



Employees' Retirement System

Employees' Retirement System of Rhode Island -- Retirement Board Meeting

Schedule	Monday, December 14, 2020 9:00 AM — 11:30 AM EST
Venue	Video Conference using Zoom - https://treasury-ri-gov.zoom.us/j/98775716872
Description	Join Zoom Meeting https://treasury-ri-gov.zoom.us/j/98775716872

or


Dial by your location

- +1 929 205 6099 US (New York)
- +1 301 715 8592 US (Washington D.C)
- +1 312 626 6799 US (Chicago)
- +1 669 900 6833 US (San Jose)
- +1 253 215 8782 US (Tacoma)
- +1 346 248 7799 US (Houston)

Meeting ID: 987 7571 6872













Notes for Participants	If you are unable to attend the December meeting, please contact Frank at 462-7610 or Roxanne at 462-7608. *Additional data will be forthcoming shortly. The slide deck presentation by GRS, the MERS valuation, a TIAA slide deck and the pension application processing report.
Organizer	Frank J. Karpinski

Agenda

Posted Agenda	1
 December 2020 Agenda.pdf	2
1. Chairperson Call to Order Call to Order - Presented by Treasurer Seth Magaziner	6
Roll Call Roll Call of Members - Presented by Frank J. Karpinski	7



Employees' Retirement System of Rhode Island

2. Approval of the Draft Meeting Minutes and the Draft Executive Session Minutes of the September 16, 2020 Retirement Board Meeting For Vote - Presented by Treasurer Seth Magaziner	8
 2020-09-16 Retirement Board Regular Session Minutes DRAFT final.pdf	9
 2020-09-16 Retirement Board Executive Session Minutes DRAFT final.pdf	15
<hr/>	
3. Chairperson's Report For Report - Presented by Treasurer Seth Magaziner	16
<hr/>	
Fiscal Year Update on the Investment Portfolio and Defined Contribution Plan as of September 30, 2020, by CIO Andrew Junkin, CFA, CAIA For Report - Presented by Andrew Junkin	17
 Retirement Board - 10.31.20 DATA.pdf	18
 TIAA Q3 2020 Plan Review for ERSRI.pdf	26
<hr/>	
4. Executive Director's Report Presented by Frank J. Karpinski	58
 2021 Board_Committee Calendar w-members-v1.pdf	59
<hr/>	
Presentation and Consideration of the Actuarial Valuation as of June 30, 2020 by Gabriel, Roeder, Smith and Company (GRS) for the ERS (State and Teachers), MERS Plans (Municipal Employees), State Police (SPRBT), State Police Retirement Fund Trust (SPRFT), Judges (JRBT), Judicial Retirement Fund Trust (RIJRFT) and the Teacher Survivor Benefits Plan (TSBP) For Vote - Presented by Paul Wood and Joe Newton	62
 ERSRI_Val2020.pdf	63
 ERS_ValReport_draft.pdf	104
 MERS_ValReport_draft1210.pdf	177
 JRBT_ValReport_draft.pdf	279
 SPRBT_Val20Report_Draft12082020.pdf	330
 TSBP_ValReport_draft.pdf	382
 RIJRFT_ValReport.pdf	411



Employees' Retirement System of Rhode Island

 SPRFT ValReport.pdf


414

-
- 4.1. Administration, Audit, Risk & Compliance Committee Recommendation on Actuarial Valuations as of June 30, 2020 417
For Discussion and Recommendation to the Full Board - Presented by Thomas Mullaney
-

5. Approval of the September, October and November Pensions as Presented by ERSRI 418
For Approval - Presented by Treasurer Seth Magaziner

 September 2020 New Retiree Report.pdf 419

 October 2020 New Retiree Report.pdf 423

 November 2020 New Retiree Report.pdf 425

6. Committee Reports 427
-

- 6.1. Disability Subcommittee 428
For Vote - Presented by Dr. Laura Shawhughes
-

- October 2, 2020 Disability Subcommittee Recommendations 429
For Vote - Presented by Dr. Laura Shawhughes

 DSC Recommendations 10-02-2020.pdf 430

(RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)



Employees' Retirement System of Rhode Island

November 6, 2020 Disability Subcommittee Recommendations 492
For Vote - Presented by Dr. Laura Shawhughes

 DSC Recommendations 11-06-2020.pdf 493


(RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

December 4, 2020 Disability Subcommittee Recommendations 521

 DSC Recommendations 12-04-2020.pdf 522

(RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

 (RESTRICTED)

7. Legal Counsel Report 565

For Report - Presented by Michael P. Robinson

 ERSRI Litigation Report (December 2020) (Final).pdf 566

Discussion and Consideration of litigation regarding Daniel Nuey vs. Employees' Retirement System of Rhode Island W.C.C. NO. 2018-05861 576

* Board members may seek to convene in Executive Session pursuant to Rhode Island General Laws §42-46-5 (a) (2) to discuss pending and potential litigation
For Discussion and Consideration in Executive Session

 201805861 -Nuey Decision.pdf 577

 Daniel Nuey v ERSRI Appeal Transcript.pdf 607



Employees' Retirement System of Rhode Island

8 Adjournment

For Vote - Presented by Treasurer Seth Magaziner





















751

9. Appendix

752

9.1. Post-Retirement Employment - October, November and December 2020 For Report

753

 December 2020 Post Retirement Employment Cover Sheet.pdf	754
 Post Retirement Employment - 2019 - 2020 School Year 10-06-2020.pdf	755
 Post Retirement Employment - 2020 - 2021 School Year 10-06-2020.pdf	769
 Post Retirement Employment (MERS) 10-06-2020.pdf	770
 Post Retirement Employment (18K) 10-06-2020.pdf	773
 Post Retirement Employment - (Nurses) 10-06-2020.pdf	777
 Post Retirement Employment 2020-2021 (School) 11-05-2020.pdf	778
 Post Retirement Employment (MERS) 11-05-2020.pdf	780
 Post Retirement Employment (18K) 11-05-2020.pdf	783
 Post Retirement Employment (Nurses) 11-05-2020.pdf	787
 Post Retirement Employment (School) 12-04-2020.pdf	788
 Post Retirement Employment (MERS) 12-04-2020.pdf	791
 Post Retirement Employment (18K) 12-04-2020.pdf	794
 Post Retirement Employment -(Nurses) 12-04-2020.pdf	798
 1)DOH--Executive Order extension EO 20-37 to 11-19-2020.pdf	799
 2)DOH - UPDATE - Retirement Memo (update) re EO 20-37 Nov 2020.pdf	801
 3)DOH UPDATE received on 07-21-2020 certification Maureen Glynn.pdf	803
 4)DOH UPDATE received 11-05-2020; -Completion of Maureen Glynn.pdf	804
 A)DLT UPDATE--Executive-Order-20-91 which extends EO 20-19 DLT Retirees.pdf	805
 B)DLT UPDATE - Retiree Employees Return Govs EO 20 19 order	808



Employees' Retirement System of Rhode Island

letter 11-19-2020.pdf



C)DLT Retiree Employees Return Denise Cannata Amended letter
12042020.pdf

809

9.2. Report of Contributions

810

For Report



2020 11-15-20 ERS Delinquency.pdf

811



2020-11-15 MERS Delinquency.pdf

812



2020-10-31 DC Delinquency Report.pdf

814

9.3. State Investment Commission (SIC)

818

For Report



ERSRI SIC BOOK 09-23-2020 Meeting.pdf

819



ERSRI SIC BOOK 10-28-2020 Meeting.pdf

916



ERSRI SIC BOOK 11-18-2020 Meeting.pdf

1022

9.4. Retirement Application Processing Report

1115

For Report



Board count PAP.pdf

1116

Employees' Retirement System of Rhode Island



Posted Agenda



EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND

RETIREMENT BOARD MONTHLY MEETING

Monday, December 14, 2020

9:00 a.m.

Teleconference Meeting via Zoom®

Dial-in: +1 929 205 6099 (US) / Access Code: 987 7571 6872

Link: <https://treasury-ri-gov.zoom.us/j/98775716872>

- I. Chairperson Call to Order
- II. Approval of the Draft Meeting Minutes and the Draft Executive Session Minutes of the September 16, 2020 Retirement Board Meeting
- III. Chairperson's Report
 - Update on the Investment Portfolio and Defined Contribution Update as of November 30, 2020 by CIO Andrew Junkin, CFA, CAIA
- IV. Executive Director's Report
 - Presentation and Consideration of the Actuarial Valuation as of June 30, 2020 by Gabriel, Roeder, Smith and Company (GRS) for the ERS (State and Teachers), MERS Plans (Municipal Employees), State Police (SPRBT), State Police Retirement Fund Trust (SPRFT), Judges (JRBT), Judicial Retirement Fund Trust (RIJRFT) and the Teacher Survivor Benefits Plan (TSBP)
 - Administration, Audit, Risk & Compliance Committee Recommendation on Actuarial Valuations as of June 30, 2020
- V. Approval of the September, October and November Pensions as Presented by ERSRI
- VI. Legal Counsel Report
 - * Discussion and Consideration of litigation regarding *Daniel Nuey vs. Employee's Retirement System Of Rhode Island*; W.C.C. NO. 2018-05861
- VII. Committee Reports
 - *Disability Committee* – See Attachments I, II and III
- VIII. Adjournment

** Board members may seek to convene in Executive Session pursuant to Rhode Island General Laws §42-46-5 (a) (2) to discuss pending and potential litigation*

Attachment I

Disability Applications and Hearings on Friday, October 2, 2020

- * Karen Bachus
- * David Souza
- * Mirna Deramirez
- * Dyanne Gibree
- * Deborah Tuirok
- * Ronald Audet
- * Michael Bergeron
- * Susan Stambler
- * Gina Ranucci
- * Susan Niles
- * Helen Egerton
- * Erik Silva
- ** Helen Reardon
- ** John Bitzko
- ** Joseph Conway, Jr.
- ** Keith McElroy
- ** Robert Hargis

* Votes by the full Board on these applications will be limited to approvals made by the Disability Subcommittee at their October 2, 2020 meeting.

** Votes by the full Board on these denied applications, and on decisions reversing prior denials are subject to approval of the decisions by the Disability Subcommittee at their October 2, 2020 meeting

Attachment II

Disability Applications and Hearings on Friday, November 6, 2020

- * Karen Bachus
- * Dyanne Gibree
- * Edidson Vicente
- * Julius Adeeko
- * Cheryl Bailey
- * Becky Ogbemudia
- * Debra Walker
- * Joan DiMaio
- * Louise Bello
- ** David Souza

* Votes by the full Board on these applications will be limited to approvals made by the Disability Subcommittee at their November 6, 2020 meeting

** Votes by the full Board on these denied applications, and on decisions reversing prior denials are subject to approval of the decisions by the Disability Subcommittee at their November 6, 2020 meeting

Attachment III

Disability Applications and Hearings on Friday, December 4, 2020

- * Pamela Connors
- * Timothy Gaskin
- * Vito Martinelli
- * Matthew Dyman
- * Gerald Dion
- * Susan Mischler
- * David Mangum
- * Braden Leonard
- * Brenda Dibiase
- * Beth Hannafin
- ** Karen Bachus
- ** Edidson Vicente
- ** Julius Adeeko
- ** Cheryl Bailey

* Votes by the full Board on these applications will be limited to approvals made by the Disability Subcommittee at their December 4, 2020 meeting.

** Votes by the full Board on these denied applications, and on decisions reversing prior denials are subject to approval of the decisions by the Disability Subcommittee at their December 4, 2020 meeting

Employees' Retirement System of Rhode Island



1. Chairperson Call to Order

Call to Order

Presented by Treasurer Seth Magaziner

Employees' Retirement System of Rhode Island



Roll Call

Roll Call of Members

Presented by Frank J. Karpinski

Employees' Retirement System of Rhode Island



2. Approval of the Draft Meeting Minutes and the Draft Executive Session Minutes of the September 16, 2020 Retirement Board Meeting

For Vote

Presented by Treasurer Seth Magaziner



Employees' Retirement Board of Rhode Island Meeting Minutes

Wednesday, September 16, 2020 – 9:00 a.m.

Dial-in: +1 929 205 6099 (US) / Access Code: 936 3276 9563

or

Link: <https://treasury-ri-gov.zoom.us/j/93632769563>

The Meeting of the Retirement Board was called to order at 9:00 a.m., on Wednesday, September 16, 2020, via teleconference accessibility using Zoom technology.

Treasurer Magaziner stated that this Open Meeting of the Employees' Retirement System of Rhode Island Board is being conducted remotely consistent with Governor Raimondo's Executive Orders due to the current State of Emergency in the State of Rhode Island due to the outbreak of the "COVID-19 Virus."

The Treasurer reminded the Board that each vote taken in this meeting will be conducted by roll call vote.

I. Roll Call of Members

Treasurer Magaziner then asked the Director to call the roll, and the following members were present: General Treasurer Seth Magaziner; Roger P. Boudreau; Mark A. Carruolo; Brian M. Daniels; Thomas M. Lambert; John P. Maguire; Thomas A. Mullaney; Raymond J. Pouliot; Jean Rondeau; Dr. Laura Shawhughes; Brett Smiley; Michael J. Twohey and Lisa A. Whiting.

Also in attendance: Frank J. Karpinski, ERSRI Executive Director; Attorney Michael P. Robinson, Board Counsel; Stacey F. Whitton, CPA and Chief Financial Officer, and Andrew Junkin, CFA, CAIA, Chief Investment Officer.

Paul L. Dion, Ph.D. arrived in the meeting at 9:05 A.M.

Members absent were Claire M. Newell.

Recognizing a quorum, Treasurer Magaziner called the meeting to order.

II. Approval of Minutes

On a motion duly made by John P. Maguire and seconded by Roger P. Boudreau, and after a roll call vote, it was unanimously

VOTED: To approve the draft regular session and executive session minutes from the July 8, 2020 Retirement Board meeting.

III. Administrative Decisions

Mary Beth Bennett vs. ERSRI

An administrative hearing was conducted in connection with Ms. Bennett's challenge to the administration's decision that she is only entitled to 6 months of service credit for each of the years that she worked for the Narragansett school department as a halftime .5 preschool teacher. Board counsel presented the administration's position, and counsel for Ms. Bennett presented her position that she is entitled to 9 months of service credit

for each of the years in question. Members of the Board asked questions, and discussed the respective positions.

On a motion duly made by Roger P. Boudreau and seconded by John P. Maguire, and after a roll call vote, an initial vote was taken to overturn the Hearing Officer's decision and to award Mary Beth Bennett 9 months of service credit.

The following members voted Yea: Roger P. Boudreau, John P. Maguire and Raymond J. Pouliot; and

The following members voted Nay: General Treasurer Seth Magaziner; Mark A. Carruolo; Brian M. Daniels; Paul L. Dion, Ph.D.; Thomas M. Lambert; Thomas A. Mullaney; Jean Rondeau; Dr. Laura Shawhughes; Brett Smiley; Michael J. Twohey and Lisa A. Whiting.

Accordingly, the motion failed.

A subsequent motion was then made by Brett Smiley and seconded by Jean Rondeau, a roll call vote was taken,

The following members voted Yea: General Treasurer Seth Magaziner; Mark A. Carruolo; Brian M. Daniels; Paul L. Dion, Ph.D.; Thomas M. Lambert; Thomas A. Mullaney; Jean Rondeau; Dr. Laura Shawhughes; Brett Smiley; Michael J. Twohey and Lisa A. Whiting;

The following members voted Nay: Roger P. Boudreau, John P. Maguire, and Raymond J. Pouliot. It was then

VOTED: To uphold the Hearing Officer's decision and recommendation and to affirm the Executive Director's determination to not award Mary Beth Bennett 9 months of service credit for the subject years.

IV. Chairperson's Report

General Treasurer Magaziner provided an update on the operations of the Retirement System in light of the COVID-19 pandemic and then introduced new Chief Investment Officer Andrew Junkin, CFA, CAIA, who provided an update on the Investment Portfolio and Defined Contribution Plan as of June 30, 2020.

V. Executive Director's Report

Stacey Whitton provided an update on reading of the new aging report on employer contributions and thereafter provided an overview and presentation regarding the FY 2022 and revised FY 2021 Administrative and Investment Budget.

Thomas Mullaney then presented the recommendation of the Administration, Audit, Risk & Compliance Committee. Chairman Mullaney said the Committee reviewed the materials and requested various changes and updates to the FY 2022 proposed budget and the FY2021 budget at the September 9th meeting and then scheduled the September 15th meeting to review the requested changes. He then said after consideration by the Committee it recommends approval.

At the conclusion of the budget presentation and the presentation of the Committee's recommendation, on a motion duly made by Jean Rondeau and seconded by Roger P. Boudreau, and after a roll call vote, it was unanimously

VOTED: To accept the Administration, Audit, Risk & Compliance Committee's recommendation to adopt the proposed FY 2022 Retirement Administration and Investment Expense Budget of \$13,352,791.

VI. Approval of the July and August Pensions

On a motion duly made by Roger P. Boudreau and seconded by Thomas A. Mullaney, and after a roll call vote, it was unanimously

VOTED: To approve the July and August 2020 Pensions as Presented by ERSRI.

VII. Committee Reports

Disability Committee

The Disability Committee recommended the following actions on disability applications as a result of its August 21, 2020 meeting for approval by the full Board:

Name	Membership Group	Type	Action
1. Pamela Connors	Teacher	Ordinary	Approved
2. David Bruno	State	Accidental	Approved at 50%
3. Amy Perlmutter	Teacher	Accidental	Approved at 66 2/3%
4. Lynn Dutra	State	Accidental	Approved at 50%
5. Oyedele Enayedun	State	Ordinary	Approved
6. Herminia Collado	Teacher	Ordinary	Approved
7. Lori Leonard	State	Ordinary	Approved
8. Joyce Melo	Teacher	Ordinary	Approved
9. David Hunt	Municipal	Ordinary	Approved
10. Joseph DeCurtis	State	Accidental	The Board's previous decision on March 20, 2020 to approve Mr. DeCurtis' Application for accidental disability retirement at 50% was overturned and approved for 66 2/3%
11. Joseph Palombo	State	Accidental	Deny

On a motion duly made by Dr. Laura Shawhughes, and seconded by Roger P. Boudreau, and following a roll call vote, it was unanimously

VOTED: To approve the Disability Subcommittee's recommendation from its meeting of August 21, 2020 on item 1.

Raymond J. Pouliot and Michael J. Twohey recused on No. 1.

On a motion duly made by Dr. Laura Shawhughes, and seconded by Roger P. Boudreau, and following a roll call vote, it was unanimously

VOTED: To approve the Disability Subcommittee's recommendation from its meeting of August 21, 2020 on items 3, 6, and 8.

John P. Maguire recused on Nos. 3, 6, and 8.

On a motion duly made by Dr. Laura Shawhughes and seconded by Roger P. Boudreau, and following a roll call vote, it was unanimously

VOTED: To approve the Disability Subcommittee's recommendation from its meeting of August 21, 2020 on items 2, 4, 5, 7, 9, 10 and 11.

The Disability Subcommittee recommended the following actions on disability applications as a result of its September 4, 2020 meeting for approval by the full Board:

Name	Membership Group	Type	Action
1. Milagros Day	State	Accidental	Approved at 50%
2. Susana Brooks	State	Accidental	Approved at 66 2/3%
3. Keith McElroy	State	Ordinary	Approved
4. Gary Wickersheim	State	Accidental	Approved at 50%
5. Michael Ferrante	Municipal	Accidental	Approved at 66 2/3%
6. Timothy Gaskin	State	Accidental	Approved at 50%
7. Linda Taivalantti	State	Accidental	Approved at 66 2/3%
8. Margaret Woods	Municipal	Accidental	Approved at 66 2/3%
9. David Jarvais	Teacher	Ordinary	Approved
10. Maria Mejia	Teacher	Ordinary	Approved
11. Ursula Conley	State	Ordinary	Approved
12. Keith Printer	Municipal	Ordinary	Approved
13. Robert Hargis	Municipal	Ordinary	Approved
14. Pamela Connors	Teacher	Accidental	Deny

On a motion duly made by Dr. Laura Shawhughes and seconded by Thomas M. Lambert, and following a roll call vote, it was unanimously

VOTED: To approve the Disability Subcommittee's recommendation from its meeting of September 4, 2020 on items 9 and 14.

Raymond J. Pouliot and Michael J. Twohey recused on Nos. 9 and 14.

On a motion duly made by Dr. Laura Shawhughes and seconded by Roger P. Boudreau, and following a roll call vote, it was unanimously

VOTED: To approve the Disability Subcommittee's recommendation from its meeting of September 4, 2020 on item 10.

John P. Maguire recused on No. 10.

On a motion duly made by Dr. Laura Shawhughes and seconded by Roger P. Boudreau, and following a roll call vote, it was unanimously

VOTED: To approve the Disability Subcommittee's recommendation from its meeting of September 4, 2020 on items 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 and 13.

VIII. Legal Counsel Report

Attorney Robinson indicated that it would be appropriate to consider the matter of *Damon Borrelli v. Employees' Retirement System of Rhode Island* C.A. NO. PC-2016-2817; PC-2019-4972 in Executive Session pursuant to RIGL 42-46-5 a(2), as the matter involves pending litigation against the Retirement Board.

On a motion duly made by Roger P. Boudreau, and seconded by John P. Maguire, and following a roll call vote, it was unanimously

VOTED: To enter into Executive Session pursuant to RIGL 42-46-5 a(2) to discuss pending litigation against the Retirement Board in the matter of *Damon Borrelli v. Employees' Retirement System of Rhode Island*, C.A. No. PC-2016-2817; PC-2019-4972.

The Board thereafter convened in executive session at 10:46 a.m.

[Executive Session]

Members of the Board, the Executive Director, and Counsel returned to Public Session at 11:13 a.m.

Upon entering public session, Attorney Robinson announced that there had been 3 unanimous votes taken while the Board was in Executive Session. The first vote was to authorize Board Counsel Michael P. Robinson to file a Petition for Issuance of a Writ of Certiorari in order to seek review in the Rhode Island Supreme Court of the matter of *Damon Borrelli vs. ERSRI*, C.A. NO. PC-2016-2817; PC-2019-4972. The second vote was to seal the Executive Session minutes pursuant to RIGL §42-46-5(a)(2) and RIGL §42-46-5(a)(4). The third vote was to exit Executive Session and return to open session.

IX. Adjournment

There being no other business to come before the Board, on a motion by John P. Maguire, and seconded by Thomas A. Mullaney, a roll call vote was taken and it was unanimously voted to adjourn the meeting at 11:15 a.m.

Respectfully submitted,

Frank J. Karpinski

Executive Director

DRAFT



Employees' Retirement Board of Rhode Island
Executive Session Meeting Minutes
Wednesday, September 16, 2020 – 10:46 a.m.

The Retirement Board convened into executive session at 10:46 a.m. Wednesday, September 16, 2020, via teleconference accessibility using Zoom® Meeting.

The following members were present: General Treasurer Seth Magaziner; Roger P. Boudreau; Mark A. Carruolo; Brian M. Daniels; Paul L. Dion, Ph.D.; Thomas M. Lambert; John P. Maguire; Thomas A. Mullaney; Raymond J. Pouliot; Jean Rondeau; Dr. Laura Shawhughes; Brett Smiley; Michael J. Twohey and Lisa A. Whiting.

Also in attendance: Frank J. Karpinski, ERSRI Executive Director; Attorney Michael P. Robinson, Board Counsel;

Members absent were Claire M. Newell.

Attorney Robinson addressed the history of the litigation involving *Damon Borrelli v. Employees' Retirement System of Rhode Island*, C.A. NO. PC-2016-2817; PC-2019-4972, and the recent decision rendered on August 17, 2020 by Judge Susan E. McGuirl overturning the Board's earlier decision to deny Mr. Borrelli's accidental disability application. Members of the Board engaged in a discussion of the matter with Board counsel.

On a motion by Roger P. Boudreau and seconded by Jean Rondeau, and following a roll call vote, it was unanimously:

VOTED: To authorize Board Counsel to file a Petition for Issuance of a Writ of Certiorari, in order to seek review in the Rhode Island Supreme Court of the matter of *Damon Borrelli vs. ERSRI*, C.A. NO. PC-2016-2817; PC-2019-4972.

On a motion by Roger P. Boudreau and seconded by John P. Maguire and following a roll call vote, it was unanimously:

VOTED: To seal the Executive Minutes due to the confidential nature of the discussion with counsel regarding pending litigation against the Retirement Board, pursuant to R.I.G.L. §§42-46-5(a)(2) and 42-46-5(a)(4).

On a motion by Lisa A. Whiting and seconded by Roger P. Boudreau, and following a roll call vote, it was unanimously

VOTED: To exit Executive Session and reconvene in Open Session.

The Retirement Board returned to Public Session at 11:13 a.m.

Respectfully submitted,

Frank J. Karpinski

Executive Director

Employees' Retirement System of Rhode Island



3. Chairperson's Report

For Report

Presented by Treasurer Seth Magaziner

Employees' Retirement System of Rhode Island



Fiscal Year Update on the Investment
Portfolio and Defined Contribution Plan as
of September 30, 2020, by CIO Andrew
Junkin, CFA, CAIA

For Report

Presented by Andrew Junkin



Retirement Board Investment Update

Performance as of October 31, 2020

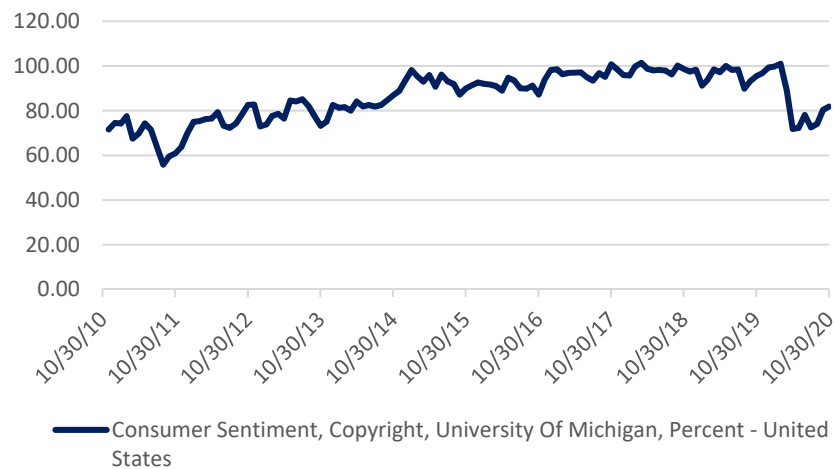
October 31, 2020

ECONOMIC ACTIVITY

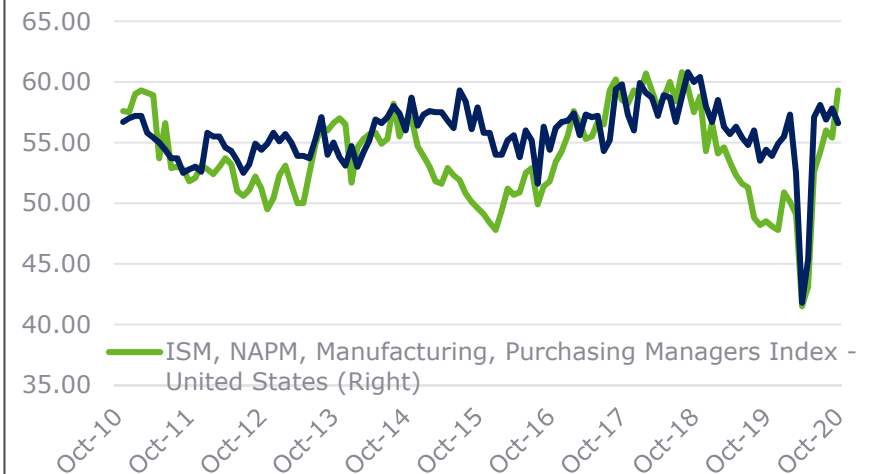
US Unemployment Rate



Consumer Sentiment



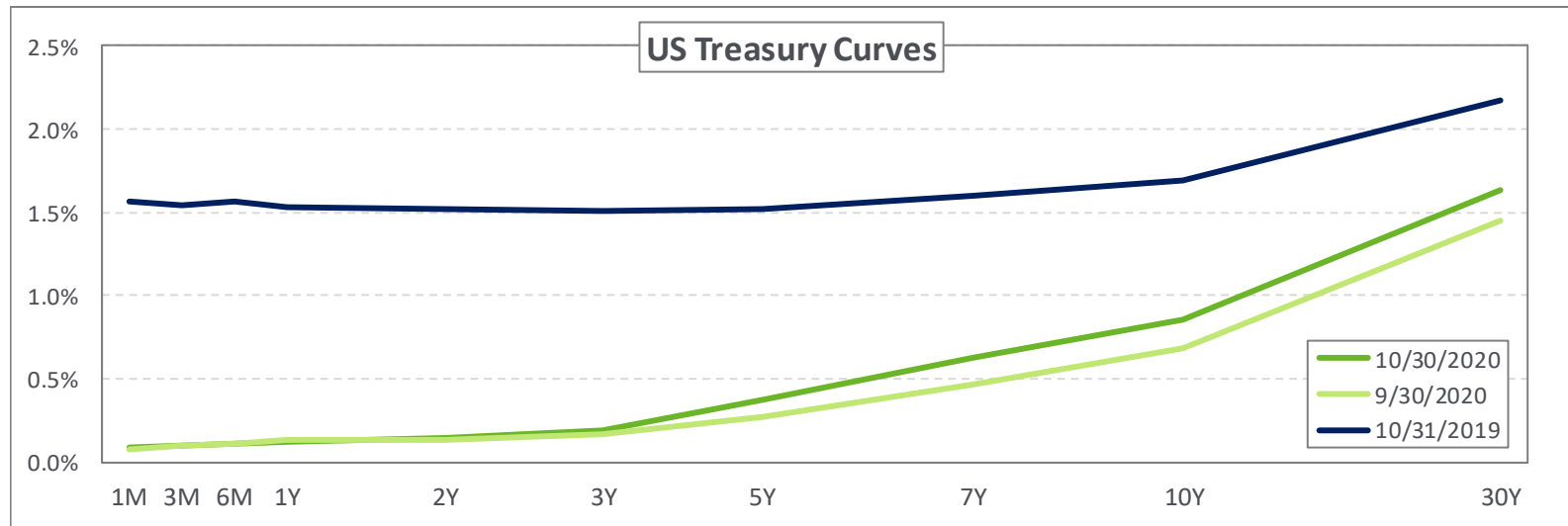
ISM Report of Business



Source: FastSet



TREASURIES



Source: FactSet

	Yield (%)			Total Return (%)	
	Current	1 Month Ago	12 Months Ago	1 Month	12 Months
3M Treasury	0.10%	0.11%	1.82%	0.01%	0.92%
6M Treasury	0.11%	0.13%	1.82%	0.01%	1.30%
2Y Treasury	0.15%	0.13%	1.62%	-0.05%	3.09%
5Y Treasury	0.38%	0.26%	1.55%	-0.48%	6.42%
10Y Treasury	0.85%	0.70%	1.68%	-1.64%	8.92%
30Y Treasury	1.64%	1.46%	2.12%	-4.25%	13.93%

Source: FactSet



BENCHMARK TRAILING PERFORMANCE

Equity						
	October	YTD	1 YR	3 YR	5 YR	10 YR
Russell 3000	-2.2%	3.1%	10.1%	10.0%	11.5%	12.8%
MSCI US Min. Vol.	-3.4%	-4.5%	-1.4%	8.6%	10.4%	12.7%
MSCI ACWI	-2.4%	-1.1%	4.9%	5.5%	8.1%	7.9%
MSCI ACWI ex US	-2.1%	-7.5%	-2.6%	-0.2%	4.3%	3.4%
MSCI ACWI ex US Min. Vol.	-2.2%	-8.1%	-6.5%	1.5%	4.1%	5.6%
MSCI World	-3.1%	-1.4%	4.4%	6.0%	8.1%	8.6%
MSCI EM	2.1%	0.9%	8.3%	1.9%	7.9%	2.4%

Credit						
	October	YTD	1 YR	3 YR	5 YR	10 YR
BC US Agg	-0.4%	6.3%	6.2%	5.1%	4.1%	3.6%
BC US HY	0.5%	1.1%	3.5%	4.2%	6.3%	6.3%
BC Long Treasuries	-3.0%	17.7%	13.8%	10.8%	7.7%	7.2%
JPM EMBI Glob Div (EMD Hard Currency)	0.0%	-0.5%	1.0%	3.4%	5.6%	5.2%
JPM GBI-EM Glob Div (EMD Local Currency)	0.4%	5.8%	6.5%	7.8%	7.9%	7.2%

Real Assets						
	October	YTD	1 YR	3 YR	5 YR	10 YR
BBG Commodity	1.4%	-10.8%	-8.7%	-4.4%	-2.7%	-6.4%
Alerian Midstream Index	0.5%	-35.9%	-31.9%	-10.5%	-4.4%	
FTSE NAREIT Equity REITs	-2.6%	-19.7%	-21.4%	-0.4%	2.2%	7.1%

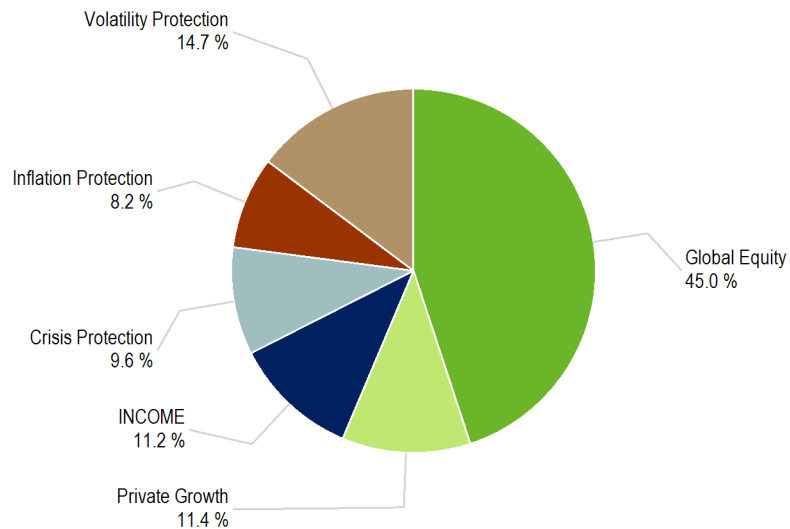


TOTAL FUND ASSET ALLOCATION VS. CURRENT

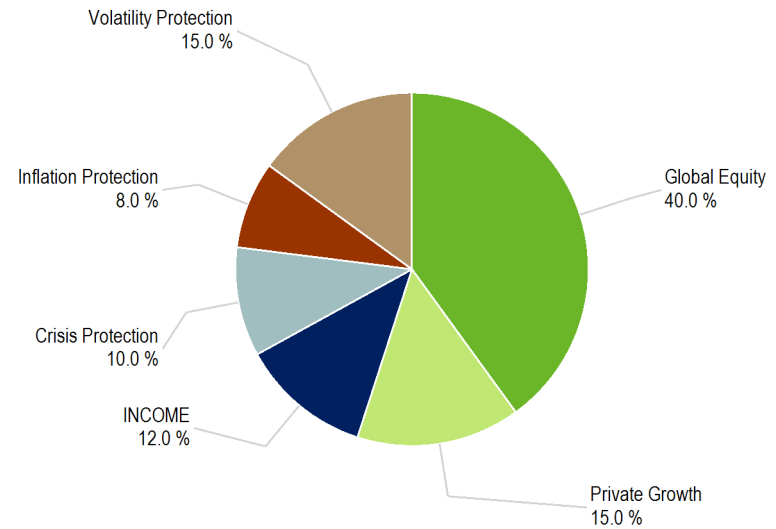
Asset Allocation vs. Target

	Current Balance	Current Allocation	Strategic Benchmark Allocation	Difference
Global Equity	\$3,837,324,680	45.0%	40.0%	5.0%
Private Growth	\$973,633,495	11.4%	15.0%	-3.6%
INCOME	\$953,499,800	11.2%	12.0%	-0.8%
Crisis Protection	\$815,439,000	9.6%	10.0%	-0.4%
Inflation Protection	\$698,917,652	8.2%	8.0%	0.2%
Volatility Protection	\$1,258,026,604	14.7%	15.0%	-0.3%

Current Asset Allocation



Strategic Benchmark Allocation



State of Rhode Island Pension Plan

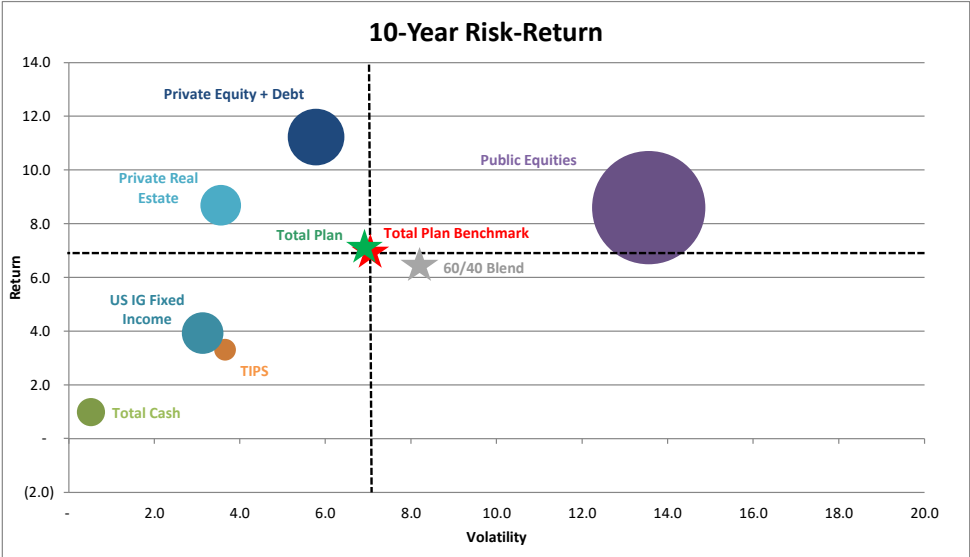
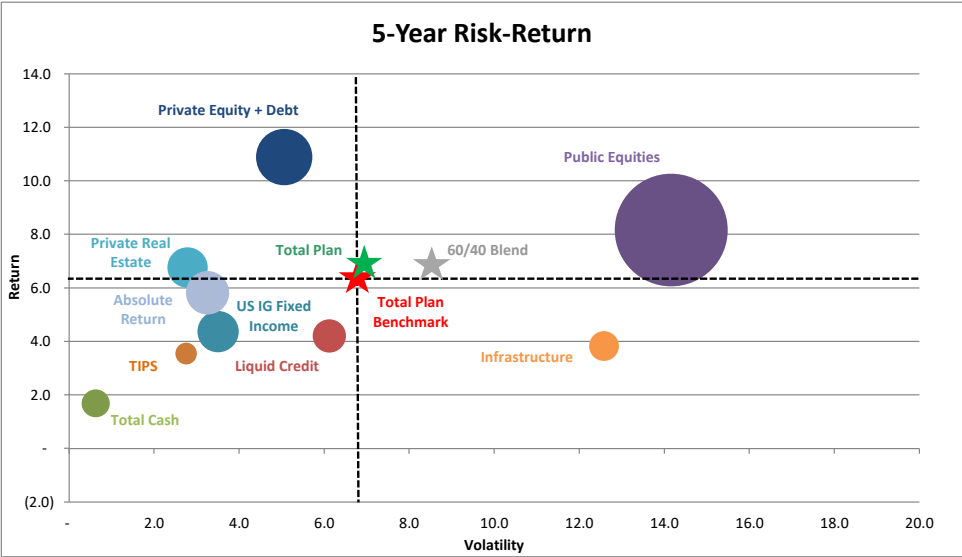
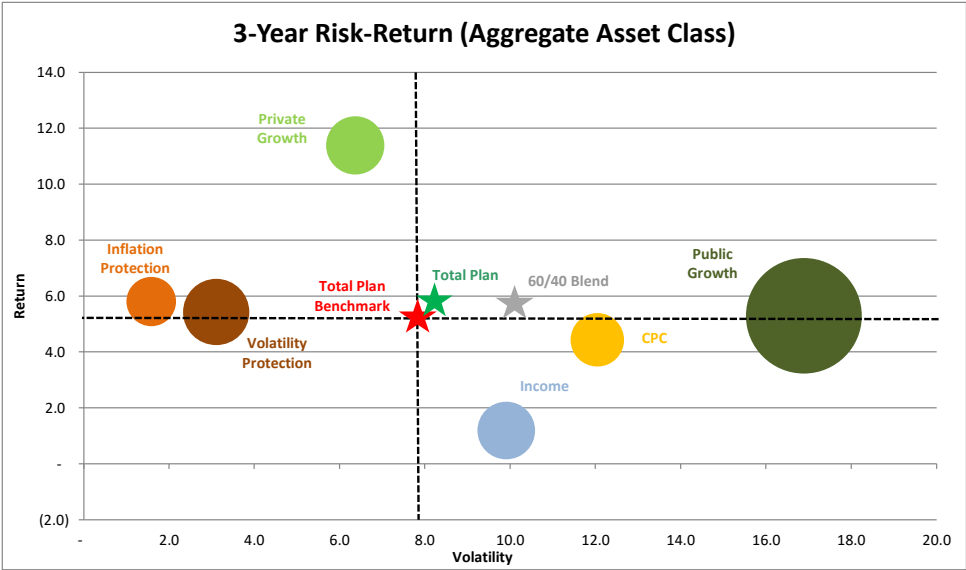
TOTAL FUND PERFORMANCE DETAIL - (NET)

Ending October 31, 2020													
	Market Value (\$)	% of Portfolio	Strategic Benchmark Allocation %	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	15 Yrs (%)	Inception (%)	Inception Date
State of Rhode Island Total Plan	8,680,681,661	100.00	100.00	-1.09	3.64	1.68	4.89	5.70	6.90	7.11	6.08	5.17	Jul-00
Allocation Index				-1.10	3.91	0.74	3.70	4.71	--	--	--	--	Jul-00
Strategic Benchmark Allocation				-0.98	4.38	1.32	4.01	5.25	6.36	6.93	5.98	--	Jul-00
60% MSCI ACWI (Net) / 40% BBgBarc Aggregate				-1.64	3.43	2.39	6.03	5.71	6.75	6.40	6.02	5.09	Jul-00
Global Equity	3,837,324,680	44.21	40.00	-2.20	5.84	-1.36	4.62	5.30	8.17	8.61	--	5.51	Aug-07
Global Equity Allocation Index				-2.27	5.58	-1.32	4.69	5.41	--	--	--	--	Aug-07
MSCI ACWI				-2.43	5.50	-1.09	4.89	5.52	8.11	7.90	6.48	4.73	Aug-07
Private Growth	973,633,495	11.22	15.00	0.30	7.20	1.96	5.29	11.39	--	--	--	12.32	Jul-17
Private Growth Allocation Index				0.33	7.27	2.89	3.60	9.21	--	--	--	9.44	Jul-17
Private Growth Custom Benchmark				0.41	8.25	3.46	4.14	9.27	--	--	--	9.71	Jul-17
INCOME	953,499,800	10.98	12.00	0.04	1.79	-5.91	-4.37	1.20	--	--	--	1.03	Jul-17
Income Allocation Index				0.77	2.74	-8.92	-7.76	-0.14	--	--	--	-0.20	Jul-17
Income Custom Benchmark				0.33	4.14	-5.75	-4.10	1.36	--	--	--	1.34	Jul-17
Crisis Protection	815,439,000	9.39	10.00	-1.37	-1.63	9.43	6.77	4.45	--	--	--	4.73	Jun-17
CPC Allocation Index				-1.26	-0.32	4.54	1.51	1.36	--	--	--	--	Jun-17
CPC Custom Benchmark				-1.26	-0.25	4.48	1.47	1.26	--	--	--	1.59	Jun-17
Inflation Protection	698,917,652	8.05	8.00	-0.07	0.31	2.53	3.37	5.81	--	--	--	5.95	Jul-17
Inflation Protection Allocation Index				0.09	0.66	3.01	3.98	5.01	--	--	--	5.01	Jul-17
Inflation Protection Custom Benchmark				0.07	0.79	3.24	4.42	4.71	--	--	--	4.78	Jul-17
Volatility Protection	1,258,026,604	14.49	15.00	-0.04	1.85	6.25	7.12	5.45	--	--	--	5.44	Jul-17
Volatility Protection Allocation Index				0.18	3.46	7.02	7.87	4.68	--	--	--	4.66	Jul-17
Volatility Protection Custom Benchmark				0.05	2.29	3.75	4.55	3.62	--	--	--	3.75	Jul-17

-Fiscal Year end is June 30th



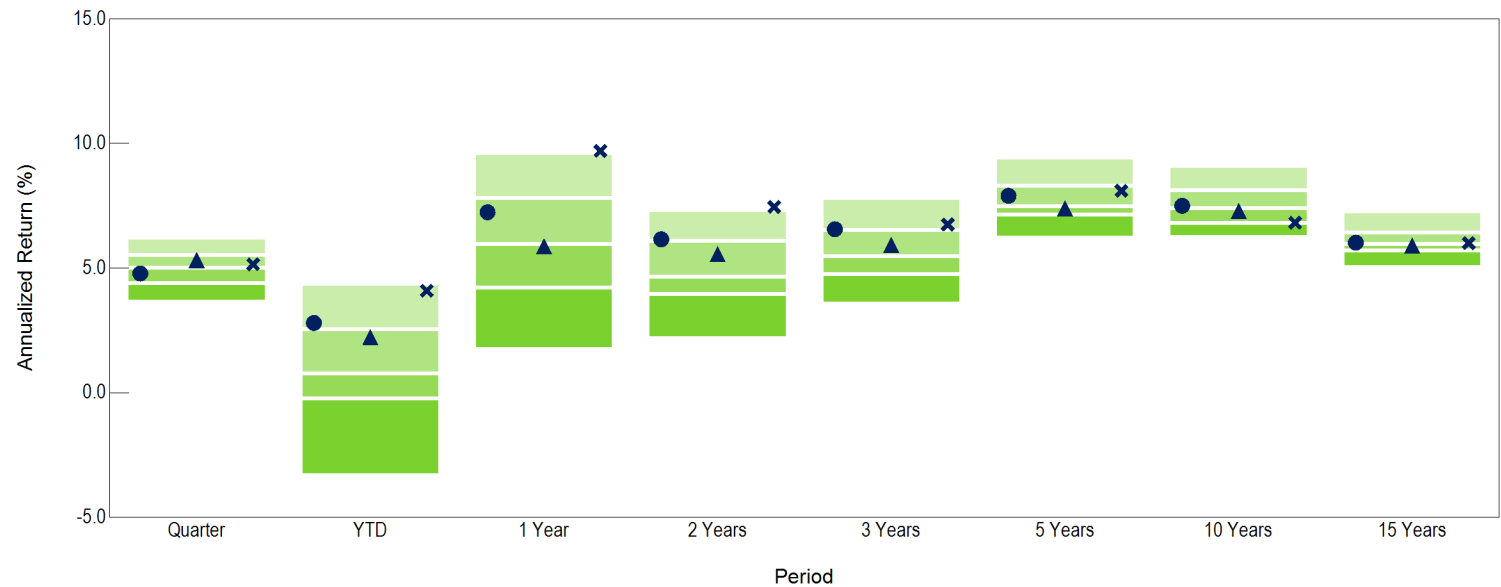
Bubble-Size Scaled based on Current Allocations



State of Rhode Island Pension Plan

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

InvMetrics Public DB > \$1B Net Return Comparison
Ending September 30, 2020



	Return (Rank)															
5th Percentile	6.2		4.4		9.6		7.3		7.8		9.4		9.1		7.3	
25th Percentile	5.5		2.6		7.8		6.1		6.5		8.3		8.1		6.4	
Median	5.0		0.8		6.0		4.7		5.5		7.5		7.4		6.0	
75th Percentile	4.4		-0.2		4.2		4.0		4.8		7.2		6.8		5.7	
95th Percentile	3.7		-3.3		1.7		2.2		3.6		6.2		6.3		5.0	
# of Portfolios	77		77		77		77		77		75		69		61	
● State of Rhode Island Total Plan	4.8	(61)	2.8	(22)	7.2	(35)	6.1	(24)	6.6	(24)	7.9	(42)	7.5	(48)	6.0	(47)
▲ Strategic Benchmark Allocation	5.3	(36)	2.2	(33)	5.9	(52)	5.6	(33)	5.9	(39)	7.4	(56)	7.3	(63)	5.9	(55)
✕ 60% MSCI ACWI (Net) / 40% BBgBarc Aggreg	5.1	(45)	4.1	(6)	9.7	(4)	7.5	(3)	6.7	(19)	8.1	(34)	6.8	(74)	6.0	(48)





Plan Review for State of Rhode Island

Delivered by: Andrew Junkin, CIO, State of RI
on December 16, 2020

David Iden, Sr. Relationship Manager, TIAA
Data as of September 30, 2020

Planning towards lifelong financial
security for State of Rhode Island
and its employees



Agenda



- I Monitoring Investments
- II Building employee engagement and financial confidence
- III Appendix

Monitoring investments

Simplify your investment lineup. Make it easy for participants to choose and easy for you to monitor.



Overview of plans

Plan Profile	Assets	YoY ¹ Change	Contributions ²	YoY ¹ Change	Total Participants ³	YoY ¹ Change
State Of Rhode Island Defined Contribution Retirement Plan	\$1,260,893,715	20.5%	\$131,474,433	3.4%	38,360	1.7%
State Of Rhode Island 457(b) Deferred Compensation Plan	\$44,727,133	10.6%	\$3,490,102	13.3%	1,107	14.1%
Rhode Island Fica Alternative Ret Income Security Program	\$3,731,195	13.6%	\$379,514	(7.5%)	1,918	6.0%
Total All Plans³	\$1,309,352,044	20.2%	\$135,344,049	3.6%	40,112	

Data as of 09/30/2020





¹ YoY = year-over-year change as of the date the data was pulled.

