019, the retired life actuarial accrued liability represents 56% of the total actuarial accrued liability. In addition, the actuarial accrued liability for inactive vested participants represents 12% of the total. The higher the non-active actuarial accrued liability is as a percent of the total liability, the greater the danger of volatility in results.
- There are external factors including legislative, regulatory or financial reporting changes that could impact the Plan's funding and disclosure requirements. While we do not assume any changes in such external factors, it is important to understand that they could have significant impacts on the Plan. For example, the work of the Joint Select Committee on Solvency of Multiemployer Pension Plans in 2018 showed that Congress is considering possible changes to funding requirements for multiemployer plans (such as limits on the actuarial interest rate assumption) and increases in PBGC premiums.

Section 3: Supplementary Information

Exhibit A: Table of Plan Coverage

Category	Year Ended May 31		Change from Prior Year
	2018	2019	
Participants in Fund Office tabulation	21,754	22,533	3.6%
Less: Participants with less than one year of Credited Service	1,646	1,408	N/A
Active participants in valuation:			
• Number	20,108	21,125	5.1%
• Average age	41.3	41.3	0.0
• Average years of Credited Service	8.5	8.4	-0.1
• Contribution rate for upcoming year	\$8.96	\$8.96	0.0%
• Number with unknown age	35	26	-25.7%
• Total active vested participants	10,122	10,320	2.0%
Inactive participants with rights to a pension:			
• Number	7,560	8,032	6.2%
• Average age	49.1	49.4	0.3
• Average monthly benefit	\$817	\$804	-1.6%
Pensioners (including disabled):			
• Number in pay status	9,603	9,679	0.8%
• Average age	69.8	70.0	0.2
• Average monthly benefit	\$1,494	\$1,510	1.1%
• Number in suspended status	93	110	18.3%
Beneficiaries:			
• Number in pay status	1,975	2,003	1.4%
• Average age	72.6	72.8	0.2
• Average monthly benefit	\$513	\$523	1.9%
Total participants	39,339	40,949	4.1%

Section 3: Supplementary Information

Exhibit B: Participant Population

Year Ended May 31	Active Participants	Inactive Vested Participants	Pensioners and Beneficiaries	Ratio of Non-Actives to Actives
2010	12,371	6,962	10,242	1.39
2011	12,207	7,007	10,478	1.43
2012	13,258	6,659	10,662	1.31
2013	14,008	6,683	10,815	1.25
2014	14,700	6,686	11,046	1.21
2015	15,349	7,206	10,977	1.18
2016	16,672	7,254	11,177	1.11
2017	17,399	7,526	11,309	1.08
2018	20,108	7,560	11,671	0.96
2019	21,125	8,032	11,792	0.94

Section 3: Supplementary Information

Exhibit C: Employment History

Year Ended July 31	Total Hours of Contributions		Active Participants		Average Hours of Contributions	
	Number	Percent Change	Number	Percent Change	Number	Percent Change
2010	19,423,989	-17.5%	12,371	-15.3%	1,570	-2.7%
2011	19,436,650	0.1%	12,207	-1.3%	1,592	1.4%
2012	22,446,517	15.5%	13,258	8.6%	1,693	6.3%
2013	24,037,388	7.1%	14,008	5.7%	1,716	1.4%
2014	25,687,569	6.9%	14,700	4.9%	1,747	1.8%
2015	27,189,998	5.8%	15,349	4.4%	1,771	1.4%
2016	29,689,136	9.2%	16,672	8.6%	1,781	0.6%
2017	31,910,405	7.5%	17,399	4.4%	1,834	3.0%
2018	37,341,708	17.0%	20,108	15.6%	1,857	1.3%
2019	37,765,230	1.1%	21,125	5.1%	1,788	-3.7%
Five-year average hours:					1,806	
Ten-year average hours:					1,735	

Section 3: Supplementary Information

Exhibit D: New Pension Awards

Year Ended May 31	Total		Regular		Early		Disability		Vested		Prorata		Service	
	Number	Average Monthly Amount	Number	Average Monthly Amount	Number	Average Monthly Amount	Number	Average Monthly Amount	Number	Average Monthly Amount	Number	Average Monthly Amount	Number	Average Monthly Amount
2010	462	\$1,596	32	\$1,277	73	\$1,256	50	\$1,047	118	\$729	49	\$1,264	140	\$2,888
2011	504	1,668	20	1,163	92	1,255	48	1,113	120	822	54	1,070	170	2,891
2012	439	1,561	18	1,100	72	1,291	41	1,135	129	750	42	1,129	137	2,785
2013	413	1,510	27	1,355	55	1,205	29	1,064	131	758	41	963	130	2,702
2014	484	1,510	22	1,042	74	1,144	30	926	171	845	39	1,007	148	2,782
2015	560	1,530	32	1,043	86	1,145	36	884	159	766	53	1,238	194	2,607
2016	414	1,539	27	1,514	56	1,137	38	1,056	128	876	34	843	131	2,685
2017	410	1,555	21	1,274	61	1,173	25	855	134	848	38	835	131	2,845
2018	417	1,488	34	939	85	1,142	16	1,051	132	881	32	870	118	2,800
2019	450	1,455	43	1,255	93	1,226	29	965	161	869	24	1,081	100	2,931

Section 3: Supplementary Information

Exhibit E: Progress of Pension Rolls over the Past Ten Years

In Pay Status at Year End

Year	Number	Average Age	Average Amount	Terminations ¹	Additions ²
2010	8,516	69.3	\$1,274	339	478
2011	8,681	69.2	1,313	349	514
2012	8,830	69.2	1,341	334	483
2013	8,887	69.2	1,372	371	428
2014	9,044	69.3	1,397	348	505
2015	9,176	69.2	1,425	441	573
2016	9,255	69.4	1,445	337	416
2017	9,307	69.5	1,470	360	412
2018	9,603	69.8	1,494	350	646 ³
2019	9,679	70.0	1,510	376	452

¹ Terminations include pensioners who died or were suspended during the prior plan year.

² Additions to the pension rolls include new pensions awarded and suspended pensioners who have been reinstated.

³ Includes new pensioners who entered the plan as part of the Hod Carriers merger.

Section 3: Supplementary Information

Exhibit F: Summary Statement of Income and Expenses on an Actuarial Basis

	Year Ended May 31, 2018	Year Ended May 31, 2019
Contribution income:		
• Employer contributions	\$331,207,471	\$338,610,027
• Withdrawal liability payments	36,757	19,752
• Asset transfer from Hod Carriers merger	<u>0</u>	<u>48,583,219</u>
<i>Contribution income</i>	<i>\$331,244,228</i>	<i>\$387,212,998</i>
Investment income:		
• Expected investment income	\$194,519,813	\$220,151,485
• Adjustment toward market value	<u>-18,447,770</u>	<u>-56,105,173</u>
<i>Investment income</i>	<i>176,072,043</i>	<i>164,046,312</i>
Total income available for benefits	\$507,316,271	\$551,259,310
Less benefit payments and expenses:		
• Pension benefits	-\$182,735,275	-\$192,241,220
• Administrative expenses	<u>-5,783,559</u>	<u>-6,329,997</u>
<i>Total benefit payments and expenses</i>	<i>-\$188,518,834</i>	<i>-\$198,571,217</i>
Change in actuarial value of assets	\$318,797,437	\$352,688,093
Actuarial value of assets	\$2,841,032,249	\$3,193,720,342
Market value of assets	\$2,807,427,836	\$3,089,480,031

Section 3: Supplementary Information

Exhibit G: Investment Return – Actuarial Value vs. Market Value

Year Ended May 31	Actuarial Value Investment Return ¹		Market Value Investment Return		Year Ended May 31	Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent		Amount	Percent	Amount	Percent
2000	\$73,805,822	6.44%	\$61,900,114	4.99%	2010	\$104,993,696	7.59%	\$141,965,856	12.36%
2001	76,430,535	6.48%	57,584,012	4.56%	2011	60,497,462	4.18%	229,457,491	18.36%
2002	52,883,876	4.37%	-32,021,101	-2.51%	2012	27,251,681	1.85%	-27,955,311	-1.93%
2003	47,429,113	3.91%	38,923,385	3.26%	2013	63,697,824	4.23%	225,053,803	15.83%
2004	40,388,062	3.34%	71,839,432	6.09%	2014	174,322,553	10.85%	192,595,132	11.43%
2005	48,415,974	4.06%	95,075,437	7.95%	2015	172,199,941	9.36%	96,195,240	4.97%
2006	136,221,481	11.49%	87,016,661	7.05%	2016	122,870,984	5.89%	-16,780,989	-0.80%
2007	116,714,966	9.12%	199,813,330	15.62%	2017	173,703,975	7.55%	253,514,228	11.63%
2008	114,774,041	8.40%	34,991,540	2.41%	2018	176,072,043	6.79%	181,757,340	7.12%
2009	-41,296,913	-2.83%	-278,409,820	-19.07%	2019	164,046,312	5.59%	93,410,414	3.22%
Total						\$1,905,423,428		\$1,705,926,194	
						Most recent five-year average return:	6.88%		5.21%
						Most recent ten-year average return:	6.47%		7.35%
						20-year average return	6.03%		5.43%

Note: Each year's yield is weighted by the average asset value in that year.

¹ The investment return for 2006 includes the effect of a change in the method for determining the actuarial value of assets.

Section 3: Supplementary Information

Exhibit H: Annual Funding Notice for Plan Year Beginning June 1, 2019 and Ending May 31, 2020

	2019 Plan Year	2018 Plan Year	2017 Plan Year
Actuarial valuation date	June 1, 2019	June 1, 2018	June 1, 2017
Funded percentage	97.4%	89.3%	83.3%
Value of assets	\$3,193,720,342	\$2,841,032,249	\$2,522,234,812
Value of liabilities	3,279,765,209	3,180,125,061	3,026,774,728
Market value of assets as of plan year end	Not available	3,089,480,031	2,807,427,836

The Plan was not in endangered or critical status in the plan year.

Section 3: Supplementary Information

Exhibit I: Funding Standard Account

- ERISA imposes a minimum funding standard that requires the Plan to maintain an FSA. The accumulation of contributions in excess of the minimum required contributions is called the FSA credit balance. If actual contributions fall short on a cumulative basis, a funding deficiency has occurred.
- The FSA is charged with the normal cost and the amortization of increases or decreases in the unfunded actuarial accrued liability due to plan amendments, experience gains or losses, and changes in actuarial assumptions and funding methods. The FSA is credited with employer contributions and withdrawal liability payments.
- Increases or decreases in the unfunded actuarial accrued liability are amortized over 15 years except that short-term benefits, such as 13th checks, are amortized over the scheduled payout period.
- On May 31, 2019, the FSA had a credit balance of \$689,430,443, as shown on the 2018 Schedule MB. Contributions meet the legal requirement on a cumulative basis if that account shows no deficiency.

FSA for the Year Ended May 31, 2019

Charges			Credits		
1	Prior year funding deficiency	\$0	6	Prior year credit balance	\$509,826,921
2	Normal cost, including administrative expenses	62,251,403	7	Employer contributions	338,629,779
3	Total amortization charges	143,729,290	8	Total amortization credits	10,667,304
4	Interest to end of the year	<u>15,448,552</u>	9	Interest to end of the year	51,735,684
5	<i>Total charges</i>	\$221,429,245	10	Full-funding limitation credit	<u>0</u>
			11	<i>Total credits</i>	\$910,859,688
				Credit balance: 11 - 5	<u>\$689,430,443</u>

Section 3: Supplementary Information

Exhibit J: Maximum Deductible Contribution

- Employers that contribute to defined benefit pension plans are allowed a current deduction for payments to such plans. There are various measures of a plan's funded level that are considered in the development of the maximum deductible contribution amount.
- One of the limits is the excess of 140% of "current liability" over assets. "Current liability" is one measure of the actuarial present value of all benefits earned by the participants as of the valuation date. This limit is significantly higher than the current contribution level.
- Contributions in excess of the maximum deductible amount are not prohibited; only the deductibility of these contributions is subject to challenge and may have to be deferred to a later year. In addition, if contributions are not fully deductible, an excise tax in an amount equal to 10% of the non-deductible contributions may be imposed. However, the plan sponsor may elect to exempt the non-deductible amount up to the ERISA full-funding limitation from the excise tax.
- The Trustees should review the interpretation and applicability of all laws and regulations concerning any issues as to the deductibility of contribution amounts with Fund Counsel.