² Contributions are for the prior 12 month period and include rollovers into the plan of \$3,969,259 which account for 2.9% of the total contributions.

³ Participants defined as those who have a balance in this plan with TIAA as of the date this data was pulled.

Asset Class Comparison by Member %

Comparison of percent and total participants in each asset class from Q1 to Q3 2020

Asset Class	Q1 2020 TOTAL BALANCE	Q3 2020 TOTAL BALANCE	Q1 2020 TOTAL % OF PARTICIPANTS	Q3 2020 TOTAL % OF PARTICIPANTS
Guaranteed	\$18,659,815.10	\$20,951,619.51	1.89%	1.66% 
Fixed Income	\$17,338,281.61	\$19,416,825.99	1.76%	1.54% 
Multi-Asset	\$885,199,916.93	\$1,128,046,213.43	89.69%	89.46% 
Equities	\$65,770,071.60	\$92,517,813.13	6.66%	7.34% 
TOTAL BALANCE	\$986,968,085.24	\$1,260,932,472.06	100.00%	100.00%



State of Rhode Island

401(a) Quarterly Performance Summary

As of 9/30/2020

BUILT TO PERFORM.

CREATED TO SERVE.

State of Rhode Island

401(a) Performance Summary

As of 9/30/2020

The performance data quoted represents past performance and is no guarantee of future results. Your returns and the principal value of your investments will fluctuate so that your shares or accumulation units, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted below. For performance current to the most recent month- end, visit the TIAA Website at www.tiaa.org or call 877 518-9161.

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)	
Investment Name	Ticker	Morningstar Category	Mgr Tenure	AUM \$M	Gross ER	Net ER	%ile ER	Rev Share	Recent Returns		Annualized Total Returns as of 9/30/2020														Inception Date
									3 Mo	YTD	1 Yr	Category Rank	%ile	3 Yr	Category Rank	%ile	5 Yr	Category Rank	%ile	10 Yr	Category Rank	%ile	SI		
STABLE VALUE																									
Stable Value/Guaranteed																									
TIAA Stable Value ¹ (DC Retirement Plan)		Crediting Rate as of 9/1/2020 = 2.15						0.00	0.54	1.75	2.36			2.20			2.09						2.00	3/31/2012	
TIAA Stable Value ¹ (FICA Alternative Ret. Inc. Security)		Crediting Rate as of 9/1/2020 = 2.25						0.00	0.56	1.78	2.39			2.25			2.14						2.17	11/30/2013	
FIXED INCOME																									
Intermediate Core Bond																									
State Street US Bond Index Securities XIV ⁴		US Fund Intermediate Core Bond		25.83	32,262	0.02	0.02		0.00	0.62	6.95	7.13		32	5.30		25	4.21		32	3.64		45	3.79	6/30/2011
BBGBarc US Agg Bond TR										0.62	6.79	6.98			5.24			4.18			3.64				
USD Intermediate Core Bond Median							0.55			1.00	6.71	6.79			4.94			4.02			3.55				
Intermediate Core Bond Number of Funds														405			390			371			343		
Inflation-Protected Bond																									
PIMCO Real Return Instl		PRRIX US Fund Inflation-Protected Bond		1.75	9,522	0.53	0.53	40	0.00	3.44	9.85	10.86	32	13	5.79	29	19	4.82	15	9	3.48	10	18	5.90	1/29/1997
BBGBarc US Treasury US TIPS TR USD										3.03	9.22	10.08			5.79			4.61			3.57				
Inflation-Protected Bond Median							0.65			3.02	7.67	8.46			4.76			3.93			2.78				
Inflation-Protected Bond Number of Funds														199			192			186			145		
EQUITY																									
Large Cap Blend																									
State Street S&P 500 Index Securities (Lending Series CI) ⁵		US Fund Large Blend		24.67	121,603	0.01	0.01		0.00	8.93	5.55	15.12		26	12.20		21	14.04		16	13.61		14	20.60	5/31/1996
S&P 500 TR USD										8.93	5.57	15.15			12.28			14.15			13.74				
Vanguard FTSE Social Index Admiral ^{3,4}		US Fund Large Blend		4.83	9,068	0.14	0.14	5	0.00	10.58	9.20	20.71	71	6	14.71		2	15.53		2	14.96		1	19.99	2/7/2019
VFTAX										10.61	9.27	20.84			14.82			15.65			15.11				
Spliced Social Index ²										10.61	9.27	20.84			14.82			15.65			15.11				
FTSE4Good US Select TR USD							0.84			9.21	5.41	15.00			11.65			13.69			13.48				
Russell 3000										8.53	3.68	12.18			9.98			12.18			12.25				
TR USD														1251			1203			1132			998		
Mid-Cap Blend																									
State Street Small Mid Cap Index Securities Series II ⁵		US Fund Mid-Cap Growth		23.17	24,427	0.02	0.02		0.00	10.68	4.24	13.56		3	8.31		7	11.41		5	12.07		6	9.18	6/17/2019
Russell Small Cap Complete TR USD										10.73	4.39	13.72			8.39			11.50			12.13				
Large Blend Number of Funds							0.97			5.87	(7.45)	(1.29)		43	3.22		28	7.34		19	9.60		17		
Median Mid-Cap Blend														366			356			320			272		
Foreign Large Blend																									
State Street Global All Cap Equity Ex-U.S. Idx Securities II ^{4,5}		US Fund Foreign Large Blend		10.50	11,724	0.06	0.04		0.00	6.70	(4.80)	3.96		31									6.11	5/13/2014	
MSCI ACWI Ex USA IMI NR USD										6.80	(5.21)	3.51			1.13			6.31			4.17				
Foreign Large Blend Median							0.95			5.92	(5.31)	2.76			0.63			5.11			4.48				
Foreign Large Blend Number of Funds														701			644			606			485		

State of Rhode Island

401(a) Performance Summary

As of 9/30/2020

The performance data quoted represents past performance and is no guarantee of future results. Your returns and the principal value of your investments will fluctuate so that your shares or accumulation units, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted below. For performance current to the most recent month- end, visit the TIAA Website at www.tiaa.org or call 877 518-9161.

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)	
Investment Name	Ticker	Morningstar Category	Mgr Tenur e	AUM \$M	Gros s ER	N et E R	% ile ER	Rev Shar e	Recent Returns		Annualized Total Returns as of 9/30/2020														Inceptio n Date
									3 Mo	YTD	1 Yr	Categor y Rank	%-ile	3Yr	Categor y Rank	%-ile	5 Yr	Categor y Rank	%-ile	10 Yr	Categor y Rank	%-ile	SI		
ALLOCATION																									
Target-Date																									
Vanguard Target Retirement Inc Trust Plus ⁶		US Fund Target-Date Retirement	7.67	11,600	0.06	0.06		0.00	3.13	4.69	7.46		23	5.87		14	6.12		18				5.55	8/15/2011	
Vanguard Target Retirement Income Composite									3.19	5.20	8.07			6.10			6.31								
Target-Date Retirement						0.65			2.99	3.72	6.22			4.85			5.38								
Median Target-Date Retirement		US Fund Target-Date											177			162			150						
Number of Funds			7.67	11,900	0.06	0.06		0.00	3.53	4.38	7.77		57	6.16		26	7.13		35				7.14	8/15/2011	
Vanguard Target Retirement 2015 Trust Plus ⁶									3.55	4.87	8.37			6.43			7.35								
Vanguard Target Retirement 2015Composite						0.55			3.87	3.33	7.66			5.57			6.96								
Target-Date 2015		2015 US Fund Target-											121			102			88						
Median Target-Date 2015			7.67	33,200	0.06	0.06		0.00	4.50	3.95	8.60		26	6.64		10	8.05		13				8.01	8/15/2011	
Number of Funds						0.64			4.56	4.56	9.31			6.94			8.30								
Vanguard Target Retirement 2020 Trust Plus ⁶									3.90	3.27	7.34			5.62			6.96								
Vanguard Target Retirement 2020Composite		Date 2020 US Fund											201			180			160						
Target-Date 2020			7.67	56,400	0.06	0.06		0.00	5.16	3.69	9.17		33	7.00		11	8.70		11				8.62	8/15/2011	
Median Target-Date 2020						0.65			5.25	4.33	9.92			7.32			8.97								
Number of Funds									4.69	3.22	7.98			6.12			7.82								
Vanguard Target Retirement 2025 Trust Plus ⁶		Target-Date 2025 US											219			197			176						
Vanguard Target Retirement 2025Composite			7.67	56,700	0.06	0.06		0.00	5.70	3.30	9.51		32	7.15		18	9.17		22				9.13	8/15/2011	
Target-Date 2025						0.68			5.81	3.93	10.24			7.47			9.44								
Median Target-Date 2025									5.37	2.63	8.46			6.35			8.30								
Number of Funds		Fund Target-Date 2030											229			202			183						
Vanguard Target Retirement 2030 Trust Plus ⁶			7.67	53,500	0.06	0.06		0.00	6.27	2.91	9.81		31	7.27		20	9.63		24				9.62	8/15/2011	
Vanguard Target Retirement 2030Composite						0.65			6.38	3.49	10.51			7.59			9.90								
Target-Date 2030		US Fund Target-Date							6.25	2.10	8.84		212	6.62		191	8.93		170						
Median Target-Date 2030																									
Number of Funds																									
Vanguard Target Retirement 2035 Trust Plus ⁶																									
Vanguard Target Retirement 2035Composite		2035																							
Target-Date 2035																									
Median Target-Date 2035																									
Number of Funds																									

State of Rhode Island

401(a) Performance Summary

As of 9/30/2020

The performance data quoted represents past performance and is no guarantee of future results. Your returns and the principal value of your investments will fluctuate so that your shares or accumulation units, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted below. For performance current to the most recent month- end, visit the TIAA Website at www.tiaa.org or call 877 518-9161.

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)	
Investment Name	Ticker	Morningstar Category	Mgr Tenure	AUM \$M	Gross ER	Net ER	%ile ER	Rev Share	Recent Returns		Annualized Total Returns as of 9/30/2020														Inception Date
									3 Mo	YTD	1 Yr	Category Rank	%ile	3Yr	Category Rank	%ile	5 Yr	Category Rank	%ile	10 Yr	Category Rank	%ile	SI		
ALLOCATION																									
Target-Date																									
Vanguard Target Retirement 2040 Trust Plus ⁶		US Fund Target-Date 2040	7.67	45,400	0.06	0.06		0.00	6.80	2.50	10.11		29	7.37		16	10.07		22				9.96	8/15/2011	
Vanguard Target Retirement 2040 Composite									6.94	3.00	10.73			7.68			10.35								
Target-Date 2040						0.69			6.74	1.68	8.99			6.67			9.08								
Median Target-Date 2040		US Fund Target-Date											223			202			183						
Number of Funds			7.67	41,500	0.06	0.06		0.00	7.34	2.11	10.31		33	7.39		17	10.21		17				10.03	8/15/2011	
Vanguard Target Retirement 2045 Trust Plus ⁶									7.51	2.58	10.95			7.73			10.50								
Vanguard Target Retirement 2045 Composite						0.68			7.13	1.45	9.09			6.70			9.41								
Target-Date 2045		2045 US Fund Target-											212			191			170						
Median Target-Date 2045			7.67	32,700	0.06	0.06		0.00	7.38	2.18	10.38		34	7.42		20	10.22		17				10.04	8/15/2011	
Number of Funds						0.71			7.54	2.61	10.97			7.74			10.50								
Vanguard Target Retirement 2050 Trust Plus ⁶									7.30	1.27	8.77			6.61			9.32								
Vanguard Target Retirement 2050 Composite		Date 2050 US Fund											223			202			183						
Target-Date 2050			7.67	19,800	0.06	0.06		0.00	7.39	2.16	10.38		33	7.42		21	10.23		22				10.26	11/30/2011	
Median Target-Date 2050						0.68			7.54	2.61	10.97			7.74			10.50								
Number of Funds									7.35	1.25	8.91			6.69			9.55								
Vanguard Target Retirement 2055 Trust Plus ⁶		Target-Date 2055 US											212			191			166						
Vanguard Target Retirement 2055 Composite			7.67	7,900	0.06	0.06		0.00	7.38	2.22	10.46		31	7.45		20	10.25		34				9.38	3/23/2012	
Target-Date 2055						0.68			7.54	2.61	10.97			7.74			10.50								
Median Target-Date 2055									7.37	1.07	9.23			6.78			9.99								
Number of Funds		Fund Target-Date 2060+											246			182			84						
Vanguard Target Retirement 2060 Trust Plus ⁶			3.25	1,300	0.06	0.06		0.00	7.40	2.18	10.43		32										9.22	7/24/2017	
Vanguard Target Retirement 2060 Composite						0.68			7.54	2.61	10.97			7.74											
Target-Date 2060+									7.37	1.07	9.23					246			84						
Median Target-Date 2060+		US Fund Target-Date																							
Number of Funds																									
Source: Morningstar, TIAA & Vanguard																									
Vanguard Target Retirement 2065 Trust Plus ⁶																									
Data as of 9/30/2020																									
Vanguard Target Retirement 2065 Composite																									
Target-Date 2060+		2060+																							
Median Target-Date 2060+																									
Number of Funds																									

Source: Morningstar, TIAA & Vanguard
Data as of 9/30/2020
Vanguard Target Retirement 2065 Composite
Target-Date 2060+
Median Target-Date 2060+
Number of Funds

State of Rhode Island

401(a) Performance Summary

As of 9/30/2020

% -ile --> Percentile Ranking in Morningstar Category.

Note: Rankings shown for returns are calculated by Morningstar. Rankings for expense ratio are calculated by TIAA and may differ based on calculation methods.

Morningstar peer rankings include fractional weights for all share classes. Morningstar peer rankings also include ETFs. Depending on the category, this may cause some variances with the category median illustrated in this report since most ETFs are index based options that can include more volatile and less mainstream indices.

SI = Since Inception Annualized Total Return; Incep. Date = Since Inception Date (SI return is calculated from this date).

1. TIAA Stable Value is not an investment for purposes of federal securities laws; it is a guaranteed insurance contract. Therefore, unlike a variable annuity or mutual fund, TIAA Stable Value does not include an identifiable expense ratio. The contract provides a guaranteed minimum rate of interest of between 1% and 3% (before deductions for contract fees). Contract Fees are described in the annuity contract and are collected on a daily basis by way of a reduction to the Declared Rate. Payment obligations and the fulfillment of the guarantees provided for in the contract in the accumulation phase are supported by the assets held in the separate account. If the assets in the separate account are insufficient to meet these obligations, the shortfall is supported by the General Account of TIAA and is therefore subject to TIAA's claims-paying ability. Past interest rates are not indicative of future interest rates. The TIAA Stable Value Inception Date represents the date that the plan's TIAA Stable Value record was initiated on TIAA's recordkeeping system which may be earlier than the date of first deposit to the contract.
2. Calvert Social Index through December 16, 2005; FTSE4Good US Select Index thereafter.
3. Investor share migrated to Admiral share 08/1/2019.
4. Performance shown for periods prior to the inception date reflects the performance of an older share class of the fund/account or underlying fund. Total returns have not been restated to reflect any expense differential between any of the classes. Had the expense differential been reflected, total returns for the fund may have been higher or lower. Category ranks are not available for periods prior to the inception of the fund. Percentile rankings are not shown for State Street Global All Cap Equity Ex-U.S. Index Securities II because Morningstar does not provide a longer history for the product.
5. This Fund is a collective investment trust and is not FDIC insured, nor is it an obligation or deposit of, or guaranteed by State Street Corporation, SSGA or its affiliates.
6. This investment is not a mutual fund. It is a collective trust available only to tax-qualified plans and their eligible participants. This collective trust is managed by Vanguard Fiduciary Trust Company, a wholly owned subsidiary of The Vanguard Group, Inc., and is not a mutual fund. Investment objectives, risks, charges, expenses, and other important information should be considered carefully before investing.

You cannot invest directly in an index.

Accumulations in mutual funds not managed by TIAA-CREF may be subject to administrative charges. These charges are subject to change. Please review current documents related to your plan.

The expense ratio paid by an investor is the net expense ratio as stated in the prospectus. The net expense ratio reflects total annual fund operating expenses excluding interest expense. If interest expense was included, returns would have been lower. For definitions please visit www.tiaa.org/public/assetmanagement.

Vanguard Index Information available at <http://www.vanguard.com>.

State of Rhode Island - Plan Balance Summary

401(a)/414(h)(2)

State of Rhode Island Defined Contribution Retirement Plan

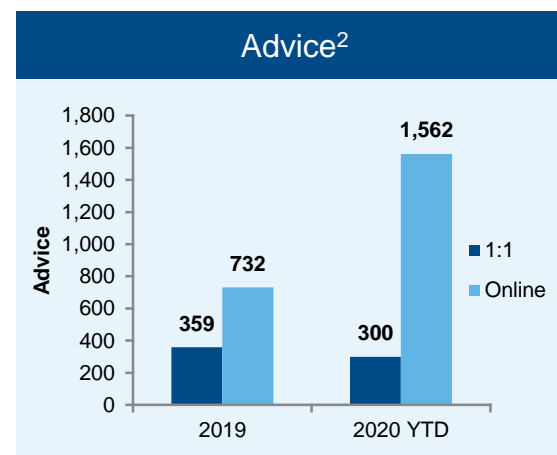
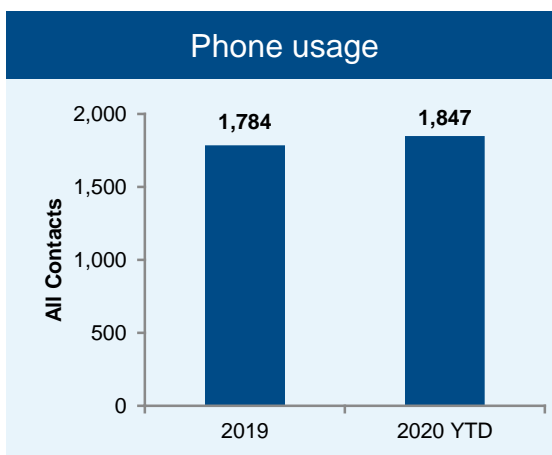
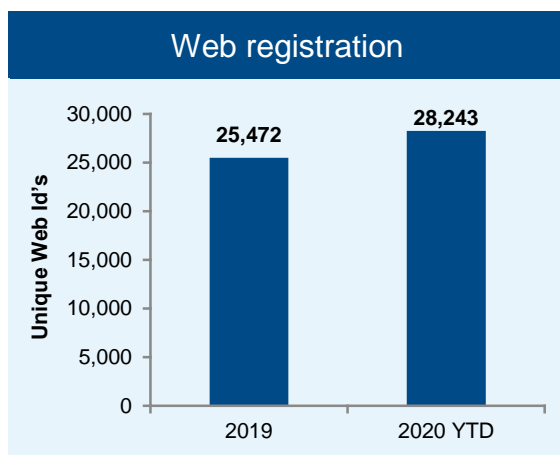
As of 9/30/2020

<i>Investment Name</i>	<i>Asset Class Description</i>		<i>Balance</i>
State Street S&P 500 Index Securities (Lending Series CI) II	Equities	\$	41,156,977
State Street Small Mid Cp Index Securities Series II	Equities	\$	29,631,233
TIAA Stable Value	Guaranteed	\$	20,951,619
State Street Global All Cap Equity Ex-U.S. Idx Securities II	Equities	\$	15,773,064
State Street US Bond Index SecuritiesXIV	Fixed Income	\$	10,051,639
PIMCO Real ReturnInstitutional	Fixed Income	\$	9,365,187
Vanguard FTSE Social IndexAdmiral	Equities	\$	5,956,540
Vanguard Target Retirement Income TrustI	Multi-Asset	\$	11,706,008
Vanguard Target Retirement 2015 TrustI	Multi-Asset	\$	42,948,611
Vanguard Target Retirement 2020 TrustI	Multi-Asset	\$	118,238,719
Vanguard Target Retirement 2025 TrustI	Multi-Asset	\$	161,312,119
Vanguard Target Retirement 2030 TrustI	Multi-Asset	\$	178,266,863
Vanguard Target Retirement 2035 TrustI	Multi-Asset	\$	201,867,969
Vanguard Target Retirement 2040 TrustI	Multi-Asset	\$	163,905,413
Vanguard Target Retirement 2045 TrustI	Multi-Asset	\$	125,964,243
Vanguard Target Retirement 2050 TrustI	Multi-Asset	\$	77,965,361
Vanguard Target Retirement 2055 TrustI	Multi-Asset	\$	36,014,872
Vanguard Target Retirement 2060 TrustI	Multi-Asset	\$	9,106,991
Vanguard Target Retirement 2065 TrustI	Multi-Asset	\$	757,378
Vanguard Target Retirement Trust I Subtotal		\$	1,128,054,547
Defined Contribution Retirement Plan Total		\$	1,260,940,805

Employee summary and channel usage

Plan Status	# of Participants	Total Plan Assets
Actively Contributing Participants (ACP) ¹	28,851	\$1,206,125,377

¹ Actively Contributing Participants are those who have an 'Active' status, a balance greater than \$0 and have made a contribution in the last 12 months. Please note that participants who are terminated, but made a contribution in the last 12 months are included here as actively contributing participants.



Data in the bar charts above represents actively contributing participants. Data is as of 09/30/2020

² Online advice includes participants who used the TIAA Retirement Advisor online advice tool. 1:1 advice includes participants who received advice through an in-person advice session. Individual Advisory Services are provided through Advice & Planning Services, a division of TIAA-CREF Individual & Institutional Services, LLC, a registered investment adviser.

For institutional investor use only. Not for use with or distribution to the public.

Building employee engagement and financial confidence

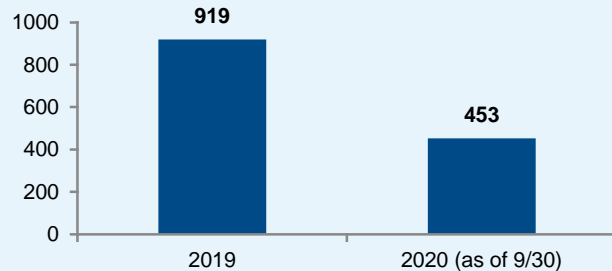
Generating engagement and action to help drive lifelong financial outcomes



Overall in-person engagement summary as of 09/30/2020

Summary of individual sessions

Individual Sessions¹



¹ Includes sessions with representatives from our Field Consulting Group **and** our Individual Advisory Services group. Numbers show total sessions held and may include employees who had multiple sessions.

Employees Participating in Sessions in 2020

Gender	Count ²	Average Age	Average Balance ³
Female	272	55.94	\$92,486
Male	129	55.97	\$113,101
Unknown	1	51.75	\$84,632
Overall	402	55.94	\$99,082

² Employees who had multiple sessions are only counted once.

³ Reflects employee's total TIAA balance.

A full spectrum of services to help you meet the diverse needs of your employee base

Communication

Education

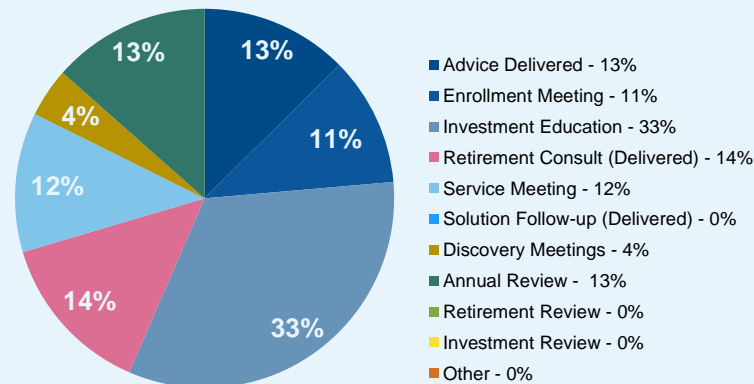
Advice

Financial planning

Managed account services

Trust services

Topic Summary – Individual sessions 2020 YTD

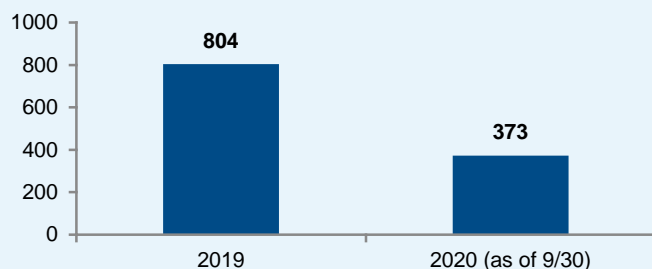


Advisory services are provided by Advice & Planning Services, a division of TIAA-CREF Individual & Institutional Services, LLC, a registered investment adviser. TIAA, FSB provides trust services.

In-person interactions with plan participants as of 09/30/2020

Individual Session Breakdown

Individual Sessions¹



¹ Numbers show total sessions held and may include employees who had multiple sessions.

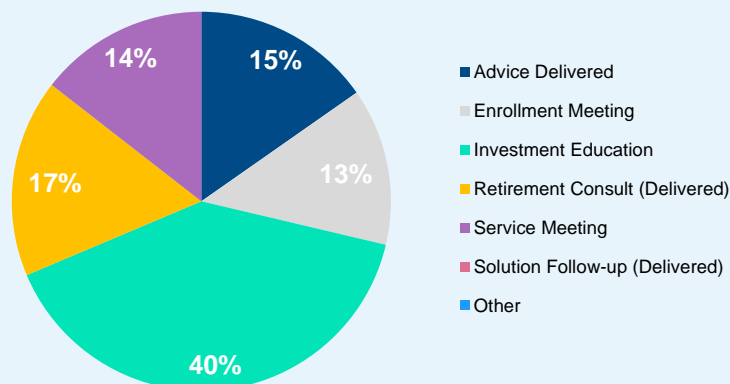
Employees Participating in Sessions in 2020

Gender	Count ²	Average Age	Average Balance ³
Female	234	55.00	\$51,745
Male	100	53.86	\$44,302
Unknown	1	51.75	\$84,632
Overall	335	54.65	\$49,621

² Employees who had multiple sessions are only counted once.

³ Reflects employee's total TIAA balance.

Topic Summary - Individual Sessions 2020 YTD



Results YTD through September 30, 2020*

98%
AGREED

Objectivity & Integrity

Employees responding to surveys agreed/strongly agreed that the Consultant put their interests first.

96%
AGREED

Overall Client Experience

Composite score, based on employees' responses to 5 attribute questions. Respondents strongly agreed/agreed that the consultant:

1. Considers their interests first
2. Provided quality advice
3. Understood their needs and goals
4. Exhibited financial expertise
5. Anticipated additional financial issues and brought them to attention

*Source: Customer Insights Corporate Scorecard

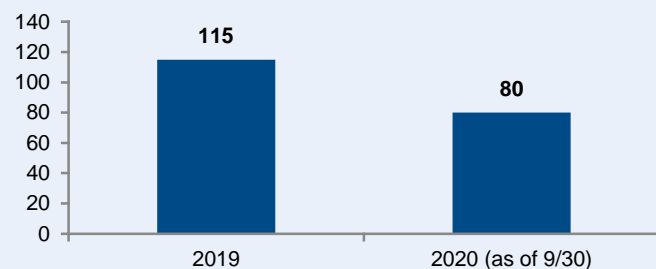
These statistics are meant to reflect customer satisfaction with services provided through TIAA Financial Consultants. Results experienced may not be typical of all participants, and are not indicative of future performance or success. Individual results will vary.

For institutional investor use only. Not for use with or distribution to the public.

Individual Advisory Services as of 09/30/2020

Financial Planning Session Breakdown

Meetings¹ Held (Individual Advisory Services)



¹ Numbers show total meetings held and may include employees who had multiple meetings.

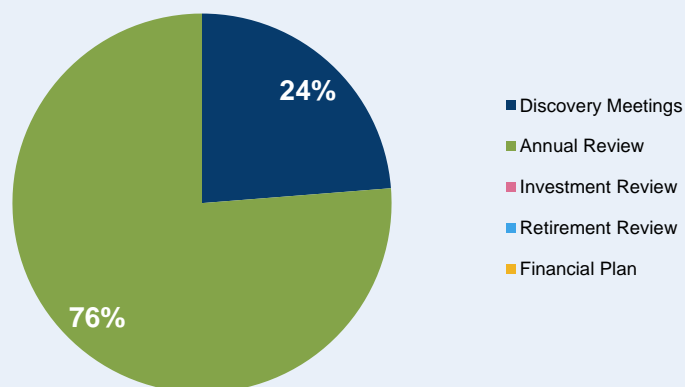
Employees Participating in Meetings in 2020

Gender	Count ²	Average Age	Average Balance ³
Female	38	61.74	\$343,363
Male	30	63.48	\$339,838
Unknown	0	0	0
Overall	68	62.51	\$341,808

² Employees who had multiple meetings are only counted once.

³ Reflects employee's total TIAA balance.

Individual Advisory Services Group Activity 2020 YTD



Executive Financial Planning Service Offerings

- Investment Management & Planning
- Estate and Gift Planning
- Charitable Planning
- Education Planning
- Cash Flow Analysis
- Stock Options Review
- Asset Protection Planning
- Investment Review
- Executive Compensation & Benefits Analysis
- Life Insurance Analysis
- Career Transition Financial Planning
- Mobile capabilities providing direct linkage to advisors

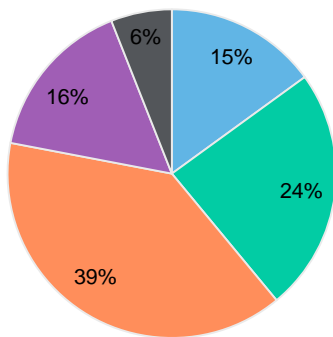
TIAA and its employees do not offer tax or legal advice, or create and prepare legal documents associated with estate plans.

Individual Advisory Services are provided through Advice & Planning Services, a division of TIAA-CREF Individual & Institutional Services, LLC, a registered investment adviser.

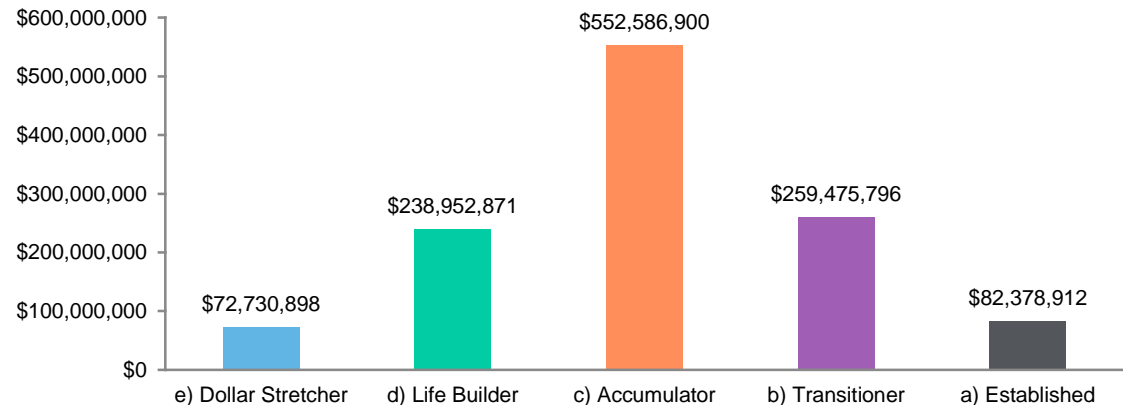
Your segmentation profile

Life stage	Dollar Stretcher	Life Builder	Accumulator	Transitioner	Established
	Are focused on having their income cover their daily expenses.	Are able to live comfortably but need to make trade-offs when funding financial goals.	Are professionals in accumulation mode with increasingly complex financial needs and goals.	Are nearing the end of their earning years, preparing to transition to their version of "retirement."	Are past peak earning years, with many in partial or close to retirement; generating income a key focus.
# of participants	4,351	7,002	11,185	4,726	1,587
Average total assets ¹	\$16,716	\$34,126	\$49,404	\$54,904	\$51,909
Benchmark population ²	8%	16%	45%	21%	10%
% of total population	15%	24%	39%	16%	6%

Segment as a % of total population



Total participant assets by segment



Data as of 09/30/2020

1. Total assets are inclusive of all participant assets held with TIAA.2. Benchmark population numbers are derived from Benchmark populations are derived from institutions within the Institutional Sector "Other NFP" and Assets Greater Than \$500M.

For institutional investor use only. Not for use with or distribution to the public.

Program overview



Employee engagement highlights



19,740

Participants reached



45.31%

Email open rate



4.83%

Email click rate



9.52%

Overall action



3.89%

Advice sessions



0.43%

Reallocate/rebalance



2.94%

Beneficiary update



1.21%

eDelivery sign up



0.61%

Secure site registrations



0.09%

Contribution increase

Improve engagement by:

- Targeting participants at different life stages and with different needs
- Introducing new services and features to increase financial confidence

Your plan results as of 09/30/2020.

For institutional investor use only. Not for use with or distribution to the public.

2020 calendar

	Kicking off the year		Financial Wellness		Estate planning		Lifetime Income		Savings		Year-end tips	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Triggered Communications – Early engagement, Stay Smart for Life												
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Financial Foundations, Webinar Promotion, National Events												
Checklist	✓											
America Saves Week		✓										
Diversification				✓								
Financial Literacy Month				✓								
Beneficiary & Estate planning						✓						
Webinar promotion						✓		✓				✓
Income in retirement							✓					
Save More/SIP									✓			
National Retirement Security Week										✓		
Gaming –Financial IQ challenge, Digital challenge												
											✓	
National toolkits (B2B)												
		ASW		NFLM						NRSW		
Financial Consultant One-on-One												
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Your security is our priority



Technology

- ✓ Access granted on a need-to-know basis
- ✓ Encryption of laptops and portable devices
- ✓ 24/7 monitoring
- ✓ Patches, antivirus, malware, firewall
- ✓ Online and authentication controls



People

- ✓ Training and awareness program
- ✓ Employees required to comply with policies & standards
- ✓ Enterprise Financial Crime prevention program



Processes

- ✓ Policies & standards based on regulatory guidance
- ✓ Risk assessments on infrastructure, suppliers, and third parties
- ✓ Regularly monitored by internal & external auditors and regulatory bodies

10 MILLION+

cyber attacks

blocked every month

180

CYBER EXPERTS

protecting your information

every day

**PROGRAM
OVERSIGHT**

7 external audits

13 internal audits

8 regulatory exams

Data as of 12/31/2018.

For institutional investor use only. Not for use with or distribution to the public.

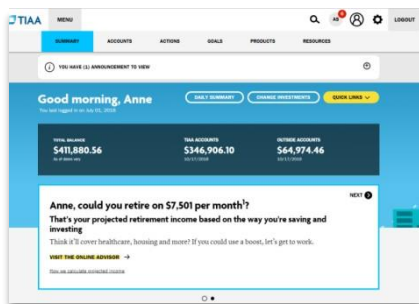
Appendix



Robust digital resources and employee support

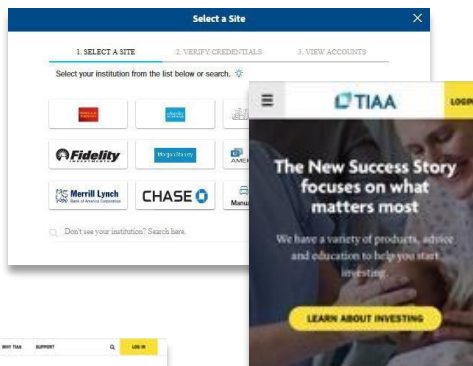
Anywhere, anytime access to retirement accounts, online advice, planning tools, peer-to-peer networking and other resources

Participant website



Account management

Financial 360° and mobile web



Planning

Mobile App



Online Advice

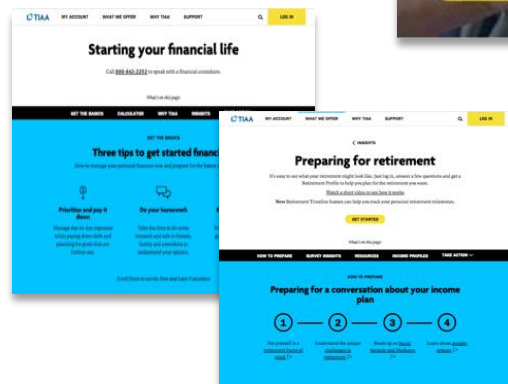


Education

Targeted education hubs

Tools and insights for specific groups such as employees who are:

- Starting out
- Managing money
- Preparing for "life's big events"



Retirement Income
Illustrator



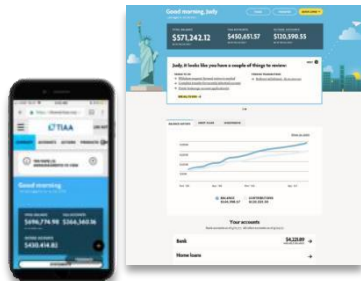
Meeting Scheduler



NEW—"Easy & everywhere" digital access

Evolving digital experience

Redesigned website (responsive)



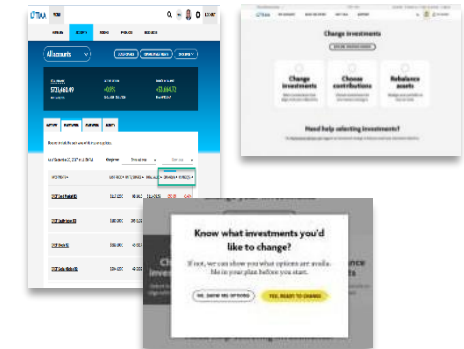
Integration of goals



"Money out" decision support



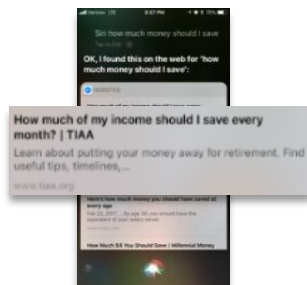
Investment decision support



Emerging channels

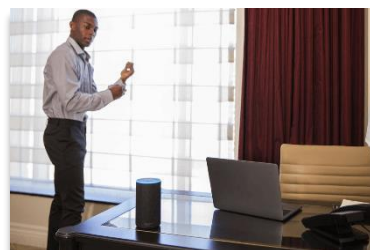
Siri

How much money should I save every month?



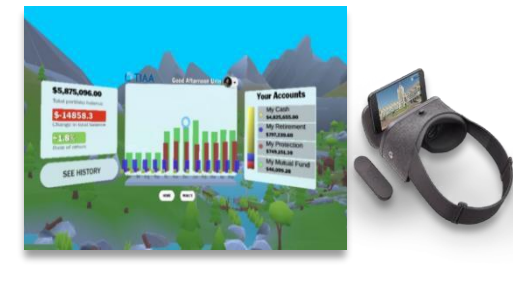
Alexa

Hey Alexa, where is the closest TIAA office?



VR

Money in 3D



Plan stats by segment (rolling 12 months ending Q3 2020)

Life stage		Dollar Stretcher	Life Builder	Accumulator	Transitioner	Established
	Count	4,351	7,002	11,185	4,726	1,587
Communications	Financial Foundations campaigns	1,409	3,156	5,636	2,621	824
	Onboarding Early Engagement program	770	496	663	91	21
	Off boarding Stay Smart® for Life Program	830	31	50	1,865	1,183
	Supplemental campaigns	2	8	14	13	4
Engagement	# secure web ID	4,159	6,878	10,926	4,709	1,571
	Secure web logins	672	1,421	2,863	1,679	560
	Inbound phone calls	304	394	551	355	243
Actions	Assisted advice	31	31	48	90	100
	Self-service advice	162	393	654	244	109
	Increased contributions	3,322	5,826	9,114	3,515	984
	Started employee contributions	707	382	562	95	26
	Reallocated/rebalanced	807	740	1,573	643	158
	Consolidations	19	34	44	24	11
	Updated beneficiary	210	387	632	326	124
	New enrollments	651	332	484	76	17
Outcomes	Average assets	\$16,716	\$34,126	\$49,404	\$54,904	\$51,909
	Average assets (Benchmark peers)	\$16,775	\$38,799	\$192,309	\$416,218	\$687,773

Data as of 9/30/2020. Total account balance is inclusive of all participant assets held with TIAA. Benchmark population numbers are derived from Benchmark populations are derived from institutions within the Institutional Sector "Other NFP" and Assets Greater Than \$500M. Active participants are those with employee or employer contributions in the last 12 months.

For institutional investor use only. Not for use with or distribution to the public.

Plan stats by total population (year-over-year)

		2018	2019	% change		Average Benchmark	Difference compared to benchmark	
	Count	28,599	29,138	▲	1.9%	1,489	▲	1856.9%
Communications	Cornerstone education campaigns	44.4%	89.9%	▲	45.5%	83.0%	▲	7.0%
	Onboarding Early Engagement program	6.1%	7.4%	▲	1.3%	5.9%	▲	1.5%
	Off boarding Stay Smart® for Life program	3.8%	13.8%	▲	10.0%	15.0%	▼	-1.2%
	Choice programs	0.0%	0.0%		0.0%	7.1%	▼	-7.1%
Engagement	# secure web ID	92.8%	98.2%	▲	5.4%	87.8%	▲	10.5%
	Secure web logins	25.9%	26.1%	▲	0.2%	49.0%	▼	-22.9%
	Inbound phone calls	5.9%	6.4%	▲	0.5%	11.3%	▼	-4.9%
Actions	Assisted advice	1.2%	1.1%	▼	-0.1%	7.9%	▼	-6.8%
	Self-service advice	2.8%	2.2%	▼	-0.5%	4.5%	▼	-2.3%
	Increased contributions	82.7%	77.8%	▼	-4.9%	60.9%	▲	16.9%
	Started employee contributions	8.7%	8.3%	▼	-0.4%	7.7%	▲	0.6%
	Reallocated/rebalanced	14.0%	15.9%	▲	1.9%	23.2%	▼	-7.2%
	Consolidations	0.3%	0.4%	▲	0.1%	2.3%	▼	-1.9%
	Updated beneficiary	11.4%	7.8%	▼	-3.6%	10.8%	▼	-3.0%
	New enrollments	8.0%	7.6%	▼	-0.4%	8.1%	▼	-0.5%
Outcomes	Average assets	\$28,535	\$36,044	▲	26.3%	\$253,890	▼	-85.8%

Active participants are those with employee or employer contributions in the last 12 months. Benchmark population numbers are derived from Benchmark populations are derived from institutions within the Institutional Sector "Other NFP" and Assets Greater Than \$500M.

Glossary

Term	Definition
Active participants	Participants with a status of “Active” that have a balance greater than zero.
Advice	Specific investment recommendations, either in person, online or over the phone, that are tailored to individual circumstances, including variables such as age, current savings rates, plan investments and tolerance for risk. Advice is sourced through Morningstar Investment Management, LLC .
Annuitants	Persons receiving lifetime income benefits under a TIAA annuity contract.
Average annual payout	The average annual amount that all annuitants are receiving for income generated from an institution’s plan(s).
Average projected monthly payout	The average monthly amount that participants may receive in their retirement years for income generated from the institution’s plan(s).
Average guaranteed income	Sources of income that are expected to continue for the participant’s lifetime (e.g., Social Security, TIAA Traditional, Defined Benefits).
Average projected monthly income	The average after-tax retirement income your participants are projected to receive from your TIAA plan(s).
Consolidations	The number of participants who transfer balances from other service providers into TIAA retirement accounts.
Contributing participants	Participants that have made a contribution in the last 12 months.
Contribution rate	Annual contributions as a percentage of annual salary.
Defaulted loans	Loans for which the participant missed the expected repayment and failed to pay the total overdue amount prior to the end of the calendar quarter following the calendar quarter in which the payment was due.

Glossary

Term	Definition
Defaulted participants	Participants who have not made an investment allocation election and whose contributions have been directed to the plan's default investment.
Early engagement	A communication program that supports participants through their online account setup, plan review and goal setting, and gives them an overview of the resources available to them at TIAA.
In range	Participants who are projected to replace 50% - 79% of after-tax income in retirement.
Income replacement ratio	The percentage of current salary that is estimated to be replaced during retirement, calculated using multiple variables (e.g., contribution rate, investments, salary). This is a way to visualize how ready your employees are for retirement.
Lifetime income	An annuity arrangement that provides fixed or variable income payments for life.
Needs action	Participants who are projected to replace less than 50% of after-tax income in retirement.
On track	Participants who are projected to replace more than 80% of after-tax income in retirement.
Other enrollments	All other enrollments not classified as remittance, phone, paper or online.
Participation rate	Number of participating plan participants divided by the total number of eligible plan participants.
Peer benchmark	A group of institutions at TIAA who provide a measure of comparison to your plan, based on comparable plan asset size and market segment (K-12, Higher Education, Healthcare & Government).
Readiness influencers	Plan features and participant behaviors that may contribute to a participant's retirement readiness and income replacement ratio.

Glossary

Term	Definition
Rebalanced	Total number of participants who reallocated their account balances during the last 12 months.
Remittance	Participant enrollment information, including investment election specifications, provided to TIAA by the plan sponsor.
Retirement readiness	A measure of whether participants should have sufficient income from the plan in order to maintain an adequate standard of living in retirement.
Self-directed contributions	Contributions that have been invested per the participant's investment allocation election.
Terminated participants	Participants with an employee status of "terminated."
TIAA recommendation	The income replacement ratio recommended by TIAA for your participants.
Total annual payout	The total annual amount that all annuitants are receiving for income generated from an institution's plan(s).
Total participants	Includes all participants with a balance.

Disclosures

As of 9/30/2020

Investing in non-investment grade securities presents special risks, including significantly higher interest-rate and credit risk.

Small-cap and mid-cap stocks may have limited marketability and may be subject to more abrupt or erratic market movements than large-cap stocks.

The risks associated with foreign investments are often magnified in emerging markets where there is greater potential for political, currency, and economic volatility.

Funds that invest in fixed-income securities are not guaranteed and are subject to interest-rate, inflation and credit risks.

Funds that invest in foreign securities are subject to special risks, including currency fluctuation and political and economic instability.

Real estate securities are subject to various risks, including fluctuations in property values, higher expenses or lower income than expected, and potential environmental problems and liability.

Any guarantees under annuities issued by TIAA are subject to TIAA's claims-paying ability. TIAA Stable Value is a guaranteed insurance contract and not an investment for Federal Securities Law purposes.

Target Date Funds share the risks associated with the types of securities held by each of the underlying funds in which they invest. In addition to the fees and expenses associated with the Target Date Funds, there is exposure to the fees and expenses associated with the underlying mutual funds as well.

The principal value of a target date fund isn't guaranteed at any time, including at the target date, and will fluctuate with market changes. The target date represents an approximate date when investors may plan to begin withdrawing from the fund. However, you are not required to withdraw the funds at the target date.

Investment, insurance and annuity products are not FDIC insured, are not bank guaranteed, are not deposits, are not insured by any federal government agency, are not a condition to any banking service or activity, and may lose value.

Morningstar Ranking/Number of Funds in Category displays the Fund's actual rank within its Morningstar Category based on average annual total return and number of funds in that Category. The returns assume reinvestment of dividends and do not reflect any applicable sales charge. Absent expense limitation, total return would be less. Morningstar Percentile Rankings are the Fund's total return rank relative to all funds in the same Morningstar category, where 1 is the highest percentile and 100 is the lowest percentile.

Disclosures

As of 9/30/2020

Prospectus Gross Expense Ratio

The percentage of fund assets used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. Fund expenses are reflected in the fund's NAV. Sales charges are not included in the expense ratio.

--The expense ratio for fund of funds is the aggregate expense ratio as defined as the sum of the wrap or sponsor fees plus the estimated weighted average of the underlying fund fees.

--Often referred to as the Annual Operating Expense, the Prospectus Gross Expense Ratio is collected annually from a fund's prospectus.

Prospectus Net Expense Ratio

The percentage of fund assets, net of reimbursements, used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. Fund expenses are reflected in the fund's NAV. Sales charges are not included in the expense ratio.

--The expense ratio for fund of funds is the aggregate expense ratio as defined as the sum of the wrap or sponsor fees plus the estimated weighted average of the underlying fund fees.

--Net reimbursements, the Prospectus Net Expense Ratio is collected annually from a fund's prospectus.

--TIAA, unless noted, does not charge additional fees for record keeping a fund. 12b-1, revenue share and admin fees are all included in the Prospectus fees. --

Prospectus Net Expense Ratio % - ile rank is the percentile rank for the fund. The better the expense ratio (lower) the lower the ranking out of 100.

By communicating the information contained in this material, TIAA is not providing impartial investment advice or giving advice in a fiduciary capacity regarding any investment by, or other transaction of, the plan(s). TIAA is acting solely in a sales capacity with respect to an arms-length sale, purchase, loan, exchange or other transaction related to the investment of securities or other investment property.

Disclosures



TIAA is providing educational services concerning plan menu construction and the plan sponsor's fiduciary duties under its plan. It is not providing investment advice and is not a plan fiduciary with respect to the education and information presented herein. Note also that TIAA cannot and does not provide legal advice and that we recommend that you seek such advice from your own legal advisors.

This material is for informational or educational purposes only and does not constitute fiduciary investment advice under ERISA, a securities recommendation under all securities laws, or an insurance product recommendation under state insurance laws or regulations. This material does not take into account any specific objectives or circumstances of any particular investor, or suggest any specific course of action. Investment decisions should be made based on the investor's own objectives and circumstances.

TIAA reported performance may differ from Morningstar source returns for the same option over the same time period. We would expect an occasional one to two basis point difference. Morningstar Direct calculates returns by one share owned by hypothetical investor over the requested time period. The return for one year is calculated using the same formula as one month. TIAA calculates returns by \$1,000 owned by hypothetical investor for one month then links returns for requested time period. Both set of returns would include dividends and capital gains, if applicable.

Investment products may be subject to market and other risk factors. See the applicable product literature or visit tiaa.org for details. You should consider the investment objectives, risks, charges and expenses carefully before investing. Please call 877-518-9161 or go to www.TIAA.org/prospectuses for current product and fund prospectuses that contain this and other information. Please read the prospectuses carefully before investing.