1	Normal cost, including administrative expenses	\$85,635,349
2	Amortization of unfunded actuarial accrued liability (fresh start as of June 1, 2019)	11,660,955
3	Preliminary maximum deductible contribution: 1 + 2 , with interest to the end of the plan year	\$104,593,526
4	Full-funding limitation (FFL)	2,193,854,202
5	Preliminary maximum deductible contribution, adjusted for FFL: lesser of 3 and 4	104,593,526
6	Current liability, projected to the end of the plan year	5,998,122,839
7	Actuarial value of assets, projected to the end of the plan year	3,204,456,353
8	Excess of 140% of current liability over projected assets at end of plan year: [140% of (6)] - (7) , not less than zero	5,192,915,621
9	End of year minimum required contribution	0
Maximum deductible contribution: greatest of 5, 8, and 9		\$5,192,915,621

Section 3: Supplementary Information

Exhibit K: Pension Protection Act of 2006

PPA'06 Zone Status

- Based on projections of the credit balance in the FSA, the funded percentage, and cash flow sufficiency tests, plans are categorized in one of the “zones” described below.
- The funded percentage is determined using the actuarial value of assets and the present value of benefits earned to date, based on the actuary’s best estimate assumptions.

Critical Status (Red Zone)

A plan is classified as being in critical status (the Red Zone) if:

- The funded percentage is less than 65%, and either there is a projected FSA deficiency within five years or the plan is projected to be unable to pay benefits within seven years, or
- There is a projected FSA deficiency within four years, or
- There is a projected inability to pay benefits within five years, or
- The present value of vested benefits for inactive participants exceeds that for actives, contributions are less than the value of the current year’s benefit accruals plus interest on existing unfunded accrued benefit liabilities, and there is a projected FSA deficiency within five years, or
- As permitted by the Multiemployer Pension Reform Act of 2014, the plan is projected to be in the *Red Zone* within the next five years and the plan sponsor elects to be in critical status.
- A critical status plan is further classified as being in *critical and declining status* if:
 - The ratio of inactives to actives is at least 2 to 1, and there is an inability to pay benefits projected within 20 years, or
 - The funded percentage is less than 80%, and there is an inability to pay benefits projected within 20 years, or
 - There is an inability to pay benefits projected within 15 years.

Any amortization extensions are ignored for testing initial entry into the *Red Zone*.

The Trustees are required to adopt a formal Rehabilitation Plan, designed to allow the plan to emerge from critical status by the end of the rehabilitation period. If they determine that such emergence is not reasonable, the Rehabilitation Plan must be designed to emerge as of a later time or to forestall possible insolvency.

Trustees of *Red Zone* plans have tools, such as the ability to reduce or eliminate early retirement subsidies, to remedy the situation. Accelerated forms of benefit payment (such as lump sums) are prohibited. However, unless the plan is critical and declining, Trustees may not reduce benefits of participants who retired before being notified of the plan’s critical status (other than rolling back recent benefit increases) or alter core retirement benefits payable at normal retirement age.

Section 3: Supplementary Information

Endangered Status (Yellow Zone)

A plan not in critical status (*Red Zone*) is classified as being in endangered status (the *Yellow Zone*) if:

- The funded percentage is less than 80%, or
- There is a projected FSA deficiency within seven years.

A plan that has both of the endangered conditions present is classified as seriously endangered.

Trustees of a plan that was in the *Green Zone* in the prior year can elect not to enter the *Yellow Zone* in the current year (although otherwise required to do so) if the plan's current provisions would be sufficient (with no further action) to allow the plan to emerge from the *Yellow Zone* within ten years.

The Trustees are required to adopt a formal Funding Improvement Plan, designed to improve the current funded percentage, and avoid a funding deficiency as of the emergence date.

Green Zone

A plan not in critical status (the *Red Zone*) nor in endangered status (the *Yellow Zone*) is classified as being in the *Green Zone*.

Early Election of Critical Status

Trustees of a *Green* or *Yellow Zone* plan that is projected to enter the *Red Zone* within the next five years may elect whether or not to enter the *Red Zone* for the current year.

Section 4: Certificate of Actuarial Valuation

May 22, 2020

Certificate of Actuarial Valuation

This is to certify that Segal has prepared an actuarial valuation of the Laborers Pension Trust Fund for Northern California as of June 1, 2019 in accordance with generally accepted actuarial principles and practices. It has been prepared at the request of the Board of Trustees to assist in administering the Fund and meeting filing requirements of federal government agencies. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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.

The valuation is based on the assumption that the Plan is qualified as a multiemployer plan for the year and on draft information supplied by the auditor with respect to contributions and assets and reliance on the Plan Administrator with respect to the participant data. Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results. Adjustments for incomplete or apparently inconsistent data were made as described in the attached Exhibit 8.

I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate, except as noted in Exhibit 1. Each prescribed assumption for the determination of Current Liability was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.



Mark Hamwee, FSA, MAAA
Vice President & Actuary
Enrolled Actuary No. 20-05829

Section 4: Certificate of Actuarial Valuation

Exhibit 1: Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us by the Plan Administrator:

Pensioners as of the valuation date (including 2,003 beneficiaries in pay status and 110 pensioners in suspended status)	11,792
Participants inactive during year ended May 31, 2019 with vested rights (including 9 participants with unknown age)	8,032
Participants active during the year ended May 31, 2019 (including 26 participants with unknown age)	21,125
• Fully vested	10,320
• Not vested	10,805
Total participants	40,949

The actuarial factors as of the valuation date are as follows:

Normal cost, including administrative expenses	\$85,635,349
Actuarial present value of projected benefits	3,937,669,304
Present value of future normal costs	657,904,095
Actuarial accrued liability	3,279,765,209
• Pensioners and beneficiaries	\$1,839,832,055
• Inactive participants with vested rights	378,007,188
• Active participants	1,061,925,966
Actuarial value of assets (\$3,089,480,031 at market value as reported by Lindquist LLP)	\$3,193,720,342
Unfunded actuarial accrued liability	86,044,867

Section 4: Certificate of Actuarial Valuation

Exhibit 2: Actuarial Present Value of Accumulated Plan Benefits

The actuarial present value of accumulated plan benefits calculated in accordance with FASB ASC 960 is shown below as of June 1, 2018 and as of June 1, 2019. In addition, the factors that affected the change between the two dates follow.

	Benefit Information Date	
	June 1, 2018	June 1, 2019
Actuarial present value of vested accumulated plan benefits:		
• Participants currently receiving payments	\$1,807,110,708	\$1,839,832,055
• Other vested benefits	<u>1,152,892,536</u>	<u>1,201,567,652</u>
• Total vested benefits	\$2,960,003,244	\$3,041,399,707
Actuarial present value of non-vested accumulated plan benefits	220,121,817	238,365,502
Total actuarial present value of accumulated plan benefits	\$3,180,125,061	\$3,279,765,209

Factors	Change in Actuarial Present Value of Accumulated Plan Benefits
Plan amendments	\$2,776,500
Benefits accumulated, net experience gain or loss, changes in data	57,804,534
Benefits paid	-192,241,220
Interest	231,300,334
Total	\$99,640,148

Section 4: Certificate of Actuarial Valuation

Exhibit 3: Current Liability

The table below presents the current liability for the Plan Year beginning June 1, 2019.

Item ¹	Amount
Retired participants and beneficiaries receiving payments	\$2,715,404,395
Inactive vested participants	808,740,650
Active participants	
• Non-vested benefits	\$481,416,059
• Vested benefits	<u>1,815,091,668</u>
• <i>Total active</i>	\$2,296,507,727
Total	\$5,820,652,772
Expected increase in current liability due to benefits accruing during the plan year	\$209,586,724
Expected release from current liability for the plan year	214,544,055
Expected plan disbursements for the plan year, including administrative expenses of \$6,000,000	220,544,055
Current value of assets	\$3,089,480,031
Percentage funded for Schedule MB	53.07%

¹ The actuarial assumptions used to calculate these values are shown in Exhibit 8.

Section 4: Certificate of Actuarial Valuation

Exhibit 4: Information on Plan Status as of June 1, 2019

Plan status (as certified on August 16, 2019, for the 2019 zone certification)	"Green"
Actuarial value of assets for FSA	\$3,193,720,342
Accrued liability under unit credit cost method	3,279,765,209
Funded percentage for monitoring plan's status	97.4%

Section 4: Certificate of Actuarial Valuation

Exhibit 5: Schedule of Projection of Expected Benefit Payments

(Schedule MB, Line 8b(1))

Plan Year	Expected Annual Benefit Payments ¹
2019	\$214,481,556
2020	219,976,943
2021	227,191,673
2022	234,074,400
2023	240,750,623
2024	247,430,936
2025	254,208,574
2026	260,938,738
2027	266,276,311
2028	270,717,680

¹ Assuming as of the valuation date:

- no additional accruals,
- experience is in line with valuation assumptions,
- no new entrants are covered by the plan, and
- reflects the supplemental checks for 2019 but not for 2020

Section 4: Certificate of Actuarial Valuation

Exhibit 6: Schedule of Active participant Data

(Schedule MB, Line 8b(2))

The participant data is for the year ended May 31, 2019.

Age	Years of Credited Service										
	Total	Under 1	1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	1,319	468	841	10	–	–	–	–	–	–	–
25 - 29	2,728	601	1,790	326	11	–	–	–	–	–	–
30 - 34	2,860	454	1,610	505	279	12	–	–	–	–	–
35 - 39	3,092	370	1,291	554	540	314	23	–	–	–	–
40 - 44	2,910	211	978	493	485	518	220	5	–	–	–
45 - 49	2,773	164	736	399	461	612	347	52	2	–	–
50 - 54	2,651	144	530	328	419	562	440	167	59	2	–
55 - 59	1,801	74	313	237	269	355	271	165	100	17	–
60 - 64	797	23	130	114	123	155	112	67	46	22	5
65 - 69	148	8	34	29	21	22	14	5	10	4	1
70 & over	20	3	6	1	1	4	2	1	1	–	1
Unknown	26	12	14	–	–	–	–	–	–	–	–
Total	21,125	2,532	8,273	2,996	2,609	2,554	1,429	462	218	45	7

- Notes:
1. Credited Service as of May 31 is reduced by 2/12 of a year from data reported as of July 31 to recognize the two-month difference between Plan Year and Plan Credit Year.
 2. The table excludes 1,408 employees with less than one year of Credited Service as of July 31, 2019.

Section 4: Certificate of Actuarial Valuation

Exhibit 7: Funding Standard Account

The table below presents the FSA for the Plan Year ending May 31, 2020.

Charges			Credits		
1	Prior year funding deficiency	\$0	6	Prior year credit balance	\$689,430,443
2	Normal cost, including administrative expenses	85,635,349	7	Amortization credits	10,667,302
3	Amortization charges	138,585,458	8	Interest on 6 and 7	52,507,331
4	Interest on 1, 2 and 3	16,816,561	9	Full-funding limitation credit	0
5	Total charges	\$241,037,368	10	Total credits	\$752,605,076
Minimum contribution with interest required to avoid a funding deficiency: 5 - 10 , not less than zero					\$0

Full Funding Limitation (FFL) and Credits

ERISA FFL (accrued liability FFL)	\$1,037,752,293
RPA'94 override (90% current liability FFL)	2,193,854,202
FFL credit	0

Section 4: Certificate of Actuarial Valuation

Schedule of FSA Bases (Charges) (Schedule MB, Line 9c)

Type of Base	Date Established	Amortization Amount	Years Remaining	Outstanding Balance
Plan Amendment	06/01/1995	\$3,170,327	6	\$15,997,107
Plan Amendment	06/01/1996	2,088,900	7	11,893,873
Plan Amendment	06/01/1997	7,214,367	8	45,425,990
Plan Amendment	06/01/1998	5,850,996	9	40,122,059
Change in Assumptions	06/01/1999	1,218,432	10	8,990,675
Plan Amendment	06/01/1999	10,585,917	10	78,112,282
Plan Amendment	06/01/2000	6,275,605	11	49,351,862
Plan Amendment	06/01/2001	1,148,665	12	9,551,633
Change in Assumptions	06/01/2001	6,120,289	12	50,892,795
Plan Amendment	06/01/2002	577,342	13	5,043,239
Change in Assumptions	06/01/2002	7,658,628	13	66,900,243
Change in Assumptions	06/01/2003	744,572	14	6,794,849
Plan Amendment	06/01/2004	568,223	15	5,391,960
Plan Amendment	06/01/2005	584,804	16	5,746,936
Experience Loss	06/01/2005	7,470,907	1	7,470,907
Plan Amendment	06/01/2006	523,368	17	5,307,740
Experience Loss	06/01/2006	6,482,982	2	12,513,662
Experience Loss	06/01/2007	486,434	3	1,359,857
Plan Amendment	06/01/2007	1,753,219	18	18,293,021
Experience Loss	06/01/2009	16,405,396	5	71,352,418
Change in Assumptions	06/01/2010	8,020,857	6	40,472,323
Experience Loss	06/01/2011	7,023,575	7	39,991,160
Experience Loss	06/01/2012	10,400,094	8	65,485,248
Experience Loss	06/01/2013	5,745,202	9	39,396,592