TIAA-CREF Individual & Institutional Services, LLC, Member FINRA, distributes securities products. Annuity contracts and certificates are issued by Teachers Insurance and Annuity Association (TIAA) of America and College Retirement Equities Fund (CREF), New York, NY. Each is solely responsible for its own financial condition and contractual obligations.

tiaa.org

© 2020 Teachers Insurance and Annuity Association of America-College Retirement Equities Fund, 730 Third Avenue, New York, NY 10017

1440888

BUILT TO PERFORM.

CREATED TO SERVE.

Employees' Retirement System of Rhode Island



4. Executive Director's Report

Presented by Frank J. Karpinski

ERSRI Calendar Year 2021 Retirement Board and Committee Meetings

Month	Disability Committee <i>Laura Shawhughes Chair</i> Brian M. Daniels Thomas M. Lambert Claire M. Newell Kara DiPaola (GT)	Full Board	Governance Committee <i>John P. Maguire Chair</i> Brett Smiley Roger P. Boudreau Brian M. Daniels Amy Crane (GT)	Administrative Committee <i>Thomas A. Mullaney Chair</i> Paul L. Dion Raymond J. Pouliot Jean Rondeau Amy Crane (GT)	Member Services Committee <i>Roger P. Boudreau Chair</i> Lisa A. Whiting Michael J. Twohey Mark A. Carruolo LeeAnn Byrne (GT)
January	Friday January 8th	Wednesday January 13th			Wednesday January 20th
Time	9:00am	9:00am			9:00am
		Agenda: I. Disability Considerations II. Discuss and distribute the evaluation package for the Executive Director evaluation.			
February	Friday February 5th		Wednesday February 10th	Wednesday February 10th	
Time	9:00am		9:00am	1:30pm	
			Agenda: I. Review results of ED evaluation and prepare executive summary to be provided to the full Board. II. Distribute Board Self-Evaluation III. Training Topics for Offsite	Agenda: I. Cyber Liability Insurance Consideration and Renewal	
March	Friday March 5th	Wednesday March 17th			Wednesday March 3rd
Time	9:00am	9:00am			9:00am
		Agenda: I. Disability Considerations II. Executive Director Review. III. Renewal for Cyber Liability Insurance			

ERSRI Calendar Year 2021 Retirement Board and Committee Meetings

Month	Disability Committee <i>Laura Shawhughes Chair</i> Brian M. Daniels Thomas M. Lambert Claire M. Newell Kara DiPaola (GT)	Full Board	Governance Committee <i>John P. Maguire Chair</i> Brett Smiley Roger P. Boudreau Brian M. Daniels Amy Crane (GT)	Administrative Committee <i>Thomas A. Mullaney Chair</i> Paul L. Dion Raymond J. Pouliot Jean Rondeau Amy Crane (GT)	Member Services Committee <i>Roger P. Boudreau Chair</i> Lisa A. Whiting Michael J. Twohey Mark A. Carruolo LeeAnn Byrne (GT)
--------------	--	-------------------	--	--	---

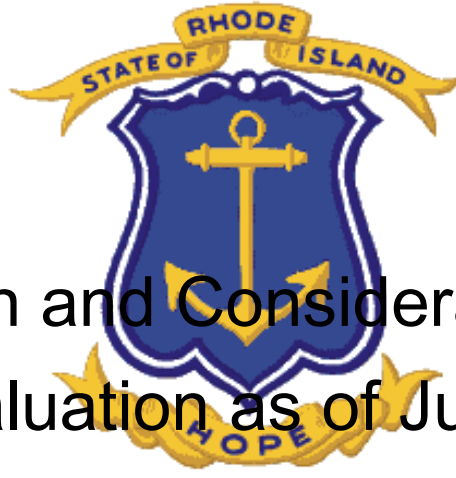
April	Friday April 2nd		Wednesday April 7th	Wednesday April 14th	
Time	9:00am		9:00am	9:00am	
	Agenda I. Review Data for Offsite Training		Agenda: I. Finalize Board Training		
May	Friday May 7th	Friday May 21st			
Time	9:00am	9:00am to 4:00pm			
		Agenda: I. Disability Considerations Board Offsite Annual Training TBA			
June	Friday June 11th				Wednesday June 9th
Time	9:00am				9:00am
July	Friday July 9th	Wednesday July 14th	Wednesday July 7th		
Time	9:00am	9:00am	9:00am		
		Agenda: I. Disability Considerations			
August	Friday August 6th				
Time	9:00am				

ERSRI Calendar Year 2021 Retirement Board and Committee Meetings

Month	Disability Committee <i>Laura Shawhughes Chair</i> Brian M. Daniels Thomas M. Lambert Claire M. Newell Kara DiPaola (GT)	Full Board	Governance Committee <i>John P. Maguire Chair</i> Brett Smiley Roger P. Boudreau Brian M. Daniels Amy Crane (GT)	Administrative Committee <i>Thomas A. Mullaney Chair</i> Paul L. Dion Raymond J. Pouliot Jean Rondeau Amy Crane (GT)	Member Services Committee <i>Roger P. Boudreau Chair</i> Lisa A. Whiting Michael J. Twohey Mark A. Carruolo LeeAnn Byrne (GT)
--------------	--	-------------------	--	--	---

September	Thursday September 2nd	Wednesday September 15th		Wednesday September 8th	
Time	9:00am	9:00am		9:00am	
		Agenda: I. Consideration and approval of FY 2022 Budget II. Disability Considerations		Agenda: I. Consideration and recommendation of FY 2022 Budget	
October	Friday October 1st				Wednesday October 6th
Time	9:00am				9:00am
November	Friday November 5th		Wednesday November 10th		
Time	9:00am		9:00am		
December	Friday December 3rd	Wednesday December 15th		Wednesday December 8th	
Time	9:00am	9:00am		9:00am	
		Agenda: I. Consideration of FY 2020 Valuations II. Disability Considerations		Agenda: I. Review of FY 2020 Valuations	

Employees' Retirement System of Rhode Island



Presentation and Consideration of the Actuarial Valuation as of June 30, 2020 by Gabriel, Roeder, Smith and Company (GRS) for the ERS (State and Teachers), MERS Plans (Municipal Employees), State Police (SPRBT), State Police Retirement Fund Trust (SPRFT), Judges (JRBT), Judicial Retirement Fund Trust (RIJRFT) and the Teacher Survivor Benefits Plan (TSBP)

For Vote

Presented by Paul Wood and Joe Newton



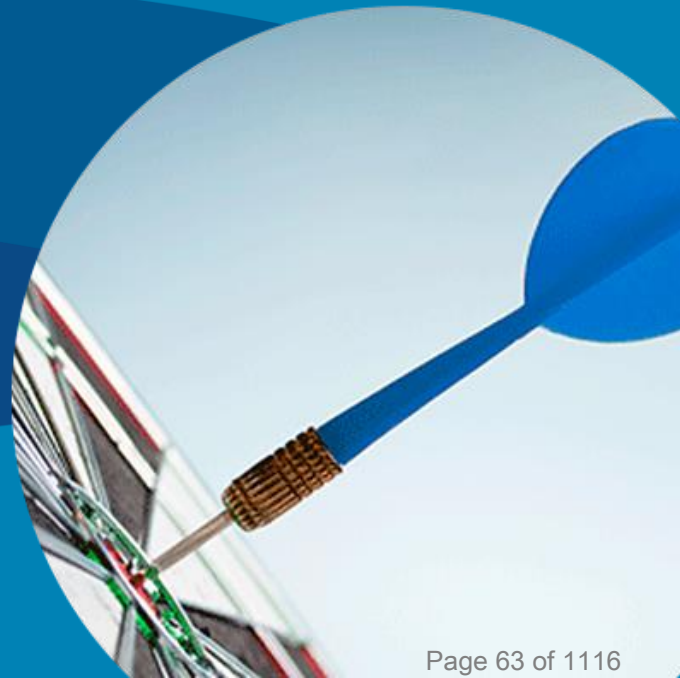
EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND

Actuarial Valuations as of June 30, 2020

Joe Newton

Paul Wood

December 14, 2020



Actuarial Valuations as of June 30, 2020

- Purposes:
 - Measure the System's liabilities
 - Determine employer contribution rates for FY 2023
 - FY 2021 set by June 30, 2018 valuation
 - FY 2022 set by June 30, 2019 valuation
 - Provide other information for reporting
 - GASB #67/68 & CAFR
 - Explain changes in actuarial condition of ERSRI
 - Track changes over time

Actuarial Valuations as of June 30, 2020

- Prepared as of June 30, 2020, using
 - Member data provided by ERSRI Staff
 - Audited financial data
 - Current benefit and contribution provisions
 - Actuarial assumptions and methods approved by the Retirement Board in May 2020
- Plans covered today:
 - ERSRI (State Employees and Teachers)
 - MERS (General Employees and Police/Fire)
 - JRBT (Judges)
 - SPRBT (State Police)
 - Teacher Survivor Benefits Plan (TSBP)
 - SPRFT (Formerly Paygo State Police)
 - RIJRFT (Contributing, Paygo Judges)



STATE AND TEACHERS PLAN



Actuarial Valuations as of June 30, 2020

Key Changes and Issues

- Aggregate UAAL decreased by \$129m
 - from \$5.37b to \$5.24b
- Aggregate funded ratio increased from 54.5% to 55.4%
- FY2023 projected employer contribution amounts are \$535.6m vs projected \$533.2m
- State plan expected to be 96% funded by 2035 and 100% by 2040 (no change from last year)
- The projected COLA restoration year for teachers and state employees continues to be unchanged
 - As of June 30, 2031 valuation

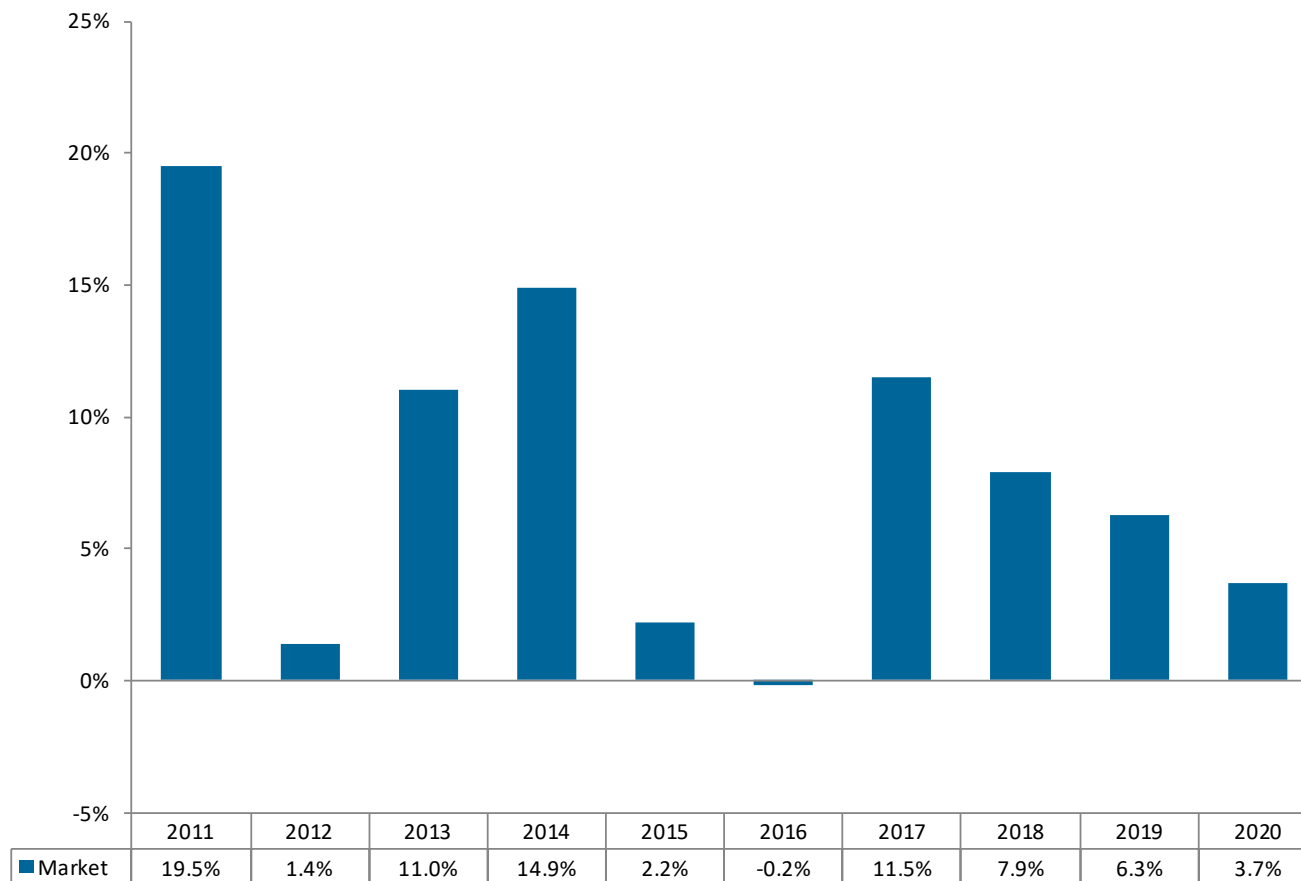
Actuarial Valuations as of June 30, 2020

Financial Results and COLA Calculations

- 2020 market value investment performance below 7% expectations
 - 3.7% return on market value of assets
 - 11.5%, 7.9%, and 6.3% in fiscal years 2017, 2018, & 2019
- 2020 COLA is 1.06%
 - 50% from change in CPI and 50% from investment performance
 - \$27,608 limit will also grow by 1.06% (\$27,901 in 2022)
 - The 2020 COLA will be granted for applicable plans that have had their COLA suspended for the past 4 years
 - Plan projected to be 80% funded as of June 30, 2031 (80.9%)

Actuarial Valuations as of June 30, 2020

Estimated Yields Based on Market Value of Assets (Total ERSRI Fund)



7.7% average compound return on market value of assets over the last 10 years

7.0% average compound return on market value of assets since 1995



Actuarial Valuations as of June 30, 2020

Asset Values – State Employees and Teachers Combined



\$ in billions

AVA: Actuarial Value of Assets

MVA: Market Value of Assets



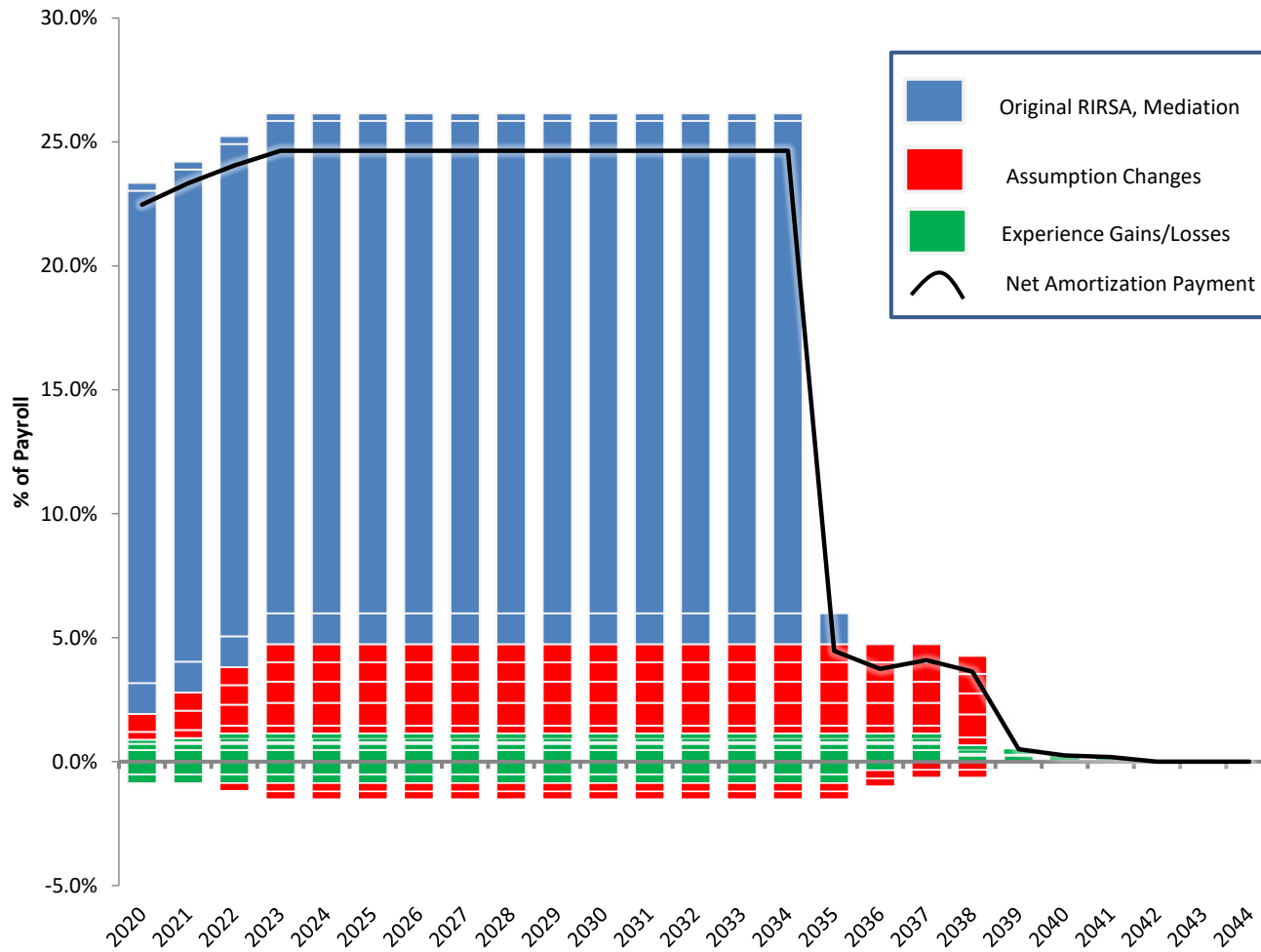
Actuarial Valuations as of June 30, 2020

Layered Amortization and Stagger Strategy: State Employees

Purpose	Remaining Balance as of June 30, 2020	Payment FY2021	Payment FY2022	Payment FY2023	Payment FY2024	Payment FY2025	Payment FY2026	Fiscal Year of Final Payment
FY 1991 and FY 1992 Deferrals	\$ 27,514,496	\$ 2,444,107	\$ 2,517,430	\$ 2,592,953	\$ 2,670,742	\$ 2,750,864	\$ 2,833,390	2035
Original 2011 RIRSA Base	1,739,634,835	154,531,375	159,167,316	163,942,335	168,860,605	173,926,423	179,144,216	2035
2014 Experience Base	(47,735,898)	(4,044,256)	(4,165,584)	(4,290,552)	(4,419,269)	(4,551,847)	(4,688,402)	2036
2014 Mediation Settlement	114,361,741	9,688,896	9,979,563	10,278,950	10,587,319	10,904,938	11,232,086	2036
2015 Experience Base	(34,027,294)	(2,759,968)	(2,842,767)	(2,928,050)	(3,015,892)	(3,106,368)	(3,199,559)	2037
2016 Experience Base	46,646,227	3,634,380	3,743,411	3,855,713	3,971,384	4,090,526	4,213,242	2038
2016 Assumption Change - FY20 Stagger	32,795,536	2,461,823	2,535,678	2,611,748	2,690,100	2,770,803	2,853,928	2039
2016 Assumption Change - FY21 Stagger	75,537,925	5,670,313	5,840,422	6,015,635	6,196,104	6,381,987	6,573,447	2039
2016 Assumption Change - FY22 Stagger	75,537,925	-	6,297,419	6,486,342	6,680,932	6,881,360	7,087,801	2039
2016 Assumption Change - FY23 Stagger	75,537,925	-	-	7,014,703	7,225,144	7,441,898	7,665,155	2039
2016 Assumption Change - FY24 Stagger	75,537,925	-	-	-	7,839,889	8,075,086	8,317,338	2039
2017 Experience Base	17,501,379	1,313,755	1,353,168	1,393,763	1,435,576	1,478,643	1,523,002	2039
2018 Experience Base	26,401,062	1,914,455	1,971,889	2,031,046	2,091,977	2,154,737	2,219,379	2040
2019 Experience Base	7,350,492	-	570,327	587,437	605,060	623,212	641,908	2041
2020 New Assumptions - FY23 Stagger	(27,189,268)	-	-	(2,524,886)	(2,600,633)	(2,678,652)	(2,759,011)	2039
2020 New Assumptions - FY24 Stagger	(27,189,269)	-	-	-	(2,821,905)	(2,906,562)	(2,993,759)	2039
New Experience Base This Fiscal Year	17,779,032	-	-	1,476,044	1,520,325	1,565,935	1,612,913	2042
Unfunded Actuarial Accrued Liability	\$ 2,232,594,276	\$ 174,854,880	\$ 186,968,272	\$ 198,543,181	\$ 209,517,460	\$ 215,802,984	\$ 222,277,074	
Projected Payroll		\$ 777,970,071	\$ 801,309,173	\$ 825,348,448	\$ 850,108,902	\$ 875,612,169	\$ 901,880,534	
Amortization Payment as a Percent of Payroll		22.48%	23.33%	24.06%	24.65%	24.65%	24.65%	

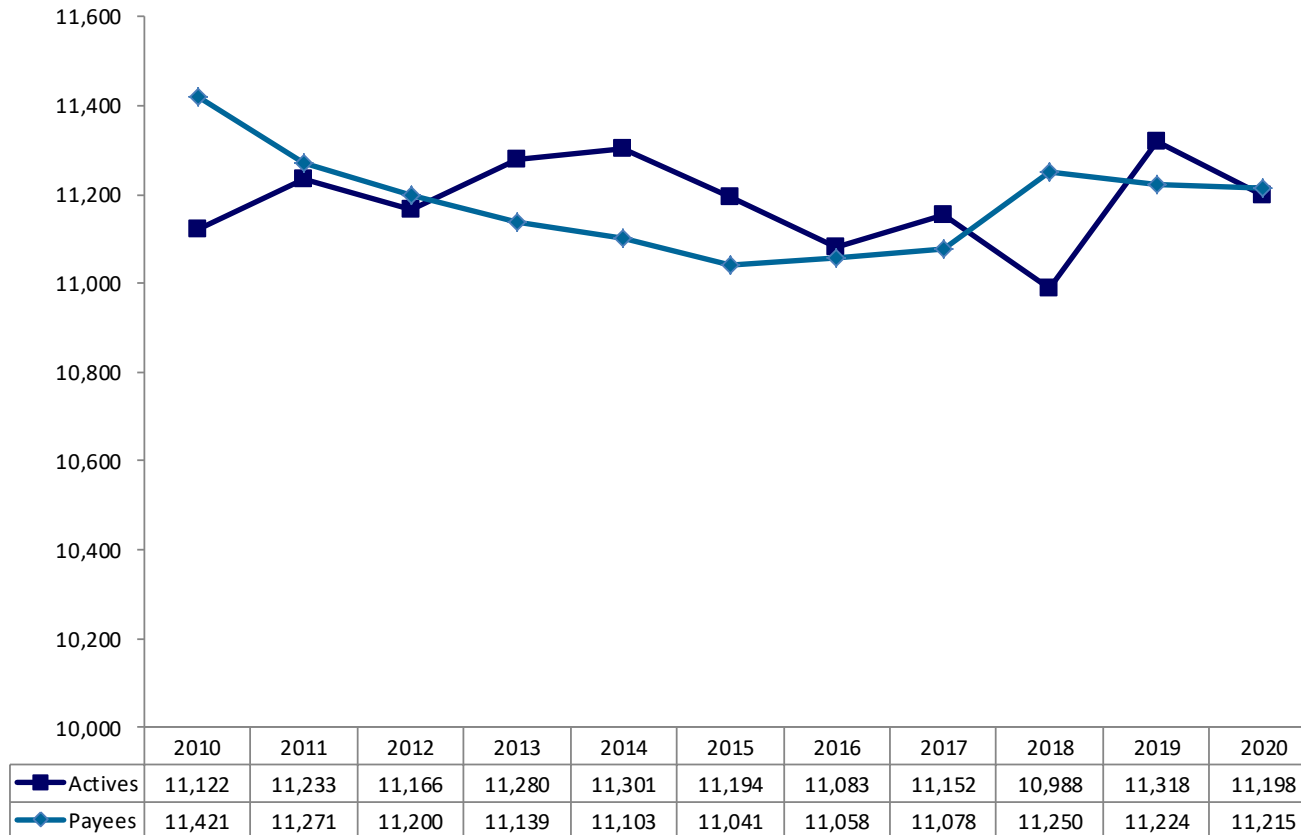


Visualized amortization schedule (State Employees)



Actuarial Valuations as of June 30, 2020

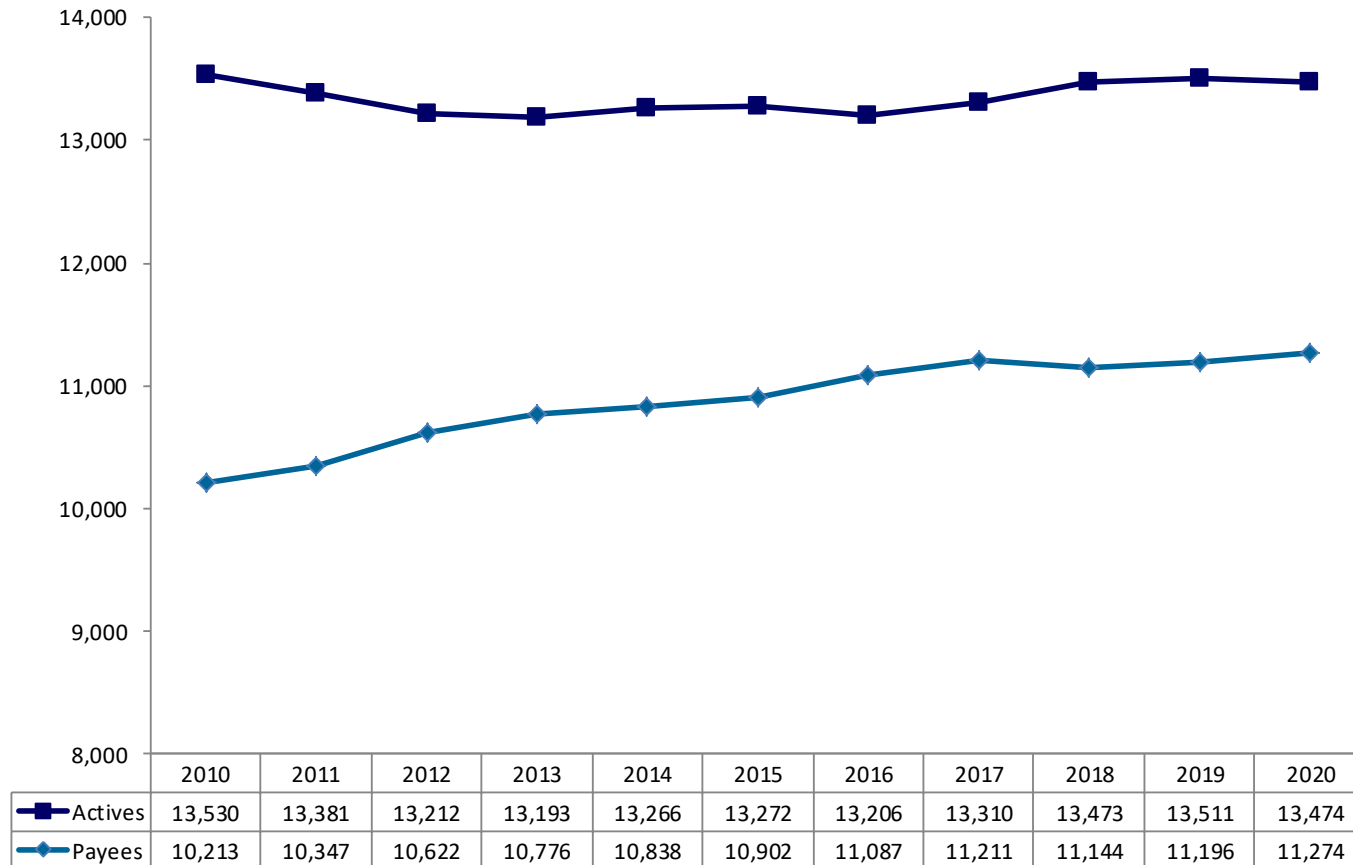
Membership – State Employees



0.1% average increase in active members since 2010
-0.2% average decrease in retired members since 2010

Actuarial Valuations as of June 30, 2020

Membership – Teachers

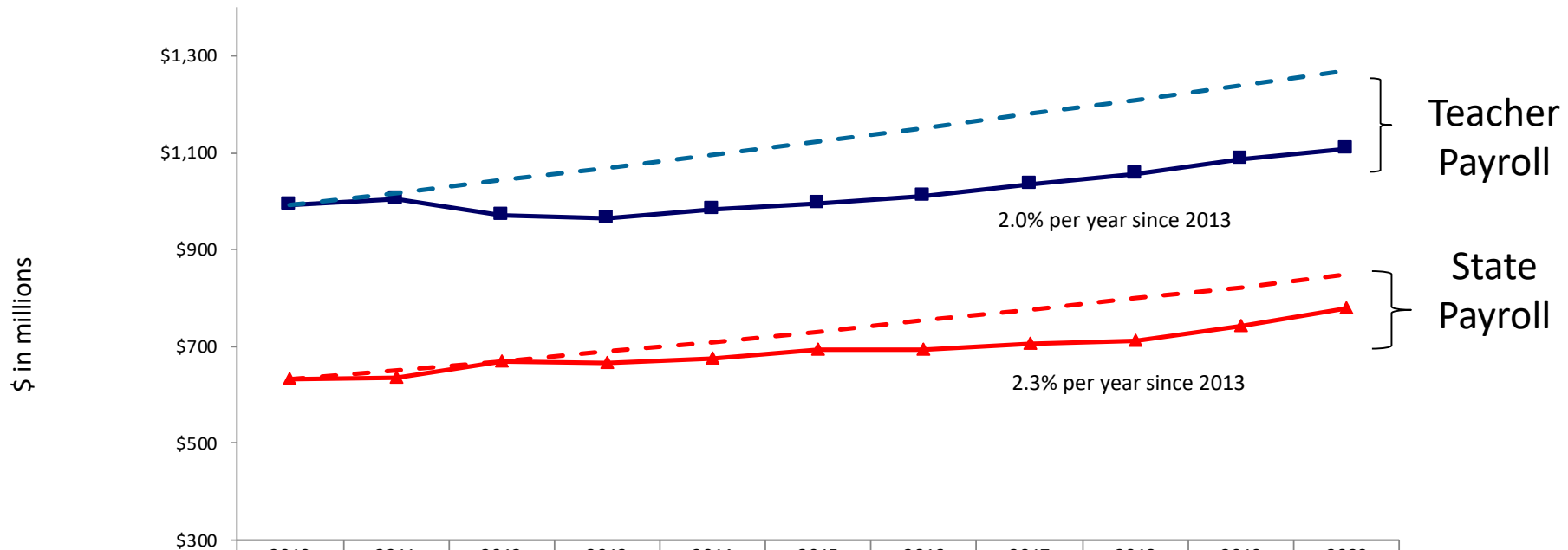


0.0% average increase in active members since 2010

1.0% average increase in retired members since 2010

Actuarial Valuations as of June 30, 2020

Payroll – Actual vs. Expected



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Actual - Teachers	\$993	\$1,003	\$972	\$964	\$983	\$996	\$1,010	\$1,036	\$1,057	\$1,087	\$1,108
Projected - Teachers	\$993	\$1,018	\$1,043	\$1,069	\$1,096	\$1,123	\$1,151	\$1,180	\$1,210	\$1,240	\$1,271
Actual - State	\$630	\$633	\$669	\$664	\$675	\$692	\$693	\$704	\$712	\$740	\$778
Projected - State	\$630	\$649	\$669	\$689	\$709	\$731	\$753	\$775	\$798	\$822	\$847

1.1% average payroll growth for Teachers since 2010 (Expecting 2.5%)

2.1% average payroll growth for State since 2010 (Expecting 3.0%)

Actuarial Valuations as of June 30, 2020

Employer Contribution Rates – State Employees

Item	2019 Actual Results	2020 Projected Results w/ New Assumptions	2020 Actual Results
Total Normal Cost %	8.44%	8.30%	8.17%
Member Contribution	<u>4.24%</u>	<u>4.24%</u>	<u>4.23%</u>
Employer Normal Cost%	4.20%	4.06%	3.94%
Amortization rate	<u>23.81%</u>	<u>24.16%</u>	<u>24.06%</u>
Total Employer Contribution	28.01%	28.22%	28.00%
FY ending June 30,	2022	2023	2023
Payroll Projected 2 Years	\$785.4	\$808.9	\$825.3
Projected Contribution	\$220.0	\$228.3	\$231.1

Above dollar amounts in millions



Actuarial Valuations as of June 30, 2020

Employer Contribution Rates – Teachers

Item	2019 Actual Results	2020 Projected Results w/ New Assumptions	2020 Actual Results
Total Normal Cost %	7.75%	7.70%	7.55%
Member Contribution	<u>3.75%</u>	<u>3.75%</u>	<u>3.75%</u>
Employer Normal Cost%	4.00%	3.95%	3.80%
Amortization rate	<u>21.72%</u>	<u>22.10%</u>	<u>22.36%</u>
Total Employer Contribution	25.72%	26.05%	26.16%
FY ending June 30,	2022	2023	2022
Payroll Projected 2 Years	\$1,142.0	\$1,170.6	\$1,164.0
Projected Contribution	\$293.7	\$304.9	\$304.5

Above dollar amounts in millions



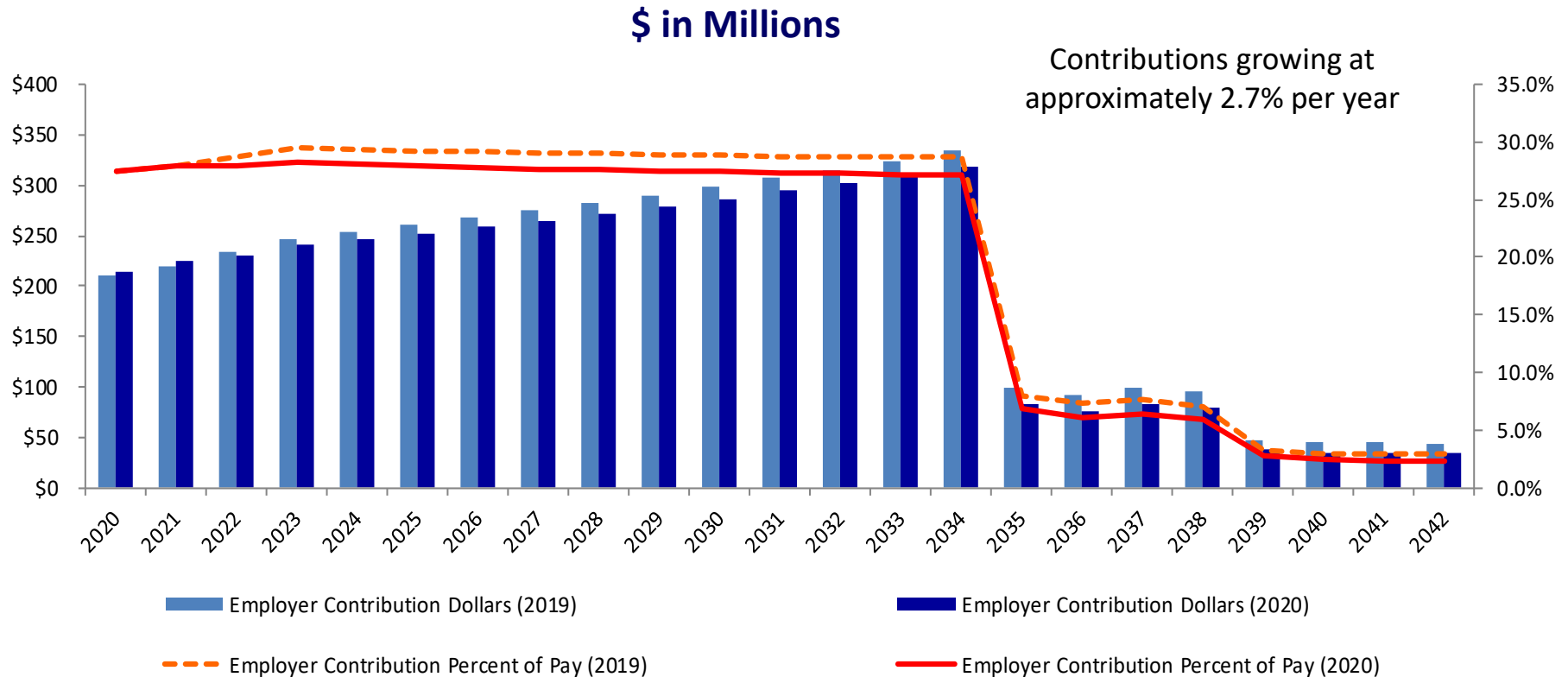
Actuarial Valuations as of June 30, 2020

Change in Employer Contribution Rate

	State	Teachers
FY2022 Employer Rate	28.01%	25.72%
Change due to:		
Non-economic liability experience (gain)/loss	-0.12%	-0.04%
Salary (gain)/loss	0.16%	-0.10%
Total payroll growth (gain)/loss	-0.56%	0.10%
Investment experience (gain)/loss	0.35%	0.36%
Actual COLA (1.06%)	-0.13%	-0.21%
Recognition of Assumption Staggers	0.55%	0.52%
Benefit Tier Turnover	-0.12%	-0.15%
2020 Assumption Changes	<u>-0.14%</u>	<u>-0.04%</u>
Total Change	-0.01%	0.44%
FY2023 Employer Rate	28.00%	26.16%

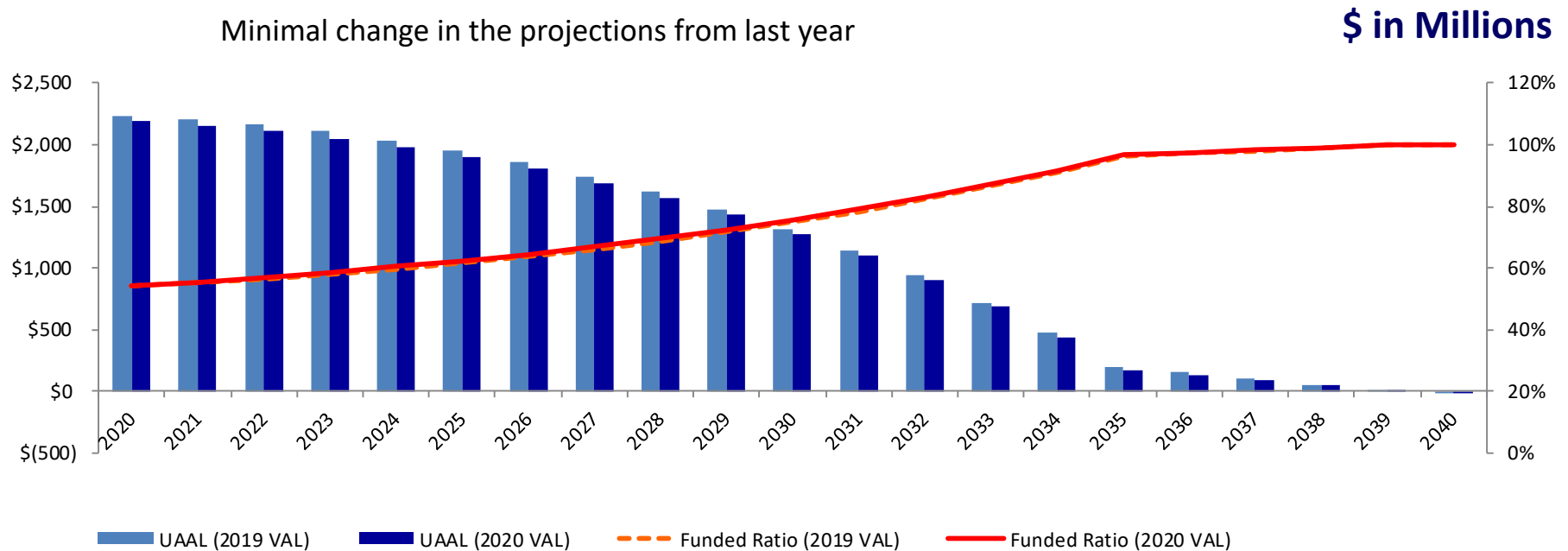
Projected Contribution Requirements

State Employees



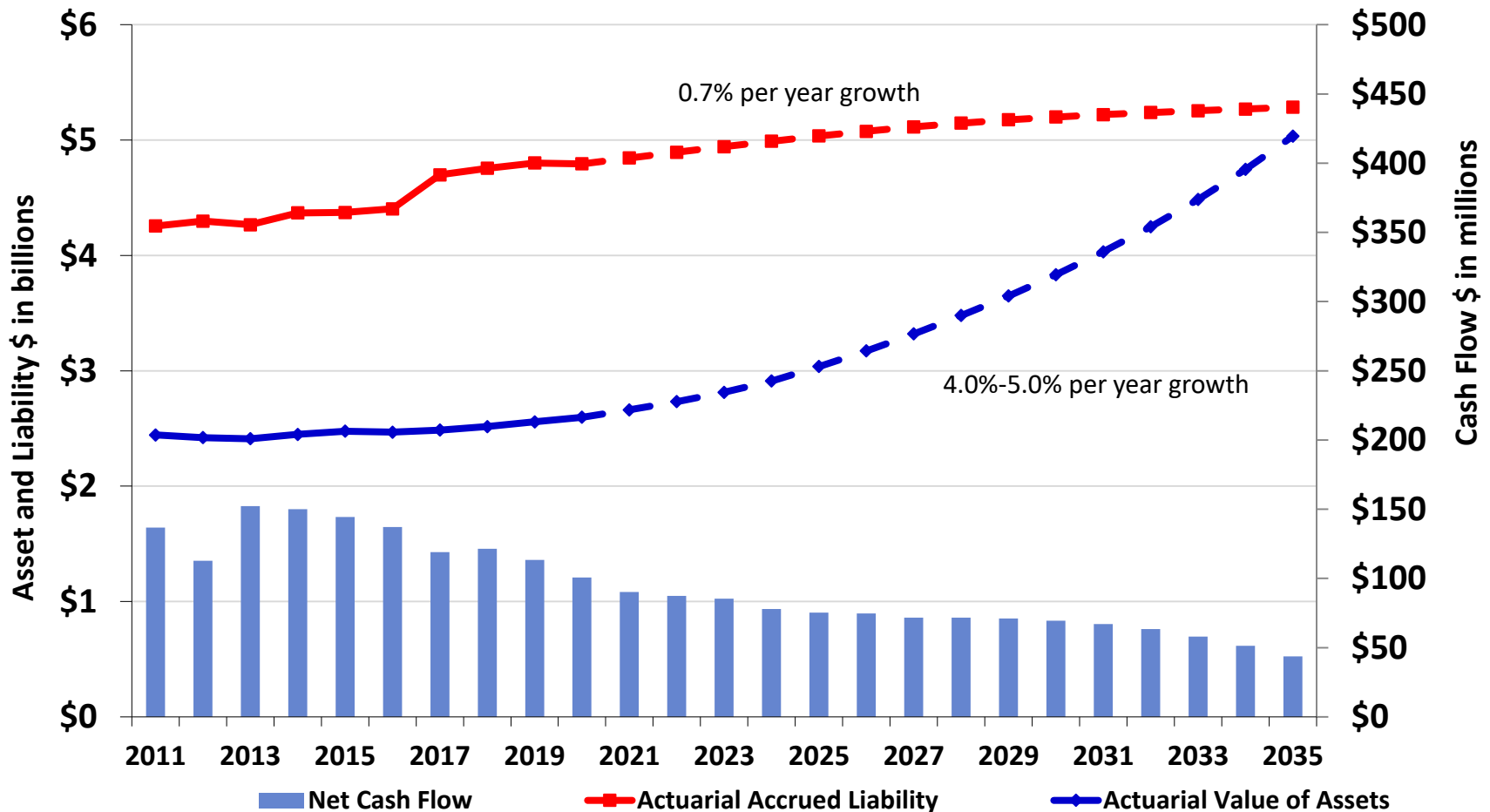
Projected Unfunded Liability

State Employees



Historical and Projected Liability and Assets

State Employees

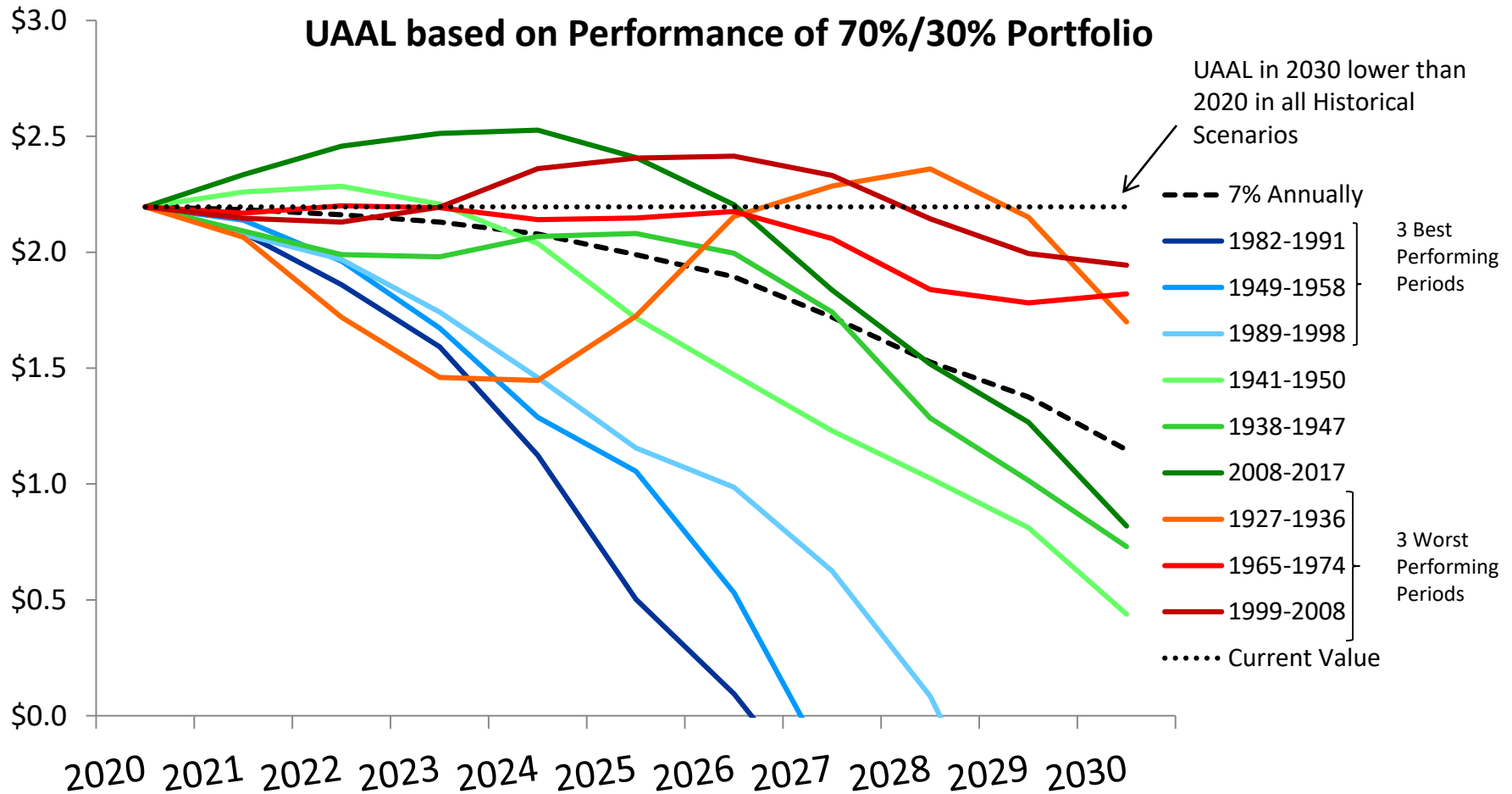


Projected information reflects current funding policy is based on current actuarial assumptions (including a 7.00% return assumption).