Section 4: Certificate of Actuarial Valuation

Type of Base	Date Established	Amortization Amount	Years Remaining	Outstanding Balance
Change in Assumptions	06/01/2014	6,643,249	10	49,019,781
Experience Loss	06/01/2016	2,315,313	12	19,252,812
Experience Loss	06/01/2018	8,399,155	14	76,649,345
Plan Amendment	06/01/2019	2,776,500	1	2,776,500
Experience Loss	06/01/2019	332,140	15	3,151,732
Total		\$138,585,458		\$852,708,601

Section 4: Certificate of Actuarial Valuation

Schedule of FSA Bases (Credits) (Schedule MB, Line 9c)

Type of Base	Date Established	Amortization Amount	Years Remaining	Outstanding Balance
Experience Gain	06/01/2010	\$1,701,140	6	\$8,583,755
Plan Amendment	06/01/2014	2,210	10	16,311
Experience Gain	06/01/2014	4,981,598	10	36,758,648
Experience Gain	06/01/2015	3,342,986	11	26,289,516
Experience Gain	06/01/2017	639,368	13	5,585,061
Total		\$10,667,302		\$77,233,291

Section 4: Certificate of Actuarial Valuation

Exhibit 8: Statement of Actuarial Assumptions/Methods

(Schedule MB, Line 6)

Rationale for Demographic and Noneconomic Assumptions	The information and analysis used in selecting each demographic assumption that has a significant effect on this actuarial valuation is shown in the Actuarial Experience Study dated November 24, 2014. Current data is reviewed in conjunction with each annual valuation. Based on professional judgment, no assumption changes are warranted at this time.																																																					
Mortality Rates	<p><i>Post-Retirement (Healthy):</i> RP-2014 Healthy Blue Collar Annuitant Tables, generationally projected using Scale MP-2014.</p> <p><i>Post-Retirement (Disabled):</i> RP-2014 Healthy Blue Collar Annuitant Tables, set forward 2 years.</p> <p><i>Pre-Retirement:</i> RP-2014 Blue Collar Employee Tables, generationally projected using Scale MP-2014.</p> <p>The tables for non-disabled lives with generational projection to the age of participants as of the measurement date reasonably reflect the mortality experience of the Plan as of the measurement date. These tables were then adjusted to future years using generational projection to reflect future mortality improvement between the measurement date and those years.</p>																																																					
Annuitant Mortality Rates	<table><tr><th rowspan="3">Age</th><th colspan="4">Rate (%)¹</th></tr><tr><th colspan="2">Healthy</th><th colspan="2">Disabled</th></tr><tr><th>Male</th><th>Female</th><th>Male</th><th>Female</th></tr><tr><td>55</td><td>0.60</td><td>0.40</td><td>0.69</td><td>0.46</td></tr><tr><td>60</td><td>0.85</td><td>0.57</td><td>0.98</td><td>0.67</td></tr><tr><td>65</td><td>1.26</td><td>0.87</td><td>1.50</td><td>1.05</td></tr><tr><td>70</td><td>1.97</td><td>1.40</td><td>2.37</td><td>1.70</td></tr><tr><td>75</td><td>3.15</td><td>2.30</td><td>3.83</td><td>2.81</td></tr><tr><td>80</td><td>5.19</td><td>3.82</td><td>6.36</td><td>4.71</td></tr><tr><td>85</td><td>8.68</td><td>6.50</td><td>10.70</td><td>8.08</td></tr><tr><td>90</td><td>14.64</td><td>11.19</td><td>17.77</td><td>13.76</td></tr></table>	Age	Rate (%) ¹				Healthy		Disabled		Male	Female	Male	Female	55	0.60	0.40	0.69	0.46	60	0.85	0.57	0.98	0.67	65	1.26	0.87	1.50	1.05	70	1.97	1.40	2.37	1.70	75	3.15	2.30	3.83	2.81	80	5.19	3.82	6.36	4.71	85	8.68	6.50	10.70	8.08	90	14.64	11.19	17.77	13.76
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	¹ Mortality rates shown for base table.																																																					

Section 4: Certificate of Actuarial Valuation

Termination Rates

Age	Rate (%)			
	Mortality ¹		Disability ²	Withdrawal ³ After 5 Years ⁴
	Male	Female		
20	0.05	0.02	0.15	10.00
25	0.06	0.02	0.21	10.00
30	0.06	0.02	0.28	8.00
35	0.07	0.03	0.37	6.25
40	0.08	0.04	0.55	4.50
45	0.13	0.07	0.90	4.25
50	0.22	0.12	1.51	4.00
55	0.36	0.19	2.52	3.50
60	0.61	0.27	4.07	3.50

¹ Mortality rates shown for base table.

² The disability rates begin upon eligibility for the disability pension and do not apply at or beyond retirement eligibility.

³ Withdrawal rates do not apply at or beyond retirement eligibility.

⁴ The withdrawal rates for the first 5 years of employment are 18% for the first year, 16% for the second year, 14% for the third year, 12% for the fourth year, and 10% for the fifth year.

Section 4: Certificate of Actuarial Valuation

Retirement Rates	Annual Retirement Rates		
	Age	Service Pensions	Non-Service Pensions
	Less Than 55	26%	N/A
	55	31%	6%
	56	31%	6%
	57	31%	6%
	58	31%	6%
	59	31%	8%
	60	36%	8%
	61	36%	15%
	62	60%	35%
	63	45%	25%
	64	45%	25%
	65 & Over	100%	100%
Description of Weighted Average Retirement Age	Age 59.3, determined as follows: The weighted average retirement age for each participant is calculated as the sum of the product of each potential current or future retirement age times the probability of surviving from current age to that age and then retiring at that age, assuming no other decrements. The overall weighted retirement age is the average of the individual retirement ages based on all the active participants included in this actuarial valuation.		
Retirement Age for Inactive Vested Participants	The earliest of Service Pension eligibility, age 60 with 10 years of service, or age 65.		
Future Benefit Accruals	1,575 hours worked per active per year.		
Unknown Data for Participants	Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.		
Definition of Active Participants	Active participants are defined as those with at least 500 hours in the most recent Plan Credit Year and who have accumulated at least one year of Credited Service as of August 1, 2019, excluding those who have retired as of the valuation date.		