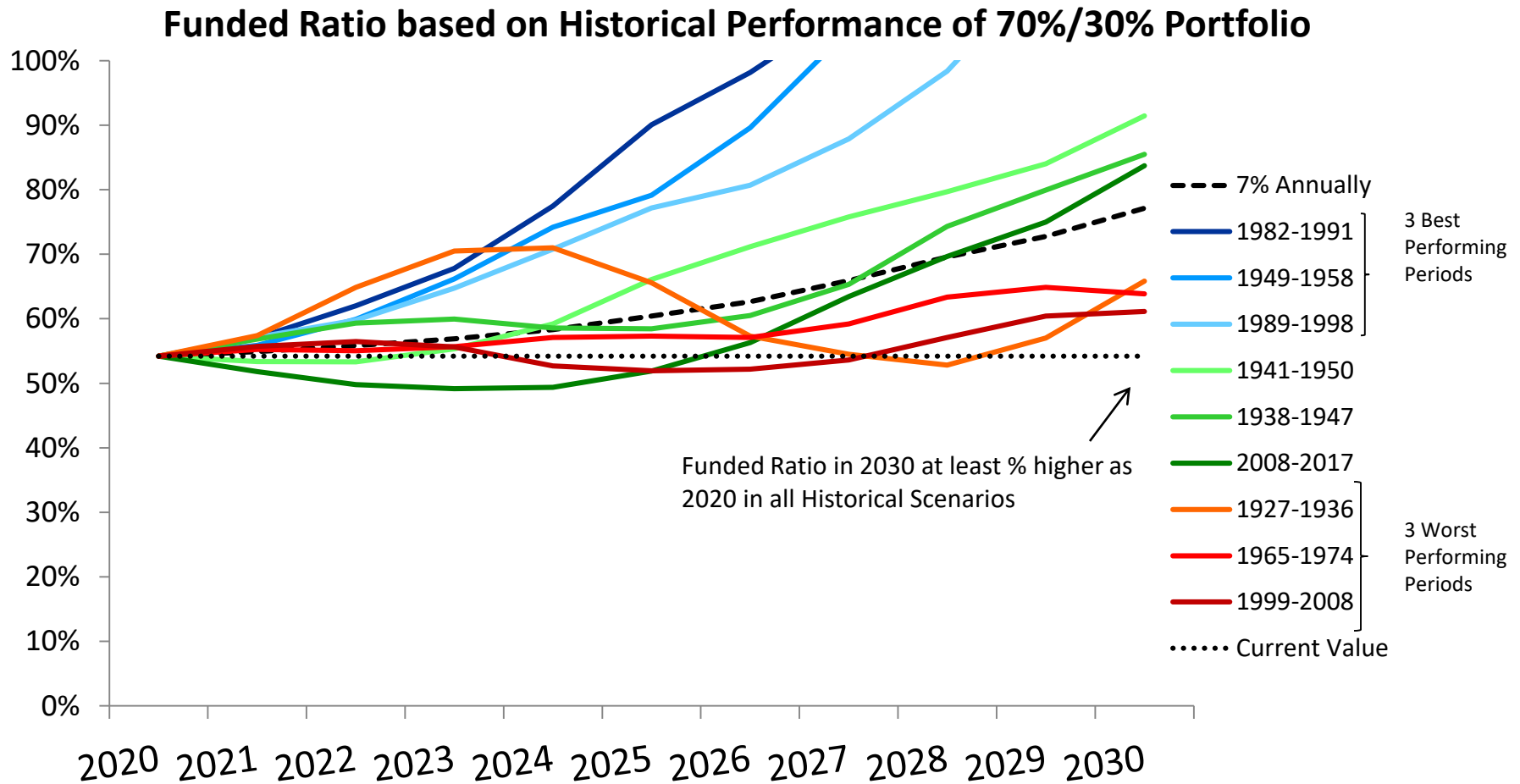
Historical Scenarios

State Employees



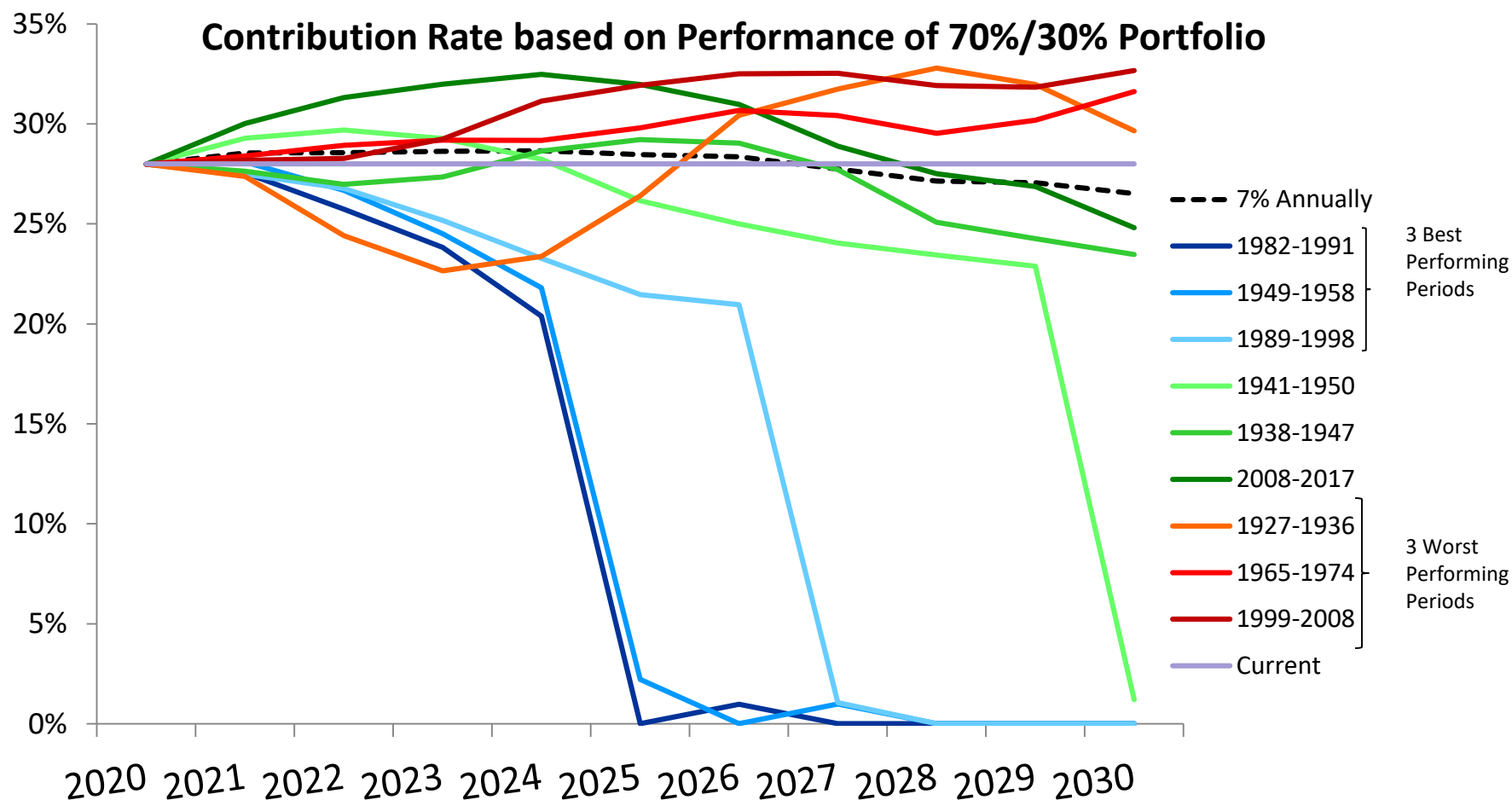
Historical Scenarios

State Employees



Historical Scenarios

State Employees



Portrayed Risk

- The previous slides do not attempt to show no risk for ERSRI or its stakeholders for future experience
- There are still risks that investments could underperform, membership could decline, or assumptions could change, etc
- However, the scenarios do show much of the risks are substantially smaller than most of ERSRI's peers and that improvement in the main funding metrics are very likely to improve over the next decade

Sustainability Checklist: Page 1

	Stars	Comment
Are there automatic adjustments to the program as necessary as experience unfolds?	9	Sum of next two items needs to be at least 6 stars
Contributions automatically adjust	★★★★★	20 Year layered amortization, no employer discretion, no negative amortization
Are any of the liabilities contingent on future experience?	★★★★	1% COLA contingent on investment performance 2% COLA contingent on funded ratio.
Are there any benefits that are likely to be paid, but not reflected in the liabilities and contributions? Examples include ad hoc colas that occur regularly but are not advanced recognized, subsidized service purchases, or pay spiking patterns.	★★★★★	None
Has the sponsor demonstrated a 10-year history of meeting an actuarially appropriate, required contribution?	★★★★★	Yes, 100%
What is your ratio of non-contingent accrued liability to payroll?	★★★	6.4
What is your longer term ratio of non-contingent accrued liability to payroll?	★★★★★	3.5

Sustainability Checklist: Page 2

	Stars	Comment
Based on current practices and assumptions, is your UAAL expected to be lower 10 years from now?	★★★★★	Yes - About 40% smaller
What is the amortization period for the current UAAL based on the required contribution?	★★★★★	16 Years, Positive Amortization
Is your funded ratio higher than it was 10 years ago?	★★	No, but mostly assumption related
Does the contribution as a percentage of payroll change each year?	★★★	Yes, will increase or decrease based on formula and results from that year. However, most of the contribution is from one very large base that does not change.
Does the Board regularly review actuarial assumptions?	★★★★★	All assumptions reviewed every 3 years
What is the likelihood of meeting or exceeding the assumed return assumption over the next 20 years based on actuarial analysis?	★★★	2020 Experience Study showed expected return of 6.98%. 7% is effectively the median assumption used by peer systems.
Assumed rate of payroll growth for amortization purposes?	★★★ for STE ★★★★★ for TCH	3% for State, 2.5% for Teachers Equal to the wage inflation assumption with a stable active population, not supported by historical 10-year average of past payroll growth
What is the annual percent change in active population last 10 years?	★★★	Pretty much flat

Summary – ERSRI

- 2023 Employer contributions close to previous projections anticipated from experience study
- The contribution rates are expected to increase in the short term as deferred losses are recognized in the AVA and as the experience study changes are recognized over the staggered schedule (1 more year)
- Based on current assumptions, asset levels, contribution and amortization policies, benefit adjustments are projected to be suspended until the 2031 valuation (80.9%)
 - With intermittent ones based on 2020, 2024, 2028 valuations

MERS PLAN

Actuarial Valuations as of June 30, 2020

Benefit Changes – MERS

- Three new units
 - Central Falls Police and Fire Legacy
 - Central Falls Police and Fire New Hires
 - Portsmouth Fire Department
- No closed units and no merged units
- No new COLA elections
- Full results can be found in the report

Actuarial Valuations as of June 30, 2020

Actuarial Results – MERS

- For MERS, the unfunded actuarial accrued liability (UAAL) for all units combined is \$414 million, compared to \$397 million last year
 - \$27 million from new units
- The aggregate funded ratio (actuarial assets divided by actuarial accrued liability) for all units combined remained unchanged at 80.5%
- Results for individual units are shown in Table 7 of the actuarial valuation report
 - 30 units have funded ratios over 100%, 27 last year
 - 76 units have funded ratios over 80%, 69 last year



Actuarial Valuations as of June 30, 2020

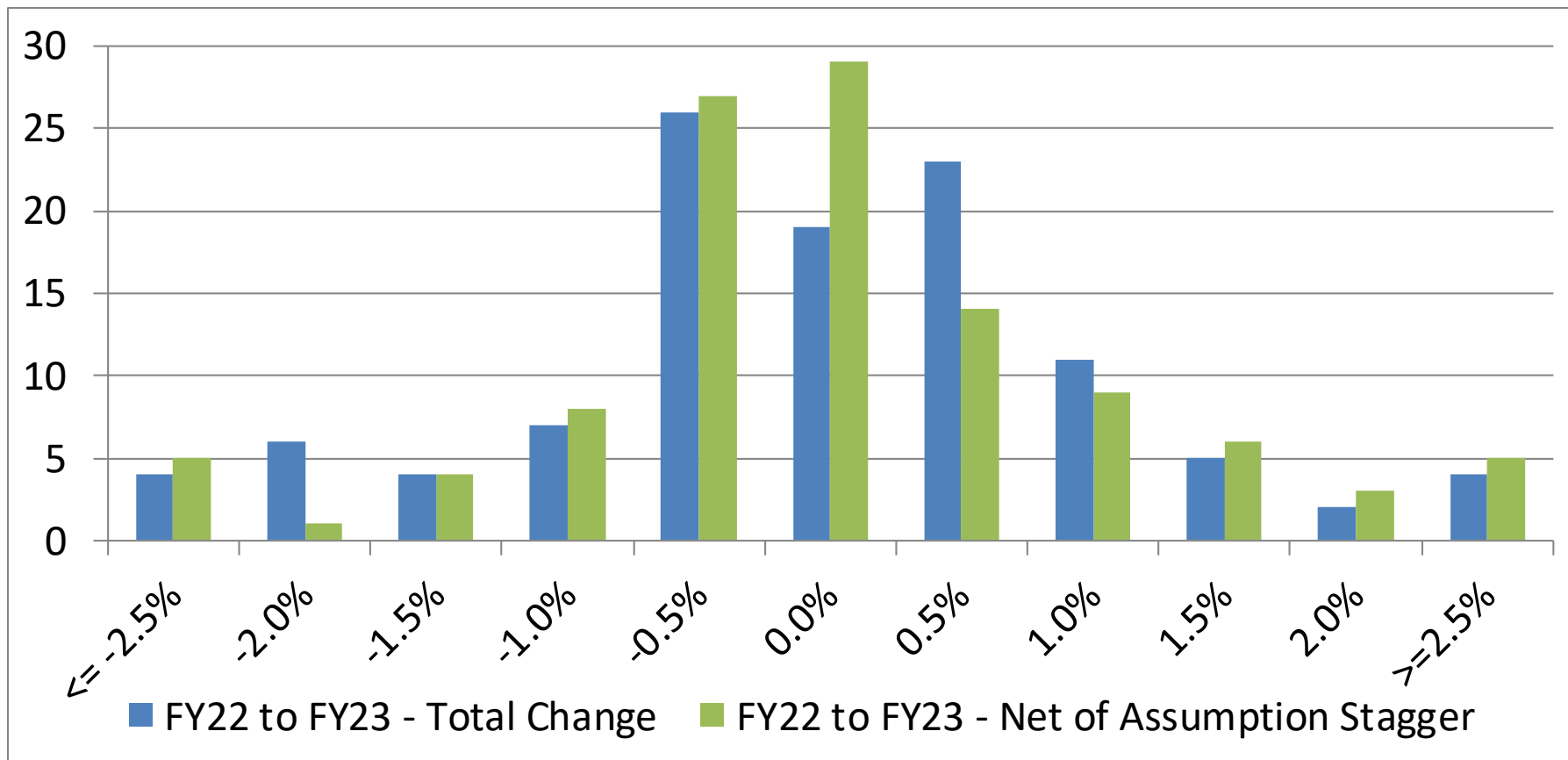
Summary of MERS Results in Aggregate

	MERS General	MERS P&F	Total
FY2022 Employer Rate	12.57%	19.52%	14.62%
Change due to:			
Suspension of 2020 COLA for those <80%	-0.16%	-0.21%	-0.17%
Asset Performance	0.34%	0.39%	0.35%
Actual 2021 COLA (1.06%)	-0.15%	-0.16%	-0.15%
Individual salary increases	-0.03%	-0.09%	-0.05%
Overall payroll growth	0.11%	0.04%	0.09%
Noneconomic liability growth	0.10%	0.15%	0.16%
Benefit Tier Turnover	-0.21%	-0.08%	-0.17%
Recognition of Assumption Changes	<u>0.11%</u>	<u>0.00%</u>	<u>0.08%</u>
Total Change	0.11%	0.04%	0.14%
FY2023 Employer Rate	12.68%	19.56%	14.76%



Actuarial Valuations as of June 30, 2020

Distribution of Changes By Unit

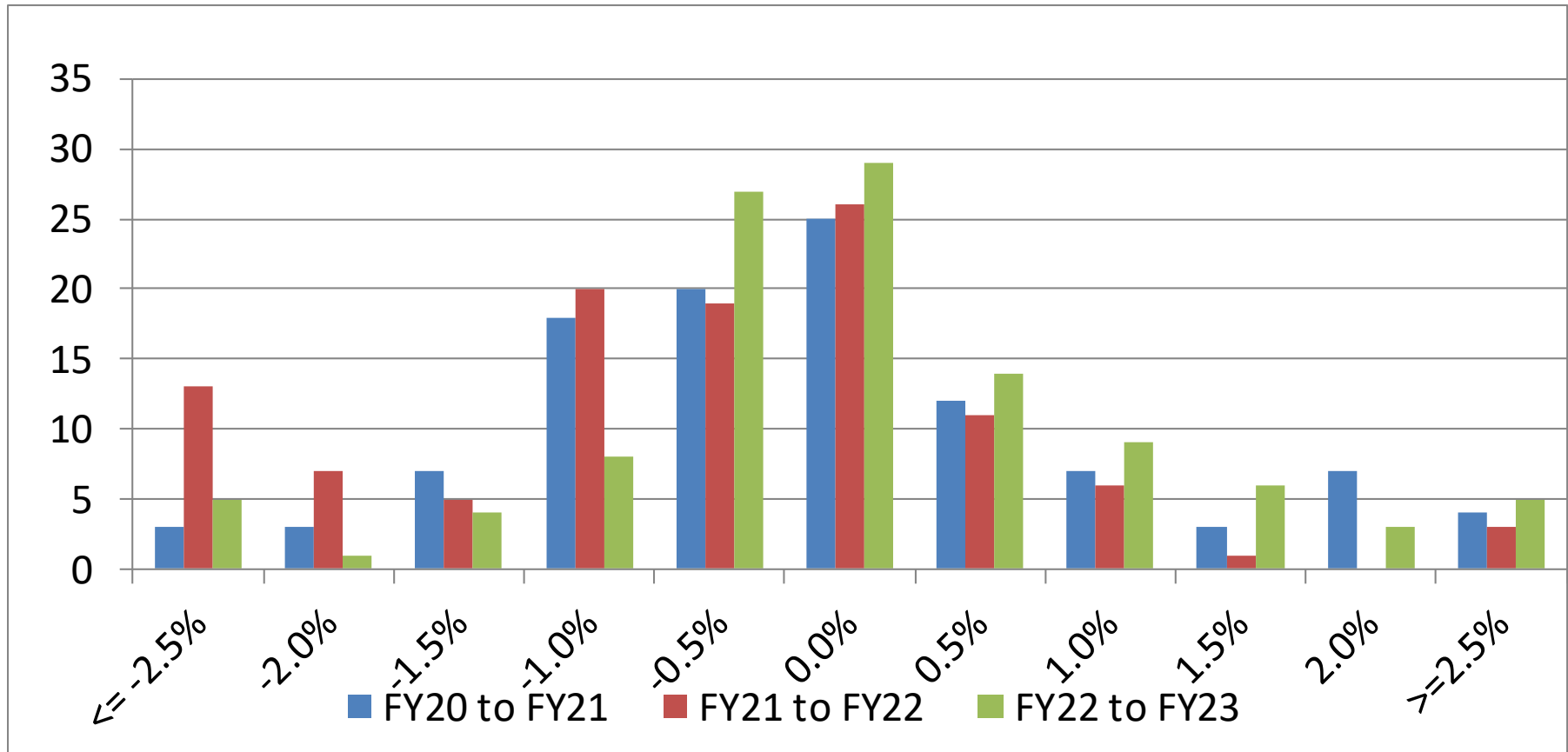


Rounded to nearest 0.5% change in rate



Actuarial Valuations as of June 30, 2020

Distribution of Changes By Unit – Net of Assumption Change Stagger



Rounded to nearest 0.5% change in rate



Pathway to MERS

Update – Central Falls Police and Fire

- Effective August 31, 2019, the Central Falls plan closed to new members
- On December 31, 2019, the ERSRI is responsible for administering the Central Falls plan
- Central Falls transferred to the ERSRI the accumulated contributions of each member entering the system and any other assets of the Central Falls plan
- A new MERS Unit consisting of prospective new hires has been created
- The FY2023 contribution rate in the MERS report for the Legacy group assumes an amortization period of 20 years for the UAAL as of June 30, 2020

Pathway to MERS

Update – Central Falls Police and Fire

- Results for the Central Falls Police and Fire Units

Unit	June 30, 2020 Accrued Liability	June 30, 2020 Actuarial Value of Assets	June 30, 2020 Unfunded Accrued Liability	June 30, 2020 Funded Ratio
Central Falls Police & Fire New	\$ 39,070	\$ 40,001	\$ 931	97.67%
Central Falls Police & Fire Legacy	<u>\$ 13,743,482</u>	<u>\$ 41,253,428</u>	<u>\$ 27,509,946</u>	<u>33.31%</u>
Combined	\$ 13,782,552	\$ 41,293,429	\$ 27,510,877	33.38%

Unit	FY 2023 Rate	FY 2023 Projected Pay	FY2023 Projected Contribution
Central Falls Police & Fire New	8.96%	\$ 950,367	\$ 85,153
Central Falls Police & Fire Legacy	<u>61.52%</u>	<u>\$ 4,273,198</u>	<u>\$ 2,628,871</u>
Combined	51.96%	\$ 5,223,565	\$ 2,714,024



OTHER PLANS

Actuarial Valuations as of June 30, 2020

Actuarial Results – Judges (JRBT)

	June 30, 2019 - Old Assumptions (1)	June 30, 2020 - New Assumptions (3)
1. Actuarial accrued liability		
a. Actives & Inactives	\$ 46,995,661	\$ 53,696,719
b. Annuitants	34,265,278	34,837,821
2. Total actuarial accrued liability (1a +1b)	\$ 81,260,939	\$ 88,534,540
3. Actuarial value of assets	78,027,132	82,419,083
4. UAAL (2 - 3)	\$ 3,233,807	\$ 6,115,457
5. Funded ratio (3 / 2)	96.0%	93.1%
6. UAAL/Payroll	32.6%	59.8%

Weighted Average Contribution Rate for Applicable Fiscal Year

7. Full retirement rate		
a. Applicable Fiscal Year	2022	2023
b. Normal cost	20.43%	20.61%
c. Prior service	1.39%	3.55%
d. Full retirement rate	21.82%	24.16%



Actuarial Valuations as of June 30, 2020

Actuarial Results – State Police (SPRBT)

	June 30, 2019 - Old Assumptions (1)	June 30, 2020 - New Assumptions (2)
1. Actuarial accrued liability		
a. Actives & Inactives	\$ 92,298,565	\$ 98,735,725
b. Annuitants	82,212,745	88,775,166
2. Total actuarial accrued liability (1a +1b)	\$ 174,511,310	\$ 187,510,891
3. Actuarial value of assets	148,085,853	158,212,175
4. UAAL (2 - 3)	\$ 26,425,457	\$ 29,298,716
5. Funded ratio (3 / 2)	84.9%	84.4%
6. UAAL/Payroll	109.1%	110.9%

Weighted Average Contribution Rate for Applicable Fiscal Year

7. Full retirement rate		
a. Applicable Fiscal Year	2022	2023
b. Normal cost	13.16%	13.29%
c. Prior service	6.08%	7.72%
d. Full retirement rate	19.24%	21.01%



Actuarial Valuations as of June 30, 2020

Actuarial Results – Teachers’ Survivors Benefit Plan (TSBP)

	June 30, 2019 (1)	June 30, 2020 (2)
1. Actuarial accrued liability		
a. Actives & Inactives	\$ 45,592,321	\$ 42,461,831
b. Annuitants	181,086,356	180,508,590
2. Total actuarial accrued liability (1a +1b)	\$ 226,678,677	\$ 222,970,421
3. Market value of assets	339,417,231	342,259,317
4. UAAL (2 - 3)	\$ (112,738,554)	\$ (119,288,896)
5. Funded ratio (3 / 2)	149.7%	153.5%
6. UAAL/Payroll	-19.6%	-20.3%

Weighted Average Contribution Rate for Applicable Fiscal Year

7. Full retirement rate		
a. Applicable Fiscal Year	2022	2023
b. Normal cost	\$ 1,673,864	\$ 1,506,774
c. Amortization of UAAL	(8,806,116)	(7,810,996)
d. Total (7a plus 7b, not less than zero)	\$ -	\$ -



Actuarial Valuations as of June 30, 2020

Actuarial Results – SPRFT (Formerly Paygo State Police)

- Article 12
 - Trust was established with ERSRI
 - Used to advance fund the benefits
 - Initial deposit of \$15 million
- Annual contributions of \$16,387,092 until UAL is fully funded
- Expected to be fully funded in 2036 (unchanged)

	<u>June 30, 2019</u>	<u>June 30, 2020</u>
1. Accrued Liability	\$ 177,825,621	\$ 173,150,156
2. Market Value of Assets	<u>16,598,339</u>	<u>17,255,399</u>
3. Unfunded Accrued Liability	\$ 161,227,282	\$ 155,894,757
4. Funded Ratio (2 / 1)	9.3%	10.0%



Actuarial Valuations as of June 30, 2020 *Valuation*

Results - RIJRT (Contributing, Paygo Judges)

- Pay-as-you-go plan
 - No advanced funding
- Uses a discount rate of 2.45% (3.13% last year)
 - Municipal Bond Rate used because there is no advanced funding

	<u>June 30, 2019</u>	<u>June 30, 2019</u>
1. Accrued Liability	\$ 19,847,721	\$ 21,806,903
2. Market Value of Assets	<u>966,393</u>	<u>1,113,364</u>
3. Unfunded Accrued Liability	\$ 18,881,328	\$ 20,693,539
4. Funded Ratio (2 / 1)	4.9%	5.1%



Wrap up and Next Year?

- Expecting to see some upward drift in the contribution rate due to stagger policy
- Current assumptions are much stronger and should provide for a rather predictable contribution pattern, even if there is some adverse experience

Employees' Retirement System of Rhode Island

Actuarial Valuation Report
As of June 30, 2020

DRAFT



December 8, 2020

Retirement Board
50 Service Avenue, 2nd Floor
Warwick, RI 02886-1021

Dear Members of the Board:

Subject: Actuarial Valuation as of June 30, 2020

This is the June 30, 2020 actuarial valuation of the Employees' Retirement System of Rhode Island (ERSRI), which is a defined benefit plan that covers State Employees and Teachers. This report describes the current actuarial condition of ERSRI, determines recommended employer contribution rates, and analyzes changes in these contribution rates. Valuations are prepared annually, as of June 30th, the last day of the ERSRI plan year. Not covered in this report are the Municipal Employees' Retirement System, the State Police Retirement Benefits Trust, State Police Retirement Fund Trust, the Judicial Retirement Benefits Trust, and the Teachers' Survivor Benefits Plan, even though assets for ERSRI and these other programs are commingled for investment purposes. Additionally, this report does not consider the contribution requirements associated with any defined contribution benefits provided to State Employees and Teachers outside of the defined benefit plan.

Under Rhode Island General Laws, the employer contribution rates for State Employees and for Teachers are certified annually by the State of Rhode Island Retirement Board. These rates are determined actuarially, based on the plan provisions in effect as of the valuation date, the actuarial assumptions adopted by the Board, and the methodology set forth in the statutes. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective two years after the valuation date. For example, the rates determined by this June 30, 2020 actuarial valuation will be applicable for the year beginning July 1, 2022 and ending June 30, 2023.

FINANCING OBJECTIVES

The actuarial cost method and the amortization periods are set by statute. Normal cost rate (as a percent of pay) and actuarial accrued liabilities are computed using the Entry Age Normal actuarial cost method. The employer contribution rate is the sum of two pieces: the employer normal cost rate and the amortization rate. The employer normal cost rate is the difference between the normal cost rate and the member contribution rate. The amortization rate, also determined as a level percent of pay, is the amount required to amortize the unfunded actuarial accrued liability over a closed period. The amortization rate is adjusted for the two-year deferral in contribution rates. Separate employer contribution rates are determined for State Employees and for Teachers.

PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. The funded status alone is not appropriate for assessing the need for future contributions. The funded status is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded ratio for State Employees is 54.2% while the funded ratio for Teachers is 56.2%. The funded ratio slightly increased from the prior valuation for both State Employees and Teachers. The change in funded ratios from the prior valuation is primarily due to the contributions determined by the funding policy and the change in assumptions that was partially offset by a loss on the actuarial value of assets. That is, the return on the actuarial value of assets was 5.7% which is less than the assumed rate of 7.0%.

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.00% on the actuarial valuation of assets), it is expected that:

1. The employer normal cost as a percentage of pay will decrease to the level of the newest tier as members with service under the old tiers declines and is replaced by new tier members (approximately, 7.0% for the State and 6.0% for Teachers),
2. The amortization payment as a percentage of pay will increase through fiscal year 2024 as annual payments begin for each of the staggered bases established in connection with the 2017 and 2020 experience studies after which they will remain level through fiscal year 2036,
3. The unfunded actuarial accrued liability will be fully amortized after 20 years for State and 20 years for Teachers from fiscal year 2023 with single equivalent periods for all current amortization layers of 15.9 and 17.7 years for state and teachers respectively, and
4. In the absence of benefit improvements, the funded ratio should increase over time, until it reaches 100%.

The employer contribution rate for State Employees is 28.00% while the employer contribution rate for Teachers is 26.16%. These employer contribution rates determined by this June 30, 2020 actuarial valuation will be applicable for the year beginning July 1, 2022 and ending June 30, 2023.

An analysis of the changes in the employer contribution rates appears in Table 11A of this report. An analysis of the changes in the unfunded actuarial accrued liability appears in Table 11C.

BENEFIT PROVISIONS

The benefit provisions reflected in this valuation are those which were in effect on June 30, 2020, and there have been no changes to the benefit provisions since the preceding valuation. All benefit provisions are summarized in Appendix B.



ASSUMPTIONS AND METHODS

The assumptions have been updated from the last actuarial valuation based on the Actuarial Experience Investigation Study approved by the Board on May 22, 2020. Below is a summary of the changes made to the assumptions:

1. Separate Correctional Officers from State Employees for all assumptions.
2. Update the underlying mortality tables from the RP-2014 set of tables to the public sector based PUB-10 tables. As adjustments are made based on the actual experience of ERSRI, this had no material impact to the liabilities or contributions.
3. Slightly increase turnover rates.
4. Slightly decrease retirement rates.
5. Slight modifications to the rates of disability, including adding material incidence of disability for members in the age ranges that historically have been eligible to retire but under prospective provisions are not.

We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI.

The results of the actuarial valuation are dependent upon the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities and the calculated contribution rates.

All assumptions and methods are described in Appendix A. The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in Governmental Accounting Standards Board (GASB) Statement Number 67.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

DATA

The ERSRI staff supplied data for retired, active and inactive members as of June 30, 2020. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. The ERSRI staff also supplied asset data as of June 30, 2020.

CERTIFICATION

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Rhode Island state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries. All are Members of the American Academy of Actuaries. They all meet the Qualification Standards of the American Academy of Actuaries and they are experienced in performing valuations for large public retirement systems.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Joseph P. Newton, FSA, EA, MAAA
Senior Consultant



Brad Stewart, ASA, MAAA, EA
Consultant



Paul T. Wood, ASA, MAAA, FCA
Senior Consultant

J:\3014\MasterLinkedFile\STE\ERS_ValReport.docx

Actuarial Standards of Practice Disclosure Statements

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.

This report should not be relied on for any purpose other than the purpose described above. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

The valuation was based upon information furnished by the System's staff, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the System's staff.

The developed findings included in this report consider data or other information through June 30, 2020.

This is one of multiple documents comprising the actuarial report. The other document comprising the actuarial report is a PowerPoint presentation presented to the Board of Trustees following the publication of this report.

Table of Contents

		Page
	COVER LETTER	
SECTION A	EXECUTIVE SUMMARY	
	STATE EMPLOYEES	1
	TEACHERS	2
SECTION B	DISCUSSION	
	CONTRIBUTION RATES	3
	IMPACT OF DECREASE IN CONTRIBUTION RATES	4
	FINANCIAL DATA AND EXPERIENCE	5
	BENEFIT PROVISIONS	6
	ACTUARIAL METHODS AND ASSUMPTIONS	7
SECTION C	TABLES	8-32
APPENDIX 1	SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS	33-42
APPENDIX 2	SUMMARY OF PROVISIONS	43-52
APPENDIX 3	RISK ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION	53-55
GLOSSARY	DEFINITIONS OF ACTUARIAL TERMS	56-59

SECTION A

EXECUTIVE SUMMARY

Executive Summary (State Employees)

Item	Valuation Date:	
		Valuation Report
	June 30, 2020	June 30, 2019
Membership		
Number of:		
- Active members	11,198	11,318
- Retirees and beneficiaries	11,215	11,224
- Inactive members	<u>3,875</u>	<u>3,784</u>
- Total	26,288	26,326
Previous year payroll supplied by ERSRI	\$ 755,310,749	\$ 718,732,131
Contribution rates (Defined Benefit Only)		
Member	4.23%	4.24%
Employer	28.00%	28.01%
Assets		
Market value	\$ 2,520,792,045	\$ 2,531,945,464
Actuarial value	2,597,672,247	2,557,560,104
Return on market value	3.7%	6.3%
Return on actuarial value	5.7%	6.3%
Employer contribution for FYE	\$ 199,894,288	\$ 189,415,698
Ratio of actuarial value to market value	103.0%	101.0%
Actuarial Information		
Employer normal cost %	3.94%	4.20%
Unamortized actuarial accrued liability (UAAL)	\$ 2,195,994,771	\$ 2,243,532,941
Amortization rate	24.06%	23.81%
Single Equivalent Funding period	15.9 years	16.8 years
Funded ratio	54.2%	53.3%
Projected employer contribution		
Fiscal year ending June 30,	2023	2022
Projected payroll (millions)	\$ 825.3	\$ 785.4
Projected employer contribution (millions)	231.1	220.0

Executive Summary (Teachers)

Item	Valuation Date:	
	June 30, 2020	Valuation Report
		June 30, 2019
Membership		
Number of:		
- Active members	13,474	13,511
- Retirees and beneficiaries	11,274	11,196
- Inactive members	4,001	3,888
- Total	28,749	28,595
Previous year payroll supplied by ERSRI	\$ 1,080,912,926	\$ 1,060,472,523
Contribution rates (Defined Benefit Only)		
Member	3.75%	3.75%
Employer	26.16%	25.72%
State share	11.12%	10.94%
Local employer share	15.04%	14.78%
Assets		
Market value	\$ 3,798,755,901	\$ 3,829,895,134
Actuarial value	3,911,140,020	3,866,452,572
Return on market value	3.7%	6.3%
Return on actuarial value	5.7%	6.3%
Employer contribution (state & local)	\$ 266,034,899	\$ 249,634,988
Ratio of actuarial value to market value	103.0%	101.0%
Actuarial Information		
Employer normal cost %	3.80%	4.00%
Unamortized actuarial accrued liability (UAAL)	\$ 3,046,446,298	\$ 3,127,833,864
Amortization percentage	22.36%	21.72%
Single Equivalent Funding period	17.7 years	18.6 years
Funded ratio	56.2%	55.3%
Projected employer contribution		
Fiscal year ending June 30,	2023	2022
Projected payroll (millions)	\$ 1,164.0	\$ 1,142.0
Projected employer contribution (millions)	304.5	293.7
State share (millions)	129.4	124.9
Local employer share (millions)	175.1	168.8

SECTION B

DISCUSSION

Discussion (Contribution Rates)

The employer contribution rates for ERSRI are determined actuarially. Separate rates are determined for State Employees and for Teachers. The rates determined in this valuation become effective two years after the valuation date, i.e., as of July 1, 2022.

The rate consists of two pieces: the normal cost rate and the amortization rate. The normal cost rate is the employer's Entry Age normal cost, expressed as a percentage of active member payroll. The amortization rate is the contribution required to amortize each of the laddered bases that comprise the unfunded actuarial accrued liability over closed period as a level percentage of payroll. Payment for each base is generally calculated based on a 20 year amortization period beginning 2 years after they are established. The impact of the 2017 experience study was divided into separate "stagers" with the first payment beginning in FY2020 over a 20 year period. Other stagers will begin payment in FY2021 through FY2024 with amortization periods decreasing by one year for each year past FY2020 in which payment begins (e.g. the FY2024 stagger will have a 16 year amortization period). The impact of the most recent experience study is divided into two stagers to align with the final two stagers from the 2017 experience study. Please see pages 11 and 12 for details on each outstanding base.

For the Teachers, the State of Rhode Island pays 40% of the rate, adjusted so that the State pays the entire amortization charge for the 1990/91 and 1991/92 deferrals, and the town or city employing the Teacher pays the balance.

	Local	State	Total
Amortization for FY 91 and 92 deferrals	0.00%	0.30%	0.30%
Normal cost and all other amortizations	<u>15.04%</u>	<u>10.82%</u>	<u>25.86%</u>
Total	15.04%	11.12%	26.16%

Discussion (Impact of Decrease in Contribution Rate)

Under Rhode Island General Laws (RIGL) §36-10-2(e), if the State's actuarially determined contribution rate for State Employees or for Teachers for a fiscal year will be less than in the preceding fiscal year, the Governor is required to include an appropriation to ERSRI in the fiscal year budget equal to 20% of the reduction. Because the FYE 2023 contribution rate for State share for Teachers are higher than the rates for FYE 2022, no additional appropriation will be required. Because the FYE 2023 contribution rate for State Employees decreased from 28.01% of pay to 28.00% of pay, an additional appropriation will be required. The table below estimate the appropriation.

Employees' Retirement System of Rhode Island

Calculation of Budget Appropriation Under RIGL Section 36-10-2(g)

Item	State Employees
A. Prior valuation date	June 30, 2019
B. Total employer contribution rate (prior valuation)	28.01%
C. Current valuation date	June 30, 2020
D. Total employer contribution rate (current valuation)	28.00%
E. Contribution for fiscal year ending	June 30, 2023
F. Pay projected for this fiscal year	\$825,348,448
G. Decrease in State's contribution rate	0.01%
H. Decrease in State's contribution	\$82,535
I. 20% of decrease to be appropriated	\$16,507

Discussion (Financial Data and Experience)

Assets for ERSRI are held in trust and are commingled with those of several other plans and programs for investment purposes. The State Investment Commission is responsible for setting the asset allocation policy and for investing the funds. The ERSRI assets are then allocated by the ERSRI staff among State Employees, Teachers, and the Teachers' Survivor Benefits Plan.

Table 6 of this report shows the net plan assets for ERSRI in total, and it shows the breakdown between State Employees, Teachers and the Teachers' Survivor Benefits Plan. Table 7 of this report shows a reconciliation of the assets for State Employees and Teachers between the previous valuation and this valuation. Table 9 shows the target distribution of investments by category—60% of assets are held in equities, including real estate and private equity—and Table 10 shows a historical summary of the return rates. As can be seen, the net market value rate of return was 3.7% for the year ended June 30, 2020, and the return on an actuarial asset value basis was 5.7%.

The average annual return based on the market value of assets over the last ten years (July 1, 2010 – June 30, 2020) was 7.7%. This is more than the current 7.0% annual investment return assumption.

All returns above are net of both investment and administrative expenses and may differ from other information provided by the General Treasurer's office or the investment managers and advisors due to timing of reflected cash flows, frequency of compounding, and treatment of administrative expenses.

The ERSRI staff provided all of the financial information used in this report.

Discussion (Benefit Provisions)

Appendix B includes a summary of the benefit provisions for ERSRI. There were no material changes in the benefit provisions since the preceding valuation.

The COLA to be provided to retired members is contingent on the investment performance, the annual change in the CPI-U, and funded status of the System. The amount of the COLA is determined based on 50% of the plan's five-year average investment rate of return minus 5.0% and will range from zero to 4.0%, and 50% of the lesser of 3% or last year's CPI-U increase for a total maximum increase of 3.50%. This calculation produces a 1.06% COLA for Calendar Year 2021. The COLA will be limited and this limit will be indexed annually to increase in the same manner as COLAs, with the known values of \$26,290 for 2018, \$26,687 for 2019, \$27,184 for 2020, \$27,608 for 2021, and \$27,901 for 2022.

Furthermore, the COLA will be suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The first interim COLA was during the Calendar Year beginning January 1, 2017. Also, for current retirees and beneficiaries retired on or before July 1, 2015 the \$25,000 cap will be increased to \$30,000 (indexed) for any COLA payable based on the every fourth year provision.

Discussion (Actuarial Methods and Assumptions)

Appendix A of this report includes a summary of the actuarial assumptions and methods used in this valuation.

Costs are determined using the Entry Age Normal actuarial cost method. This method was initially adopted effective June 30, 1999 and was modified, effective June 30, 2011, to be consistent with the Act and the standards outlined in the GASB Statement No. 67 exposure draft, which has now been finalized.

The method used to determine the actuarial value of assets is the five-year smoothed market method. This technique is further described in Section III of Appendix A. The development of the actuarial value of assets utilizing this method is shown in Tables 8A and 8B of this report.

The assumptions were adopted by the Board on May 22, 2020. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI.

SECTION C

TABLES

Tables

Table Number	Content of Table	Page
1A	Development of Contribution Rate (State Employees)	9
1B	Development of Contribution Rate (Teachers)	10
2A	Summary of Unfunded Liability (State Employees)	11
2B	Summary of Unfunded Liability (Teachers)	12
3A	Actuarial Present Value of Future Benefits (State Employees)	13
3B	Actuarial Present Value of Future Benefits (Teachers)	14
3C	Ten-Year Projections (State Employees)	15
3D	Ten-Year Projections (Teachers)	16
4	Schedule of Funding Progress	17
5	Notes to Required Supplementary Information	18
6	Plan Net Assets	19
7	Reconciliation of Plan Net Assets	20
8A	Development of Actuarial Value of Assets (State Employees)	21
8B	Development of Actuarial Value of Assets (Teachers)	22
9	Distribution of Assets at Market Value	23
10	History of Investment Return Rates	24
11A	Analysis of Change in Employer Cost	25
11B	History of Employer Contribution Rates	26
11C	Analysis of Change in the UAAL	27
12A	Membership Data (State Employees)	28
12B	Membership Data (Teachers)	29
13	Historical Summary of Active Member Data	30
14A	Distribution of Active Members by Age and By Years of Service (State Employees)	31
14B	Distribution of Active Members by Age and By Years of Service (Teachers)	32

Table 1A

Development of Contribution Rate (State Employees)

	June 30, 2020	June 30, 2019	
		New Assumptions	Valuation Result
	(1)	(2)	(3)
1. Aggregate payroll			
(a) Supplied by ERSRI for previous fiscal year	\$ 755,310,749	\$ 718,732,131	\$ 718,732,131
(b) Adjusted for one-year's payroll growth	777,970,071	740,294,095	740,294,095
2. Actuarial accrued liability	4,793,667,018	4,750,271,989	4,801,093,045
3. Actuarial value of assets	2,597,672,247	2,557,560,104	2,557,560,104
4. Unfunded actuarial accrued liability (UAAL) (2 - 3)	2,195,994,771	2,192,711,885	2,243,532,941
5. Single Equivalent Funding Period	15.9	16.7	16.8
6. Contribution effective for fiscal year ending:	June 30, 2023	June 30, 2022	June 30, 2022
7. Payroll projected for two-year delay	825,348,448	785,378,005	785,378,005
8. Amortization of UAAL	198,543,181	184,406,756	186,968,274
9. Normal cost			
(a) Total normal cost rate	8.17%	8.30%	8.44%
(b) Employee contribution rate	4.23%	4.24%	4.24%
(c) Employer normal cost rate (a - b)	3.94%	4.06%	4.20%
10. Employer contribution rate as percent of payroll			
(a) Employer normal cost rate	3.94%	4.06%	4.20%
(b) Amortization payments (8 / 7)	24.06%	23.48%	23.81%
(c) Total (a + b)	28.00%	27.54%	28.01%
11. Estimated employer contribution amount (7 * 10(c))	\$ 231,097,566	\$ 216,293,103	\$ 219,984,379

Table 1B

Development of Contribution Rate (Teachers)

	June 30, 2020	June 30, 2019	
		New Assumptions	Valuation Result
	(1)	(2)	(3)
1. Aggregate payroll			
(a) Supplied by ERSRI for previous fiscal year	\$ 1,080,912,926	\$ 1,060,472,523	\$ 1,060,472,523
(b) Adjusted for one-year's payroll growth	1,107,935,749	1,086,984,336	1,086,984,336
2. Actuarial accrued liability	6,957,586,318	6,927,441,023	6,994,286,436
3. Actuarial value of assets	3,911,140,020	3,866,452,572	3,866,452,572
4. Unfunded actuarial accrued liability (UAAL) (2 - 3)	3,046,446,298	3,060,988,451	3,127,833,864
5. Single Equivalent Funding Period	17.7	18.6	18.6
6. Contribution effective for fiscal year ending:	June 30, 2023	June 30, 2022	June 30, 2022
7. Payroll projected for two-year delay	1,164,024,996	1,142,012,918	1,142,012,918
8. Amortization of UAAL	260,278,531	245,190,173	248,074,100
9. Normal cost			
(a) Total normal cost rate	7.55%	7.70%	7.75%
(b) Employee contribution rate	3.75%	3.75%	3.75%
(c) Employer normal cost rate (a - b)	3.80%	3.95%	4.00%
10. Employer contribution rate as percent of payroll			
(a) Employer normal cost rate	3.80%	3.95%	4.00%
(b) Amortization payments (8 / 7)	22.36%	21.47%	21.72%
(c) Total (a + b)	26.16%	25.42%	25.72%
11. Estimated employer contribution amount (7 * 10(c))	\$ 304,508,939	\$ 290,299,684	\$ 293,725,723

Table 2A

Summary of Unfunded Liability (State Employees)

Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2021 Amortization Payment *	Fiscal Year 2022 Amortization Payment *	Fiscal Year 2023 Amortization Payment *	Years Remaining Beginning with Fiscal Year 2023
FY 1991 and FY 1992 Deferrals	\$ 27,514,496	\$ 2,444,107	\$ 2,517,430	\$ 2,592,953	13
Original 2011 RIRSA Base	1,739,634,835	154,531,375	159,167,316	163,942,335	13
2014 Experience Base	(47,735,898)	(4,044,256)	(4,165,584)	(4,290,552)	14
2014 Mediation Settlement	114,361,741	9,688,896	9,979,564	10,278,950	14
2015 Experience Base	(34,027,294)	(2,759,967)	(2,842,767)	(2,928,050)	15
2016 Experience Base	46,646,227	3,634,380	3,743,411	3,855,713	16
2016 Assumption Change - FY20 Stagger **	32,795,536	2,461,823	2,535,678	2,611,748	17
2016 Assumption Change - FY21 Stagger **	75,537,925	5,670,314	5,840,423	6,015,635	17
2016 Assumption Change - FY22 Stagger **	75,537,925	-	6,297,419	6,486,342	17
2016 Assumption Change - FY23 Stagger **	75,537,925	-	-	7,014,703	17
2016 Assumption Change - FY24 Stagger **	75,537,925	-	-	-	17
2017 Experience Base	17,501,379	1,313,755	1,353,168	1,393,763	17
2018 Experience Base	26,401,062	1,914,455	1,971,889	2,031,046	18
2019 Experience Base	7,350,492	-	570,327	587,437	19
2020 New Assumptions - FY23 Stagger **	(27,189,268)	-	-	(2,524,886)	17
2020 New Assumptions - FY24 Stagger **	(27,189,269)	-	-	-	17
New Experience Base This Fiscal Year	17,779,032	-	-	1,476,044	20
Unfunded Actuarial Accrued Liability	\$ 2,195,994,771	\$ 174,854,882	\$ 186,968,274	\$ 198,543,181	

*Assuming payment made at the middle of the year.

**Assumption change staggers will begin in the fiscal year indicated.



Table 2B

Summary of Unfunded Liability (Teachers)

Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2021 Amortization Payment *	Fiscal Year 2022 Amortization Payment *	Fiscal Year 2023 Amortization Payment *	Years Remaining Beginning with Fiscal Year 2023
FY 1991 and FY 1992 Deferrals (State)	\$ 35,752,078	\$ 3,273,891	\$ 3,355,738	\$ 3,439,631	13
Original 2011 RIRSA Base (State)	947,988,503	86,809,249	88,979,480	91,203,966	13
Original 2011 RIRSA Base (Local)	1,507,631,338	117,547,336	120,486,019	123,498,169	17
2014 Experience Base (State)	(15,901,067)	(1,391,433)	(1,426,219)	(1,461,874)	14
2014 Experience Base (Local)	(24,585,495)	(1,916,887)	(1,964,809)	(2,013,929)	17
2014 Mediation Settlement (State)	65,117,959	5,698,189	5,840,644	5,986,661	14
2014 Mediation Settlement (Local)	100,682,404	7,850,027	8,046,278	8,247,436	17
2015 Experience Base	(49,611,872)	(4,164,179)	(4,268,283)	(4,374,992)	15
2016 Experience Base	32,949,221	2,661,565	2,728,104	2,796,307	16
2016 Assumption Change - FY20 Stagger **	64,373,150	5,019,060	5,144,537	5,273,150	17
2016 Assumption Change - FY21 Stagger **	98,265,173	7,661,561	7,853,100	8,049,428	17
2016 Assumption Change - FY22 Stagger **	98,265,173	-	8,493,278	8,705,610	17
2016 Assumption Change - FY23 Stagger **	98,265,173	-	-	9,443,024	17
2016 Assumption Change - FY24 Stagger **	98,265,173	-	-	-	17
2017 Experience Base	67,977,388	5,300,076	5,432,578	5,568,392	17
2018 Experience Base	8,044,364	606,981	622,156	637,710	18
2019 Experience Base	(15,463,997)	-	(1,248,501)	(1,279,714)	19
2020 New Assumptions - FY23 Stagger **	(35,762,292)	-	-	(3,436,662)	17
2020 New Assumptions - FY24 Stagger **	(35,762,298)	-	-	-	17
New Experience Base This Fiscal Year	(43,778)	-	-	(3,782)	20
Unfunded Actuarial Accrued Liability	\$ 3,046,446,298	\$ 234,955,436	\$ 248,074,100	\$ 260,278,531	
State Portion of UAAL Payment				\$ 111,719,772	
Local Portion of UAAL Payment				\$ 148,558,759	

*Assuming payment made at the middle of the year.