Section 4: Certificate of Actuarial Valuation

Exclusion of Inactive Vested Participants	Inactive participants over age 70 excluded from the valuation (176 exclusions for this valuation).
Percent Married	80%
Age of Spouse	Spouses of male participants are three years younger and spouses of female participants are three years older.
ProRata Pensions	The normal cost is loaded by 5% for ProRata pensions.
Benefit Election	50% of future pensioners are assumed to elect a 50% Husband-and-Wife Pension and 50% are assumed to elect a Single-Life Pension.
Net Investment Return	7.50% The net investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes as provided by Segal Marco Advisors, as well as the Plan's target asset allocation.
Annual Administrative Expenses	\$6,000,000, payable monthly (equivalent to \$5,770,751 payable at the beginning of the year) The annual administrative expenses were based on historical and current data, adjusted to reflect estimated future experience and professional judgment.
Actuarial Value of Assets	The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and projected market return, and is recognized over a five-year period. The actuarial value is further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method	Unit Credit Actuarial Cost Method. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by service.
Benefits Valued	Unless otherwise indicated, includes all benefits summarized in Exhibit 9.
Current Liability Assumptions	<i>Interest:</i> 3.08%, within the permissible range prescribed under IRC Section 431(c)(6)(E) <i>Mortality:</i> Mortality prescribed under IRS Regulations 1.431(c)(6)-1 and 1.430(h)(3)-1(a)(3): RP-2014 separate employee and annuitant healthy mortality tables (sex-specific), reflecting both blue and white collar data, adjusted backward to the base year (2006) using scale MP-2014. Mortality is projected forward using scale MP-2017 through the valuation date plus a number of years that varies by age.
Estimated Rate of Investment Return	<i>On actuarial value of assets (Schedule MB, line 6g):</i> 5.6%, for the Plan Year ending May 31, 2019 <i>On current (market) value of assets (Schedule MB, line 6h):</i> 3.2%, for the Plan Year ending May 31, 2019
FSA Contribution Timing (Schedule MB, line 3a)	Unless otherwise noted, contributions are paid periodically throughout the year pursuant to collective bargaining agreements. The interest credited in the FSA is therefore assumed to be equivalent to a December 1 contribution date.

Section 4: Certificate of Actuarial Valuation

Justification for Change in Actuarial Assumptions (Schedule MB, line 11)	For purposes of determining current liability, the current liability interest rate was changed from 3.00% to 3.08% due to a change in the permissible range and recognizing that any rate within the permissible range satisfies the requirements of IRC Section 431(c)(6)(E) and the mortality tables and mortality improvement scales were changed in accordance with IRS Regulations 1.431(c)(6)-1 and 1.430(h)(3)-1.
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Section 4: Certificate of Actuarial Valuation

Exhibit 9: Summary of Plan Provisions

(Schedule MB, Line 6)

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year	June 1 through May 31
Plan Credit Year	August 1 through July 31
Plan Status	Ongoing plan
Regular Pension	<ul style="list-style-type: none">• <i>Age Requirement:</i> 65• <i>Service Requirement:</i> 5 years of Credited Service.• <i>Amount:</i> \$75.00 per month for each Past Service Benefit Unit; plus \$95.00 per month for each Future Service Benefit Unit earned through July 31, 1986; plus 3.30% of the contributions received between August 1, 1986 and July 31, 2003; plus 2.30% of the contributions received between August 1, 2003 and July 31, 2019; plus 3.30% of the contributions received for service thereafter. In addition, a benefit of \$50 per month is provided to participants who have worked a minimum of 2,000 hours in the 48 months preceding retirement. Effective June 1, 2005, contributions in excess of \$2.16 per hour are not recognized for benefit crediting purposes.
Early Retirement Pension	<ul style="list-style-type: none">• <i>Age Requirement:</i> 55• <i>Service Requirement:</i> 10 years of Credited Service• <i>Amount:</i> Accrued Regular Pension amount, reduced 3% for each year that the retiring employee is younger than age 65. (The supplemental lifetime benefit of \$50 per month is not subject to the Early Retirement reduction factor).
Disability Pension	<ul style="list-style-type: none">• <i>Age Requirement:</i> None• <i>Service Requirement:</i> 10 years of Credited Service; earned at least two quarters of Credited Service in the two consecutive Plan Credit Year period preceding the date of disability.• <i>Other Requirement:</i> Totally disabled and entitled to a Social Security Disability award and disability as a result of actual employment.• <i>Amount:</i> \$50 per Benefit Unit per month. In addition, a supplemental lifetime benefit of \$50 per month is provided.
Service Pension	<ul style="list-style-type: none">• <i>Age Requirement:</i> 55 for participants entering plan from August 1, 2013 to July 31, 2015; 60 for those entering plan August 1, 2015 or later; otherwise none• <i>Service Requirement:</i> 25 Benefit Units (A maximum of 1.0 Benefit Unit is recognized each Plan Credit Year to meet this requirement.)• <i>Amount:</i> Accrued Regular Pension amount.

Section 4: Certificate of Actuarial Valuation

Pro Rata/Partial Pension	This type of pension is available for laborers who have earned at least 5 years of combined Credited Service under this Plan and Related Pension Plans.
Deferred Vested Pension	<ul style="list-style-type: none"> • <i>Age and Service Requirements:</i> Age 65 and vested; or age 55 with 10 years of Credited Service • <i>Amount:</i> Accrued Regular Pension amount, payable commencing at Normal Retirement Age or, on a reduced basis, as early as age 55.
Normal Retirement Age	65, or if later, the fifth anniversary of participation
Spouse's Benefit	<ul style="list-style-type: none"> • <i>Age Requirement:</i> None • <i>Service Requirement:</i> 5 years of Credited Service. • <i>Amount:</i> 50% of the benefit that the participant would have received had he or she retired the day before death, on a 50% Husband-and-Wife Pension. If the participant was not eligible for a Service Pension and the participant's death occurs before age 55, benefits to the surviving spouse will be deferred to the date when the participant would have attained that age.
Pre-Retirement Death Benefit	<ul style="list-style-type: none"> • <i>Age Requirement:</i> None • <i>Service Requirement:</i> 5 years; earned at least two quarters of Credited Service in the two consecutive Plan Credit Year period preceding the date of death. • <i>Other Requirement:</i> Death as a result of actual employment. • <i>Amount:</i> Accrued Regular Pension amount payable immediately to the designated beneficiary until 36 payments are made. <p>This benefit is applicable only if the participant is not married, or if payments are not due under the Spouse's Benefit.</p>
Husband and Wife Pension	All retirements are paid in the form of a 50% Husband-and-Wife Pension unless this form is rejected by the participant and spouse. The benefit amount otherwise payable is reduced (88% for same age participant/spouse retiring on a non-disability pension) to reflect the joint and survivor coverage. For pensions effective after October 1, 1998, if the spouse should predecease the pensioner after the effective date of the pension, the benefit amount payable to the pensioner will be increased to the amount payable if the pension had not been paid in the form of a 50% Husband-and-Wife Pension. If this type of pension is rejected, or if the participant is not married, benefits are payable for the life of the participant without reduction or in any other available optional form elected by the participant in an actuarially equivalent amount.
Post-Retirement Death Benefit	A lump sum benefit shall be paid to the surviving spouse of a deceased pensioner, in an amount equal to \$100 for each Benefit Unit earned under the Plan at the time of retirement.

Section 4: Certificate of Actuarial Valuation

Optional Forms of Benefits	<ul style="list-style-type: none"> • 50% Husband-and-Wife Pension (“QJSA”) • Single-Life Pension • Optional Five-Year Guarantee of Pension Payments • 75% Husband-and-Wife Pension • 100% Husband-and-Wife Pension
Service Schedules	<ul style="list-style-type: none"> • Credited Service: Commencing August 1, 1975, a participant who works at least 870 hours in a Plan Credit Year receives one year of Credited Service. Fractional credit is given in quarter-year increments to employees who work at least 435 hours. Effective August 1, 2013, no credit is given for Plan Credit Years in which fewer than 500 hours are worked. • Benefit Units: Commencing August 1, 1975, a participant who works at least 500 hours in a Plan Credit Year receives 1/10 of a Benefit Unit for each 100 hours of work up to maximum of one Benefit Unit for 1,000 hours or more. For each Plan Credit Year between period August 1, 1980 through August 1, 1986, a participant may earn an additional 1/2 Benefit Unit if he or she works at least 1,750 hours or more in a given Plan Credit Year.
Break in Service Rules	<ul style="list-style-type: none"> • <i>One Year Break:</i> A participant incurs a One Year Break in Service if he or she fails to work at least 435 hours (500 hours after July 31, 2013) in a Plan Credit Year. • <i>Permanent Break:</i> A nonvested participant incurs a Permanent Break in Service if the number of consecutive One Year Breaks in Service is at least five and it equals or exceeds the number of full years of Credited Service previously accumulated. At this time, all the accumulated Credited Service and Benefit Units are canceled.
Participation Rules	<p><i>Participation:</i> An employee becomes a “Participant” on the August 1 or February 1 next following a twelve-month period during which he or she worked at least 435 hours (500 hours after July 31, 2013) in Covered Employment.</p> <p><i>Termination of Participation:</i> A participant who incurs a One Year Break in Service ceases to be a Participant as of the last day of the Plan Credit Year which constituted the One Year Break in Service unless he or she has retired or attained vested rights.</p> <p><i>Separation from Employment:</i> A participant is deemed to be separated from employment at the end of any two consecutive Plan Credit Year period in which he or she does not work at least 435 hours (500 hours after July 31, 2013) in Covered Employment in at least one of the two Plan Credit Years. The monthly amount payable for Benefit Units (or contributions) earned before the last separation from employment is frozen at the then current benefit level.</p>

Section 4: Certificate of Actuarial Valuation

Changes in Plan Provisions

The following plan changes are reflected in the FSA for the first time in this year's valuation:

- Effective August 1, 2019, the benefit accrual rate was increased from 2.3% to 3.3% of contributions, based on a benefit contribution rate of \$2.16 per hour. This change is prospective only and has no impact on the Actuarial Accrued Liability as of June 1, 2019.
- A one-time supplemental check of \$500 was provided in December 2019 to those in pay status who are over age 70.

The following plan changes were adopted after the end of the current Plan Year and will first be reflected in the FSA in next year's valuation:

- A one-time supplemental check of \$500 will be provided in December 2020 to retirees who have been in good standing for the preceding twelve months.

Section 5: General Background

A summary of major developments with the background and position of the Fund is provided.

Changes in Contribution Rates and Benefit Amounts

Effective Date Year	Month	Hourly Contribution Rate	Monthly Pension Amount		Adjustment for Existing Pensioners
			Past Service	Future Service To 8/1/86 % of Contributions Thereafter	
1962	September	\$.05			
1963	September			\$ 2.75	
1964	June	.10			
1965	May			3.50	Full
	July	.15			
1966	January			7.50	Full
	July	.20			
1967	June	.30			
1969	January	.40		10.00	16.7%
1970	January	.50		11.00	5.0%
1971	January	.60			
	June			14.30	5.0%
	July	.80			
1972	January	.90			
	February			22.00	5.0%
	July	1.05			
1973	January	1.15			
	February			25.00	5.0%
	June	1.35			
1974	March			30.50	5.0%
	November	1.40			
1976	July	1.70			
	December			32.50	

Section 5: General Background

Effective Date Year Month	Hourly Contribution Rate	Monthly Pension Amount		Adjustment for Existing Pensioners
		Past Service	Future Service	
			To 8/1/86 % of Contributions Thereafter	
1978	July	1.75		
	September		32.60	
1980	June	\$32.60	\$34.75	
1981	November	2.00		
1982	March	32.60	41.50	
	November	2.16		
1986	August	32.60	\$41.50	1.75%
1987	September			(1) +\$25/month
1990	September	32.60	\$48.00	2.00% ⁽²⁾ +\$25/month
1993	December			\$150/\$75 ⁽³⁾
1995	October	\$32.60	\$60.00	2.00%
1996	July	32.60	66.00	(4)
1997	September	32.60	75.00	2.30% (5)
1998	June	75.00	95.00	3.00%/2.30% ⁽⁶⁾
1999	June			3.30%/2.30% ⁽⁷⁾ (8)
2000	June			(9)
2001	June			(10)
2003	June			3.30%/2.30% ⁽¹¹⁾ (12)
2004	June			(13)
2005	July	2.70		(14) (15)
2006	July	3.26		(16)
2007	July	4.11		(17)
2008	July	4.96		
2009	July	5.76		
2010	July	6.15		
2011	July	6.54		
2011	December			(18)
2012	July	8.39		
2013	July	8.96		
2019	August			3.30%/2.30% ⁽¹⁹⁾