**Assumption change staggers will begin in the fiscal year indicated.



Table 3A

Actuarial Present Value of Future Benefits (State Employees)

	June 30, 2020 (1)	June 30, 2019 (2)
1. Active members		
a. Service retirement benefits	\$ 1,778,206,442	\$ 1,789,642,707
b. Deferred termination benefits	64,563,907	57,381,557
c. Refunds	4,609,465	5,853,108
d. Pre-retirement death benefits	29,394,868	51,016,454
e. Disability retirement benefits	180,055,260	118,654,688
f. Total	\$ 2,056,829,942	\$ 2,022,548,514
2. Retired members		
a. Service retirements	\$ 2,765,262,350	\$ 2,796,951,422
b. Disability retirements	180,185,992	174,340,020
c. Beneficiaries	197,970,734	204,247,578
d. Post-retirement death benefit	17,336,000	17,129,000
e. Stipends payable	0	0
f. Total	\$ 3,160,755,076	\$ 3,192,668,020
3. Inactive members	\$ 133,107,601	\$ 138,603,113
4. Total actuarial present value of future benefits	\$ 5,350,692,619	\$ 5,353,819,647
5. Determination of actuarial accrued liability		
a. Total actuarial present value of future benefits	\$ 5,350,692,619	\$ 5,353,819,647
b. Less present value of future normal costs	(520,962,918)	(515,257,093)
c. Less present value of supplemental member contributions	(36,062,683)	(37,469,509)
d. Actuarial accrued liability (a + b + c)	\$ 4,793,667,018	\$ 4,801,093,045

Table 3B

Actuarial Present Value of Future Benefits (Teachers)

	June 30, 2020 (1)	June 30, 2019 (2)
1. Active members		
a. Service retirement benefits	\$ 2,597,148,882	\$ 2,755,271,704
b. Deferred termination benefits	64,075,507	63,343,125
c. Refunds	4,426,920	5,095,617
d. Pre-retirement death benefits	33,496,172	47,194,352
e. Disability retirement benefits	293,531,559	91,974,762
f. Total	<u>\$ 2,992,679,040</u>	<u>\$ 2,962,879,560</u>
2. Retired members		
a. Service retirements	\$ 4,382,936,559	\$ 4,479,188,368
b. Disability retirements	101,312,882	92,031,664
c. Beneficiaries	133,620,188	133,227,318
d. Post-retirement death benefit	16,820,000	16,187,000
e. Stipends payable	0	0
f. Total	<u>\$ 4,634,689,629</u>	<u>\$ 4,720,634,350</u>
3. Inactive members	\$ 173,752,951	\$ 163,182,123
4. Total actuarial present value of future benefits	\$ 7,801,121,620	\$ 7,846,696,033
5. Determination of actuarial accrued liability		
a. Total actuarial present value of future benefits	\$ 7,801,121,620	\$ 7,846,696,033
b. Less present value of future normal costs	(803,180,884)	(808,273,318)
c. Less present value of supplemental member contributions	(40,354,418)	(44,136,279)
d. Actuarial accrued liability (a + b + c)	<u>\$ 6,957,586,318</u>	<u>\$ 6,994,286,436</u>

Table 3C

Ten-Year Projections (State Employees)

Valuation as of June 30,	Unfunded Actuarial Accrued Liability (in Millions)	Funded Ratio	Actuarial Value of Fund Assets (in Millions)	For Fiscal Year Ending June 30,	Covered Compensation (in Millions)	Employer Contribution Rate	Employer Contribution	Employee Contribution	Benefit Payments, Refunds, and Administrativ	Net External Cash Flow
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2020	\$ 2,196.0	54.2%	\$ 2,597.7	2020	\$ 778.0	27.54%	\$ 214.3	\$ 40.9	\$ 345.3	\$ (90.2)
2021	2,158.8	55.4%	2,686.2	2021	801.3	28.01%	224.4	41.0	352.9	(87.5)
2022	2,110.4	56.9%	2,783.8	2022	825.3	28.00%	231.1	41.1	357.6	(85.4)
2023	2,052.7	58.5%	2,890.4	2023	850.1	28.30%	240.6	41.3	362.0	(80.1)
2024	1,980.5	60.3%	3,009.9	2024	875.6	28.08%	245.9	41.6	367.0	(79.4)
2025	1,897.4	62.3%	3,138.4	2025	901.9	27.94%	252.0	42.0	375.0	(80.9)
2026	1,801.7	64.5%	3,274.4	2026	928.9	27.82%	258.4	42.5	380.3	(79.4)
2027	1,692.5	66.9%	3,421.4	2027	956.8	27.70%	265.0	43.0	387.8	(79.7)
2028	1,568.6	69.5%	3,578.5	2028	985.5	27.59%	271.9	43.8	395.1	(79.4)
2029	1,428.8	72.4%	3,746.9	2029	1,015.1	27.50%	279.1	44.6	401.8	(78.1)
2030	1,271.6	75.5%	3,928.3	2030	1,045.5	27.41%	286.6	45.5	408.0	(75.9)

Table 3D

Ten-Year Projections (Teachers)

Valuation as of June 30,	Unfunded Actuarial Accrued Liability (in Millions)	Funded Ratio	Actuarial Value of Fund Assets (in Millions)	For Fiscal Year Ending June 30,	Covered Compensation (in Millions)	Employer Contribution Rate	Employer Contribution	Employee Contribution	Benefit Payments, Refunds, and Administrativ	Net External Cash Flow
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2020	\$ 3,046.4	56.2%	\$ 3,911.1	2021	\$ 1,107.9	25.25%	\$ 279.8	\$ 50.0	\$ 491.7	\$ (161.9)
2021	3,013.9	57.1%	4,017.4	2022	1,135.6	25.72%	292.1	50.3	498.3	(155.9)
2022	2,967.5	58.2%	4,137.3	2023	1,164.0	26.16%	304.5	50.5	501.4	(146.4)
2023	2,906.0	59.5%	4,275.5	2024	1,193.1	26.57%	317.0	50.8	504.2	(136.5)
2024	2,826.8	61.1%	4,433.6	2025	1,223.0	26.44%	323.3	51.0	507.1	(132.7)
2025	2,735.0	62.7%	4,606.7	2026	1,253.5	26.33%	330.0	51.3	515.9	(134.5)
2026	2,629.6	64.6%	4,790.0	2027	1,284.9	26.22%	336.9	51.7	519.2	(130.6)
2027	2,444.5	67.1%	4,990.2	2028	1,317.0	26.13%	344.1	52.2	520.4	(124.1)
2028	2,239.1	69.9%	5,211.2	2029	1,349.9	26.04%	351.5	52.8	521.3	(117.0)
2029	2,076.1	72.4%	5,455.0	2030	1,383.7	25.55%	353.5	53.6	529.7	(122.6)
2030	1,834.4	75.7%	5,710.0	2031	1,418.3	25.08%	355.6	54.5	530.1	(120.0)

Table 4

Schedule of Funding Progress

Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL) (3)-(2)	Funded Ratio (2)/(3)	Annual Covered Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
State Employees						
June 30, 2011	2,443,690,798	4,255,362,463	1,811,671,665	57.4%	633,146,197	286.1%
June 30, 2012	2,421,191,542	4,297,261,311	1,876,069,769	56.3%	669,477,539	280.2%
June 30, 2013 ¹	2,411,057,214	4,266,053,163	1,854,995,949	56.5%	664,118,904	279.3%
June 30, 2014 ²	2,449,125,421	4,369,081,872	1,919,956,451	56.1%	675,204,750	284.4%
June 30, 2015	2,476,485,327	4,371,789,900	1,895,304,573	56.6%	691,555,582	274.1%
June 30, 2016	2,468,446,998	4,404,298,648	1,935,851,650	56.0%	693,242,177	279.2%
June 30, 2017	2,485,576,642	4,698,278,808	2,212,702,166	52.9%	704,036,300	314.3%
June 30, 2018	2,516,618,305	4,755,940,934	2,239,322,629	52.9%	711,736,212	314.6%
June 30, 2019	2,557,560,104	4,801,093,045	2,243,532,941	53.3%	740,294,095	303.1%
June 30, 2019 ³	2,557,560,104	4,750,271,989	2,192,711,885	53.8%	739,575,363	296.5%
June 30, 2020	2,597,672,247	4,793,667,018	2,195,994,771	54.2%	777,970,071	282.3%
Teachers						
June 30, 2011	3,776,407,834	6,325,941,951	2,549,534,117	59.7%	1,002,656,294	254.3%
June 30, 2012	3,746,299,871	6,373,081,344	2,626,781,473	58.8%	971,904,991	270.3%
June 30, 2013 ¹	3,697,787,537	6,265,311,945	2,567,524,408	59.0%	963,525,547	266.5%
June 30, 2014 ²	3,742,152,714	6,424,596,267	2,682,443,553	58.2%	982,565,406	273.0%
June 30, 2015	3,783,601,053	6,438,732,100	2,655,131,047	58.8%	995,994,669	266.6%
June 30, 2016	3,772,348,051	6,466,478,470	2,694,130,419	58.3%	1,009,979,725	266.8%
June 30, 2017	3,778,302,063	6,894,243,228	3,115,941,165	54.8%	1,035,710,229	300.9%
June 30, 2018	3,815,698,266	6,951,505,936	3,135,807,670	54.9%	1,057,179,746	296.6%
June 30, 2019	3,866,452,572	6,994,286,436	3,127,833,864	55.3%	1,086,984,336	287.8%
June 30, 2019 ³	3,866,452,572	6,927,441,023	3,060,988,451	55.8%	1,085,923,864	281.9%
June 30, 2020	3,911,140,020	6,957,586,318	3,046,446,298	56.2%	1,107,935,749	275.0%

¹ June 30, 2013 actuarial value after changes of actuarial assumptions

² June 30, 2014 actuarial value after reflecting the amendment of Article 21

³ June 30, 2019 actuarial value after changes of actuarial assumptions



Table 5

Notes to Required Supplementary Information

Item (1)	State Employees (2)	Teachers (3)
Valuation date	June 30, 2020	June 30, 2020
Actuarial cost method	Entry Age Normal	Entry Age Normal
Amortization method	Level percentage, closed	Level percentage, closed
Remaining amortization period	16 years	18 years
Asset valuation method	5-Yr Smoothed Market	5-Yr Smoothed Market
Actuarial assumptions:		
Investment rate of return *	7.00%	7.00%
Projected salary increase *	3.25% to 6.25%	3.00% to 13.00%
* Includes inflation at:	2.50%	2.50%
Cost of living adjustments	2.10%	2.10%

COLAs are currently suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%. It is assumed that the COLAs will be suspended for 7 years due to the current funding level of the plans; however, an interim COLA may be granted in four-year intervals while the COLA is suspended.

Table 6

Plan Net Assets
(Assets at Market or Fair Value)

Item (1)	June 30, 2020 (2)	June 30, 2019 (3)
A. Total ERSRI assets		
1. Cash and cash equivalents	\$ 5,140,959	\$ 3,317,831
2. Receivables:		
a. Transfers receivable	\$ 0	\$ 0
b. Member and employer contributions	20,468,395	28,426,350
c. Due from state for teachers	32,238,993	20,321,860
d. Net investment income and other	1,085,129	1,910,568
e. Total receivables	\$ 53,792,517	\$ 50,658,778
3. Investments		
a. Short-term investment fund	\$ 0	\$ 0
b. Pooled trust	6,606,761,266	6,649,223,423
c. Plan specific investments	0	0
d. Invested securities lending collateral	0	0
e. Total	\$ 6,606,761,266	\$ 6,649,223,423
4. Prepaid expenses	\$ 2,765,757	\$ 3,205,821
5. Total assets	\$ 6,668,460,499	\$ 6,706,405,853
6. Liabilities		
a. Due to other plans	\$ 1,113,848	\$ 544,489
b. Accounts and vouchers payable	5,539,387	4,603,532
c. Securities lending liability	0	0
d. Total liabilities	\$ 6,653,235	\$ 5,148,021
7. Total market value of assets available for benefits (Item 5 - Item 6)	\$ 6,661,807,264	\$ 6,701,257,832
B. Breakdown		
1. State employees	\$ 2,520,792,045	\$ 2,531,945,464
2. Teachers	3,798,755,901	3,829,895,134
3. Teachers' survivors benefits	342,259,317	339,417,233
4. Total	\$ 6,661,807,264	\$6,701,257,832

Table 7**Reconciliation of Plan Net Assets**

Item (1)	Year Ending June 30, 2020	
	State Employees (2)	Teachers (3)
1. Market value of assets at beginning of year	\$ 2,531,945,464	\$ 3,829,895,134
Current year prior period adjustments	0	0
Adjusted market value of assets at BOY	\$ 2,531,945,464	\$ 3,829,895,134
2. Contributions		
a. Members	\$ 40,930,636	\$ 49,954,869
b. Employers	199,894,288	266,034,899
c. Reimbursement of Supplemental Pensions	23,726	810,422
d. Service purchases	164,118	16,410
e. Total	\$ 241,012,768	\$ 316,816,600
3. Investment earnings, net of investment and administrative expenses	\$ 89,448,071	\$ 139,896,962
4. Expenditures for the year		
a. Benefit payments	\$ (278,449,960)	\$ (383,140,608)
b. Cost-of-living adjustments	(55,893,111)	(99,887,546)
c. Death benefits	(1,527,700)	(1,101,634)
d. Social security supplements	(2,468,175)	(553,814)
e. Supplemental pensions	(23,726)	(810,422)
f. Refunds	(2,447,383)	(2,288,984)
g. Total expenditures	\$ (340,810,055)	\$ (487,783,008)
5. Transfers and other adjustments	\$ (804,203)	\$ (69,787)
6. Market value of assets at end of year	\$ 2,520,792,045	\$ 3,798,755,901

Table 8A

Development of Actuarial Value of Assets (State Employees)

	Year Ending June 30, 2020
1. Market value of assets at beginning of year (prior to adjustment)	\$ 2,531,945,464
2. Net new investments	
a. Contributions	\$ 241,012,768
b. Benefits paid	(338,362,672)
c. Refunds	(2,447,383)
d. Transfers	(804,203)
e. Subtotal	(100,601,490)
3. Market value of assets at end of year	\$ 2,520,792,045
4. Net earnings (3-1-2) (includes misc revenues)	\$ 89,448,071
5. Assumed investment return rate for fiscal year	7.00%
6. Expected return	\$ 173,715,130
7. Excess return (4-6)	\$ (84,267,059)
8. Development of amounts to be recognized as of June 30, 2020:	

*Values of \$0 result from the beginning balance being offset by future gains or losses in the opposite direction.

Table 8B

Development of Actuarial Value of Assets (Teachers)

	Year Ending June 30, 2020
1. Market value of assets at beginning of year	\$ 3,829,895,134
2. Net new investments	
a. Contributions	\$ 316,816,600
b. Benefits paid	(485,494,024)
c. Refunds	(2,288,984)
d. Transfers	(69,787)
e. Subtotal	<u>(171,036,195)</u>
3. Market value of assets at end of year	\$ 3,798,755,901
4. Net earnings (3-1-2) (includes misc revenues)	\$ 139,896,962
5. Assumed investment return rate for fiscal year	7.00%
6. Expected return	\$ 262,106,393
7. Excess return (4-6)	\$ (122,209,431)
8. Development of amounts to be recognized as of June 30, 2020:	
</	

*Values of \$0 result from the beginning balance being offset by future gains or losses in the opposite direction.



Table 9**Target Distribution of Assets at Market Value
(Percentage of Total Investments)**

Item (1)	June 30, 2020 (2)
US Equity	23.0%
International Developed Equity	12.1%
Emerging Markets Equity	4.9%
Private Equity	11.3%
Non-Core Real Estate	2.3%
Opportunistic Private Credit	1.5%
High Yield Infrastructure	1.0%
REITS	1.0%
Liquid Credit	2.8%
Private Credit	3.2%
Treasury Duration	5.0%
Systematic Trend	5.0%
Core Real Estate	3.6%
Private Infrastructure	2.4%
TIPs	2.0%
IG Corp Credit	3.3%
Equity Options	2.0%
EMD (50/50 Blend)	2.0%
Securitized Credit	3.3%
Absolute Return	6.5%
Cash	2.0%
Total investments	100.0%

Table 10

History of Investment Return Rates
 (Net of Investment and Administrative Expenses)

Year Ending June 30 of	Market	Actuarial
(1)	(2)	(3)
1995	17.0%	10.2%
1996	13.7%	13.7%
1997	19.1%	19.1%
1998	16.1%	16.5%
1999	10.1%	14.7%
2000	9.1%	8.8%
2001	-11.0%	4.9%
2002	-8.4%	0.9%
2003	2.6%	-0.8%
2004	18.7%	0.4%
2005	11.4%	1.8%
2006	11.6%	7.4%
2007	18.2%	13.0%
2008	-5.8%	10.7%
2009	-20.1%	2.4%
2010	14.0%	0.8%
2011	19.5%	2.1%
2012	1.4%	3.9%
2013	11.0%	6.1%
2014	14.9%	8.2%
2015	2.2%	7.3%
2016	-0.2%	5.5%
2017	11.5%	5.7%
2018	7.9%	6.3%
2019	6.3%	6.3%
2020	3.7%	5.7%
Average Returns:		
Last 5 Years	5.8%	5.9%
Last 10 Years	7.7%	5.7%
Since 1995	7.0%	6.9%

Table 11A**Analysis of Change in Employer Cost**

Basis	State Employees	Teachers
(1)	(2)	(3)
1. Employer contribution rates from prior valuation	28.01%	25.72%
2. Impact of changes, gains and losses		
a. Non-economic liability experience (gain)/loss	(0.11%)	(0.07%)
b. Salary (gain)/loss	0.16%	(0.10%)
c. Total payroll growth (gain)/loss	(0.56%)	0.10%
d. Investment experience (gain)/loss	0.35%	0.36%
e. Actual COLA (1.06%)	(0.13%)	(0.21%)
f. Recognition of 2017 Assumption Changes	0.87%	0.81%
g. Decrease in Normal Cost from New Hires	(0.12%)	(0.15%)
h. Change in Assumptions/Methods	(0.47%)	(0.30%)
i. Total	(0.01%)	0.44%
3. Employer contribution rates from current valuation	28.00%	26.16%

Table 11B

History of Employer Contribution Rates

Valuation Date as of June 30, (1)	Fiscal Year Ending June 30, (2)	Employer Contribution Rate (3)
State Employees		
2004	2007	18.40%
2005	2008	20.77%
2006	2009	21.64% ¹
2007	2010	20.78% ²
2008	2011	20.78%
2009	2012	22.98%
2010	2013	21.18% ³
2011	2014	23.05%
2012	2015	23.33%
2013	2016	23.64%
2014	2017	25.34% ⁴
2015	2018	24.87%
2016	2019	25.75%
2017	2020	26.39%
2018	2021	27.54%
2019	2022	28.01%
2020	2023	28.00%
Teachers		
2004	2007	19.64%
2005	2008	22.01%
2006	2009	20.07% ¹
2007	2010	19.01% ²
2008	2011	19.01%
2009	2012	22.32%
2010	2013	19.29% ³
2011	2014	20.68%
2012	2015	22.60%
2013	2016	23.14%
2014	2017	23.13% ⁴
2015	2018	23.13%
2016	2019	23.51%
2017	2020	24.61%
2018	2021	25.25%
2019	2022	25.72%
2020	2023	26.16%

¹ Restated after adopting the amendment of Article 7.

² Restated after adopting the amendment of Article 16.

³ Restated after reflecting the Rhode Island Retirement Security Act of 2011.

⁴ Restated after adopting the amendment of Article 21.

Table 11C**Analysis of Change in UAAL**

Basis (1)	State Employees (2)	Teachers (3)
1. UAAL as of June 30, 2019	\$ 2,244	\$ 3,128
2. Impact of changes, gains and losses		
a. Interest at 7.00% for one year	157	219
b. Expected amortization payments	(169)	(229)
c. Actual cash flows (amortization payments) *	(7)	(2)
d. Investment experience (gain)/loss	35	49
e. Actual COLA (1.06%)	(13)	(28)
f. Salary (gain)/loss	16	(15)
g. Non-economic liability experience (gain)/loss	(13)	(4)
h. Changes in assumptions/methods	(54)	(72)
i. Changes in plan provisions	-	-
j. Total	\$ (48)	\$ (82)
3. UAAL as of June 30, 2020	\$ 2,196	\$ 3,046

Note: All dollar amounts are shown in millions.

**The Loss due to Actual Amortization Payments reflects the difference in payroll growth between the valuation that sets the contribution rates for the Fiscal Year, and the actual payroll that is paid during the year.*

Table 12A

Membership Data (State Employees)

	June 30, 2020 (1)	June 30, 2019 (2)	June 30, 2018 (3)
1. Active members			
a. Eligible for 2.00% Multiplier	1,406	1,564	1,694
b. Hired before 2012 without 2.00% Multiplier	5,498	5,729	6,021
c. Zero Service as of 06/30/2012	4,294	4,025	3,263
d. Total Count	11,198	11,318	10,978
e. Number vested	8,011	8,071	8,104
f. Annualized salaries	\$ 750,004,772	\$ 729,415,756	\$686,337,066
g. Average salary	66,977	64,447	62,519
h. Average age	49.3	49.2	49.4
i. Average service	13.8	13.6	13.9
2. Inactive members			
a. Number	3,875	3,784	3,481
3. Service retirees			
a. Number	9,114	9,130	9,231
b. Total annual benefits	\$ 289,179,615	\$ 299,947,210	\$301,665,490
c. Average annual benefit	31,729	32,853	32,680
d. Average age	74.3	74.1	73.7
4. Disabled retirees			
a. Number	775	774	749
b. Total annual benefits	\$ 17,499,796	\$ 17,150,822	\$16,533,617
c. Average annual benefit	22,580	22,159	22,074
d. Average age	66.5	66.0	65.8
5. Beneficiaries and spouses			
a. Number	1,326	1,320	1,280
b. Total annual benefits	\$ 24,946,505	\$ 25,297,187	\$24,528,531
c. Average annual benefit	18,813	19,165	19,163
d. Average age	76.8	76.8	76.6

Table 12B

Membership Data (Teachers)

	June 30, 2020 (1)	June 30, 2019 (2)	June 30, 2018 (3)
1. Active members			
a. Eligible for 2.00% Multiplier	1,402	1,586	1,630
b. Hired before 2012 without 2.00% Multiplier	8,555	8,773	8,909
c. Zero Service as of 06/30/2012	3,517	3,152	2,758
d. Number	13,474	13,511	13,297
e. Number vested	11,140	11,971	11,007
f. Annualized salaries	\$ 1,090,815,161	\$1,070,499,270	\$1,031,588,592
g. Average salary	80,957	79,232	77,581
h. Average age	46.8	46.7	46.2
i. Average service	15.7	15.5	15.0
2. Inactive members			
a. Number	4,001	3,888	3,643
3. Service retirees			
a. Number	10,338	10,284	10,434
b. Total annual benefits	\$ 451,779,276	\$455,784,380	\$463,862,500
c. Average annual benefit	43,701	44,320	44,457
d. Average age	73.7	73.3	72.6
4. Disabled retirees			
a. Number	342	323	313
b. Total annual benefits	\$ 10,128,301	\$9,480,940	\$9,202,864
c. Average annual benefit	29,615	29,353	29,402
d. Average age	66.2	66.4	66.1
5. Beneficiaries and spouses			
a. Number	594	589	573
b. Total annual benefits	\$ 15,340,474	\$15,024,177	\$14,649,283
c. Average annual benefit	25,826	25,508	25,566
d. Average age	74.8	74.8	74.4

Table 13

Historical Summary of Active Member Data

Valuation as of June 30, (1)	Active Members		Total Salaries		Average Salary		Average Age (8)	Average Service (9)
	Number (2)	Percent Increase (3)	Amount in \$ Millions (4)	Percent Increase (5)	\$ Amount (6)	Percent Increase (7)		
State Employees								
2009	11,023	-7.9%	575	-7.0%	52,125	1.0%	48.1	13.6
2010	11,122	0.9%	600	4.4%	53,936	3.5%	48.6	13.8
2011	11,233	1.0%	617	2.9%	54,949	1.9%	48.8	14.0
2012	11,166	-0.6%	644	4.3%	57,667	4.9%	49.1	14.2
2013	11,280	0.4%	650	5.3%	57,624	4.9%	49.2	14.1
2014	11,301	0.2%	653	0.5%	57,813	0.3%	49.4	14.2
2015	11,194	-0.9%	667	2.1%	59,615	3.1%	49.7	14.4
2016	11,083	-1.0%	670	0.4%	60,482	1.5%	49.9	14.6
2017	11,152	0.6%	686	2.4%	61,538	1.7%	49.8	14.3
2018	10,978	-1.6%	686	0.0%	62,519	1.6%	49.4	13.9
2019	11,318	3.1%	729	6.3%	64,447	3.1%	49.2	13.6
2020	11,198	-1.1%	750	2.8%	66,977	3.9%	49.3	13.8
Teachers								
2009	13,689	-2.2%	931	0.3%	68,010	2.6%	45.0	12.9
2010	13,530	-1.2%	937	0.6%	69,235	1.8%	44.9	12.9
2011	13,381	-1.1%	966	3.1%	72,174	4.2%	45.2	13.3
2012	13,212	-1.3%	962	-0.4%	72,809	0.9%	45.3	13.4
2013	13,193	-1.4%	936	-3.1%	70,965	-1.7%	45.4	13.6
2014	13,266	0.6%	952	1.7%	71,754	1.1%	45.6	14.0
2015	13,272	0.0%	968	1.7%	72,942	1.7%	45.8	14.3
2016	13,206	-0.5%	968	-0.1%	73,265	0.4%	46.0	14.6
2017	13,310	0.8%	1,001	3.4%	75,191	2.6%	46.1	14.8
2018	13,297	-0.1%	1,032	3.1%	77,581	3.2%	46.2	15.0
2019	13,511	1.6%	1,070	3.8%	79,232	2.1%	46.7	15.5
2020	13,474	-0.3%	1,091	1.9%	80,957	2.2%	46.8	15.7

Table 14A

Distribution of Active Members by Age and by Years of Service (State Employees) As of June 30, 2020

Attained Age	Years of Credited Service												Total Count & Avg. Comp.
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	
Under 25	65 \$37,903	49 \$46,543	12 \$39,669	0 \$0	2 \$38,626	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	128 \$41,387
25-29	149 \$45,906	176 \$51,260	155 \$54,017	84 \$56,899	41 \$56,937	66 \$51,706	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	671 \$51,805
30-34	123 \$49,908	176 \$55,289	115 \$57,299	124 \$58,636	78 \$60,176	272 \$62,770	62 \$67,713	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	950 \$58,627
35-39	79 \$49,228	98 \$58,660	86 \$58,348	97 \$62,286	63 \$60,077	294 \$65,538	216 \$65,642	59 \$66,227	0 \$0	0 \$0	0 \$0	0 \$0	992 \$62,335
40-44	68 \$57,437	83 \$56,782	71 \$65,706	58 \$64,446	50 \$63,565	241 \$67,112	224 \$67,950	201 \$71,258	45 \$79,072	0 \$0	0 \$0	0 \$0	1,041 \$66,740
45-49	64 \$53,856	68 \$57,493	64 \$57,497	52 \$66,077	42 \$61,257	189 \$65,159	194 \$67,269	281 \$73,644	183 \$79,653	35 \$85,501	0 \$0	0 \$0	1,172 \$68,834
50-54	50 \$58,385	102 \$59,404	54 \$59,320	42 \$59,054	44 \$65,148	252 \$61,064	220 \$65,360	246 \$70,563	251 \$77,811	262 \$82,570	156 \$78,054	0 \$0	1,679 \$70,277
55-59	53 \$57,994	76 \$56,077	56 \$55,390	51 \$54,814	49 \$55,608	268 \$60,339	234 \$63,986	259 \$67,561	200 \$77,359	271 \$82,104	399 \$82,941	111 \$81,471	2,027 \$71,267
60-64	20 \$51,866	37 \$58,762	26 \$64,942	40 \$54,294	34 \$56,600	199 \$62,242	206 \$58,684	234 \$65,881	219 \$73,178	213 \$79,623	260 \$84,383	152 \$84,625	1,640 \$71,144
65 & Over	5 \$45,257	14 \$78,828	19 \$64,300	9 \$75,724	14 \$63,732	114 \$67,257	147 \$57,196	146 \$69,958	132 \$68,228	105 \$75,469	97 \$85,983	96 \$77,620	898 \$70,308
Total	676 \$50,208	879 \$55,749	658 \$57,775	557 \$59,955	417 \$60,070	1,895 \$63,249	1,503 \$64,203	1,426 \$69,713	1,030 \$75,892	886 \$80,993	912 \$82,840	359 \$81,777	11,198 \$66,977



Table 14B

Distribution of Active Members by Age and by Years of Service (Teachers) As of June 30, 2020

Attained Age	Years of Credited Service												Total Count & Avg. Comp.
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	
Under 25	26 \$81,741	85 \$44,861	19 \$46,909	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	130 \$52,536
25-29	74 \$61,551	200 \$45,966	168 \$49,459	151 \$52,677	95 \$55,065	124 \$60,396	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	812 \$52,625
30-34	51 \$83,416	103 \$52,813	91 \$55,799	106 \$58,561	134 \$58,778	602 \$68,641	88 \$80,014	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1,175 \$65,718
35-39	35 \$101,500	78 \$58,017	78 \$65,385	58 \$61,335	69 \$64,663	418 \$74,051	580 \$82,795	154 \$86,952	0 \$0	0 \$0	0 \$0	0 \$0	1,470 \$77,253
40-44	31 \$56,826	63 \$58,829	38 \$61,573	47 \$66,853	58 \$67,346	254 \$76,097	356 \$84,209	913 \$87,324	209 \$89,016	0 \$0	0 \$0	0 \$0	1,969 \$82,526
45-49	25 \$71,181	50 \$58,190	41 \$65,356	43 \$71,280	33 \$70,337	191 \$77,789	222 \$85,233	585 \$87,832	893 \$88,890	105 \$93,449	0 \$0	0 \$0	2,188 \$85,515
50-54	15 \$77,789	26 \$61,713	34 \$62,566	21 \$70,386	36 \$67,959	171 \$77,214	178 \$85,080	415 \$87,975	662 \$88,417	546 \$90,942	137 \$92,351	0 \$0	2,241 \$86,800
55-59	13 \$80,299	21 \$65,221	18 \$71,479	17 \$71,028	23 \$64,546	96 \$76,320	135 \$84,351	279 \$87,067	376 \$88,767	302 \$92,195	391 \$92,341	33 \$92,315	1,704 \$87,893
60-64	10 \$72,214	10 \$72,370	4 \$71,417	7 \$72,334	6 \$67,826	52 \$75,701	80 \$83,213	244 \$86,868	349 \$88,752	201 \$90,466	184 \$89,807	58 \$91,170	1,205 \$87,473
65 & Over	4 \$145,183	6 \$68,904	4 \$50,699	4 \$74,082	5 \$91,708	26 \$81,505	37 \$83,603	104 \$87,507	151 \$88,193	115 \$89,086	85 \$91,313	39 \$92,075	580 \$88,241
Total	284 \$75,850	642 \$52,490	495 \$57,171	454 \$60,384	459 \$62,294	1,934 \$72,666	1,676 \$83,678	2,694 \$87,452	2,640 \$88,706	1,269 \$91,204	797 \$91,648	130 \$91,732	13,474 \$80,957



APPENDIX 1

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

APPENDIX 1

Summary of Actuarial Methods and Assumptions

I. Valuation Date

The valuation date is June 30th of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

The actuarial valuation uses the Entry Age actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial accrued liability (UAAL).

1. First, the actuarial present value of future benefits is determined by discounting the projected benefits for each member back to the valuation date using the assumed investment return rate as the discount rate. For active members, the projected benefits are based on the member's age, service, gender and compensation, and based on the actuarial assumptions. The calculations take into account the probability of the member's death, disability, or termination of employment prior to becoming eligible for a retirement benefit, as well as the possibility of the member will remain in service and receive a service retirement benefit. Future salary increases are anticipated. The present value of the expected benefits payable to all active members is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits. Liabilities for future members are not included.
2. The employer contributions required to support the benefits are determined as a level percentage of salary, and consist of a normal contribution and an amortization contribution
3. The normal contribution is determined using the Entry Age Normal method. Under this method, a calculation is made to determine the rate of contribution which, if applied to the compensation of each individual member during the entire period of anticipated covered service, would be required to meet the cost of all benefits payable on his behalf. The salary-weighted average of these rates is the normal cost rate. This calculation reflects the plan provisions that apply to each individual member.
4. The employer normal cost rate is equal to (i) the normal cost rate, minus (ii) the member contribution rate.
5. The actuarial accrued liability is equal to the present value of all benefits less the present value of future normal costs. The present value of the supplemental member contributions for members with 20 years of service as of June 30, 2012 is also subtracted. The unfunded actuarial accrued liability (UAAL) is then determined as (i) the actuarial accrued liability, minus (ii) the actuarial value of assets.

APPENDIX 1 (Continued)

6. The amortization contribution rate is the level percentage of payroll required to reduce the UAAL to zero over the remaining amortization period. The employer contribution rate determined by this valuation will not be effective until two years after the valuation date. The determination of the contribution rate reflects this deferral. The amortization payment for the applicable fiscal year is first determined based on the individual amortization bases. The covered payroll is projected forward for two years, and we then determine the amortization rate by dividing the amortization payment by the projected payroll. Contributions are assumed to be made monthly throughout the year.

The UAAL was initially being amortized over the remainder of a closed 30-year period from June 30, 1999. In conjunction with The Rhode Island Retirement Security Act of 2011, the amortization period was reset to 25 years as of June 30, 2010 for the UAAL that existed at that time. In addition, in conjunction with the Article 21 legislation, the amortization period for the local portion of the UAAL of the Teacher's Plan existing as of June 30, 2014 was reset to 25 years from June 30, 2014. New gains and losses each year will be amortized over individual 20 year periods. At any time that the System is in an overfunded status, the amortization schedule will be a rolling 20 year amortization of any surplus.

III. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

IV. Actuarial Assumptions

A. Economic Assumptions

1. Investment return: 7.00% per year, compounded annually, composed of an assumed 2.50% inflation rate and a 4.50% net real rate of return. This rate represents the assumed return, net of all investment and administrative expenses.

2. Salary increase rate:

For State Employees: The sum of (i) a 3.25% wage inflation assumption (composed of a 2.50% price inflation assumption and a 0.75% additional general increase), and (ii) a service-related component as shown on next page.

For Teachers: The sum of (i) a 3.00% wage inflation assumption (composed of a 2.50% price inflation assumption and a 0.50% additional general increase), and (ii) a service-related component as shown on next page.



Salary Increase Rates						
Service	State Employees		Correctional Officers		Teachers	
	Service-Related Component	Total Increase	Service-Related Component	Total Increase	Service-Related Component	Total Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	1.00%	4.25%	2.00%	5.25%	10.00%	13.00%
2	2.00%	5.25%	3.00%	6.25%	9.00%	12.00%
3	3.00%	6.25%	4.00%	7.25%	6.25%	9.25%
4	2.75%	6.00%	3.75%	7.00%	5.50%	8.50%
5	2.75%	6.00%	3.75%	7.00%	5.00%	8.00%
6	2.50%	5.75%	3.50%	6.75%	5.00%	8.00%
7	1.25%	4.50%	2.25%	5.50%	4.50%	7.50%
8	1.00%	4.25%	2.00%	5.25%	4.25%	7.25%
9	1.00%	4.25%	2.00%	5.25%	4.00%	7.00%
10	1.00%	4.25%	2.00%	5.25%	4.00%	7.00%
11	1.00%	4.25%	1.50%	4.75%	0.00%	3.00%
12	2.00%	5.25%	2.50%	5.75%	0.00%	3.00%
13	1.25%	4.50%	1.75%	5.00%	0.00%	3.00%
14	1.00%	4.25%	1.50%	4.75%	0.00%	3.00%
15	1.00%	4.25%	1.50%	7.75%	0.00%	3.00%
16	1.00%	4.25%	1.00%	4.25%	0.00%	3.00%
17	0.50%	3.75%	1.00%	4.25%	0.00%	3.00%
18	0.50%	3.75%	1.00%	4.25%	0.00%	3.00%
19	0.50%	3.75%	1.00%	4.25%	0.00%	3.00%
20	0.50%	3.75%	1.00%	4.25%	0.00%	3.00%
21	0.50%	3.75%	1.00%	4.25%	0.00%	3.00%
22	0.25%	3.50%	1.00%	4.25%	0.00%	3.00%
23	0.25%	3.50%	1.00%	4.25%	0.00%	3.00%
24	0.25%	3.50%	1.00%	4.25%	0.00%	3.00%
25 or more	0.00%	3.25%	0.00%	3.25%	0.00%	3.00%

Salary increases are assumed to occur once a year, on July 1. Therefore the pay used for the period year following the valuation date is equal to the reported pay for the prior year, increased by the salary increase assumption. For employees with less than one year of service, the reported rate of pay is used rather than the fiscal year salary paid.

4. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.00% for State Employees and 2.50% for Teachers per year. This increase rate is solely due to the effect of wage inflation on, with no allowance for future membership growth.
5. Post-retirement Benefit Increase: Post-retirement benefit increases are assumed to be 2.15%, per annum, while the plan has a funding level that exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The second such COLA will be applicable in Calendar Year 2021. As of June 30, 2020, it is assumed that the COLAs will be suspended for 7 years due to the current funding level of the plans. The actual amount of the COLA is determined based on 50% of the plan's five-year average investment rate of return minus 5.00% which will range from zero to 4.0%, and 50% of the lesser of 3% or last year's CPI-U increase for a total maximum increase of 3.50%.

B. Demographic Assumptions

1. Post-termination mortality rates (non-disabled)
 - a. Male state employees: PUB-10 Median Table for Healthy General Employee Males, loaded by 115%, projected with Scale Ultimate MP16..
 - b. Female state employees: PUB-10 Median Table for Healthy General Employee Females, loaded by 111%, projected with Scale Ultimate MP16.
 - c. Male teachers: PUB-10 Median Table for Healthy Teacher Males, loaded by 108%, projected with Scale Ultimate MP16.
 - d. Female teachers: PUB-10 Median Table for Healthy Teacher Females, loaded by 115%, projected with Scale Ultimate MP16.

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection

Life Expectancy for an Age 65 Retiree in Years					
Group	Year of Retirement				
	2020	2025	2030	2035	2040
State Employee - Male	20.7	21.1	21.5	21.9	22.3
State Employee - Female	23.5	23.9	24.3	24.7	25.0
Teacher – Male	22.8	23.2	23.6	24.0	24.4
Teacher – Female	24.6	25.0	25.3	25.7	26.0

2. Post-retirement mortality (disabled lives): Separate set of rates are used for state employees and teachers
 - a. State Employees: Sex distinct PUB-10 Tables for General Disabled Retirees by Occupation, projected with Scale Ultimate MP16.
 - b. Teachers: Sex distinct PUB-10 Tables for Teacher Disabled Retirees by Occupation females, projected with Scale Ultimate MP16.
3. Pre-retirement mortality: Separate set of rates are used for state employees and teachers
 - a. State Employees: Sex distinct PUB-10 Tables for General Employees by Occupation, projected with Scale Ultimate MP16.
 - b. Teachers: Sex distinct PUB-10 Tables for Teachers Employees by Occupation for females, projected with Scale Ultimate MP16.
4. Disability rates: Sample rates are shown below. Ordinary disability rates are not applied to members eligible for retirement. One half the accidental disabilities are assumed to be totally and permanently disabled from any occupation.

Age	Number of Disabilities per 1,000							
	State Ordinary Males	State Accidental Males	State Ordinary Females	State Accidental Females	Teachers Ordinary Males	Teachers Accidental Males	Teachers Ordinary Females	Teachers Accidental Females
25	0.45	0.09	0.36	0.07	0.27	0.02	0.23	0.02
30	0.55	0.11	0.44	0.09	0.33	0.02	0.28	0.02
35	0.75	0.15	0.6	0.12	0.45	0.03	0.38	0.03
40	1.1	0.22	0.88	0.18	0.66	0.04	0.55	0.04
45	1.8	0.36	1.44	0.29	1.08	0.07	0.90	0.07
50	3.05	0.61	2.44	0.49	1.83	0.12	1.53	0.12
55	5.05	1.01	4.04	0.81	3.03	0.20	2.53	0.20
60	7.05	1.41	5.64	1.13	4.23	0.28	3.53	0.28
65	11.55	2.31	9.24	1.85	6.93	0.46	5.78	0.46

In addition, Teachers that are age 55 with 20 Years of service and not eligible to retire, another 1% is added to the rates above. Also, if the member is above age 60, another 1% is added to the rates above.

5. Termination rates (for causes other than death, disability, or retirement) are a function of the member's gender and service. Termination rates are not applied to members eligible for retirement. Rates are shown below:

Service	State Employees	Correctional Officers	Teachers
1	0.168000	0.100000	0.157500
2	0.106218	0.070000	0.105000
3	0.084806	0.057393	0.078750
4	0.072281	0.049595	0.068052
5	0.063394	0.045034	0.050571
6	0.056501	0.041797	0.040169
7	0.050868	0.039287	0.033280
8	0.046107	0.037236	0.028385
9	0.041982	0.035502	0.024731
10	0.038344	0.033999	0.021900
11	0.035089	0.032674	0.019643
12	0.032145	0.031489	0.017804
13	0.029457	0.030417	0.016275
14	0.026984	0.029438	0.014985
15	0.024695	0.028537	0.013881
16	0.022563	0.027704	0.012928
17	0.020570	0.026927	0.012094
18	0.018697	0.026201	0.011361
19	0.016931	0.025519	0.010710
20	0.015262	0.024876	0.010128
21	0.013677	0.024268	0.009606
22	0.012170	0.023691	0.009135
23	0.010733	0.023142	0.008707
24	0.009360	0.022619	0.008316
25	0.008045	0.022119	0.007959

6. Retirement rates (unreduced):

For State Employees (except Correctional Officers): a flat 20% per year retirement probability for members eligible for unreduced retirement. A 25% retirement probability at first eligibility will be only applied if they have reached age 65 or with at least 25 years of service.

For Teachers: a flat 20% per year retirement probability for members under the age of 67 eligible for unreduced retirement, a flat 35% per year retirement probability for members at age 67 or older eligible for unreduced retirement. A 30% retirement probability at first eligibility will be only applied if they have reached age 65 or with at least 25 years of service.

For Correctional Officers: A set of unisex rates, indexed by service, as shown below.

Corrections	
Service	Ret. Rate
25	10.00%
26	5.00%
27	5.00%
28	5.00%
29	5.00%
30	6.00%
31	7.00%
32	8.00%
33	9.00%
34	10.00%
35	25.00%
36	20.00%
37	20.00%
38	20.00%
39	20.00%
40	100.00%

APPENDIX 1 (Continued)

7. Reduced retirement: Rates based on the years from Normal Retirement Age, as shown below:

Years from Normal Retirement Age	Ret. Rate
5	1%
4	1%
3	1%
2	2%
1	3%

C. Other Assumptions:

1. Valuation payroll (used for determining the amortization contribution rate): Prior aggregate fiscal year payroll projected forward one year using the overall payroll growth rate.
2. Percent married: 85% of employees are assumed to be married.
3. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
4. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity. The spousal annuity death benefit for vested married participants is valued using a static optional form conversion factor of 0.84 and 0.78 for males and females respectively.
5. For active death benefits, the liability is initially calculated based on the ordinary death benefit provisions, and then a 7.5% load is applied to account for duty related benefits.
6. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
7. Recovery from disability: None assumed.
8. Remarriage: It is assumed that no surviving spouse will remarry and there will be no children's benefit.
9. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available.

10. Investment and administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.
11. Inactive members: For members who terminated service prior to June 30, 2017 liabilities for inactive members are approximated as a multiple of their member contribution account balances. For non-vested inactive members, the multiple is 1.0. For vested inactive members, the multiple is 8.0 for members with 25 or more years of service, 3.0 for vested inactive members age 45 or older with less than 25 years of service, and 1.0 for other vested inactive members younger than age 45. For members who terminated service after June 30, 2017, the expected liability at termination has been carried forward with interest from the last valuation the member was active.
12. Decrement timing: For all non-teachers employees, decrements are assumed to occur at the middle of the year. For Teachers the retirement and termination decrements are assumed to occur at the beginning of the year, while death and disability are assumed to occur at the middle of the year.
13. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
14. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
15. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
16. Benefit Service: All members are assumed to accrue one year of eligibility service each year.
17. All calculations were performed without regard to the compensation limit in IRC Section 401(a)(17) and the benefit limit under IRC Section 415.

D. Participant Data

Participant data was supplied on electronic files. There are separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included name, an identification number, gender, a code indicating whether the member was active or inactive, a code indicating employee type (State Employee or Teacher), date of birth, service, salary, date of last contribution, accumulated member contributions without interest, accrued benefit multiplier as of June 30, 2014, Final Average Compensation as of June 30, 2012, Article 7 Retirement Date, and the Rhode Island Retirement Security Act Retirement Date. For retired members and beneficiaries, the data included name, an identification number, gender, date of birth, date of retirement, amount of benefit, the amount of adjustment after age 62 for anyone electing the Social Security option, a code indicating the option elected and the type of retiree (service retiree, disabled retiree, beneficiary), and if applicable, the joint pensioner's date of birth and gender.

Salary supplied for the current year was based on the earnings for the fiscal year preceding the valuation date. However, for members with less than one year of service, the current rate of salary was used. This salary was adjusted by the salary increase rate for one year. An additional adjustment was made so that a member's compensation would not be less than it was in the previous year.

In defining who was an active member, members with a date of last contribution in the final quarter of the fiscal year were considered active. Otherwise, the member was defined as inactive.

To correct for incomplete and inconsistent data, we first attempted to pulled data from prior valuation files and then made general assumptions to fill in the rest. These modifications had no material impact on the results presented.

APPENDIX 2

SUMMARY OF BENEFIT PROVISIONS

APPENDIX 2

Summary of Benefit Provisions

1. **Effective Date and Authority:** The Employees' Retirement System of Rhode Island (ERSRI) became effective on July 1, 1936 for State Employees and on July 1, 1949 for Teachers. Benefits for State Employees are described in Rhode Island General Laws, Title 36, Chapter 36-10, and benefits for Teachers are described in Rhode Island General Laws, Title 16, Chapter 16-16.
2. **Plan Year:** A twelve-month period ending June 30th.
3. **Administration:** ERSRI is administered by the State of Rhode Island Retirement Board. However, the State Investment Commission is responsible for the investment of the trust assets, including the establishment of the asset allocation policy.
4. **Type of Plan:** ERSRI is a qualified governmental defined benefit retirement plan. Separate contribution rates are determined for state employees and for teachers. For Governmental Accounting Standards Board purposes, it is a cost-sharing multiple employer plan.
5. **Eligibility:** Most Rhode Island state employees and certified public school teachers participate in ERSRI. Certain employees of the Airport Corporation, the Economic Development Corporation, and the Narragansett Bay Commission participate in the plan as though they were state employees. State police officers, state judges, and teachers and administrators in the public colleges and universities are covered by their own separate systems, and are therefore excluded. Certain elected state officials are excluded unless they make an election to join ERSRI. Superintendents, principals, business agents and other administrators participate as teachers. Non-certified public school employees, such as teacher's aides, janitors, secretaries, and bus drivers, cannot participate in ERSRI, although they may be covered by the Municipal Employees Retirement System (MERS) or a separate plan maintained by the town or city. Eligible employees become members as of their date of employment.
6. **Employee Contributions:** Effective July 1, 2012, State Employees (excluding Correctional Officers) and Teachers contribute 3.75% of their salary per year. For State Employees and Teachers with 20 or more years of service as of June 30, 2012 the contribution rate beginning July 1, 2015 will be 11.0%. Correctional Officers contribute 8.75% of their salary per year. The state "picks up" the members' contributions for its employees under the provisions of Internal Revenue Code (IRC) Section 414(h). At their option, the city or town employing a Teacher may also pick up their members' contributions.
7. **Salary:** Salary includes the member's base earnings plus any payments under a regular longevity or incentive plan. Salary excludes overtime, unused sick and vacation leave, severance pay, and other extraordinary compensation. Certain amounts that are excluded from taxable wages, such as amounts sheltered under a Section 125 plan or amounts picked up by the employer under IRC Section 414(h), are not excluded from salary.



APPENDIX 2 (Continued)

8. Employer Contributions: For Teachers, the state contributes 40% of the employer contribution rate and the city, town or other local employer contributes the remaining 60%. (This basic 40-60 split is further adjusted, since the State bears the cost of repaying certain amounts taken from the trust in the early 1990's.) Contributions determined in a given actuarial valuation go into effect two years after the actuarial valuation.

In fiscal years beginning after June 30, 2005, if the State's contribution on behalf of State Employees decreases, the State shall appropriate an additional amount to the retirement trust. Such amount shall be equal to 20% of any decrease in expected contributions.

9. Service: Employees receive credit for service while a member. In addition, a member may purchase credit for certain periods, such as time spent teaching at a public school in another state, by making an additional contribution to purchase the additional service and those costs will be determined at full actuarial value, except for purchases of military service and redeposits of previously refunded contributions. Special rules and limits govern the purchase of additional service and the contribution required.
10. Final Average Compensation (FAC): For members eligible to retire as of September 30, 2009, their Final Average Compensation (FAC) will be based on the highest three consecutive annual salaries. For members not eligible to retire as of September 30, 2009, their FAC will be based on the highest five consecutive years of salary. Monthly benefits are based on one-twelfth of this amount.

11. Retirement

- a. Eligibility: As of July 1, 2012, retirement eligibility dates will be as follows.
 - (i) Members with less than five years of contributory service as of June 30, 2012 and members hired on or after that date are eligible for retirement on or after their Social Security normal retirement age.
 - (ii) Members who had at least five years of contributory service as of June 30, 2012 will be eligible for retirement at an individually determined age. This age is the result of interpolating between the member's Article 7 Retirement Date, described in Section 11(b) below, and the retirement age applicable to members hired after June 30, 2012 in (i) above. The interpolation is based on service as of June 30, 2012 divided by projected service at the member's Article 7 Retirement Date. The minimum retirement age is 59.
 - (iii) Members with 10 or more years of contributory service on June 30, 2012 may choose to retire at their Article 7 Retirement Date if they continue to work and contribute until that date. If option is elected, the retirement benefit will be calculated using the benefits you have accrued as of June 30, 2012, i.e., the member will accumulate no additional defined benefits after this date, but the benefit will be paid without any actuarial reduction.
 - (iv) Effective July 1, 2015, members will be eligible to retire with full benefits at the earlier of their current RIRSA date described in sections (i) – (iii) above or upon the attainment of age 65 with 30 years of service, age 64 with 31 years of service, age 63 with 32 years of service, or age 62 with 33 years of service.



- (v) A member who is within five years of reaching their retirement eligibility date, described in this section, and has 20 or more years of service, may elect to retire at any time with a reduced benefit. The reduction is 9% for year 1, 8% for year 2, and 7% for each year thereafter.
 - (vi) Nurses (RNs) employed by MHRH are eligible to retire when they are at least 55 years old and have a minimum of 25 years of contributing service.
 - (vii) Correctional officers are eligible to retire when they are at least 55 years old and have a minimum of 25 years of contributing service. If a member has 25 years of service as of June 30, 2012, they may retain their Article 7 Retirement Date. Correctional officers who do not work for 25 years will not receive their pension benefit until they reach their Social Security normal retirement age.
- b. Article 7 Retirement Date (member's retirement date as of September 30, 2009):
- (i) Grandfathered Schedule A members—members with at least 10 years of contributory service at June 30, 2005 and eligible for retirement at September 30, 2009—are eligible to retire on or after age 60 if they have credit for 10 years of service, or at any age if they have credit for 28 years of service.
 - (ii) Correctional officers who have reached age 50 and have credit for 20 years of service as of September 30, 2009 are eligible to retire and are grandfathered.
 - (iii) Nurses (RNs) employed by MHRH who have reached age 50 with 25 years of service by September 30, 2009 are eligible to retire and are grandfathered.
 - (iv) Schedule B members—members with less than 10 years of contributory service as of June 30, 2005 and members hired on or after that date—are eligible for retirement on or after age 65 if they have credit for 10 years of service, or on or after age 62 if they have credit for 29 years of service. In addition, a member who attains age 62 with at least 20 years of service credit may retire with an actuarially reduced retirement benefit. The reduction is based on the difference between 65 and the member's age at retirement.
 - (v) Correctional officers who are hired after September 30, 2009 become eligible to retire when they have reach age 55 and have credit for 25 years of service.
 - (vi) Nurses (RNs) employed by MHRH who are hired after September 30, 2009 become eligible when they have reach age 55 and have credit for 25 years of service.
 - (vii) Schedule A members who are not grandfathered, i.e., members who had at least 10 years of creditable service at June 30, 2005 but who were not eligible to retire on September 30, 2009, will be eligible for retirement at an individually determined age. This age is the result of interpolating between the retirement age under the rules applicable to grandfathered employees in (i) above and the retirement age applicable to members hired after September 30, 2009 in (iv) above. The interpolation is based on service as of September 30, 2009 divided by projected service at the retirement age under (i) above.

- (viii) Correctional officers hired on or before September 30, 2009 who are not eligible for retirement at that date will have an individually determined retirement age. This age is the result of interpolating between the retirement age for grandfathered employees in (ii) above and the retirement age applicable to members hired after September 30, 2009 in (v) above.
- (ix) Similarly, MHRH nurses (RNs) hired on or before September 30, 2009 who are not eligible to retire at that date will have an individually determined retirement age. This age is the result of interpolating between the retirement age for grandfathered employees in (iii) above and the retirement age applicable to members hired after September 30, 2009 in (vi) above.
- c. Monthly Benefit: Upon retirement, members are eligible to commence a benefit determined as the sum of:
 - (i) Benefit accrual of 1.0% per year for all service after June 30, 2015 unless the member had 20 or more years of service as of June 30, 2012 in which case the benefit accrual is 2.0% per year for service after June 30, 2015, and
 - (ii) Benefit accrual of 1.0% per year for all service from July 1, 2012 through June 30, 2015, and
 - (iii) Benefit accruals earned as of June 30, 2012, described in Section (d), below.

For purposes of calculating benefit accruals for service after June 30, 2012, the FAC is determined through retirement. Additionally, Correctional Officers who have completed 25 years of service on or before June 30, 2012 will continue to receive the benefit accrual rate under previous law for years 31 through 35 of service.

APPENDIX 2 (Continued)

- d. Benefit accruals earned as of June 30, 2012: The retirement benefit is a percentage of the member's monthly FAC. This percentage is a function of the member's service as described below. For purposes of determining the benefit accruals earned as of June 30, 2012, the service and FAC are frozen as of June 30, 2012.
- (i) For grandfathered Schedule A members (members with at least 10 years of contributory service at June 30, 2005 and eligible for retirement at September 30, 2009), benefits are based under this schedule (Schedule A):

For Service In:	Years	Benefit Percentage Earned
The first 10 years of service	1 – 10	1.7% per year
The next 10 years of service	11 – 20	1.9% per year
The next 14 years of service	21 – 34	3.0% per year
The next 1 year of service	35	2.0% per year

The maximum benefit is 80% of FAC.

- (ii) For Schedule B members (members with less than 10 years of contributory service as of June 30, 2005) and for all future hires, benefits are based on the following schedule (Schedule B):

For Service In:	Years	Benefit Percentage Earned
The first 10 years of service	1 – 10	1.6% per year
The next 10 years of service	11 – 20	1.8% per year
The next 5 years of service	21 – 25	2.0% per year
The next 5 years of service	26 – 30	2.25% per year
The next 7 years of service	31 – 37	2.50% per year
The next 1 year of service	38	2.25% per year

The maximum benefit is 80% of FAC.

- (iii) For Schedule A members who are not grandfathered, i.e., members who had at least 10 years of creditable service at June 30, 2005 but who were not eligible to retire on September 30, 2009, benefits are based on Schedule A (under (i) above) for service through September 30, 2009 and on Schedule B (under (ii) above) for service after September 30, 2009. The maximum benefit is 80% of FAC.

(iv) MHRH nurses receive a benefit determined under the appropriate formula above.

(v) Correctional Officers receive a benefit computed under a different formula:

For Service In:	Years	Benefit Percentage Earned
The first 30 years of service	1 – 30	2.0% per year
The next 1 year of service	31	6.0% per year
The next 1 year of service	32	5.0% per year
The next 1 year of service	33	4.0% per year
The next 1 year of service	34	3.0% per year
The next 14 years of service	35	2.0% per year

Members with less than 25 years of service as of June 30, 2012 receive a flat 2.0% per year of service for years 1-30, 3.0 per year of service for years 31-35, and 2.0% per year of service in excess of 35. The maximum benefit for correctional officers is the greater of the benefit accrual as of June 30, 2012 or 75% of FAC.

- e. Payment Form: Benefits are paid as a monthly life annuity. Optional forms of payment are available; see Item 16 below.
- f. Death benefit: After retirement, death benefits are based on the form of annuity elected. If no option is elected, i.e., if payments are made as a life annuity, there is a minimum death benefit equal to the sum of the member's contributions without interest, less the sum of the monthly benefit payments made before the member's death. In addition, a lump-sum death benefit is payable upon the death of any retired member, regardless of option elected. This lump sum is equal to a percentage of the lump-sum death benefit that was available to the member at the time of retirement. The percentage is 100% in the first year of retirement, 75% in the second year, 50% in the third year, and 25% in the fourth and subsequent years of retirement. However, in no event will the lump sum death benefit be less than \$4,000.

12. Disability Retirement

- a. Eligibility: A member is eligible provided he/she has credit for at least five years of service or if the disability is work-related. Members are not eligible for an ordinary disability benefit if they are eligible for unreduced retirement.
- b. Ordinary Disability Benefit: The benefit payable under the retirement formula, using FAC and service at the time of disability, but not less than 10 years of service.
- c. Accidental Disability Benefit:

- (i) For applications filed before or on September 30, 2009: An annual annuity equal to two-thirds (66 2/3%) of salary at the time of disability.
- (ii) For applications filed after September 30, 2009: An accidental disability will be available at two-thirds (66 2/3%) of salary for members who are permanently and totally disabled from engaging in any occupation as determined by the retirement board. If the member is eligible for an accidental disability benefit but deemed able to work in other jobs, the benefit is limited to fifty percent (50%) of salary.
- (iii) Benefits will be subject to an annual review by ERSRI.

- d. **Payment Form:** The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement will be paid in a lump-sum to the member's beneficiary. All alternative forms of payment except for the Social Security Option are permitted in the case of disability retirement.

13. Deferred Termination Benefit

- a. **Eligibility:** A member with at least five years of service is vested. A vested member who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.
- b. **Monthly Benefit:** The monthly benefit is based on the retirement formula described above. Both FAC and service are determined at the time the member leaves active employment. Benefits may commence when the member has met the requirements for a retirement benefit.
- c. **Payment Form:** The same as for Retirement above.
- d. **Death Benefit before retirement:** A member who dies after leaving active service but before retiring is entitled to receive a benefit as described below in item 15.
- e. **Death Benefit after Retirement:** The same as for Retirement above.

14. Withdrawal (Refund) Benefit

- a. **Eligibility:** All members leaving covered employment with less than five years of service are eligible. Optionally, vested members (those with five or more years of service) may withdraw their accumulated contributions in lieu of the deferred benefits otherwise due.
- b. **Benefit:** The member who withdraws receives a lump-sum payment equal to the sum of his/her employee contributions. No interest is credited on these contributions.

15. Death Benefit of Active or Inactive Members

- a. **Eligibility:** Death must have occurred while an active or an inactive, non-retired member.



- b. **Basic Benefit:** Upon the death of a nonvested member, or upon the death of an inactive, vested member, or upon the death of an active, unmarried member, a refund of the member's contributions (without interest) is paid. Upon the death of a vested, married, active member, the spouse may elect (i) the refund benefit described above, or (ii) a life annuity paid to the spouse or beneficiary. The amount of the annuity is equal to the amount which would have been paid had the member retired at the time of his death and elected the Joint and 100% Survivor option. If the member was not eligible for retirement, the annuity benefit is reduced 9% per year from the date at which the member would have been eligible had he or she remained in service.
 - c. **Lump-sum Benefit:** \$800 per year of service, with a maximum benefit of \$16,000 and a minimum of \$4,000. This benefit is only available to active members.
 - d. **Accidental Duty-related Death Benefit:** If a member dies as the result of an accident while in the course of his or her duties, in lieu of the above benefits the member's spouse may elect to receive (i) a refund of all contributions made (including interest), and (ii) an annual life annuity equal to 50% of the member's salary at the time of death. The annuity benefit stops when the spouse remarries or dies, although it may be continued to any children under age 18 or to any dependent parents.
16. **Optional Forms of Payment:** In addition to a life annuity, ERSRI offers members these optional forms of payment on an actuarially equivalent basis:
- a. **Option 1 (Joint and 100% Survivor)** - A life annuity payable while either the participant or his beneficiary is alive.
 - b. **Option 2 (Joint and 50% Survivor)** - A life annuity payable to the member while both the member and beneficiary are alive, reducing to 50% of this amount if the member predeceases the beneficiary.
 - c. **Social Security Option** – An annuity paid at one amount prior to age 62, and at a reduced amount after age 62, designed to provide a level total income when combined with the member's age 62 Social Security benefit. Benefits cease upon the member's death. This option is only available for members with at least 10 years of contributory service as of June 30, 2005.

Actuarial equivalence is based on tables adopted by the Employees' Retirement Board.

APPENDIX 2 (Continued)

17. Post-retirement Benefit Increase:

- a. For members with at least 10 years of contributory service as of June 30, 2005 who are retired or eligible to retire as of September 30, 2009, and for all members receiving a disability retirement benefit on that date: a 3.00% compound increase in their retirement benefit each year, beginning in January of the year in which the member reaches the third anniversary of retirement. This increase is not a function of actual increases in the cost of living.
- b. For other members who were retired or were eligible to retire as of June 30, 2010: a compound increase in their retirement benefit each year equal to the increase in the CPI, effective on each anniversary date beginning on the third anniversary of retirement. This increase is limited to 3.00%.
- c. For other members who were not retired or eligible to retire as of June 30, 2010: a compound increase in their first \$35,000 of annual retirement benefit each year equal to the increase in the CPI, effective on each anniversary date beginning on the later of the member's third anniversary of retirement and the month following their 65th birthday. This increase is limited to 3.00%. Additionally, the \$35,000 annual COLA limit is applicable for benefits paid in 2010 and would be indexed annually to increase in the same manner as COLAs for Schedule B members (CPI increase for the year, not greater than 3.00%).
- d. For members who retire after June 30, 2012: members will be eligible to receive cost of living increases at the later of the member's third anniversary of retirement and the month following their SSNRA.
- e. Effective July 1, 2012, the following provisions will apply to all members:
 - (i) The COLA will be suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The first interim COLA may begin January 1, 2017.
 - (ii) Effective July 1, 2015, the COLA is determined based on 50% of the plan's five-year average investment rate of return less 5.0% limited to a range of 0.0% to 4.0%, plus 50% of the lesser of 3.0% or last year's CPI-U increase for a total maximum increase of 3.50%. Previously, it was the plan's five-year average investment rate of return less 5.5% limited to a range of 0.0% to 4.0%
 - (iii) The COLA will be limited to the first \$25,000 of the member's annual pension benefit. For retirees and beneficiaries who retired on or before July 1, 2015, years in which a COLA is payable based on the every fourth year provision described in (i) above will be limited to the first \$30,000. These limits will be indexed annually to increase in the same manner as COLAs, with the known values of \$25,000 for 2013, \$25,000 for 2014, \$25,168 for 2015, \$25,855 for 2016, and \$26,098 for 2017.

- f. In addition to the scheduled increases described in section (e) above, there will be a one-time 2% COLA paid in FY2016 on the first \$25,000 of pension benefit for all retirees and beneficiaries who retired on or before June 30, 2012. There will also be two one-time stipends of \$500 payable in FY2016 and FY2017 to retirees and beneficiaries who retired on or before June 30, 2015.

APPENDIX 3

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION

APPENDIX 3

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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 scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

APPENDIX 3 (Continued)

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The computed contribution rate shown on page 9 may be considered as a minimum contribution rate that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	State Employees		
	<u>June 30, 2020</u>	<u>June 30, 2019</u>	<u>June 30, 2018</u>
Ratio of the market value of assets to total payroll	3.2	3.4	3.5
Ratio of actuarial accrued liability to payroll	6.2	6.5	6.7
Ratio of actives to retirees and beneficiaries	1.0	1.0	1.0
Ratio of net cash flows to market value of assets	-4.0%	-4.5%	-4.9%
Duration of the actuarial accrued liability	10.4	10.7	11.8

	Teachers		
	<u>June 30, 2020</u>	<u>June 30, 2019</u>	<u>June 30, 2018</u>
Ratio of the market value of assets to total payroll	3.4	3.5	3.6
Ratio of actuarial accrued liability to payroll	6.3	6.4	6.6
Ratio of actives to retirees and beneficiaries	1.2	1.2	1.2
Ratio of net cash flows to market value of assets	-4.5%	-4.8%	-5.2%
Duration of the actuarial accrued liability	11.5	10.7	11.8

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 4.0 times the payroll, a return on assets 5% different than assumed would equal 20% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of

100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 5.5 times the payroll, a change in liability 2% other than assumed would equal 11% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF ACTUARIAL ACCRUED LIABILITY

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

ADDITIONAL RISK ASSESSMENT

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability. These types of other assessments are provided to the Board in the annual presentation.

GLOSSARY

DEFINITION OF ACTUARIAL TERMS

GLOSSARY

1. **Actuarial Accrued Liability (AAL)** - That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.
2. **Actuarial Assumptions** - Assumptions as to future experience under the Plan. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:
 - mortality, withdrawal, disablement, and retirement;
 - future increases in salary;
 - future rates of investment earnings and future investment and administrative expenses;
 - characteristics of members not specified in the data, such as marital status;
 - characteristics of future members;
 - future elections made by members; and
 - other relevant items.
3. **Actuarial Cost Method or Funding Method** - A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ARC.
4. **Actuarial Gain or Actuarial Loss** - A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Plan's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
5. **Actuarially Equivalent** - Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

GLOSSARY (Continued)

6. Actuarial Present Value (APV) - The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:
 - a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.),
 - b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
 - c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.
7. Actuarial Present Value of Future Plan Benefits - The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members either entitled to a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would be provide sufficient assets to pay all projected benefits and expenses when due.
8. Actuarial Valuation - The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB 25, such as the funded ratio and the ARC.
9. Actuarial Value of Assets or Valuation Assets - The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ARC.
10. Actuarially Determined - Values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

11. **Amortization Method** - A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
12. **Amortization Payment** - That portion of the pension plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
13. **Annual Required Contribution (ARC)** - The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB 25. The ARC consists of the Employer Normal Cost and the Amortization Payment.
14. **Closed Amortization Period** - A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.
15. **Decrements**: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.
16. **Defined Benefit Plan**: An employer-sponsored retirement benefit that provides workers, upon attainment of designated age and service thresholds, with a monthly benefit based on the employee's salary and length of service. The value of a benefit from a defined benefit plan is generally not affected by the return on the assets that are invested to fund the benefit.
17. **Defined Contribution Plan**: An employer-sponsored retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
18. **Employer Normal Cost**: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.
19. **Experience Study**: A periodic review and analysis of the actual experience of the Plan which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

20. **Funded Ratio:** The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA, although GASB 25 reporting requires the use of the AVA.
21. **Funding Period or Amortization Period:** The term “Funding Period” is used in two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ARC. This funding period is chosen by the Board of Trustees. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.
22. **GASB:** Governmental Accounting Standards Board.
23. **GASB 67 and GASB 68:** Governmental Accounting Standards Board Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 67 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 68 sets the rules for the systems themselves.
24. **Normal Cost:** That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.
25. **Open Amortization Period:** An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
26. **Unfunded Actuarial Accrued Liability:** The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
27. **Valuation Date or Actuarial Valuation Date:** The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

Municipal Employees Retirement System State of Rhode Island

Actuarial Valuation Report
As of June 30, 2020

DRAFT





December 10, 2020

Retirement Board
40 Fountain Street, First Floor
Providence, RI 02903-1854

Dear Members of the Board:

Subject: Actuarial Valuation as of June 30, 2020

This is the June 30, 2020 actuarial valuation of the Municipal Employees' Retirement System (MERS). This report describes the current actuarial condition of MERS, determines recommended employer contribution rates, and analyzes changes in these contribution rates. Separate liabilities and contribution rates are determined for each of the participating units. Valuations are prepared annually as of June 30, the last day of the plan year.

Under Rhode Island General Laws, the employer contribution rates for the units participating in MERS are certified annually by the State of Rhode Island Retirement Board. These rates are determined actuarially, based on the plan provisions in effect as of the valuation date and the actuarial assumptions and methodology adopted by the Board. Where known, we have also reflected adoption of a COLA provision even if the effective date is after the valuation date. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective two years after the valuation date. For example, the rates determined by this June 30, 2020 actuarial valuation will be applicable for the year beginning July 1, 2022 and ending June 30, 2023.

FINANCING OBJECTIVES AND FUNDING POLICY

The actuarial cost method and the amortization periods are set by board policy. Normal cost rate (as a percent of pay) and actuarial accrued liabilities are computed using the Entry Age Normal actuarial cost method. The employer contribution rate is the sum of two pieces: the employer normal cost rate and the amortization rate. The employer normal cost rate is the difference between the normal cost rate and the member contribution rate. The amortization rate, also determined as a level percent of pay, is the amount required to amortize the unfunded actuarial accrued liability over a closed period. The amortization rate is adjusted for the two-year deferral in contribution rates.

PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. The funded ratio of the average unit in MERS is 80.5%, which is remained the same from 80.5% in the prior. The funded status alone is not appropriate for assessing the need for future contributions for a given unit. The funded status is also not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.00% on the actuarial valuation of assets), it is expected that:

1. The employer normal cost as a percentage of pay will decrease to the level of the newest tier as the old tier population declines and is replaced by new tier members,
2. The amortization payment as a percentage of pay will increase through fiscal year 2024 as annual payments begin for each of the five staggered bases established in connection with the experience study after which they will remain level through fiscal year 2038, and
3. In the absence of benefit improvements, the funded ratio should increase over time, until it reaches 100%

There are currently 121 units participating in MERS, 69 covering general employees and 52 covering police and/or fire employees. Of these 121 units, 3 are new units that joined MERS since the last valuation, 54 had their rate increase and 54 had their rate decrease. Seven units have no required contribution rate, while East Smithfield Water, Westerly and Barrington Fire (20) have fixed dollar contributions. Of the 69 continuing general employee units, 34 had rate increases, while 19 of the 52 continuing police/fire units had rate increases. An analysis of the changes in the employer contribution rates appears on Table 5. The primary cause of the rate increases was the continued recognition of the changes in assumption first effective with the June 30, 2017 valuation, changes in assumptions that are partially offset by a loss on the actuarial value of assets. That is, the return on the actuarial value of assets was 5.9% which is less than the assumed rate of 7.0%. While the fund on a market value basis has exceeded the expected return of 7.0% for two of the last four years, these gains have only partially offset deferred asset losses from 2019 and 2020.

BENEFIT PROVISIONS

The benefit provisions reflected in this valuation are those which were in effect on June 30, 2020. There have been no material changes to the benefit provisions since the preceding valuation. We have also reflected the known adoption of COLA B or COLA C, even if the effective date and/or the adoption date occurred after the valuation date. The benefit provisions are summarized in Appendix B, and each unit's individual election is indicated by a code in column 4 on Table 1. Changes in elections are discussed on page 5.

ASSUMPTIONS AND METHODS

The assumptions have been updated from the last actuarial valuation based on the Actuarial Experience Investigation Study approved by the Board on May 22, 2020. Below is a summary of the changes made to the assumptions:

1. Update the underlying mortality tables from the RP-2014 set of tables to the public sector based PUB-10 tables. As adjustments are made based on the actual experience of ERSRI, this had no material impact to the liabilities or contributions.
2. Slightly increase turnover rates.
3. Slightly decrease retirement rates.
4. Slight modifications to the rates of disability, including adding material incidence of disability for members in the age ranges that historically have been eligible to retire but under prospective provisions are not.

We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI. The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities and the calculated contribution rates.

All assumptions and methods are described in Appendix A. The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 67.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.



DATA

The System's staff supplied data for retired, active and inactive members as of June 30, 2020. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. The System's staff also supplied asset data as of June 30, 2020.

CERTIFICATION

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Rhode Island state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries. All are Members of the American Academy of Actuaries. They all meet the Qualification Standards of the American Academy of Actuaries and they are experienced in performing valuations for large public retirement systems.

Respectfully submitted,



Joseph P. Newton, FSA, MAAA, EA
Pension Market Leader and Actuary



Paul T. Wood, ASA, MAAA, FCA
Consultant

J:\3014\MasterLinkedFile\MERS\MERS_ValReport.docx

Actuarial Standards of Practice Disclosure Statements

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.

This report should not be relied on for any purpose other than the purpose described above. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

The valuation was based upon information furnished by the System's staff, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the System's staff.

The developed findings included in this report consider data or other information through June 30, 2020.

This is one of multiple documents comprising the actuarial report. The other document comprising the actuarial report is a PowerPoint presentation presented to the Board of Trustees following the publication of this report.

Table of Contents

	Page
	COVER LETTER
SECTION I	DISCUSSION
	CONTRIBUTION RATES 2
	FINANCIAL DATA AND EXPERIENCE 3
	MEMBER DATA 4
	BENEFIT PROVISIONS 5
	ACTUARIAL METHODS AND ASSUMPTIONS 6
	OTHER OBSERVATIONS AND COMMENTS 7
SECTION II	TABLES 8-48
APPENDIX 1	SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS 49-58
APPENDIX 2	SUMMARY OF PROVISIONS 59-67
APPENDIX 3	OUTSTANDING AMORTIZATION BASES 68-82
APPENDIX 4	RISK ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION 83-85
GLOSSARY	DEFINITIONS OF ACTUARIAL TERMS 86-89

SECTION I

DISCUSSION

Discussion (Contribution Rates)

The employer contribution rates for MERS are determined actuarially. The rates determined in this valuation become effective two years after the valuation date, in this case as of July 1, 2022.

Each rate consists of two pieces: the employer normal cost rate and the amortization rate. The normal cost and actuarial accrued liability are determined using the Entry Age actuarial cost method. The employer normal cost is the difference between (i) the normal cost rate, determined as a level percent of pay, and (ii) the member contribution rate. The unfunded actuarial accrued liability (UAAL) is amortized as a level percent of payroll over a closed period. For underfunded units, the period is 25 years as measured from June 30, 2010, or 15 years as of the current valuation date for any existing UAAL. In conjunction with the Article 21 legislation, employers were given the option to extend the amortization period for the UAAL existing as of June 30, 2014 to 25 years as measured from June 30, 2014. All new experience gains and losses for underfunded units are amortized over individual closed periods of 20 years using the process of “laddering”. Generally, overfunded plans will have an amortization rate calculated using a single base amortized over an open period of 20 years. However, the impact of the experience study was divided into separate “stagers” with the first payment beginning in FY2020 over a 20 year period. Other staggers will begin payment in FY2021 through FY2024 with amortization periods also equal to 20 years (e.g. the FY2024 stagger will have a 20 year amortization period). The impact of the most recent experience study is divided into two staggers to align with the final two staggers from the 2017 experience study. The amortization rate is adjusted for the fact that the contribution rate set by this valuation is deferred for two years.

Table 1 shows the member contribution rate, the employer normal cost rate, the amortization rate and the total employer contribution rate. These rates are applicable to the fiscal year ending June 30, 2023. Table 2 compares the total employer contribution rate with those rates determined in the two prior actuarial valuations. Table 3 shows the components used to determine the employer contribution rate in dollar amounts. Finally, Table 5 shows the major components of the rate change for each unit.

Discussion (Financial Data and Experience)

Assets for MERS are held in trust and are commingled with those of several other plans and programs—including the Employees' Retirement System of Rhode Island—for investment purposes. The State Investment Commission is responsible for setting the asset allocation policy and for investing the funds. The System's staff determines a reserve for each unit, reflecting that unit's contributions and benefit payments, and reflecting the unit's share of the earnings, determined on a market-value basis.

Table 6a shows the development of the actuarial value of assets in aggregate. The actuarial value of assets is determined by recognizing any difference between actual return and expected return (7.00% of market value) over a five-year period, 20% in each year, where gains and losses are allowed to offset each other immediately. The market value for MERS as of June 30, 2020 was \$1,664 million while the actuarial value was \$1,712 million (102.9% of market). Therefore, a cumulative total of \$48 million in actuarial loss related to the investment experiences in 2019 and 2020 continue to be deferred and will be recognized over the next four valuations. Recognition of this deferred loss will, all other things being equal, result in contribution rates slightly increasing over the next four years.

Table 4a shows the market and actuarial values of assets for each unit and Table 4b shows the reconciliation of the market value of assets for each unit for the fiscal year ending June 30, 2020. Table 6b shows a historical summary of the return rates. The fund earned 3.7% during the year ending June 30, 2020 on a market value basis and returned 5.9% on an actuarial value basis. The average annual return based on the market value of assets over the last ten years (July 1, 2010 – June 30, 2020) was 7.7%. This is more than the current 7.00% annual investment return assumption used. The average annual return based on the actuarial value of assets over the same period was 6.0%. The returns above are net of both investment and administrative expenses, so they may differ from other information provided by the General Treasurer's office or the investment managers and advisors.

The System's staff provided all of the financial information used in this report.

Discussion (Member Data)

The System's staff supplied member data as of June 30, 2020. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year's data, and was reasonable overall. Information provided for active members includes: name, identification number, sex, a code indicating whether the member was active or inactive, date of birth, service, salary, unit indicator, date of last contribution, accumulated member contributions without interest, accrued benefit multiplier as of June 30, 2020, Final Average Compensation as of June 30, 2012, and the Rhode Island Retirement Security Act Retirement Date. For retired members, data includes: name, an identification number, sex, date of birth, date of retirement, amount of benefit, the amount of adjustment after age 62 for anyone electing the Social Security option, a code indicating the option elected and the type of retiree (service retiree, disabled retiree, beneficiary), and if applicable, the joint pensioner's date of birth and sex. For the special survivor benefit provided to retired police and fire members, we have not been provided demographic information on possible spouses who will be eligible for that benefit. For this valuation, we have assumed 80% of members will be married and 10% of married members will choose option 1 or 2. The 80% was derived from analyzing two other large GRS clients with similar demographics and benefit provisions. One data set showed 84% of retirees with spousal information and the other 77%.

Table 9 shows active member statistics for each unit, and Table 10 shows statistics on retirees and beneficiaries for each unit. Tables 11 and 12 show the distribution of active members by age and service, separately for general employees and for police and fire employees. Tables 13, 14, and 15 show summaries of the total membership data for general employee units (Table 13), for police and fire units (Table 14), and for all MERS units (Table 15).

The total payroll shown on the statistical tables is the amount that was supplied by the System's staff, annualized if necessary. For the cost calculations, the pays were adjusted in accordance with the actuarial assumptions to reflect one year's salary increase.

Discussion (Benefit Provisions)

Appendix B includes a summary of the benefit provisions for MERS. There were no material changes in the benefit provisions since the preceding valuation.

Individual units may elect certain optional provisions, including an annual benefit increase applicable to future retirees only (COLA C), the same increase applicable to both current and future retirees (COLA B). There were no other changes reflected in this valuation.

No units closed, withdrew or subdivided since the prior valuation.

There are no ancillary benefits—e.g., cost of living benefits—that are currently provided by a source independent of MERS but that might be deemed a MERS liability if continued beyond the availability of funding by the current funding source.

The Central Falls Police & Fire Legacy plan is new this year as a result of the “Pathway to MERS” legislation. The benefit provisions for this group are generally unchanged from the benefits provided prior to entering MERS. For more details on these benefits, please contact the ERSRI.

Discussion (Actuarial Methods and Assumptions)

Appendix A of this report includes a summary of the actuarial assumptions and methods used in this valuation.

Costs are determined using the Entry Age Normal actuarial cost method. This method was initially adopted effective June 30, 1999 and was modified, effective June 30, 2011, to be consistent with the Act and the standards outlined in GASB Statement No. 67 exposure draft, which has now been finalized.

The method used to determine the actuarial value of assets is the five-year smoothed market method. This technique is further described in Section III of Appendix A. The development of the actuarial value of assets utilizing this method is shown in Table 6a of this report.

The assumptions were adopted by the Board on May 22, 2020. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI.

Discussion (Other Observations and Comments)

- Westerly (1622/1623) has no active members, but does have retirees/beneficiaries and an inactive member covered by MERS. The actuarial value of assets is less than the actuarial liability; therefore, a special contribution will be made in the next few years to amortize the unfunded liability. Based on the June 30, 2012 actuarial valuation, a fixed contribution amount of \$181,261 per year was calculated to amortize the UAAL over a 5-year period. The UAAL as of June 30, 2020 is \$101,784, therefore, one more payment of \$181,261 would result in full funding of the Unit. Please note that future experience may result in additional contribution requirements.
- East Smithfield Water (1177) has no active members but does have vested members due a deferred benefit and retirees/beneficiaries. The actuarial value of assets is less than the actuarial accrued liability resulting in an unfunded liability as of June 30, 2020. Based on this unfunded liability, a fixed contribution amount of \$5,938 was calculated to amortize the UAAL over a 5 year period beginning in FY2023.
- Scituate Police (1464) has no active members, but does have retirees/beneficiaries covered by MERS. The actuarial value of assets is larger than the actuarial liability, so no funding is required.
- Tiogue Fire and Lighting (1528) has no active members, but it has one retiree. The unit's liability is less than the actuarial value of its assets, so no funding is required.
- Albion Fire (Admin) (1702) has no active employees but it has one retiree. Its assets exceed its liabilities, and thus there is no contribution requirement for the year ending June 30, 2022.
- Barrington Fire 20 (1005) still has one active member but contributes a fixed dollar amount for FY2022. Based on the June 30, 2020 valuation, the actuarially determined contribution is \$348,940.
- Pascoag Fire District (ADMIN) COLA (1802) had no active members, but it has an inactive member. We have assumed that a new active member will be hired and calculated a contribution rate. If there are no active members hired, the unit will need to contribute on a dollar basis.
- East Greenwich Fire (ADMIN) (1159) now has one active member and its contributions have been converted to a percent of pay. Based on the June 30, 2030 valuation, the actuarially determined contribution for FY2023 is \$9,125 or 36.14% of projected pay.
- There are three new units joined MERS since prior valuation. They are Central Falls Police & Fire New (1054), Central Falls Police & fire Legacy (1055) and Portsmouth Fire Department (1425).
- Other changes made between this valuation and July 1, 2021 such as units adopting new benefits, mergers of units, spin offs from one unit into two units, etc. will also result in revisions of contribution rates.

SECTION II

TABLES

Tables

Table Number	Content of Table	Page
1	Contribution Rates	9-11
2	Comparison of Employer Contribution Rates	12-15
3	Components Used in Determining Contribution Rates	16-20
4a	Asset Values	21-23
4b	Reconciliation of Market Assets by Unit	24-26
5a	Explanation of Rate Changes	27-29
5b	Analysis of Financial Experience	30
6a	Development of Actuarial Value of Assets (All Units in Aggregate)	31
6b	History of Investment Return Rates	32
7	Schedule of Funding Progress	33-36
8	Distributions of Assets at Market Value	37
9	Active Member Statistics	38-40
10	Retired Member Statistics	41-43
11	Distribution of Active Members by Age and by Years of Service (General Employees)	44
12	Distribution of Active Members by Age and by Years of Service (Police and Fire)	45
13	Membership Data (General Employees Units)	46
14	Membership Data (Police and Fire Units)	47
15	Membership Data (All MERS Units)	48

Table 1

Contribution Rates For Fiscal Year Ending June 30, 2023

Old Unit Number (1)	New Unit Number (2)	Unit (3)	Code(s) (4)	Member Rate (5)	Employer Rate		
					Employer Normal Cost (6)	Amortization Rate (7)	Total (8)
General Employee Units							
3002	1012 1019	Bristol	B	2.00%	5.82%	9.32%	15.14%
3003	1032 1033	Burrillville	C	2.00%	6.28%	1.70%	7.98%
3004	1052	Central Falls		1.00%	5.25%	9.61%	14.86%
3005	1082	Charlestown	C	2.00%	6.04%	1.04%	7.08%
3007	1112 1113	Cranston	B	2.00%	7.01%	4.05%	11.06%
3008	1122 1123	Cumberland		1.00%	6.38%	3.70%	10.08%
3009	1152 1153	East Greenwich	C	2.00%	6.54%	(0.46%)	6.08%
3010	1162 1163	East Providence	B	2.00%	5.95%	15.64%	21.59%
3011	1183	Exeter/West Greenwich	B	2.00%	7.56%	5.23%	12.79%
3012	1192 1193	Foster		1.00%	7.14%	4.59%	11.73%
3013	1212 1213	Glocester	C	2.00%	6.59%	3.64%	10.23%
3014	1262	Hopkinton	C	2.00%	6.43%	(3.52%)	2.91%
3015	1272 1273	Jamestown	C	2.00%	6.46%	3.29%	9.75%
3016	1282 1283	Johnston	C	2.00%	6.29%	12.81%	19.10%
3017	1302 1303	Lincoln		1.00%	9.24%	2.80%	12.04%
3019	1322 1323	Middletown	C	2.00%	6.37%	5.06%	11.43%
3021	1352 1353 1354	Newport	B	2.00%	5.91%	15.67%	21.58%
3022	1342 1343	New Shoreham	B	2.00%	5.79%	1.54%	7.33%
3023	1372 1373	North Kingstown	C	2.00%	6.22%	11.21%	17.43%
3024	1382 1383	North Providence		1.00%	6.30%	0.64%	6.94%
3025	1392 1393	North Smithfield	B	2.00%	6.26%	(0.16%)	6.10%
3026	1412 1413	Pawtucket	C	2.00%	6.19%	7.61%	13.80%
3027	1515	Union Fire District		1.00%	7.08%	(0.24%)	6.84%
3029	1452	Richmond		1.00%	5.64%	3.13%	8.77%
3030	1462 1463	Scituate	B	2.00%	6.49%	8.17%	14.66%
3031	1472 1473	Smithfield	C	2.00%	6.70%	3.47%	10.17%
3032	1492 1493	South Kingstown	B	2.00%	6.42%	6.36%	12.78%
3033	1532 1533	Tiverton	C	2.00%	5.84%	(1.63%)	4.21%
3034	1562	Warren	C	2.00%	5.38%	5.05%	10.43%
3037	1602	West Greenwich	C	2.00%	6.16%	7.22%	13.38%
3039	1632 1633	Woonsocket	B	2.00%	6.06%	5.92%	11.98%
3040	1073	Chariho School District	C	2.00%	6.21%	5.24%	11.45%
3041	1203	Foster/Glocester	B	2.00%	6.33%	5.10%	11.43%
3043	1336	Narragansett Housing	C	2.00%	7.23%	(3.84%)	3.39%
3045	1098	Coventry Lighting District	C	2.00%	5.68%	(111.24%)	0.00%
3046	1242	Hope Valley Fire	C	2.00%	4.69%	(7.40%)	0.00%
3050	1156	East Greenwich Housing	C	2.00%	7.85%	3.33%	11.18%
3051	1116	Cranston Housing	C	2.00%	5.58%	0.51%	6.09%
3052	1166	East Providence Housing	B	2.00%	7.01%	4.44%	11.45%
3053	1416	Pawtucket Housing	B	2.00%	6.13%	(8.40%)	0.00%
3056	1126	Cumberland Housing	C	2.00%	6.87%	(2.40%)	4.47%
3057	1306	Lincoln Housing	B	2.00%	5.36%	4.89%	10.25%
3059	1016	Bristol Housing		1.00%	6.74%	(4.57%)	2.17%
3065	1036	Burrillville Housing	B	2.00%	5.34%	7.95%	13.29%
3066	1386	North Providence Housing	B	2.00%	5.34%	29.83%	35.17%

Table 1

Contribution Rates For Fiscal Year Ending June 30, 2023

Old Unit Number (1)	New Unit Number (2)	Unit (3)	Code(s) (4)	Member Rate (5)	Employer Rate		
					Employer Normal Cost (6)	Amortization Rate (7)	Total (8)
3068	1227	Greenville Water	B	2.00%	6.70%	(3.23%)	3.47%
3069	1356	Newport Housing	C	2.00%	5.82%	15.71%	21.53%
3071	1566	Warren Housing	B	2.00%	5.03%	1.30%	6.33%
3072	1286	Johnston Housing		1.00%	6.81%	6.81%	13.62%
3077	1538	Tiverton Local 2670A	C	2.00%	5.01%	1.76%	6.77%
3078	1002 1003 1007 1009	Barrington COLA	C	2.00%	6.42%	4.32%	10.74%
3079	1096	Coventry Housing		1.00%	6.89%	(0.84%)	6.05%
3080	1496	South Kingstown Housing	C	2.00%	5.93%	(6.37%)	0.00%
3081	1403	N. RI Collaborative Adm. Services	C	2.00%	6.20%	7.73%	13.93%
3083	1616	West Warwick Housing	B	2.00%	4.60%	4.40%	9.00%
3084	1476	Smithfield Housing		1.00%	6.37%	(3.95%)	2.42%
3094	1478	Smithfield COLA	C	2.00%	6.24%	3.68%	9.92%
3096	1056	Central Falls Housing	C	2.00%	6.21%	7.68%	13.89%
3098	1293	Lime Rock Administrative Services		1.00%	7.02%	6.22%	13.24%
3099	1063	Central Falls Schools	C	2.00%	5.73%	2.75%	8.48%
3100	1023	Bristol/Warren Schools	B	2.00%	5.83%	10.36%	16.19%
3101	1157 1158	Town of E. Greenwich-COLA-NCE	C	2.00%	6.54%	(0.46%)	6.08%
3102	1712	Harrisville Fire District (ADMIN)	C	2.00%	7.22%	(2.49%)	4.73%
3150	1159	East Greenwich Fire (ADMIN)	C	2.00%	3.26%	32.88%	36.14%
1802	1802	Pascoag Fire District (ADMIN) COLA	C	2.00%	6.18%	2.38%	8.56%
General Employee Units Averages				1.90%	6.28%	6.40%	12.68%
Police & Fire Units							
4016	1285	Johnston Fire	D	9.00%	8.70%	2.79%	11.49%
4029	1454	Richmond Police	6	9.00%	8.63%	2.14%	10.77%
4031	1474	Smithfield Police	C,D	10.00%	9.39%	2.54%	11.93%
4042	1555	Valley Falls Fire	D	9.00%	9.13%	19.69%	28.82%
4047	1395 1435	North Smithfield Voluntary Fire	B,D	10.00%	9.06%	7.65%	16.71%
4050	1155	East Greenwich Fire	C,D	10.00%	9.37%	25.27%	34.64%
4054	1154	East Greenwich Police	C,D	10.00%	10.05%	21.65%	31.70%
4055	1375	North Kingstown Fire	C,D	10.00%	9.55%	20.80%	30.35%
4056	1374	North Kingstown Police	C,D	10.00%	9.44%	19.57%	29.01%
4058	1385	North Providence Fire	D	9.00%	9.28%	19.23%	28.51%
4059	1008	Barrington Fire (25)	C	10.00%	8.73%	2.86%	11.59%
4060	1004	Barrington Police	C,D	10.00%	9.49%	21.16%	30.65%
4062	1564 1565	Warren Police & Fire	C,D	10.00%	9.99%	17.46%	27.45%
4063	1494	South Kingstown Police	B,1	10.00%	9.69%	17.83%	27.52%
4076	1394	North Smithfield Police	C,D	10.00%	8.93%	13.82%	22.75%
4077	1534	Tiverton Fire	C,D	10.00%	9.37%	13.60%	22.97%
4082	1194	Foster Police	C,D	10.00%	11.66%	16.18%	27.84%
4085	1634	Woonsocket Police	C,D	10.00%	9.27%	22.55%	31.82%

Table 1

Contribution Rates For Fiscal Year Ending June 30, 2023

Old Unit Number	New Unit Number	Unit	Code(s)	Member Rate	Employer Rate		
					Employer Normal Cost	Amortization Rate	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
4086	1084	Charlestown Police	C,D	10.00%	9.45%	26.75%	36.20%
4087	1264	Hopkinton Police	C,D,6	10.00%	9.94%	24.41%	34.35%
4088	1214	Glocester Police	C,D	10.00%	10.52%	14.15%	24.67%
4089	1604	West Greenwich Police/Rescue	C,D	10.00%	10.85%	10.52%	21.37%
4090	1034	Burrillville Police	C,D,6	10.00%	9.40%	10.35%	19.75%
4091	1148	Cumberland Rescue	C,D	10.00%	10.02%	2.17%	12.19%
4093	1635	Woonsocket Fire	C,D	10.00%	9.90%	4.95%	14.85%
4094	1015	Bristol Fire	D	9.00%	11.31%	1.24%	12.55%
4095	1135	Cumberland Hill Fire	C,D	10.00%	9.93%	30.06%	39.99%
4096	1014	Bristol Police	C,D	10.00%	9.36%	(1.23%)	8.13%
4098	1095	Coventry Fire	C,D	10.00%	9.88%	40.22%	50.10%
4099	1505	South Kingstown EMT	C,D	10.00%	10.38%	(5.43%)	4.95%
4101	1365	North Cumberland	C,D	10.00%	11.70%	14.61%	26.31%
4102	1045 1235 1525 1585	Central Coventry Fire	C,D	10.00%	9.61%	24.13%	33.74%
4103	1255	Hopkins Hill Fire	C,D	10.00%	8.43%	1.96%	10.39%
4104	1114	Cranston Police	C,D,4	10.00%	9.51%	6.62%	16.13%
4105	1115	Cranston Fire	C,D,4	10.00%	9.87%	(0.61%)	9.26%
4106	1125	Cumberland Fire	B,D	10.00%	8.96%	10.38%	19.34%
4107	1305	Lincoln Rescue	C	10.00%	9.10%	20.73%	29.83%
4108	1344	New Shoreham Police	B,D	10.00%	10.14%	9.02%	19.16%
4109	1324	Middletown Police & Fire	C,D	10.00%	9.12%	(1.38%)	7.74%
4110	1715	Harrisville Fire District	C,D	10.00%	10.25%	(5.63%)	4.62%
4111	1705	Albion Fire District	C	10.00%	9.48%	8.17%	17.65%
1054	1054	Central Falls Police & Fire New	C	10.00%	8.95%	0.01%	8.96%
1055	1055	Central Falls Police & Fire Legacy	C	11.70%	8.07%	53.45%	61.52%
1284	1284	Johnston Police		9.00%	8.75%	(0.39%)	8.36%
1364	1364	Newport Police Dept		9.00%	8.60%	(0.69%)	7.91%
1425	1425	Portsmouth Fire Department	C	10.00%	8.35%	(0.06%)	8.29%
1465	1465	Smithfield Fire	C	10.00%	9.07%	(0.78%)	8.29%
1484	1484	Scituate Police Dept COLA	C	10.00%	8.94%	(0.55%)	8.39%
1805	1805	Pascoag Fire District COLA	C	10.00%	9.61%	12.37%	21.98%
1815	1815	Saylesville Fire (NO COLA)	2	9.00%	6.02%	(1.78%)	4.24%
Police & Fire Units Averages				9.93%	9.45%	11.32%	20.77%
All MERS Units Averages				4.44%	7.29%	7.96%	15.25%

B - Municipality has adopted COLA Plan B

C - Municipality has adopted COLA Plan C

D - Municipality has adopted the "20-year" optional Police & Fire Plan

1 - S.Kingstown Police have a unique plan that provides 2.0% of salary for service prior to July 1, 1993, and 2.5% of salary for service on or after July 1, 1993.

2 - New unit since prior valuation.

3 - Closed unit.

4 - Historically, Cranston Fire and Police are contributing 10% due to special plan provi

5 - This unit has no active members.
6 - Historically, Special plan provisions apply to this unit.