Section 5: General Background

Ad Hoc Post-Retirement Payments to Pensioners

Date	Paid	Amount Paid	Paid to:
1976	December	One month's benefit	All pensioners
1978	December	One month's benefit	All pensioners
1980	March	50% of one month's benefit	All pensioners
	December	50% of one month's benefit	All pensioners
1981	November	One month's benefit	Pensions effective prior to May, 1981.
1982	October	One month's benefit	Pensions effective prior to March, 1982.
1983	December	One month's benefit	Pensions effective prior to January, 1983.
1984	October	One month's benefit	Pensions effective prior to January, 1984.
1985	August	50% of one month's benefit	Pensions effective prior to March, 1985.
	December	50% of one month's benefit	Pensions effective prior of March, 1985.
1986	November	One month's benefit	Pensions effective prior to January, 1986.
1990	December	One month's benefit	Pensions effective prior to July, 1990.
1991	December	One month's benefit	Pensions effective prior to December, 1991.
1992	December	One month's benefit	Pensions effective prior to December, 1992.
1995	March	One month's benefit	Pensions effective prior to March 1, 1995.
	November 15	One month's benefit	Pensions effective prior to October 1, 1995.
1996	December 15	One month's benefit	Pensions effective prior to November 1, 1996.
1997	November 15	One month's benefit	Pensions effective prior to September 1, 1997.
1998	October 15	One month's benefit	Pensions effective prior to September 1, 1998.
1999	November 15	One month's benefit	Pensions effective prior to November 1, 1999.
2000	November 15	One month's benefit	Pensions effective prior to November 1, 2000.
2001	November 15	One month's benefit	Pensions effective prior to November 1, 2001.
2019	December	\$500	Pensioners over age 70
2020	December	\$500	Pensioners in good standing with the union

Section 5: General Background

Footnotes

- (1) Benefit Formula modified to provide an additional flat benefit of \$25 per month.
- (2) Additional flat benefit increased to \$50 per month.
- (3) This benefit is a temporary supplement which expires November 30, 1996. The higher amount applies while pensioner is under age 65 only.
- (4) The temporary supplement extended to November 30, 1997.
- (5) The temporary supplement extended to November 30, 2000.
- (6) The lower factor applies to service after July 31, 2000 only.
- (7) The lower factor applies to service after July 31, 2004 only.
- (8) The temporary supplement extended to November 30, 2001.
- (9) The temporary supplement extended to November 30, 2002.
- (10) The temporary supplement extended to November 30, 2003.
- (11) The lower factor applies to service after July 31, 2003 only.
- (12) The temporary supplement extended to November 30, 2004.
- (13) The temporary supplement extended to November 30, 2005.
- (14) From this point onward, the contributions used for benefit crediting purposes reflect only the first \$2.16 per hour.
- (15) The temporary supplement extended to November 30, 2006.
- (16) The temporary supplement extended to November 30, 2007.
- (17) The temporary supplement extended to November 30, 2011.
- (18) The temporary supplement extended to November 30, 2012.
- (19) The lower factor applies to service between August 1, 2003 and July 31, 2019.

Section 5: General Background

Other Developments

Date	Event
August 2, 1963:	Pension Plan and Trust Agreement adopted.
June 1, 1976:	Plan amended to comply with ERISA.
June 1, 1977:	Funding Standard Account established.
January 1, 1979:	Merger of the Laborers Rock, Sand and Gravel Pension Trust Fund.
May 1, 1981:	Plan amended to recognize all Benefit Units earned.
June 1, 1985:	Plan amended to comply with REA. Charge for pre retirement spouse death benefit was removed.
June 1, 1986:	Plan recognizes a maximum of 1½ Benefit Units for each Plan Year between August 1, 1980 and August 1, 1986.
September 1, 1997:	Plan amended to: (a) reduce the vesting requirement to 5 years; (b) provide a lump sum post-retirement death benefit of \$100 per Benefit Unit at retirement; and (c) lower the early retirement reduction factor to ¼ of 1% per month under age 65.
June 1, 1999:	Asset smoothing method expanded to smooth all assets (instead of equities only).
June 1, 2006:	Asset smoothing method changed to reset the actuarial value of assets to market value on June 1, 2006, and to recognize any market value gains or losses after June 1, 2006 over a five-year period.
June 1, 2007:	The Scheduled Cost funding period was changed to a fixed 15-year amortization schedule.
June 1, 2008:	Plan certified as being in endangered status.
April 24, 2009:	Trustees adopt a Funding Improvement Plan.
June 1, 2009:	Plan certified as being in seriously endangered status. The actuarial cost method was changed from the Entry Age Normal Cost Method to the Unit Credit Cost Method and the credit bases in the funding standard account were combined.

Section 5: General Background

Date	Event
September 18, 2009:	Trustees elect under WRERA §204 to freeze the zone status for 2009 and under WRERA §205 to add three years to funding improvement period.
June 1, 2010:	Plan certified as being in endangered status.
June 28, 2010:	Trustees update Funding Improvement Plan.
September 27, 2011:	Trustees update Funding Improvement Plan.
June 11, 2012:	Trustees update Funding Improvement Plan.
June 10, 2013:	Trustees update Funding Improvement Plan.*
August 1, 2013:	For new entrants as of August 1, 2013 or later, eligibility for Service Pension is modified to include a minimum age of 55.
June 1, 2015:	The Scheduled Cost funding period was changed to decrease by 1 each year.
August 1, 2015:	For new entrants as of August 1, 2015 or later, eligibility for Service Pension is modified to include a minimum age of 60.
February 26, 2016:	Date of most recent favorable determination letter from Internal Revenue Service.
June 1, 2017:	Plan emerged from endangered status and was certified as being in neither critical nor endangered status.
May 31, 2018:	The Hod Carriers Local No. 166 Pension Trust Fund merged into this plan.

*Subsequent updates consist of a review but no substantive changes to benefits or contribution levels.

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