Table 2

Comparison of Employer Contribution Rates

Old Unit Number	New Unit Number	Unit	Code(s)	Contribution Rates			Projected Payroll, Projected from Actual FY2020 Payroll			Estimated Contributions		
				June 30, 2020 Actuarial Valuation, for FY2023	June 30, 2019 Actuarial Valuation, for FY2022	June 30, 2018 Actuarial Valuation, for FY2021	For FY2023	For FY2022	For FY2021	June 30, 2020 Actuarial Valuation, for FY2023	June 30, 2019 Actuarial Valuation, for FY2022	June 30, 2018 Actuarial Valuation, for FY2021
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
3002	1012 1019	Bristol	B	15.14%	15.24%	15.95%	\$ 5,523,241	\$ 5,362,370	\$ 5,206,184	\$ 836,219	\$ 817,225	\$ 830,386
3003	1032 1033	Burrillville	C	7.98%	7.66%	8.02%	7,237,543	7,026,740	6,822,078	577,556	538,248	547,131
3004	1052	Central Falls		14.86%	14.42%	12.84%	2,330,988	2,263,096	2,197,180	346,385	326,338	282,118
3005	1082	Charlestown	C	7.08%	7.42%	6.86%	3,173,310	3,080,884	2,991,149	224,670	228,602	205,193
3007	1112 1113	Cranston	B	11.06%	10.70%	10.49%	27,759,210	26,950,689	26,165,718	3,070,169	2,883,724	2,744,784
3008	1122 1123	Cumberland		10.08%	10.81%	10.92%	11,542,980	11,206,777	10,880,366	1,163,532	1,211,453	1,188,136
3009	1152 1153	East Greenwich	C	6.08%	5.54%	5.14%	1,676,987	1,628,143	1,580,721	101,961	90,199	81,175
3010	1162 1163	East Providence	B	21.59%	21.56%	21.70%	22,780,673	22,117,158	21,472,969	4,918,347	4,768,459	4,659,634
3011	1183	Exeter/West Greenwich	B	12.79%	12.64%	13.60%	3,306,856	3,210,539	3,117,029	422,947	405,812	423,916
3012	1192 1193	Foster		11.73%	12.11%	11.85%	1,459,124	1,416,625	1,375,364	171,155	171,553	162,981
3013	1212 1213	Glocester	C	10.23%	10.47%	11.15%	3,037,993	2,949,508	2,863,600	310,787	308,813	319,291
3014	1262	Hopkinton	C	2.91%	2.98%	3.73%	2,050,631	1,990,904	1,932,916	59,673	59,329	72,098
3015	1272 1273	Jamestown	C	9.75%	10.53%	11.13%	4,806,876	4,666,870	4,530,942	468,670	491,421	504,294
3016	1282 1283	Johnston	C	19.10%	16.62%	16.67%	8,540,608	8,291,852	8,050,342	1,631,256	1,378,106	1,341,992
3017	1302 1303	Lincoln		12.04%	11.42%	12.06%	1,067,244	1,036,160	1,005,980	128,496	118,329	121,321
3019	1322 1323	Middletown	C	11.43%	11.92%	12.39%	5,438,819	5,280,407	5,126,609	621,657	629,424	635,187
3021	1352 1353 1354	Newport	B	21.58%	21.08%	21.11%	15,732,245	15,274,024	14,829,150	3,395,018	3,219,764	3,130,434
3022	1342 1343	New Shoreham	B	7.33%	7.03%	7.26%	2,834,424	2,751,868	2,671,717	207,763	193,456	193,967
3023	1372 1373	North Kingstown	C	17.43%	17.04%	17.25%	13,554,565	13,159,772	12,776,478	2,362,561	2,242,425	2,203,942
3024	1382 1383	North Providence		6.94%	6.38%	6.37%	9,408,528	9,134,493	8,868,440	652,952	582,781	564,920
3025	1392 1393	North Smithfield	B	6.10%	5.93%	5.35%	4,628,912	4,494,089	4,363,194	282,364	266,499	233,431
3026	1412 1413	Pawtucket	C	13.80%	14.28%	14.81%	24,735,508	24,015,056	23,315,588	3,413,500	3,429,350	3,453,039
3027	1515	Union Fire District		6.84%	6.91%	7.16%	432,481	419,885	407,655	29,582	29,014	29,188
3029	1452	Richmond		8.77%	8.61%	8.60%	1,460,082	1,417,556	1,376,268	128,049	122,052	118,359
3030	1462 1463	Scituate	B	14.66%	15.01%	16.29%	3,766,089	3,656,397	3,549,900	552,109	548,825	578,279
3031	1472 1473	Smithfield	C	10.17%	9.89%	9.69%	4,050,990	3,933,000	3,818,447	411,986	388,974	370,008
3032	1492 1493	South Kingstown	B	12.78%	12.37%	12.47%	14,523,364	14,100,354	13,689,664	1,856,086	1,744,214	1,707,101
3033	1532 1533	Tiverton	C	4.21%	3.11%	2.60%	4,162,268	4,041,037	3,923,337	175,231	125,676	102,007
3034	1562	Warren	C	10.43%	10.69%	10.36%	2,724,154	2,644,810	2,567,777	284,129	282,730	266,022
3037	1602	West Greenwich	C	13.38%	14.60%	14.65%	1,377,284	1,337,169	1,298,222	184,281	195,227	190,190
3039	1632 1633	Woonsocket	B	11.98%	11.43%	10.97%	14,494,408	14,072,241	13,662,370	1,736,430	1,608,457	1,498,762
3040	1073	Chariho School District	C	11.45%	11.50%	11.22%	6,144,515	5,965,548	5,791,795	703,547	686,038	649,839
3041	1203	Foster/Glocester	B	11.43%	10.29%	10.13%	2,477,672	2,405,506	2,335,443	283,198	247,527	236,580
3043	1336	Narragansett Housing	C	3.39%	2.80%	2.67%	213,786	207,559	201,514	7,247	5,812	5,380
3045	1098	Coventry Lighting District	C	0.00%	0.00%	0.00%	51,201	49,710	48,262	-	-	-
3046	1242	Hope Valley Fire	C	0.00%	0.00%	1.67%	179,529	174,300	169,224	-	-	2,826
3050	1156	East Greenwich Housing	C	11.18%	11.67%	11.43%	601,257	583,744	566,742	67,220	68,123	64,779
3051	1116	Cranston Housing	C	6.09%	6.54%	5.68%	1,258,689	1,222,028	1,186,435	76,654	79,921	67,390



Table 2

Comparison of Employer Contribution Rates												
Old Unit Number	New Unit Number	Unit	Code(s)	Contribution Rates			Projected Payroll, Projected from Actual FY2020 Payroll			Estimated Contributions		
				June 30, 2020 Actuarial Valuation, for FY2023	June 30, 2019 Actuarial Valuation, for FY2022	June 30, 2018 Actuarial Valuation, for FY2021	For FY2023	For FY2022	For FY2021	June 30, 2020 Actuarial Valuation, for FY2023	June 30, 2019 Actuarial Valuation, for FY2022	June 30, 2018 Actuarial Valuation, for FY2021
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
3052	1166	East Providence Housing	B	11.45%	11.75%	12.78%	825,599	801,552	778,206	94,531	94,182	99,455
3053	1416	Pawtucket Housing	B	0.00%	0.00%	0.00%	3,338,072	3,240,847	3,146,453	-	-	-
3056	1126	Cumberland Housing	C	4.47%	5.08%	5.84%	644,800	626,020	607,786	28,823	31,802	35,495
3057	1306	Lincoln Housing	B	10.25%	9.77%	8.97%	666,068	646,668	627,833	68,272	63,179	56,317
3059	1016	Bristol Housing		2.17%	1.17%	0.70%	586,848	569,755	553,160	12,735	6,666	3,872
3065	1036	Burrillville Housing	B	13.29%	12.31%	11.31%	240,701	233,690	226,883	31,989	28,767	25,661
3066	1386	North Providence Housing	B	35.17%	33.81%	27.48%	279,316	271,181	263,282	98,235	91,686	72,350
3068	1227	Greenville Water	B	3.47%	2.97%	2.97%	400,362	388,701	377,379	13,893	11,544	11,208
3069	1356	Newport Housing	C	21.53%	19.01%	19.26%	1,746,357	1,695,492	1,646,109	375,991	322,313	317,041
3071	1566	Warren Housing	B	6.33%	5.48%	4.31%	473,502	459,711	446,321	29,973	25,192	19,236
3072	1286	Johnston Housing		13.62%	13.55%	13.48%	514,848	499,853	485,294	70,122	67,730	65,418
3077	1538	Tiverton Local 2670A	C	6.77%	7.03%	9.38%	1,231,199	1,195,339	1,160,523	83,352	84,032	108,857
3078	1002 1003 1007 1009	Barrington COLA	C	10.74%	11.36%	11.06%	9,103,731	8,838,574	8,581,140	977,741	1,004,062	949,074
3079	1096	Coventry Housing		6.05%	6.38%	6.61%	712,468	691,717	671,569	43,104	44,132	44,391
3080	1496	South Kingstown Housing	C	0.00%	0.00%	0.60%	156,817	152,250	147,815	-	-	887
3081	1403	N. RI Collaborative Adm. Services	C	13.93%	13.87%	13.02%	678,712	658,944	639,751	94,545	91,395	83,296
3083	1616	West Warwick Housing	B	9.00%	9.40%	15.23%	460,394	446,984	433,965	41,435	42,017	66,093
3084	1476	Smithfield Housing		2.42%	1.68%	1.03%	210,018	203,901	197,962	5,082	3,426	2,039
3094	1478	Smithfield COLA	C	9.92%	10.20%	10.11%	4,833,671	4,692,884	4,556,198	479,500	478,674	460,632
3096	1056	Central Falls Housing	C	13.89%	14.14%	13.15%	1,290,779	1,253,184	1,216,683	179,289	177,200	159,994
3098	1293	Lime Rock Administrative Services		13.24%	14.82%	14.63%	113,907	110,589	107,368	15,081	16,389	15,708
3099	1063	Central Falls Schools	C	8.48%	8.42%	6.82%	4,927,657	4,784,133	4,644,789	417,865	402,824	316,775
3100	1023	Bristol/Warren Schools	B	16.19%	16.07%	15.55%	4,967,836	4,823,142	4,682,662	804,293	775,079	728,154
3101	1157 1158	Town of E. Greenwich-COLA-NCE	C	6.08%	5.54%	5.14%	6,442,939	6,255,281	6,073,088	391,731	346,543	311,871
3102	1712	Harrisville Fire District (ADMIN)	C	4.73%	5.04%	5.37%	290,301	281,846	273,636	13,731	14,205	14,694
3150	1159	East Greenwich Fire (ADMIN)	C	36.14%	34.47%	33.80%	25,250	24,515	23,801	9,125	8,451	8,045
1802	1802	Pascoag Fire District (ADMIN) COLA	C	8.56%	13.24%	13.24%	55,855	54,228	52,648	4,781	7,180	6,971
General Employee Units Average				12.68%	12.57%	12.54%	\$ 285,763,042	\$ 277,439,846	\$ 269,359,074	\$ 36,248,608	\$ 34,732,573	\$ 33,769,607
Police & Fire Units												
4016	1285	Johnston Fire	D	11.49%	12.49%	10.63%	\$ 5,323,430	\$ 5,168,379	\$ 5,017,844	\$ 611,662	\$ 645,531	\$ 533,397
4029	1454	Richmond Police	6	10.77%	10.40%	12.18%	941,753	914,324	887,693	101,427	95,090	108,121
4031	1474	Smithfield Police	C,D	11.93%	12.54%	11.99%	3,660,418	3,553,804	3,450,295	436,687	445,647	413,690
4042	1555	Valley Falls Fire	D	28.82%	28.23%	26.62%	728,775	707,549	686,940	210,033	199,741	182,863
4047	1395 1435	North Smithfield Voluntary Fire	B,D	16.71%	17.82%	16.67%	1,602,257	1,555,590	1,510,281	267,737	277,206	251,764
4050	1155	East Greenwich Fire	C,D	34.64%	33.83%	32.35%	2,878,035	2,794,209	2,712,824	996,952	945,280	877,599



Table 2

Comparison of Employer Contribution Rates

Old Unit Number	New Unit Number	Unit	Code(s)	Contribution Rates			Projected Payroll, Projected from Actual FY2020 Payroll			Estimated Contributions		
				June 30, 2020 Actuarial Valuation, for FY2023	June 30, 2019 Actuarial Valuation, for FY2022	June 30, 2018 Actuarial Valuation, for FY2021	For FY2023	For FY2022	For FY2021	June 30, 2020 Actuarial Valuation, for FY2023	June 30, 2019 Actuarial Valuation, for FY2022	June 30, 2018 Actuarial Valuation, for FY2021
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
4058	1385	North Providence Fire	D	28.51%	28.14%	27.01%	6,690,271	6,495,408	6,306,222	1,907,396	1,827,808	1,703,310
4059	1008	Barrington Fire (25)	C	11.59%	10.80%	10.69%	2,071,718	2,011,377	1,952,793	240,112	217,229	208,753
4060	1004	Barrington Police	C,D	30.65%	34.02%	35.21%	2,116,890	2,055,233	1,995,372	648,827	699,190	702,570
4062	1564 1565	Warren Police & Fire	C,D	27.45%	27.15%	28.08%	2,114,326	2,052,744	1,992,955	580,383	557,320	559,622
4063	1494	South Kingstown Police	B,1	27.52%	26.12%	27.75%	4,175,371	4,053,758	3,935,687	1,149,062	1,058,841	1,092,153
4076	1394	North Smithfield Police	C,D	22.75%	23.39%	24.73%	2,112,982	2,051,439	1,991,688	480,703	479,831	492,544
4077	1534	Tiverton Fire	C,D	22.97%	24.73%	23.65%	2,105,222	2,043,905	1,984,373	483,569	505,458	469,305
4082	1194	Foster Police	C,D	27.84%	30.48%	29.86%	610,597	592,813	575,546	169,990	180,689	171,858
4085	1634	Woonsocket Police	C,D	31.82%	30.62%	31.87%	6,833,548	6,634,513	6,441,274	2,174,435	2,031,487	2,052,835
4086	1084	Charlestown Police	C,D	36.20%	34.25%	35.77%	1,719,271	1,669,195	1,620,578	622,376	571,699	579,681
4087	1264	Hopkinton Police	C,D,6	34.35%	32.62%	32.84%	1,149,095	1,115,627	1,083,133	394,714	363,917	355,701
4088	1214	Glocester Police	C,D	24.67%	25.15%	24.28%	1,260,060	1,223,359	1,187,727	310,857	307,675	288,380
4089	1604	West Greenwich Police/Rescue	C,D	21.37%	23.22%	23.63%	1,210,059	1,174,814	1,140,596	258,590	272,792	269,523
4090	1034	Burrillville Police	C,D,6	19.75%	21.63%	22.63%	1,987,609	1,929,718	1,873,512	392,553	417,398	423,976
4091	1148	Cumberland Rescue	C,D	12.19%	13.52%	11.70%	1,241,235	1,205,082	1,169,983	151,307	162,927	136,888
4093	1635	Woonsocket Fire	C,D	14.85%	14.95%	13.62%	7,650,398	7,427,571	7,211,234	1,136,084	1,110,422	982,170
4094	1015	Bristol Fire	D	12.55%	13.61%	15.22%	182,039	176,737	171,589	22,846	24,054	26,116
4095	1135	Cumberland Hill Fire	C,D	39.99%	37.77%	33.90%	833,069	808,804	785,247	333,144	305,486	266,199
4096	1014	Bristol Police	C,D	8.13%	8.93%	7.60%	3,302,422	3,206,235	3,112,849	268,487	286,317	236,577
4098	1095	Coventry Fire	C,D	50.10%	31.86%	33.64%	603,469	585,892	568,827	302,338	186,665	191,354
4099	1505	South Kingstown EMT	C,D	4.95%	4.01%	3.47%	1,089,691	1,057,952	1,027,138	53,940	42,424	35,642
4101	1365	North Cumberland	C,D	26.31%	26.53%	26.64%	740,995	719,412	698,459	194,956	190,860	186,069
4102	1045 1235 1525 1585	Central Coventry Fire	C,D	33.74%	32.88%	32.94%	2,032,773	1,973,566	1,916,083	685,857	648,908	631,158
4103	1255	Hopkins Hill Fire	C,D	10.39%	15.74%	16.76%	921,059	894,232	868,186	95,698	140,752	145,508
4104	1114	Cranston Police	C,D,4	16.13%	15.56%	15.82%	13,321,580	12,933,572	12,556,866	2,148,771	2,012,464	1,986,496
4105	1115	Cranston Fire	C,D,4	9.26%	8.64%	7.77%	16,774,791	16,286,205	15,811,850	1,553,346	1,407,128	1,228,581
4106	1125	Cumberland Fire	B,D	19.34%	20.97%	22.89%	1,391,918	1,351,376	1,312,016	269,197	283,384	300,320
4107	1305	Lincoln Rescue	C	29.83%	29.70%	24.49%	987,130	958,379	930,465	294,461	284,639	227,871
4108	1344	New Shoreham Police	B,D	19.16%	21.17%	21.52%	462,945	449,461	436,370	88,700	95,151	93,907
4109	1324	Middletown Police & Fire	C,D	7.74%	9.58%	9.98%	4,795,374	4,655,703	4,520,100	371,162	446,016	451,106
4110	1715	Harrisville Fire District	C,D	4.62%	7.29%	7.13%	542,054	526,266	510,938	25,043	38,365	36,430
4111	1705	Albion Fire District	C	17.65%	17.99%	18.98%	332,566	322,880	313,476	58,698	58,086	59,498
1054	1054	Central Falls Police & Fire New	C	8.96%	N/A	N/A	950,367	N/A	N/A	85,153	N/A	N/A
1055	1055	Central Falls Police & Fire Legacy	C	61.52%	N/A	N/A	4,273,198	N/A	N/A	2,628,871	N/A	N/A
1284	1284	Johnston Police		8.36%	9.18%	9.02%	1,356,054	1,316,557	1,278,211	113,366	120,860	115,295



Table 2

Comparison of Employer Contribution Rates

Old Unit Number	New Unit Number	Unit	Code(s)	Contribution Rates			Projected Payroll, Projected from Actual FY2020 Payroll			Estimated Contributions		
				June 30, 2020 Actuarial Valuation, for FY2023	June 30, 2019 Actuarial Valuation, for FY2022	June 30, 2018 Actuarial Valuation, for FY2021	For FY2023	For FY2022	For FY2021	June 30, 2020 Actuarial Valuation, for FY2023	June 30, 2019 Actuarial Valuation, for FY2022	June 30, 2018 Actuarial Valuation, for FY2021
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1364	1364	Newport Police Dept		7.91%	8.49%	8.86%	1,433,489	1,391,737	1,351,201	113,389	118,158	119,716
1425	1425	Portsmouth Fire Department	C	8.29%	N/A	N/A	688,238	N/A	N/A	57,055	N/A	N/A
1465	1465	Smithfield Fire	C	8.29%	8.95%	9.08%	1,915,455	1,859,665	1,805,500	158,791	166,440	163,939
1484	1484	Scituate Police Dept COLA	C	8.39%	7.84%	8.87%	410,790	398,825	387,209	34,465	31,268	34,345
1805	1805	Pascoag Fire District COLA	C	21.98%	22.37%	25.24%	351,823	341,576	331,627	77,331	76,411	83,703
1815	1815	Saylesville Fire (NO COLA)	2	4.24%	8.11%	8.11%	186,244	180,819	175,552	7,897	14,664	14,237
Police & Fire Units Average				20.77%	19.70%	19.41%	\$ 132,583,376	\$ 122,982,110	\$ 119,400,107	\$ 27,543,008	\$ 24,003,203	\$ 23,170,221
All MERS Units Average				15.25%	14.73%	14.65%	\$ 418,346,418	\$ 400,421,957	\$ 388,759,181	\$ 63,791,616	\$ 58,735,776	\$ 56,939,828

B - Municipality has adopted COLA Plan B

C - Municipality has adopted COLA Plan C

D - Municipality has adopted the "20-year" optional Police & Fire Plan

1 - S.Kingstown Police have a unique plan that provides 2.0% of salary for service prior to July 1, 1993, and 2.5% of salary for service on or after July 1, 1993.

2 - New unit since prior valuation.

3 - Closed unit.

4 - Historically, Cranston Fire and Police are contributing 10% due to special plan provision.

5 - This unit has no active members.

6 - Historically, Special plan provisions apply to this unit.

7 - FY2017 Contribution Rates are based on Mediation as of June 30, 2014 with final re-amortization selection.



Table 3

Components Used in Determining Contribution Rates

Old Unit Number	New Unit Number	Unit	Code(s)	Projected Compensation	Normal Cost (Total)	Actuarial Accrued Liability	Actuarial Value of Assets
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
General Employee Units							
3002	1012 1019	Bristol	B	5,206,184	407,098	26,185,550	19,426,699
3003	1032 1033	Burrillville	C	6,822,078	552,819	32,629,310	30,774,420
3004	1052	Central Falls		2,197,180	136,043	7,919,015	5,385,905
3005	1082	Charlestown	C	2,991,149	230,456	9,457,813	9,069,460
3007	1112 1113	Cranston	B	26,165,718	2,196,408	159,010,385	144,423,601
3008	1122 1123	Cumberland		10,880,366	799,739	35,257,167	29,476,250
3009	1152 1153	East Greenwich	C	1,580,721	129,904	7,133,982	7,772,391
3010	1162 1163	East Providence	B	21,472,969	1,649,138	114,827,278	68,482,403
3011	1183	Exeter/West Greenwich	B	3,117,029	275,939	13,373,895	11,329,215
3012	1192 1193	Foster		1,375,364	103,595	4,929,027	4,141,583
3013	1212 1213	Glocester	C	2,863,600	239,784	11,144,255	9,839,426
3014	1262	Hopkinton	C	1,932,916	168,053	5,383,795	6,254,207
3015	1272 1273	Jamestown	C	4,530,942	367,589	17,813,102	15,970,681
3016	1282 1283	Johnston	C	8,050,342	672,598	47,396,414	33,231,594
3017	1302 1303	Lincoln		1,005,980	97,192	3,213,773	2,895,875
3019	1322 1323	Middletown	C	5,126,609	417,068	24,756,226	21,010,187
3021	1352 1353 1354	Newport	B	14,829,150	1,123,431	80,234,384	52,952,990
3022	1342 1343	New Shoreham	B	2,671,717	199,798	8,686,441	8,081,939
3023	1372 1373	North Kingstown	C	12,776,478	1,031,696	69,348,917	52,432,702
3024	1382 1383	North Providence		8,868,440	634,820	31,909,995	30,860,843
3025	1392 1393	North Smithfield	B	4,363,194	341,645	16,002,763	16,094,525
3026	1412 1413	Pawtucket	C	23,315,588	1,802,250	124,917,571	99,763,026
3027	1515	Union Fire District		407,655	29,586	1,008,557	1,020,871
3029	1452	Richmond		1,376,268	90,591	3,247,775	2,697,113
3030	1462 1463	Scituate	B	3,549,900	287,446	14,944,043	11,415,945
3031	1472 1473	Smithfield	C	3,818,447	346,087	15,074,525	13,155,483
3032	1492 1493	South Kingstown	B	13,689,664	1,089,053	72,169,113	61,008,193
3033	1532 1533	Tiverton	C	3,923,337	297,807	14,091,094	14,906,342
3034	1562	Warren	C	2,567,777	185,948	8,327,928	6,509,299
3036	1622 1623	Westerly		-	-	781,367	679,583
3037	1602	West Greenwich	C	1,298,222	102,555	4,682,477	3,373,434

Table 3

Components Used in Determining Contribution Rates

Old Unit Number	New Unit Number	Unit	Code(s)	Projected Compensation	Normal Cost (Total)	Actuarial Accrued Liability	Actuarial Value of Assets
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
3039	1632 1633	Woonsocket	B	13,662,370	1,080,872	74,776,974	64,271,858
3040	1073	Chariho School District	C	5,791,795	458,401	25,684,324	21,922,482
3041	1203	Foster/Glocester	B	2,335,443	186,046	9,488,820	8,011,793
3042	1528	Tiogue Fire & Lighting	C,5	-	-	25,812	51,722
3043	1336	Narragansett Housing	C	201,514	17,686	681,999	780,804
3045	1098	Coventry Lighting District	C	48,262	3,667	569,578	1,255,630
3046	1242	Hope Valley Fire	C	169,224	11,006	337,759	497,770
3050	1156	East Greenwich Housing	C	566,742	54,392	1,847,801	1,601,359
3051	1116	Cranston Housing	C	1,186,435	86,181	5,974,198	5,854,351
3052	1166	East Providence Housing	B	778,206	72,048	3,671,122	3,159,263
3053	1416	Pawtucket Housing	B	3,146,453	252,147	12,954,041	16,330,919
3056	1126	Cumberland Housing	C	607,786	49,836	1,375,566	1,562,253
3057	1306	Lincoln Housing	B	627,833	47,473	2,212,711	1,770,439
3059	1016	Bristol Housing		553,160	41,488	2,028,760	2,351,562
3065	1036	Burrillville Housing	B	226,883	16,446	1,184,596	932,153
3066	1386	North Providence Housing	B	263,282	23,332	1,986,051	916,565
3067	1177	East Smithfield Water	C	-	-	709,276	687,278
3068	1227	Greenville Water	B	377,379	31,051	1,324,187	1,480,155
3069	1356	Newport Housing	C	1,646,109	116,843	10,160,089	7,046,432
3071	1566	Warren Housing	B	446,321	31,000	1,242,277	1,166,332
3072	1286	Johnston Housing		485,294	36,815	1,721,168	1,266,171
3077	1538	Tiverton Local 2670A	C	1,160,523	81,076	4,547,020	4,271,833
3078	1002 1003 1007 1009	Barrington COLA	C	8,581,140	703,143	42,158,653	37,108,200
3079	1096	Coventry Housing		671,569	51,534	1,488,190	1,560,453
3080	1496	South Kingstown Housing	C	147,815	10,583	430,061	550,480
3081	1403	N. RI Collaborative Adm. Services	C	639,751	50,903	3,645,821	3,032,293
3083	1616	West Warwick Housing	B	433,965	26,580	1,870,237	1,605,214
3084	1476	Smithfield Housing		197,962	14,406	558,104	657,942
3094	1478	Smithfield COLA	C	4,556,198	364,202	19,602,126	17,168,811



Table 3

Components Used in Determining Contribution Rates

Old Unit Number	New Unit Number	Unit	Code(s)	Projected Compensation	Normal Cost (Total)	Actuarial Accrued Liability	Actuarial Value of Assets
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
3096	1056	Central Falls Housing	C	1,216,683	98,807	3,871,474	2,589,037
3098	1293	Lime Rock Administrative Services		107,368	8,126	497,801	405,816
3099	1063	Central Falls Schools	C	4,644,789	344,655	18,556,474	16,825,611
3100	1023	Bristol/Warren Schools	B	4,682,662	360,930	24,588,666	17,796,791
3101	1157 1158	Town of E. Greenwich-COLA-NCE	C	6,073,088	487,884	25,293,623	24,925,382
3102	1712	Harrisville Fire District (ADMIN)	C	273,636	23,814	996,426	1,083,655
3103	1702	Albion Fire District (ADMIN)	C,5	-	-	134,827	143,523
3150	1159	East Greenwich Fire (ADMIN)	C	23,801	1,947	246,585	146,572
1802	1802	Pascoag Fire District (ADMIN) COLA	C	52,648	-	58,604	42,122
General Employee Units Subtotal				\$ 269,359,074	\$ 21,251,456	\$ 1,294,359,742	\$ 1,067,267,211
Police & Fire Units							
4016	1285	Johnston Fire	D	5,017,844	905,225	13,934,679	11,868,131
4029	1454	Richmond Police	6	887,693	158,962	2,900,267	2,625,885
4031	1474	Smithfield Police	C,D	3,450,295	614,455	20,924,233	19,593,689
4042	1555	Valley Falls Fire	D	686,940	124,671	5,863,604	3,961,811
4047	1395 1435	North Smithfield Voluntary Fire	B,D	1,510,281	282,901	10,440,534	8,962,156
4050	1155	East Greenwich Fire	C,D	2,712,824	517,186	24,159,930	15,852,627
4054	1154	East Greenwich Police	C,D	2,368,046	478,101	23,422,552	17,276,502
4055	1375	North Kingstown Fire	C,D	5,262,115	988,232	50,221,571	36,979,988
4056	1374	North Kingstown Police	C,D	4,171,634	810,340	35,341,085	25,510,783
4058	1385	North Providence Fire	D	6,306,222	1,121,923	54,825,331	37,658,932
4059	1008	Barrington Fire (25)	C	1,952,793	377,483	5,236,753	4,470,677
4060	1004	Barrington Police	C,D	1,995,372	377,561	16,091,794	11,165,416
4061	1005	Barrington Fire (20)	C,D	72,501	14,424	9,609,583	5,651,999
4062	1564 1565	Warren Police & Fire	C,D	1,992,955	376,905	17,643,224	12,641,532
4063	1494	South Kingstown Police	B,1	3,935,687	748,547	35,501,456	26,536,413
4073	1464	Scituate Police	5	-	-	15,387	255,917
4076	1394	North Smithfield Police	C,D	1,991,688	366,077	14,342,818	10,911,334
4077	1534	Tiverton Fire	C,D	1,984,373	366,336	15,261,014	11,660,506



Table 3

Components Used in Determining Contribution Rates

Old Unit Number	New Unit Number	Unit	Code(s)	Projected Compensation	Normal Cost (Total)	Actuarial Accrued Liability	Actuarial Value of Assets
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
4082	1194	Foster Police	C,D	575,546	115,043	4,311,262	3,169,580
4085	1634	Woonsocket Police	C,D	6,441,274	1,214,479	62,793,794	44,978,023
4086	1084	Charlestown Police	C,D	1,620,578	319,905	16,174,668	10,656,489
4087	1264	Hopkinton Police	C,D,6	1,083,133	237,675	9,250,328	6,090,493
4088	1214	Glocester Police	C,D	1,187,727	254,811	9,928,230	7,780,088
4089	1604	West Greenwich Police/Rescue	C,D	1,140,596	226,802	7,281,958	5,503,466
4090	1034	Burrillville Police	C,D,6	1,873,512	338,348	14,417,474	11,986,316
4091	1148	Cumberland Rescue	C,D	1,169,983	239,785	8,447,810	7,982,133
4093	1635	Woonsocket Fire	C,D	7,211,234	1,436,877	61,540,019	56,368,068
4094	1015	Bristol Fire	D	171,589	28,394	649,947	614,885
4095	1135	Cumberland Hill Fire	C,D	785,247	157,058	8,231,529	4,957,190
4096	1014	Bristol Police	C,D	3,112,849	617,797	10,286,418	10,775,285
4098	1095	Coventry Fire	C,D	568,827	106,731	6,567,020	3,372,713
4099	1505	South Kingstown EMT	C,D	1,027,138	219,943	4,257,536	4,970,203
4101	1365	North Cumberland	C,D	698,459	144,063	7,440,611	5,959,715
4102	1045 1235 1525 1585	Central Coventry Fire	C,D	1,916,083	390,553	16,999,793	10,465,035
4103	1255	Hopkins Hill Fire	C,D	868,186	167,407	3,992,767	3,761,955
4104	1114	Cranston Police	C,D,4	12,556,866	2,413,906	63,776,521	52,339,926
4105	1115	Cranston Fire	C,D,4	15,811,850	3,104,027	82,322,853	83,556,502
4106	1125	Cumberland Fire	B,D	1,312,016	260,010	7,246,051	5,450,398
4107	1305	Lincoln Rescue	C	930,465	168,916	6,882,681	4,401,062
4108	1344	New Shoreham Police	B,D	436,370	83,549	2,345,503	1,869,130
4109	1324	Middletown Police & Fire	C,D	4,520,100	870,548	10,313,976	11,111,181
4110	1715	Harrisville Fire District	C,D	510,938	94,003	1,780,431	2,147,743
4111	1705	Albion Fire District	C	313,476	61,914	1,630,413	1,263,183
1054	1054	Central Falls Police & Fire New	C	482,800	88,539	40,001	39,070
1055	1055	Central Falls Police & Fire Legacy	C	4,440,911	877,948	41,253,428	13,743,482
1284	1284	Johnston Police		1,278,211	243,513	1,376,570	1,439,485



Table 3

Components Used in Determining Contribution Rates

Old Unit Number	New Unit Number	Unit	Code(s)	Projected Compensation	Normal Cost (Total)	Actuarial Accrued Liability	Actuarial Value of Assets
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1364	1364	Newport Police Dept		1,351,201	271,259	933,440	1,052,202
1425	1425	Portsmouth Fire Department	C	648,730	122,872	412,422	417,536
1465	1465	Smithfield Fire	C	1,805,500	348,064	2,150,829	2,330,517
1484	1484	Scituate Police Dept COLA	C	387,209	76,305	241,331	268,480
1805	1805	Pascoag Fire District COLA	C	331,627	63,376	1,072,034	538,561
1815	1815	Saylesville Fire (NO COLA)	2	175,552	27,958	36,870	76,740
Police & Fire Units Subtotal				\$ 125,045,049	\$ 24,021,707	\$ 832,122,333	\$ 645,021,133
All MERS Units Total				\$ 394,404,124	\$ 45,273,163	\$ 2,126,482,075	\$ 1,712,288,344

B - Municipality has adopted COLA Plan B

C - Municipality has adopted COLA Plan C

D - Municipality has adopted the "20-year" optional Police & Fire Plan

1 - S.Kingstown Police have a unique plan that provides 2.0% of salary for service prior to July 1, 1993, and 2.5% of salary for service on or after July 1, 1993.

2 - New unit since prior valuation.

3 - Closed unit.

4 - Historically, Cranston Fire and Police are contributing 10% due to special plan provisions. 5 - This unit has no active members.

6 - Historically, Special plan provisions apply to this unit.



Table 4a

Asset Values

Old Unit Number	New Unit Number	Unit	Code	Market Value of Assets	Actuarial Value of Assets
(1)	(2)	(3)	(4)	(5)	(6)
General Employee Units					
3002	1012 1019	Bristol	B	\$ 18,878,454	\$ 19,426,699
3003	1032 1033	Burrillville	C	29,905,929	30,774,420
3004	1052	Central Falls		5,233,908	5,385,905
3005	1082	Charlestown	C	8,813,509	9,069,460
3007	1112 1113	Cranston	B	140,347,795	144,423,601
3008	1122 1123	Cumberland		28,644,395	29,476,250
3009	1152 1153	East Greenwich	C	7,553,045	7,772,391
3010	1162 1163	East Providence	B	66,549,748	68,482,403
3011	1183	Exeter/West Greenwich	B	11,009,491	11,329,215
3012	1192 1193	Foster		4,024,703	4,141,583
3013	1212 1213	Glocester	C	9,561,746	9,839,426
3014	1262	Hopkinton	C	6,077,706	6,254,207
3015	1272 1273	Jamestown	C	15,519,969	15,970,681
3016	1282 1283	Johnston	C	32,293,759	33,231,594
3017	1302 1303	Lincoln		2,814,150	2,895,875
3019	1322 1323	Middletown	C	20,417,254	21,010,187
3021	1352 1353 1354	Newport	B	51,458,593	52,952,990
3022	1342 1343	New Shoreham	B	7,853,857	8,081,939
3023	1372 1373	North Kingstown	C	50,952,988	52,432,702
3024	1382 1383	North Providence		29,989,913	30,860,843
3025	1392 1393	North Smithfield	B	15,640,318	16,094,525
3026	1412 1413	Pawtucket	C	96,947,594	99,763,026
3027	1515	Union Fire District		992,061	1,020,871
3029	1452	Richmond		2,620,997	2,697,113
3030	1462 1463	Scituate	B	11,093,773	11,415,945
3031	1472 1473	Smithfield	C	12,784,220	13,155,483
3032	1492 1493	South Kingstown	B	59,286,469	61,008,193
3033	1532 1533	Tiverton	C	14,485,667	14,906,342
3034	1562	Warren	C	6,325,599	6,509,299
3036	1622 1623	Westerly		660,404	679,583
3037	1602	West Greenwich	C	3,278,232	3,373,434
3039	1632 1633	Woonsocket	B	62,458,029	64,271,858
3040	1073	Chariho School District	C	21,303,803	21,922,482
3041	1203	Foster/Glocester	B	7,785,691	8,011,793
3042	1528	Tioguo Fire & Lighting	C,5	50,262	51,722
3043	1336	Narragansett Housing	C	758,769	780,804
3045	1098	Coventry Lighting District	C	1,220,195	1,255,630
3046	1242	Hope Valley Fire	C	483,722	497,770

Table 4a

Asset Values

Old Unit Number	New Unit Number	Unit	Code	Market Value of Assets	Actuarial Value of Assets
(1)	(2)	(3)	(4)	(5)	(6)
3050	1156	East Greenwich Housing	C	1,556,167	1,601,359
3051	1116	Cranston Housing	C	5,689,134	5,854,351
3052	1166	East Providence Housing	B	3,070,105	3,159,263
3053	1416	Pawtucket Housing	B	15,870,041	16,330,919
3056	1126	Cumberland Housing	C	1,518,164	1,562,253
3057	1306	Lincoln Housing	B	1,720,475	1,770,439
3059	1016	Bristol Housing		2,285,198	2,351,562
3065	1036	Burrillville Housing	B	905,847	932,153
3066	1386	North Providence Housing	B	890,698	916,565
3067	1177	East Smithfield Water	C	667,882	687,278
3068	1227	Greenville Water	B	1,438,383	1,480,155
3069	1356	Newport Housing	C	6,847,573	7,046,432
3071	1566	Warren Housing	B	1,133,417	1,166,332
3072	1286	Johnston Housing		1,230,438	1,266,171
3077	1538	Tiverton Local 2670A	C	4,151,277	4,271,833
3078	1002 1003 1007 1009	Barrington COLA	C	36,060,962	37,108,200
3079	1096	Coventry Housing		1,516,415	1,560,453
3080	1496	South Kingstown Housing	C	534,945	550,480
3081	1403	N. RI Collaborative Adm. Services	C	2,946,718	3,032,293
3083	1616	West Warwick Housing	B	1,559,913	1,605,214
3084	1476	Smithfield Housing		639,374	657,942
3094	1478	Smithfield COLA	C	16,684,287	17,168,811
3096	1056	Central Falls Housing	C	2,515,971	2,589,037
3098	1293	Lime Rock Administrative Services		394,363	405,816
3099	1063	Central Falls Schools	C	16,350,772	16,825,611
3100	1023	Bristol/Warren Schools	B	17,294,544	17,796,791
3101	1157 1158	Town of E. Greenwich-COLA-NCE	C	24,221,958	24,925,382
3102	1712	Harrisville Fire District (ADMIN)	C	1,053,073	1,083,655
3103	1702	Albion Fire District (ADMIN)	C,5	139,473	143,523
3150	1159	East Greenwich Fire (ADMIN)	C	142,436	146,572
1802	1802	Pascoag Fire District (ADMIN) COLA	C	40,933	42,122
General Employee Units Subtotal				\$ 1,037,147,653	\$ 1,067,267,211
Police & Fire Units					
4016	1285	Johnston Fire	D	\$ 11,533,198	\$ 11,868,131
4029	1454	Richmond Police	6	2,551,779	2,625,885
4031	1474	Smithfield Police	C,D	19,040,732	19,593,689
4042	1555	Valley Falls Fire	D	3,850,004	3,961,811
4047	1395 1435	North Smithfield Voluntary Fire	B,D	8,709,233	8,962,156
4050	1155	East Greenwich Fire	C,D	15,405,247	15,852,627
4054	1154	East Greenwich Police	C,D	16,788,938	17,276,502
4055	1375	North Kingstown Fire	C,D	35,936,369	36,979,988
4056	1374	North Kingstown Police	C,D	24,790,838	25,510,783
4058	1385	North Providence Fire	D	36,596,152	37,658,932
4059	1008	Barrington Fire (25)	C	4,344,509	4,470,677
4060	1004	Barrington Police	C,D	10,850,315	11,165,416
4061	1005	Barrington Fire (20)	C,D	5,492,493	5,651,999
4062	1564 1565	Warren Police & Fire	C,D	12,284,773	12,641,532
4063	1494	South Kingstown Police	B,1	25,787,524	26,536,413



Table 4a

Asset Values

Old Unit Number	New Unit Number	Unit	Code	Market Value of Assets	Actuarial Value of Assets
(1)	(2)	(3)	(4)	(5)	(6)
4073	1464	Scituate Police	5	248,695	255,917
4076	1394	North Smithfield Police	C,D	10,603,403	10,911,334
4077	1534	Tiverton Fire	C,D	11,331,433	11,660,506
4082	1194	Foster Police	C,D	3,080,131	3,169,580
4085	1634	Woonsocket Police	C,D	43,708,690	44,978,023
4086	1084	Charlestown Police	C,D	10,355,750	10,656,489
4087	1264	Hopkinton Police	C,D,6	5,918,612	6,090,493
4088	1214	Glocester Police	C,D	7,560,525	7,780,088
4089	1604	West Greenwich Police/Rescue	C,D	5,348,152	5,503,466
4090	1034	Burrillville Police	C,D,6	11,648,048	11,986,316
4091	1148	Cumberland Rescue	C,D	7,756,868	7,982,133
4093	1635	Woonsocket Fire	C,D	54,777,294	56,368,068
4094	1015	Bristol Fire	D	597,532	614,885
4095	1135	Cumberland Hill Fire	C,D	4,817,292	4,957,190
4096	1014	Bristol Police	C,D	10,471,194	10,775,285
4098	1095	Coventry Fire	C,D	3,277,531	3,372,713
4099	1505	South Kingstown EMT	C,D	4,829,938	4,970,203
4101	1365	North Cumberland	C,D	5,791,525	5,959,715
4102	1045 1235 1525 1585	Central Coventry Fire	C,D	10,169,699	10,465,035
4103	1255	Hopkins Hill Fire	C,D	3,655,788	3,761,955
4104	1114	Cranston Police	C,D,4	50,862,831	52,339,926
4105	1115	Cranston Fire	C,D,4	81,198,438	83,556,502
4106	1125	Cumberland Fire	B,D	5,296,581	5,450,398
4107	1305	Lincoln Rescue	C	4,276,859	4,401,062
4108	1344	New Shoreham Police	B,D	1,816,381	1,869,130
4109	1324	Middletown Police & Fire	C,D	10,797,610	11,111,181
4110	1715	Harrisville Fire District	C,D	2,087,131	2,147,743
4111	1705	Albion Fire District	C	1,227,534	1,263,183
1054	1054	Central Falls Police & Fire New	C	37,967	39,070
1055	1055	Central Falls Police & Fire Legacy	C	13,355,625	13,743,482
1284	1284	Johnston Police		1,398,861	1,439,485
1364	1364	Newport Police Dept		1,022,508	1,052,202
1425	1425	Portsmouth Fire Department	C	405,752	417,536
1465	1465	Smithfield Fire	C	2,264,747	2,330,517
1484	1484	Scituate Police Dept COLA	C	260,903	268,480
1805	1805	Pascoag Fire District COLA	C	523,362	538,561
1815	1815	Saylesville Fire (NO COLA)	2	74,574	76,740
Police & Fire Units Subtotal				\$ 626,817,868	\$ 645,021,133
All MERS Units Total				\$ 1,663,965,521	\$ 1,712,288,344

B - Municipality has adopted COLA Plan B

C - Municipality has adopted COLA Plan C

D - Municipality has adopted the "20-year" optional Police & Fire Plan

1 - S.Kingstown Police have a unique plan that provides 2.0% of salary for service prior to July 1, 1993, and 2.5% of salary for service on or after July 1, 1993.

2 - New unit since prior valuation.

3 - Closed unit.

4 - Historically, Cranston Fire and Police are contributing 10% due to special plan prov 5 - This unit has no active members.

6 - Historically, Special plan provisions apply to this unit.



Table 4b

Reconciliation of Market Assets by Unit

Old Unit Number	New Unit Number	Unit	Code (s)	Beginning of Year Account Balance	Current year prior period adjustments	Adjusted Beginning of Year Account Balance	Member Contributions	Employer Contributions	Service Purchases and Others*	Benefit Payments	Refunds	Net Investment Return	End of Year Account Balance
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
General Employee Units													
3002	1012 1019	Bristol	B	\$ 18,591,516	\$ -	\$ 18,591,516	\$ 155,242	\$ 764,102	\$ 195,968	\$ (1,467,149)	\$ (31,448)	\$ 670,223	\$ 18,878,454
3003	1032 1033	Burrillville	C	30,085,379	0	30,085,379	177,483	484,237	(50,788)	(1,850,483)	(1,621)	1,061,722	29,905,929
3004	1052	Central Falls		5,264,384	0	5,264,384	32,673	280,306	(29,298)	(496,145)	(3,825)	185,813	5,233,908
3005	1082	Charlestown	C	8,549,973	0	8,549,973	96,864	224,481	(29,208)	(341,500)	0	312,899	8,813,509
3007	1112 1113	Cranston	B	141,883,807	0	141,883,807	776,513	2,565,916	(9,525)	(9,788,287)	(63,261)	4,982,632	140,347,795
3008	1122 1123	Cumberland		28,436,692	0	28,436,692	183,449	1,156,696	(239,906)	(1,883,891)	(25,580)	1,016,935	28,644,395
3009	1152 1153	East Greenwich	C	7,448,916	0	7,448,916	45,891	69,214	183,299	(462,424)	0	268,149	7,553,045
3010	1162 1163	East Providence	B	67,119,672	0	67,119,672	523,645	4,427,403	32,788	(7,793,239)	(123,173)	2,362,652	66,549,748
3011	1183	Exeter/West Greenwich	B	10,769,953	0	10,769,953	74,586	398,762	(8,547)	(616,123)	0	390,860	11,009,491
3012	1192 1193	Foster		4,002,502	0	4,002,502	27,341	158,232	(19,312)	(286,945)	0	142,885	4,024,703
3013	1212 1213	Glocester	C	9,429,721	0	9,429,721	77,702	304,988	9,291	(599,418)	0	339,462	9,561,746
3014	1262	Hopkinton	C	6,037,307	0	6,037,307	40,200	63,740	0	(251,808)	(27,505)	215,772	6,077,706
3015	1272 1273	Jamestown	C	15,166,582	0	15,166,582	135,718	453,535	2,799	(789,656)	0	550,991	15,519,969
3016	1282 1283	Johnston	C	32,771,056	0	32,771,056	188,607	1,293,724	73,323	(3,149,953)	(29,492)	1,146,494	32,293,759
3017	1302 1303	Lincoln		2,689,647	0	2,689,647	9,767	117,592	0	(102,764)	0	99,908	2,814,150
3019	1322 1323	Middletown	C	20,116,278	0	20,116,278	148,479	566,415	34,646	(1,169,939)	(3,479)	724,854	20,417,254
3021	1352 1353 1354	Newport	B	51,440,754	0	51,440,754	420,328	3,167,710	(181,902)	(5,210,268)	(4,913)	1,826,884	51,458,593
3022	1342 1343	New Shoreham	B	7,810,898	0	7,810,898	60,859	188,836	0	(480,870)	(4,694)	278,828	7,853,857
3023	1372 1373	North Kingstown	C	50,702,066	0	50,702,066	321,010	2,197,677	273,003	(4,345,515)	(4,187)	1,808,934	50,952,988
3024	1382 1383	North Providence		30,107,933	0	30,107,933	157,359	540,907	(1,596)	(1,868,058)	(11,335)	1,064,703	29,989,913
3025	1392 1393	North Smithfield	B	15,794,003	0	15,794,003	98,769	205,452	(425)	(969,281)	(43,463)	555,263	15,640,318
3026	1412 1413	Pawtucket	C	96,697,443	0	96,697,443	690,666	3,617,451	(12,399)	(7,383,940)	(103,466)	3,441,839	96,947,594
3027	1515	Union Fire District		930,947	0	930,947	8,801	30,475	0	(13,383)	0	35,221	992,061
3029	1452	Richmond		2,534,626	0	2,534,626	26,878	131,748	79	(165,234)	(150)	93,050	2,620,997
3030	1462 1463	Scituate	B	10,961,223	0	10,961,223	93,576	577,047	0	(931,924)	0	393,851	11,093,773
3031	1472 1473	Smithfield	C	12,846,130	0	12,846,130	84,390	316,970	(26,411)	(887,644)	(3,080)	453,865	12,784,220
3032	1492 1493	South Kingstown	B	58,827,306	0	58,827,306	388,409	1,616,178	266,882	(3,913,074)	(4,023)	2,104,791	59,286,469
3033	1532 1533	Tiverton	C	14,496,440	0	14,496,440	89,871	113,181	16,685	(744,781)	0	514,271	14,485,667
3034	1562	Warren	C	6,211,672	0	6,211,672	74,120	265,003	(100,703)	(349,066)	0	224,573	6,325,599
3036	1622 1623	Westerly		567,456	0	567,456	0	181,261	0	(111,759)	0	23,446	660,404
3037	1602	West Greenwich	C	3,183,468	0	3,183,468	26,897	190,952	0	(239,469)	0	116,384	3,278,232
3039	1632 1633	Woonsocket	B	63,255,399	0	63,255,399	332,776	1,425,827	256,810	(5,025,435)	(4,736)	2,217,388	62,458,029
3040	1073	Chariho School District	C	20,925,474	0	20,925,474	154,623	616,836	33,916	(1,183,374)	0	756,328	21,303,803
3041	1203	Foster/Glocester	B	7,721,456	0	7,721,456	51,278	252,301	0	(515,752)	0	276,408	7,785,691
3042	1528	Tiogue Fire & Lighting	C,S	50,549	0	50,549	0	0	0	(2,072)	0	1,785	50,262
3043	1336	Narragansett Housing	C	721,697	0	721,697	3,913	6,222	0	0	0	26,937	758,769
3045	1098	Coventry Lighting District	C	1,238,762	0	1,238,762	937	0	0	(62,823)	0	43,319	1,220,195
3046	1242	Hope Valley Fire	C	494,269	0	494,269	3,286	0	0	(31,006)	0	17,173	483,722
3050	1156	East Greenwich Housing	C	1,530,609	0	1,530,609	11,005	49,961	0	(90,655)	0	55,247	1,556,167
3051	1116	Cranston Housing	C	5,813,881	0	5,813,881	33,751	43,887	0	(404,360)	0	201,975	5,689,134
3052	1166	East Providence Housing	B	3,123,413	0	3,123,413	15,111	83,864	0	(261,278)	0	108,995	3,070,105
3053	1416	Pawtucket Housing	B	15,790,172	0	15,790,172	105,047	0	0	(588,597)	0	563,419	15,870,041
3056	1126	Cumberland Housing	C	1,465,795	0	1,465,795	11,800	41,657	15	(55,002)	0	53,899	1,518,164
3057	1306	Lincoln Housing	B	1,745,761	0	1,745,761	12,269	39,520	0	(138,156)	0	61,081	1,720,475
3059	1016	Bristol Housing		2,288,292	0	2,288,292	17,637	0	0	(101,860)	0	81,129	2,285,198
3065	1036	Burrillville Housing	B	936,903	0	936,903	4,406	21,389	0	(89,009)	0	32,158	905,847
3066	1386	North Providence Housing	B	927,675	0	927,675	5,112	66,690	16,002	(156,403)	0	31,622	890,698
3067	1177	East Smithfield Water	C	505,979	0	505,979	0	9,804	179,808	(51,420)	0	23,711	667,882
3068	1227	Greenville Water	B	1,410,866	0	1,410,866	7,328	7,510	0	(38,386)	0	51,065	1,438,383



Table 4b

Reconciliation of Market Assets by Unit

Old Unit Number	New Unit Number	Unit	Code (s)	Current year prior		Adjusted		Member Contributions	Employer Contributions	Service		Benefit Payments	Refunds	Net Investment		End of Year Account Balance
				Beginning of Year Account Balance	period adjustments	Beginning of Year Account Balance				Purchases and Others*				Return		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3069	1356	Newport Housing	C	6,965,228	0	6,965,228	38,296	306,523	79,483	(749,241)	(35,818)	243,102	6,847,573			
3071	1566	Warren Housing	B	1,185,914	0	1,185,914	8,667	10,789	0	(112,191)	0	40,238	1,133,417			
3072	1286	Johnston Housing		1,243,665	0	1,243,665	4,712	60,026	0	(121,648)	0	43,683	1,230,438			
3077	1538	Tiverton Local 2670A	C	4,235,841	0	4,235,841	22,535	88,898	0	(299,783)	(43,593)	147,379	4,151,277			
3078	1002 1003 1007 1009	Barrington COLA	C	36,071,581	0	36,071,581	212,463	840,617	128,973	(2,461,171)	(11,740)	1,280,239	36,060,962			
3079	1096	Coventry Housing		1,445,686	0	1,445,686	6,520	48,705	0	(38,332)	0	53,836	1,516,415			
3080	1496	South Kingstown Housing	C	525,164	0	525,164	2,870	2,181	0	(14,262)	0	18,992	534,945			
3081	1403	N. RI Collaborative Adm. Services	C	2,937,630	0	2,937,630	17,705	75,028	(1,311)	(182,551)	(4,397)	104,614	2,946,718			
3083	1616	West Warwick Housing	B	1,576,975	0	1,576,975	8,427	65,348	0	(146,217)	0	55,380	1,559,913			
3084	1476	Smithfield Housing		608,682	0	608,682	7,032	961	0	0	0	22,699	639,374			
3094	1478	Smithfield COLA	C	16,456,914	0	16,456,914	143,588	474,051	(85,112)	(871,005)	(26,475)	592,326	16,684,287			
3096	1056	Central Falls Housing	C	2,447,385	0	2,447,385	28,081	162,067	0	(210,883)	0	89,321	2,515,971			
3098	1293	Lime Rock Administrative Services		374,931	0	374,931	5,003	14,969	0	(14,541)	0	14,001	394,363			
3099	1063	Central Falls Schools	C	16,247,594	0	16,247,594	105,118	363,826	(3,103)	(943,149)	0	580,486	16,350,772			
3100	1023	Bristol/Warren Schools	B	17,641,532	0	17,641,532	111,387	638,721	(75,256)	(1,605,575)	(30,256)	613,991	17,294,544			
3101	1157 1158	Town of E. Greenwich-COLA-NCE	C	24,067,354	0	24,067,354	167,954	266,097	12,546	(1,138,535)	(13,387)	859,929	24,221,958			
3102	1712	Harrisville Fire District (ADMIN)	C	989,707	0	989,707	10,863	15,116	0	0	0	37,387	1,053,073			
3103	1702	Albion Fire District (ADMIN)	C,5	143,996	0	143,996	0	0	0	(9,474)	0	4,951	139,473			
3150	1159	East Greenwich Fire (ADMIN)	C	151,865	0	151,865	462	6,461	0	(21,409)	0	5,057	142,436			
1802	1802	Pascoag Fire District (ADMIN) COLA	C	39,480	0	39,480	0	0	0	0	0	1,453	40,933			
General Employee Units Subtotal				\$ 1,036,779,826	\$ -	\$ 1,036,779,826	\$ 6,908,055	\$ 32,776,043	\$ 921,514	\$ (76,399,545)	\$ (659,097)	\$ 36,820,857	\$ 1,037,147,653			
Police & Fire Units																
4016	1285	Johnston Fire	D	\$ 10,364,462	\$ -	\$ 10,364,462	\$ 438,449	\$ 516,401	\$ 32,080	\$ (227,646)	\$ 0	\$ 409,452	\$ 11,533,198			
4029	1454	Richmond Police	6	2,309,608	0	2,309,608	77,565	100,404	0	(26,392)	0	90,594	2,551,779			
4031	1474	Smithfield Police	C,D	17,967,494	0	17,967,494	334,981	415,375	0	(353,102)	0	675,984	19,040,732			
4042	1555	Valley Falls Fire	D	3,800,071	0	3,800,071	60,024	135,521	0	(282,295)	0	136,683	3,850,004			
4047	1395 1435	North Smithfield Voluntary Fire	B,D	8,433,807	0	8,433,807	146,629	251,616	(171)	(431,844)	0	309,196	8,709,233			
4050	1155	East Greenwich Fire	C,D	14,884,661	0	14,884,661	263,803	799,057	29,393	(1,118,584)	0	546,917	15,405,247			
4054	1154	East Greenwich Police	C,D	16,445,110	0	16,445,110	229,905	697,082	0	(1,141,780)	(37,420)	596,041	16,788,938			
4055	1375	North Kingstown Fire	C,D	35,250,240	0	35,250,240	510,887	1,634,322	(200,437)	(2,534,458)	0	1,275,815	35,936,369			
4056	1374	North Kingstown Police	C,D	23,833,667	0	23,833,667	405,014	1,256,756	0	(1,584,723)	0	880,124	24,790,838			
4058	1385	North Providence Fire	D	35,959,297	0	35,959,297	551,031	1,676,352	0	(2,821,890)	(67,875)	1,299,237	36,596,152			
4059	1008	Barrington Fire (25)	C	4,002,880	0	4,002,880	189,591	198,502	(120,830)	(79,873)	0	154,239	4,344,509			
4060	1004	Barrington Police	C,D	10,315,443	0	10,315,443	193,727	681,914	0	(725,977)	0	385,208	10,850,315			
4061	1005	Barrington Fire (20)	C,D	5,784,917	0	5,784,917	7,039	290,396	0	(784,853)	0	194,994	5,492,493			
4062	1564 1565	Warren Police & Fire	C,D	11,843,340	0	11,843,340	193,491	538,098	45,818	(772,109)	0	436,135	12,284,773			
4063	1494	South Kingstown Police	B,1	25,276,494	0	25,276,494	382,105	1,045,441	27,119	(1,778,604)	(80,542)	915,511	25,787,524			
4073	1464	Scituate Police	5	243,475	0	243,475	0	0	0	(3,609)	0	8,829	248,695			
4076	1394	North Smithfield Police	C,D	10,338,881	0	10,338,881	193,369	457,315	0	(762,604)	0	376,442	10,603,403			
4077	1534	Tiverton Fire	C,D	11,013,874	0	11,013,874	192,658	442,149	200,437	(803,535)	(116,439)	402,289	11,331,433			
4082	1194	Foster Police	C,D	2,991,555	0	2,991,555	55,878	170,652	0	(247,305)	0	109,351	3,080,131			
4085	1634	Woonsocket Police	C,D	42,482,178	0	42,482,178	625,376	1,953,021	(59,242)	(2,811,796)	(32,594)	1,551,747	43,708,690			
4086	1084	Charlestown Police	C,D	10,116,766	0	10,116,766	157,338	499,233	0	(785,238)	0	367,651	10,355,750			
4087	1264	Hopkinton Police	C,D,6	5,819,307	0	5,819,307	85,753	279,542	0	(476,114)	0	210,124	5,918,612			
4088	1214	Glocester Police	C,D	7,340,669	0	7,340,669	115,313	270,871	0	(421,863)	(12,878)	268,413	7,560,525			
4089	1604	West Greenwich Police/Rescue	C,D	5,121,800	0	5,121,800	110,737	232,991	0	(272,489)	(34,757)	189,870	5,348,152			
4090	1034	Burrillville Police	C,D,6	11,275,971	0	11,275,971	181,895	400,713	0	(624,061)	0	413,530	11,648,048			
4091	1148	Cumberland Rescue	C,D	7,578,782	0	7,578,782	113,591	100,641	(52,967)	(258,563)	0	275,384	7,756,868			
4093	1635	Woonsocket Fire	C,D	53,590,330	0	53,590,330	700,118	974,563	(85,135)	(2,269,378)	(75,408)	1,942,204	54,777,294			
4094	1015	Bristol Fire	D	544,597	0	544,597	14,993	34,085	0	(17,356)	0	21,213	597,532			



Table 4b

Reconciliation of Market Assets by Unit

Old Unit Number	New Unit Number	Unit	Code (s)	Beginning of Year Account Balance	Current year prior period adjustments	Adjusted Beginning of Year Account Balance	Member Contributions	Employer Contributions	Service Purchases and Others*	Benefit Payments	Refunds	Net Investment Return	End of Year Account Balance
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
4095	1135	Cumberland Hill Fire	C,D	4,731,917	0	4,731,917	76,237	244,799	0	(406,683)	0	171,022	4,817,292
4096	1014	Bristol Police	C,D	9,437,126	0	9,437,126	302,218	275,019	123,908	(38,826)	0	371,749	10,471,194
4098	1095	Coventry Fire	C,D	3,435,435	0	3,435,435	55,226	170,701	12,796	(512,986)	0	116,359	3,277,531
4099	1505	South Kingstown EMT	C,D	4,574,528	0	4,574,528	99,722	68,210	52,967	(128,250)	(8,710)	171,471	4,829,938
4101	1365	North Cumberland	C,D	5,637,584	0	5,637,584	67,811	181,532	0	(301,013)	0	205,611	5,791,525
4102	1045 1235 1525 1585	Central Coventry Fire	C,D	9,978,786	0	9,978,786	186,027	544,128	(61,473)	(838,814)	0	361,045	10,169,699
4103	1255	Hopkins Hill Fire	C,D	3,328,484	0	3,328,484	85,990	122,152	41,653	(52,278)	0	129,787	3,655,788
4104	1114	Cranston Police	C,D,4	47,218,764	0	47,218,764	1,219,110	1,842,074	32,218	(1,233,585)	(21,485)	1,805,735	50,862,831
4105	1115	Cranston Fire	C,D,4	76,948,155	0	76,948,155	1,535,133	1,197,397	171,718	(1,435,051)	(101,623)	2,882,709	81,198,438
4106	1125	Cumberland Fire	B,D	5,035,623	0	5,035,623	127,379	305,331	0	(346,367)	(13,425)	188,040	5,296,581
4107	1305	Lincoln Rescue	C	4,151,883	0	4,151,883	90,337	205,154	0	(322,352)	0	151,837	4,276,859
4108	1344	New Shoreham Police	B,D	1,697,064	0	1,697,064	42,366	90,197	1,073	(78,805)	0	64,486	1,816,381
4109	1324	Middletown Police & Fire	C,D	9,791,985	0	9,791,985	438,846	432,700	(157,980)	(38,561)	(52,717)	383,337	10,797,610
4110	1715	Harrisville Fire District	C,D	1,927,314	0	1,927,314	49,607	36,113	0	0	0	74,097	2,087,131
4111	1705	Albion Fire District	C	1,160,806	0	1,160,806	30,765	57,337	2,464	(67,417)	0	43,579	1,227,534
1054	1054	Central Falls Police & Fire New	C	0	0	0	17,725	18,895	0	0	0	1,347	37,967
1055	1055	Central Falls Police & Fire Legacy	C	0	0	0	254,057	13,772,194	0	(1,144,778)	0	474,152	13,355,625
1284	1284	Johnston Police		1,121,601	0	1,121,601	111,688	111,070	4,840	0	0	49,662	1,398,861
1364	1364	Newport Police Dept		764,293	0	764,293	118,065	116,360	0	0	(12,512)	36,302	1,022,508
1425	1425	Portsmouth Fire Department	C	0	0	0	59,139	332,208	0	0	0	14,405	405,752
1465	1465	Smithfield Fire	C	1,873,143	0	1,873,143	173,951	154,529	(17,279)	0	0	80,403	2,264,747
1484	1484	Scituate Police Dept COLA	C	180,777	0	180,777	37,593	33,270	0	0	0	9,263	260,903
1805	1805	Pascoag Fire District COLA	C	392,735	0	392,735	32,197	79,849	0	0	0	18,581	523,362
1815	1815	Saylesville Fire (NO COLA)	2	42,764	0	42,764	15,340	13,823	0	0	0	2,647	74,574
Police & Fire Units Subtotal				\$ 588,360,443	\$ -	\$ 588,360,443	\$ 11,757,789	\$ 36,458,055	\$ 22,970	\$ (31,363,807)	\$ (668,385)	\$ 22,250,803	\$ 626,817,868
All MERS Units Total				\$ 1,625,140,269	\$ -	\$ 1,625,140,269	\$ 18,665,844	\$ 69,234,098	\$ 944,484	\$ (107,763,352)	\$ (1,327,482)	\$ 59,071,660	\$ 1,663,965,521

B - Municipality has adopted COLA Plan B

C - Municipality has adopted COLA Plan C

D - Municipality has adopted the "20-year" optional Police & Fire Plan

1 - S.Kingstown Police have a unique plan that provides 2.0% of salary for service prior to July 1, 1993, and 2.5% of salary for service on or after July 1, 1993.

2 - New unit since prior valuation.

3 - Closed unit.

4 - Historically, Cranston Fire and Police are contributing 10% due to special plan provision. 5 - This unit has no active members.



Table 5a

Explanation of Rate Changes

All rates are gross: before recognizing 0% minimum contribution rate

Old Unit Number	New Unit Number	Unit	Source of Rate Change									June 30, 2020 Actuarial Valuation
			June 30, 2019 Actuarial Valuation	Salary (Gains)/ Losses	Payroll (Gains)/ Losses	Other Non-Asset (Gains)/ Losses	Asset (Gains)/ Losses	Benefit Accrual Turnover	Recognition of Assumption Changes	COLA Suspension	2021 COLA different than Assumed	
(1)	(2)	(3)	(4)	(5)	(6)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
General Employee Units												
3002	1012 1019	Bristol	15.24%	0.02%	0.26%	(0.09%)	0.31%	(0.31%)	0.25%	(0.36%)	(0.17%)	15.14%
3003	1032 1033	Burrillville	7.66%	(0.01%)	0.05%	0.13%	0.40%	(0.18%)	0.12%	0.00%	(0.19%)	7.98%
3004	1052	Central Falls	14.42%	0.06%	(0.07%)	(0.23%)	0.22%	0.22%	0.24%	0.00%	0.00%	14.86%
3005	1082	Charlestown	7.42%	0.57%	(0.11%)	(0.25%)	0.23%	(0.65%)	(0.07%)	0.00%	(0.07%)	7.08%
3007	1112 1113	Cranston	10.70%	0.20%	0.03%	(0.08%)	0.50%	(0.19%)	0.12%	0.00%	(0.22%)	11.06%
3008	1122 1123	Cumberland	10.81%	(0.22%)	(0.19%)	(0.35%)	0.23%	(0.24%)	0.04%	0.00%	0.00%	10.08%
3009	1152 1153	East Greenwich	0.78%	(0.45%)	0.60%	2.43%	0.40%	0.09%	(0.76%)	0.00%	(0.07%)	3.03%
3010	1162 1163	East Providence	21.56%	(0.14%)	0.24%	0.26%	0.29%	(0.24%)	0.24%	(0.44%)	(0.18%)	21.59%
3011	1183	Exeter/West Greenwich	12.64%	(0.11%)	(0.04%)	(0.11%)	0.29%	0.10%	0.16%	0.00%	(0.14%)	12.79%
3012	1192 1193	Foster	12.11%	(0.03%)	0.21%	(0.99%)	0.26%	0.15%	0.02%	0.00%	0.00%	11.73%
3013	1212 1213	Glocester	10.47%	(0.12%)	0.08%	(0.33%)	0.28%	(0.17%)	0.11%	0.00%	(0.09%)	10.23%
3014	1262	Hopkinton	2.98%	(0.30%)	(0.05%)	0.24%	0.27%	0.08%	(0.25%)	0.00%	(0.07%)	2.91%
3015	1272 1273	Jamestown	10.53%	(0.17%)	0.05%	(0.68%)	0.28%	(0.16%)	0.02%	0.00%	(0.11%)	9.75%
3016	1282 1283	Johnston	16.62%	(0.14%)	1.29%	1.69%	0.38%	(0.30%)	0.23%	(0.46%)	(0.20%)	19.10%
3017	1302 1303	Lincoln	11.42%	(0.06%)	0.19%	(0.29%)	0.21%	0.38%	0.19%	0.00%	0.00%	12.04%
3019	1322 1323	Middletown	11.92%	(0.09%)	(0.02%)	(0.67%)	0.34%	(0.14%)	0.23%	0.00%	(0.14%)	11.43%
3021	1352 1353 1354	Newport	21.08%	(0.03%)	0.11%	0.62%	0.31%	(0.15%)	0.29%	(0.45%)	(0.20%)	21.58%
3022	1342 1343	New Shoreham	7.03%	(0.04%)	(0.05%)	0.52%	0.26%	(0.29%)	(0.01%)	0.00%	(0.09%)	7.33%
3023	1372 1373	North Kingstown	17.04%	(0.09%)	0.00%	0.95%	0.35%	(0.36%)	0.16%	(0.43%)	(0.19%)	17.43%
3024	1382 1383	North Providence	6.38%	0.62%	(0.02%)	(0.25%)	0.31%	(0.23%)	0.14%	0.00%	0.00%	6.94%
3025	1392 1393	North Smithfield	5.93%	(0.02%)	(0.01%)	0.62%	0.33%	(0.20%)	(0.44%)	0.00%	(0.12%)	6.10%
3026	1412 1413	Pawtucket	14.28%	(0.05%)	(0.00%)	(0.19%)	0.37%	(0.21%)	0.19%	(0.40%)	(0.18%)	13.80%
3027	1515	Union Fire District	6.91%	0.38%	0.01%	(0.44%)	0.17%	(0.03%)	(0.16%)	0.00%	0.00%	6.84%
3029	1452	Richmond	8.61%	0.10%	(0.04%)	(0.16%)	0.15%	0.07%	0.03%	0.00%	0.00%	8.77%
3030	1462 1463	Scituate	15.01%	(0.01%)	(0.19%)	0.05%	0.27%	(0.15%)	0.14%	(0.30%)	(0.15%)	14.66%
3031	1472 1473	Smithfield	9.89%	(0.04%)	0.10%	0.31%	0.30%	(0.35%)	0.06%	0.00%	(0.11%)	10.17%
3032	1492 1493	South Kingstown	12.37%	0.01%	0.22%	(0.03%)	0.38%	(0.21%)	0.22%	0.00%	(0.18%)	12.78%
3033	1532 1533	Tiverton	3.11%	(0.01%)	0.06%	1.51%	0.33%	(0.33%)	(0.35%)	0.00%	(0.11%)	4.21%
3034	1562	Warren	10.69%	(0.34%)	(0.07%)	0.22%	0.21%	(0.10%)	0.09%	(0.18%)	(0.09%)	10.43%
3037	1602	West Greenwich	14.60%	(0.06%)	0.08%	(1.08%)	0.20%	(0.08%)	0.15%	(0.28%)	(0.15%)	13.38%
3039	1632 1633	Woonsocket	11.43%	(0.08%)	0.08%	0.46%	0.43%	(0.28%)	0.14%	0.00%	(0.20%)	11.98%
3040	1073	Charlho School District	11.50%	(0.30%)	0.18%	0.05%	0.31%	(0.27%)	0.10%	0.00%	(0.11%)	11.45%
3041	1203	Foster/Glocester	10.29%	(0.05%)	(0.06%)	1.53%	0.29%	(0.40%)	(0.05%)	0.00%	(0.12%)	11.43%
3043	1336	Narragansett Housing	2.80%	0.05%	0.02%	0.65%	0.28%	0.01%	(0.39%)	0.00%	(0.02%)	3.39%
3045	1098	Coventry Lighting District	(105.46%)	0.00%	(0.50%)	0.98%	2.38%	0.01%	(2.97%)	0.00%	0.00%	(105.56%)
3046	1242	Hope Valley Fire	(4.26%)	0.00%	0.04%	1.51%	0.28%	(0.01%)	(0.26%)	0.00%	0.00%	(2.71%)
3050	1156	East Greenwich Housing	11.67%	(0.61%)	0.11%	0.05%	0.23%	0.00%	(0.21%)	0.00%	(0.06%)	11.18%
3051	1116	Cranston Housing	6.54%	(0.04%)	(0.01%)	(0.41%)	0.46%	(0.33%)	0.07%	0.00%	(0.19%)	6.09%
3052	1166	East Providence Housing	11.75%	(0.21%)	0.43%	(0.85%)	0.37%	0.04%	0.11%	0.00%	(0.20%)	11.45%
3053	1416	Pawtucket Housing	(3.38%)	0.00%	0.28%	0.88%	0.44%	(0.08%)	(0.41%)	0.00%	0.00%	(2.27%)



Table 5a

Explanation of Rate Changes

All rates are gross: before recognizing 0% minimum contribution rate

Old Unit Number	New Unit Number	Unit	June 30, 2019 Actuarial Valuation	Source of Rate Change							2021 COLA different than Assumed	June 30, 2020 Actuarial Valuation
				Salary (Gains)/ Losses	Payroll (Gains)/ Losses	Other Non-Asset (Gains)/ Losses	Asset (Gains)/ Losses	Benefit Accrual Turnover	Recognition of Assumption Changes	COLA Suspension		
(1)	(2)	(3)	(4)	(5)	(6)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
3056	1126	Cumberland Housing	5.08%	(0.09%)	(0.03%)	(0.42%)	0.19%	0.12%	(0.34%)	0.00%	(0.04%)	4.47%
3057	1306	Lincoln Housing	9.77%	0.05%	(0.05%)	0.04%	0.26%	0.05%	0.31%	0.00%	(0.18%)	10.25%
3059	1016	Bristol Housing	1.17%	(0.34%)	(0.02%)	1.51%	0.37%	(0.23%)	(0.29%)	0.00%	0.00%	2.17%
3065	1036	Burrillville Housing	12.31%	(0.04%)	(0.02%)	0.80%	0.40%	(0.02%)	0.01%	0.00%	(0.15%)	13.29%
3066	1386	North Providence Housing	33.81%	0.02%	0.86%	1.22%	0.35%	(0.18%)	0.21%	(0.82%)	(0.30%)	35.17%
3068	1227	Greenville Water	2.97%	(0.03%)	(0.00%)	0.37%	0.32%	(0.03%)	(0.06%)	0.00%	(0.06%)	3.47%
3069	1356	Newport Housing	19.01%	(0.06%)	1.92%	0.69%	0.40%	0.12%	0.23%	(0.57%)	(0.21%)	21.53%
3071	1566	Warren Housing	5.48%	(0.04%)	(0.02%)	1.06%	0.27%	(0.03%)	(0.26%)	0.00%	(0.13%)	6.33%
3072	1286	Johnston Housing	13.55%	(0.09%)	(0.01%)	(0.13%)	0.24%	(0.02%)	0.09%	0.00%	0.00%	13.62%
3077	1538	Tiverton Local 2670A	7.03%	(0.09%)	(0.01%)	0.03%	0.34%	(0.46%)	0.08%	0.00%	(0.15%)	6.77%
3078	1002 1003 1007 1009	Barrington COLA	11.36%	(0.15%)	0.03%	(0.58%)	0.38%	(0.24%)	0.08%	0.00%	(0.14%)	10.74%
3079	1096	Coventry Housing	6.38%	0.12%	0.01%	(0.13%)	0.17%	(0.29%)	(0.21%)	0.00%	0.00%	6.05%
3080	1496	South Kingstown Housing	(0.22%)	0.00%	(1.79%)	2.41%	0.30%	(1.03%)	(0.11%)	0.00%	0.00%	(0.44%)
3081	1403	N. RI Collaborative Adm. Services	13.87%	(1.74%)	1.33%	0.27%	0.41%	0.05%	0.33%	(0.41%)	(0.17%)	13.93%
3083	1616	West Warwick Housing	9.40%	0.16%	(0.13%)	(0.54%)	0.33%	(0.23%)	0.20%	0.00%	(0.20%)	9.00%
3084	1476	Smithfield Housing	1.68%	0.27%	0.13%	0.49%	0.24%	0.00%	(0.39%)	0.00%	0.00%	2.42%
3094	1478	Smithfield COLA	10.20%	0.04%	(0.10%)	(0.10%)	0.31%	(0.43%)	0.12%	0.00%	(0.12%)	9.92%
3096	1056	Central Falls Housing	14.14%	0.13%	(0.35%)	0.06%	0.17%	(0.03%)	0.03%	(0.20%)	(0.06%)	13.89%
3098	1293	Lime Rock Administrative Services	14.82%	(0.63%)	0.13%	(1.08%)	0.27%	0.00%	(0.27%)	0.00%	0.00%	13.24%
3099	1063	Central Falls Schools	8.42%	(0.08%)	0.07%	(0.18%)	0.31%	(0.01%)	0.10%	0.00%	(0.15%)	8.48%
3100	1023	Bristol/Warren Schools	16.07%	(0.12%)	0.25%	0.42%	0.35%	(0.30%)	0.18%	(0.46%)	(0.21%)	16.19%
3101	1157 1158	Town of E. Greenwich-COLA-NCE	6.57%	(0.24%)	0.00%	0.34%	0.35%	(0.11%)	0.09%	0.00%	(0.12%)	6.88%
3102	1712	Harrisville Fire District (ADMIN)	5.04%	(0.61%)	(0.07%)	0.41%	0.27%	(0.03%)	(0.26%)	0.00%	(0.02%)	4.73%
1802	1802	Pascoag Fire District (ADMIN) COLA	7.27%	(0.34%)	0.00%	2.23%	0.06%	(0.34%)	0.02%	0.00%	(0.34%)	8.56%
General Employee Units Averages			12.57%	(0.03%)	0.11%	0.10%	0.34%	(0.21%)	0.11%	(0.16%)	(0.15%)	12.68%
Police & Fire Units												
4016	1285	Johnston Fire	12.49%	(0.17%)	(0.02%)	(0.25%)	0.13%	(0.05%)	(0.63%)	0.00%	0.00%	11.49%
4029	1454	Richmond Police	10.40%	0.24%	(0.08%)	(0.43%)	0.17%	(0.06%)	0.54%	0.00%	0.00%	10.77%
4031	1474	Smithfield Police	12.54%	(0.90%)	0.05%	0.51%	0.39%	(0.17%)	(0.40%)	0.00%	(0.09%)	11.93%
4042	1555	Valley Falls Fire	28.23%	(1.10%)	0.35%	0.36%	0.48%	(0.02%)	0.53%	0.00%	0.00%	28.82%
4047	1395 1435	North Smithfield Voluntary Fire	17.82%	(0.49%)	(0.06%)	(0.97%)	0.45%	0.19%	0.03%	0.00%	(0.27%)	16.71%
4050	1155	East Greenwich Fire	33.83%	(0.63%)	(0.06%)	2.12%	0.44%	0.00%	(0.19%)	(0.56%)	(0.32%)	34.64%
4054	1154	East Greenwich Police	31.52%	(1.06%)	1.54%	(0.01%)	0.59%	0.08%	(0.07%)	(0.56%)	(0.32%)	31.70%
4055	1375	North Kingstown Fire	29.84%	(0.46%)	0.59%	0.57%	0.57%	(0.17%)	0.25%	(0.56%)	(0.28%)	30.35%
4056	1374	North Kingstown Police	29.45%	(0.02%)	(0.87%)	0.86%	0.45%	(0.01%)	(0.08%)	(0.48%)	(0.29%)	29.01%
4058	1385	North Providence Fire	28.14%	0.05%	(0.55%)	(0.94%)	0.48%	0.01%	1.31%	0.00%	0.00%	28.51%



Table 5a

Explanation of Rate Changes

All rates are gross: before recognizing 0% minimum contribution rate

Old Unit Number	New Unit Number	Unit	June 30, 2019 Actuarial Valuation	Source of Rate Change							2021 COLA different than Assumed	June 30, 2020 Actuarial Valuation
				Salary (Gains)/ Losses	Payroll (Gains)/ Losses	Other Non- Asset (Gains)/ Losses	Asset (Gains)/ Losses	Benefit Accrual Turnover	Recognition of Assumption Changes	COLA Suspension		
(1)	(2)	(3)	(4)	(5)	(6)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
4059	1008	Barrington Fire (25)	10.80%	(0.16%)	(0.08%)	1.50%	0.14%	0.04%	(0.61%)	0.00%	(0.04%)	11.59%
4060	1004	Barrington Police	34.02%	0.45%	(1.22%)	(1.91%)	0.40%	(0.12%)	(0.26%)	(0.52%)	(0.19%)	30.65%
4062	1564 1565	Warren Police & Fire	27.15%	(0.56%)	0.42%	0.09%	0.48%	(0.12%)	0.73%	(0.50%)	(0.23%)	27.45%
4063	1494	South Kingstown Police	26.12%	0.22%	(0.15%)	0.07%	0.54%	(0.09%)	1.64%	(0.53%)	(0.30%)	27.52%
4076	1394	North Smithfield Police	23.39%	0.10%	(0.59%)	(0.04%)	0.43%	(0.23%)	0.46%	(0.50%)	(0.27%)	22.75%
4077	1534	Tiverton Fire	24.73%	(0.23%)	(0.11%)	(2.02%)	0.46%	0.22%	0.81%	(0.63%)	(0.25%)	22.97%
4082	1194	Foster Police	30.48%	(0.16%)	(0.80%)	(0.88%)	0.43%	(0.44%)	0.33%	(0.72%)	(0.39%)	27.84%
4085	1634	Woonsocket Police	30.62%	(0.63%)	1.27%	0.30%	0.54%	(0.13%)	0.84%	(0.61%)	(0.39%)	31.82%
4086	1084	Charlestown Police	34.25%	0.88%	(0.85%)	1.05%	0.52%	(0.18%)	1.32%	(0.53%)	(0.27%)	36.20%
4087	1264	Hopkinton Police	32.62%	(0.77%)	2.28%	0.51%	0.46%	0.11%	0.08%	(0.60%)	(0.33%)	34.35%
4088	1214	Glocester Police	25.15%	(0.69%)	0.25%	0.14%	0.51%	0.07%	0.09%	(0.57%)	(0.28%)	24.67%
4089	1604	West Greenwich Police/Rescue	23.22%	(0.40%)	0.11%	(1.87%)	0.35%	(0.05%)	0.46%	(0.29%)	(0.17%)	21.37%
4090	1034	Burrillville Police	21.63%	(0.36%)	(0.25%)	(0.51%)	0.49%	(0.18%)	(0.83%)	0.00%	(0.24%)	19.75%
4091	1148	Cumberland Rescue	13.52%	(0.63%)	0.16%	(0.85%)	0.54%	(0.31%)	(0.03%)	0.00%	(0.22%)	12.19%
4093	1635	Woonsocket Fire	14.95%	(0.74%)	0.15%	(0.07%)	0.63%	(0.02%)	0.19%	0.00%	(0.24%)	14.85%
4094	1015	Bristol Fire	13.61%	0.48%	(0.02%)	(1.25%)	0.21%	0.01%	(0.49%)	0.00%	0.00%	12.55%
4095	1135	Cumberland Hill Fire	37.77%	0.85%	1.19%	0.35%	0.51%	(0.04%)	0.43%	(0.67%)	(0.40%)	39.99%
4096	1014	Bristol Police	8.93%	(0.57%)	0.04%	0.78%	0.19%	0.08%	(1.27%)	0.00%	(0.05%)	8.13%
4098	1095	Coventry Fire	31.86%	0.47%	4.92%	11.33%	0.61%	(0.01%)	1.76%	(0.74%)	(0.09%)	50.10%
4099	1505	South Kingstown EMT	4.01%	(0.10%)	0.85%	0.96%	0.34%	0.25%	(1.23%)	0.00%	(0.13%)	4.95%
4101	1365	North Cumberland	26.53%	(1.13%)	1.20%	(0.66%)	0.67%	(0.16%)	0.69%	(0.64%)	(0.20%)	26.31%
4102	045 1235 1525 1585	Central Coventry Fire	32.88%	(0.64%)	0.58%	0.00%	0.44%	0.12%	1.30%	(0.66%)	(0.29%)	33.74%
4103	1255	Hopkins Hill Fire	15.74%	0.08%	(0.07%)	(0.77%)	0.25%	(1.92%)	(2.87%)	0.00%	(0.05%)	10.39%
4104	1114	Cranston Police	15.56%	1.14%	(0.52%)	(0.33%)	0.27%	(0.05%)	0.15%	0.00%	(0.08%)	16.13%
4105	1115	Cranston Fire	8.64%	0.13%	0.01%	0.91%	0.37%	(0.20%)	(0.53%)	0.00%	(0.07%)	9.26%
4106	1125	Cumberland Fire	20.97%	(0.49%)	(1.04%)	2.63%	0.29%	(0.17%)	(2.41%)	(0.28%)	(0.17%)	19.34%
4107	1305	Lincoln Rescue	29.70%	0.03%	(0.45%)	0.02%	0.37%	0.10%	0.77%	(0.53%)	(0.19%)	29.83%
4108	1344	New Shoreham Police	21.17%	0.29%	(0.24%)	(1.95%)	0.28%	(0.04%)	0.06%	(0.22%)	(0.18%)	19.16%
4109	1324	Middletown Police & Fire	9.58%	(0.15%)	(0.03%)	(0.77%)	0.14%	0.02%	(1.02%)	0.00%	(0.03%)	7.74%
4110	1715	Harrisville Fire District	7.29%	(0.34%)	0.17%	(1.80%)	0.26%	0.01%	(0.92%)	0.00%	(0.05%)	4.62%
4111	1705	Albion Fire District	17.99%	0.11%	0.14%	0.26%	0.28%	(0.10%)	(0.56%)	(0.27%)	(0.20%)	17.65%
1284	1284	Johnston Police	9.18%	(0.12%)	0.02%	0.07%	0.03%	0.01%	(0.83%)	0.00%	0.00%	8.36%
1364	1364	Newport Police Dept	8.49%	(0.07%)	0.10%	0.34%	0.00%	(0.10%)	(0.85%)	0.00%	0.00%	7.91%
1465	1465	Smithfield Fire	8.95%	(0.09%)	0.26%	(0.03%)	0.04%	0.00%	(0.82%)	0.00%	(0.02%)	8.29%
1484	1484	Scituate Police Dept COLA	8.70%	0.79%	0.02%	(0.28%)	(0.01%)	0.06%	(0.86%)	0.00%	(0.03%)	8.39%
1805	1805	Pascoag Fire District COLA	24.08%	(0.06%)	(0.28%)	(0.05%)	0.01%	(0.01%)	(1.66%)	0.00%	(0.05%)	21.98%
1815	1815	Saylesville Fire (NO COLA)	5.55%	0.12%	0.37%	(0.83%)	(0.02%)	0.15%	(1.09%)	0.00%	0.00%	4.24%
Police & Fire Units Averages			19.52%	(0.09%)	0.04%	0.15%	0.39%	(0.08%)	(0.00%)	(0.21%)	(0.16%)	19.56%
All MERS Units Averages			14.62%	(0.05%)	0.09%	0.16%	0.35%	(0.17%)	0.08%	(0.17%)	(0.15%)	14.76%

Units with no active members are excluded from this exhibit

Units new in 2020 are excluded from this exhibit



Table 5B

Analysis of Financial Experience

Basis	Municipal Employees Retirement System Plan - General	Municipal Employees Retirement System Plan - Police/Fire
1. UAAL as of June 30, 2019	\$ 246.4	\$ 159.5
2. Impact of changes, gains and losses		
a. Interest at 7.00% for one year	17.0	11.0
b. Expected amortization payments	(14.3)	(10.1)
c. Investment experience (gain)/loss	11.8	5.5
d. Actual COLA (1.06%)	(5.1)	(2.3)
e. COLA Suspension	(5.1)	(3.0)
f. Salary (gain)/loss	(0.6)	(1.7)
g. Non-economic liability experience (gain)/loss	(10.5)	(2.3)
h. Changes in assumptions/methods	(12.4)	3.0
i. Changes in plan provisions	-	27.5
j. Total	\$ (19.3)	\$ 27.6
3. UAAL as of June 30, 2020	\$ 227.1	\$ 187.1

Note: All dollar amounts are shown in millions.

Development of Actuarial Value of Assets (All Units in Aggregate)

*Values of \$0 result from the beginning balance being offset by future gains or losses in the opposite direction.

Table 6b**History of Investment Return Rates**

Year Ending June 30 of	Market	Actuarial
(1)	(2)	(3)
1999	10.1%	14.7%
2000	9.1%	8.8%
2001	-11.0%	4.9%
2002	-8.4%	0.9%
2003	2.5%	-0.7%
2004	19.2%	0.7%
2005	11.4%	2.3%
2006	11.7%	7.7%
2007	18.3%	12.9%
2008	-5.8%	10.5%
2009	-19.8%	2.4%
2010	13.7%	1.1%
2011	19.5%	2.7%
2012	1.5%	4.7%
2013	11.0%	6.3%
2014	14.8%	8.4%
2015	2.2%	7.5%
2016	0.0%	5.6%
2017	11.6%	6.0%
2018	7.9%	6.6%
2019	6.4%	6.6%
2020	3.7%	5.9%
Average Returns:		
Last 5 Years	5.8%	6.1%
Last 10 Years	7.7%	6.0%
Since 1999	5.4%	5.7%

Table 7

Schedule of Funding Progress

Old Unit Number	New Unit Number	Unit	Code (s)	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (5) - (4)	Funded Ratio (4)/(5)	Annual Covered Payroll	UAAL as % of Payroll (7)/(9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
General Employee Units									
3002	1012 1019	Bristol	B	19,426,699	26,185,550	6,758,851	74.2%	5,205,243	129.8%
3003	1032 1033	Burrillville	C	30,774,420	32,629,310	1,854,890	94.3%	6,662,981	27.8%
3004	1052	Central Falls		5,385,905	7,919,015	2,533,110	68.0%	2,163,676	117.1%
3005	1082	Charlestown	C	9,069,460	9,457,813	388,353	95.9%	2,906,727	13.4%
3007	1112 1113	Cranston	B	144,423,601	159,010,385	14,586,784	90.8%	24,808,872	58.8%
3008	1122 1123	Cumberland		29,476,250	35,257,167	5,780,917	83.6%	10,996,416	52.6%
3009	1152 1153	East Greenwich	C	7,772,391	7,133,982	(638,409)	108.9%	1,572,854	(40.6%)
3010	1162 1163	East Providence	B	68,482,403	114,827,278	46,344,875	59.6%	20,789,019	222.9%
3011	1183	Exeter/West Greenwich	B	11,329,215	13,373,895	2,044,680	84.7%	2,928,167	69.8%
3012	1192 1193	Foster		4,141,583	4,929,027	787,444	84.0%	1,309,862	60.1%
3013	1212 1213	Glocester	C	9,839,426	11,144,255	1,304,829	88.3%	2,851,742	45.8%
3014	1262	Hopkinton	C	6,254,207	5,383,795	(870,412)	116.2%	2,011,402	(43.3%)
3015	1272 1273	Jamestown	C	15,970,681	17,813,102	1,842,421	89.7%	4,351,779	42.3%
3016	1282 1283	Johnston	C	33,231,594	47,396,414	14,164,820	70.1%	8,149,328	173.8%
3017	1302 1303	Lincoln		2,895,875	3,213,773	317,898	90.1%	976,680	32.5%
3019	1322 1323	Middletown	C	21,010,187	24,756,226	3,746,039	84.9%	4,994,768	75.0%
3021	1352 1353 1354	Newport	B	52,952,990	80,234,384	27,281,394	66.0%	14,226,190	191.8%
3022	1342 1343	New Shoreham	B	8,081,939	8,686,441	604,502	93.0%	2,591,428	23.3%
3023	1372 1373	North Kingstown	C	52,432,702	69,348,917	16,916,215	75.6%	12,624,828	134.0%
3024	1382 1383	North Providence		30,860,843	31,909,995	1,049,152	96.7%	8,732,035	12.0%
3025	1392 1393	North Smithfield	B	16,094,525	16,002,763	(91,762)	100.6%	4,140,338	(2.2%)
3026	1412 1413	Pawtucket	C	99,763,026	124,917,571	25,154,545	79.9%	22,032,538	114.2%
3027	1515	Union Fire District		1,020,871	1,008,557	(12,314)	101.2%	395,782	(3.1%)
3029	1452	Richmond		2,697,113	3,247,775	550,662	83.0%	1,358,138	40.5%
3030	1462 1463	Scituate	B	11,415,945	14,944,043	3,528,098	76.4%	3,492,951	101.0%
3031	1472 1473	Smithfield	C	13,155,483	15,074,525	1,919,042	87.3%	3,995,406	48.0%
3032	1492 1493	South Kingstown	B	61,008,193	72,169,113	11,160,920	84.5%	13,074,744	85.4%
3033	1532 1533	Tiverton	C	14,906,342	14,091,094	(815,248)	105.8%	3,789,033	(21.5%)
3034	1562	Warren	C	6,509,299	8,327,928	1,818,629	78.2%	2,530,459	71.9%
3036	1622 1623	Westerly		679,583	781,367	101,784	87.0%	0	-
3037	1602	West Greenwich	C	3,373,434	4,682,477	1,309,043	72.0%	1,255,428	104.3%
3039	1632 1633	Woonsocket	B	64,271,858	74,776,974	10,505,116	86.0%	13,484,686	77.9%
3040	1073	Charlho School District	C	21,922,482	25,684,324	3,761,842	85.4%	5,563,051	67.6%
3041	1203	Foster/Glocester	B	8,011,793	9,488,820	1,477,027	84.4%	2,227,594	66.3%
3042	1528	Tiogue Fire & Lighting	C,5	51,722	25,812	(25,910)	200.4%	0	-



Table 7

Schedule of Funding Progress

Old Unit Number	New Unit Number	Unit	Code (s)	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (5) - (4)	Funded Ratio (4)/(5)	Annual Covered Payroll	UAAL as % of Payroll (7)/(9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
3043	1336	Narragansett Housing	C	780,804	681,999	(98,805)	114.5%	195,644	(50.5%)
3045	1098	Coventry Lighting District	C	1,255,630	569,578	(686,052)	220.4%	46,856	(1464.2%)
3046	1242	Hope Valley Fire	C	497,770	337,759	(160,011)	147.4%	164,295	(97.4%)
3050	1156	East Greenwich Housing	C	1,601,359	1,847,801	246,442	86.7%	553,277	44.5%
3051	1116	Cranston Housing	C	5,854,351	5,974,198	119,847	98.0%	1,138,985	10.5%
3052	1166	East Providence Housing	B	3,159,263	3,671,122	511,859	86.1%	806,071	63.5%
3053	1416	Pawtucket Housing	B	16,330,919	12,954,041	(3,376,878)	126.1%	3,113,680	(108.5%)
3056	1126	Cumberland Housing	C	1,562,253	1,375,566	(186,687)	113.6%	565,079	(33.0%)
3057	1306	Lincoln Housing	B	1,770,439	2,212,711	442,272	80.0%	637,899	69.3%
3059	1016	Bristol Housing		2,351,562	2,028,760	(322,802)	115.9%	540,676	(59.7%)
3065	1036	Burrillville Housing	B	932,153	1,184,596	252,443	78.7%	220,275	114.6%
3066	1386	North Providence Housing	B	916,565	1,986,051	1,069,486	46.2%	313,059	341.6%
3067	1177	East Smithfield Water	C	687,278	709,276	21,998	96.9%	0	-
3068	1227	Greenville Water	B	1,480,155	1,324,187	(155,968)	111.8%	366,387	(42.6%)
3069	1356	Newport Housing	C	7,046,432	10,160,089	3,113,657	69.4%	1,518,228	205.1%
3071	1566	Warren Housing	B	1,166,332	1,242,277	75,945	93.9%	433,321	17.5%
3072	1286	Johnston Housing		1,266,171	1,721,168	454,997	73.6%	471,159	96.6%
3077	1538	Tiverton Local 2670A	C	4,271,833	4,547,020	275,187	93.9%	1,160,029	23.7%
3078	1002 1003 1007 1009	Barrington COLA	C	37,108,200	42,158,653	5,050,453	88.0%	8,385,816	60.2%
3079	1096	Coventry Housing		1,560,453	1,488,190	(72,263)	104.9%	658,712	(11.0%)
3080	1496	South Kingstown Housing	C	550,480	430,061	(120,419)	128.0%	134,263	(89.7%)
3081	1403	N. RI Collaborative Adm. Services	C	3,032,293	3,645,821	613,528	83.2%	632,440	97.0%
3083	1616	West Warwick Housing	B	1,605,214	1,870,237	265,023	85.8%	401,801	66.0%
3084	1476	Smithfield Housing		657,942	558,104	(99,838)	117.9%	192,196	(51.9%)
3094	1478	Smithfield COLA	C	17,168,811	19,602,126	2,433,315	87.6%	4,445,320	54.7%
3096	1056	Central Falls Housing	C	2,589,037	3,871,474	1,282,437	66.9%	1,196,543	107.2%
3098	1293	Lime Rock Administrative Services		405,816	497,801	91,985	81.5%	104,241	88.2%
3099	1063	Central Falls Schools	C	16,825,611	18,556,474	1,730,863	90.7%	4,449,336	38.9%
3100	1023	Bristol/Warren Schools	B	17,796,791	24,588,666	6,791,875	72.4%	4,610,543	147.3%
3101	1157 1158	Town of E. Greenwich-COLA-NCE	C	24,925,382	25,293,623	368,241	98.5%	5,732,327	6.4%
3102	1712	Harrisville Fire District (ADMIN)	C	1,083,655	996,426	(87,229)	108.8%	268,349	(32.5%)
3103	1702	Albion Fire District (ADMIN)	C,5	143,523	134,827	(8,696)	106.4%	0	-
3150	1159	East Greenwich Fire (ADMIN)	C	146,572	246,585	100,013	59.4%	36,653	272.9%
1802	1802	Pascoag Fire District (ADMIN) COLA	C	42,122	58,604	16,482	71.9%	0	-
General Employee Units Subtotal				<u>\$ 1,067,267,211</u>	<u>\$ 1,294,359,742</u>	<u>\$ 227,092,531</u>	82.5%	<u>\$ 261,687,605</u>	86.8%



Table 7

Schedule of Funding Progress

Old Unit Number	New Unit Number	Unit	Code (s)	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (5) - (4)	Funded Ratio (4)/(5)	Annual Covered Payroll	UAAL as % of Payroll (7)/(9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Police & Fire Units									
4016	1285	Johnston Fire	D	11,868,131	13,934,679	2,066,548	85.2%	4,918,314	42.0%
4029	1454	Richmond Police	6	2,625,885	2,900,267	274,382	90.5%	865,889	31.7%
4031	1474	Smithfield Police	C,D	19,593,689	20,924,233	1,330,544	93.6%	3,155,357	42.2%
4042	1555	Valley Falls Fire	D	3,961,811	5,863,604	1,901,793	67.6%	667,485	284.9%
4047	1395 1435	North Smithfield Voluntary Fire	B,D	8,962,156	10,440,534	1,478,378	85.8%	1,469,278	100.6%
4050	1155	East Greenwich Fire	C,D	15,852,627	24,159,930	8,307,303	65.6%	2,586,551	321.2%
4054	1154	East Greenwich Police	C,D	17,276,502	23,422,552	6,146,050	73.8%	2,368,348	259.5%
4055	1375	North Kingstown Fire	C,D	36,979,988	50,221,571	13,241,583	73.6%	4,959,851	267.0%
4056	1374	North Kingstown Police	C,D	25,510,783	35,341,085	9,830,302	72.2%	4,046,811	242.9%
4058	1385	North Providence Fire	D	37,658,932	54,825,331	17,166,399	68.7%	6,068,064	282.9%
4059	1008	Barrington Fire (25)	C	4,470,677	5,236,753	766,076	85.4%	1,925,643	39.8%
4060	1004	Barrington Police	C,D	11,165,416	16,091,794	4,926,378	69.4%	1,945,534	253.2%
4061	1005	Barrington Fire (20)	C,D	5,651,999	9,609,583	3,957,584	58.8%	70,390	5622.4%
4062	1564 1565	Warren Police & Fire	C,D	12,641,532	17,643,224	5,001,692	71.7%	1,833,438	272.8%
4063	1494	South Kingstown Police	B,1	26,536,413	35,501,456	8,965,043	74.7%	3,754,407	238.8%
4073	1464	Scituate Police	5	255,917	15,387	(240,530)	1663.2%	0	-
4076	1394	North Smithfield Police	C,D	10,911,334	14,342,818	3,431,484	76.1%	1,835,051	187.0%
4077	1534	Tiverton Fire	C,D	11,660,506	15,261,014	3,600,508	76.4%	1,802,016	199.8%
4082	1194	Foster Police	C,D	3,169,580	4,311,262	1,141,682	73.5%	513,492	222.3%
4085	1634	Woonsocket Police	C,D	44,978,023	62,793,794	17,815,771	71.6%	6,147,649	289.8%
4086	1084	Charlestown Police	C,D	10,656,489	16,174,668	5,518,179	65.9%	1,589,258	347.2%
4087	1264	Hopkinton Police	C,D,6	6,090,493	9,250,328	3,159,835	65.8%	1,148,706	275.1%
4088	1214	Glocester Police	C,D	7,780,088	9,928,230	2,148,142	78.4%	1,223,267	175.6%
4089	1604	West Greenwich Police/Rescue	C,D	5,503,466	7,281,958	1,778,492	75.6%	1,088,925	163.3%
4090	1034	Burrillville Police	C,D,6	11,986,316	14,417,474	2,431,158	83.1%	1,749,084	139.0%
4091	1148	Cumberland Rescue	C,D	7,982,133	8,447,810	465,677	94.5%	1,163,575	40.0%
4093	1635	Woonsocket Fire	C,D	56,368,068	61,540,019	5,171,951	91.6%	7,079,800	73.1%
4094	1015	Bristol Fire	D	614,885	649,947	35,062	94.6%	166,838	21.0%
4095	1135	Cumberland Hill Fire	C,D	4,957,190	8,231,529	3,274,339	60.2%	762,907	429.2%
4096	1014	Bristol Police	C,D	10,775,285	10,286,418	(488,867)	104.8%	3,068,783	(15.9%)

Table 7

Schedule of Funding Progress

Old Unit Number	New Unit Number	Unit	Code (s)	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (5) - (4)	Funded Ratio (4)/(5)	Annual Covered Payroll	UAAL as % of Payroll (7)/(9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
4098	1095	Coventry Fire	C,D	3,372,713	6,567,020	3,194,307	51.4%	527,012	606.1%
4099	1505	South Kingstown EMT	C,D	4,970,203	4,257,536	(712,667)	116.7%	1,022,913	(69.7%)
4101	1365	North Cumberland	C,D	5,959,715	7,440,611	1,480,896	80.1%	661,777	223.8%
4102	1045 1235 1525 1585	Central Coventry Fire	C,D	10,465,035	16,999,793	6,534,758	61.6%	1,913,758	341.5%
4103	1255	Hopkins Hill Fire	C,D	3,761,955	3,992,767	230,812	94.2%	951,233	24.3%
4104	1114	Cranston Police	C,D,4	52,339,926	63,776,521	11,436,595	82.1%	12,070,441	94.7%
4105	1115	Cranston Fire	C,D,4	83,556,502	82,322,853	(1,233,649)	101.5%	15,581,502	(7.9%)
4106	1125	Cumberland Fire	B,D	5,450,398	7,246,051	1,795,653	75.2%	1,318,561	136.2%
4107	1305	Lincoln Rescue	C	4,401,062	6,882,681	2,481,619	63.9%	838,534	295.9%
4108	1344	New Shoreham Police	B,D	1,869,130	2,345,503	476,373	79.7%	405,631	117.4%
4109	1324	Middletown Police & Fire	C,D	11,111,181	10,313,976	(797,205)	107.7%	4,396,167	(18.1%)
4110	1715	Harrisville Fire District	C,D	2,147,743	1,780,431	(367,312)	120.6%	496,054	(74.0%)
4111	1705	Albion Fire District	C	1,263,183	1,630,413	367,230	77.5%	302,581	121.4%
1054	1054	Central Falls Police & Fire New	C	39,070	40,001	931	97.7%	446,458	0.2%
1055	1055	Central Falls Police & Fire Legacy	C	13,743,482	41,253,428	27,509,946	33.3%	4,333,844	634.8%
1284	1284	Johnston Police		1,439,485	1,376,570	(62,915)	104.6%	1,312,412	(4.8%)
1364	1364	Newport Police Dept		1,052,202	933,440	(118,762)	112.7%	1,439,705	(8.2%)
1425	1425	Portsmouth Fire Department	C	417,536	412,422	(5,114)	101.2%	629,835	(0.8%)
1465	1465	Smithfield Fire	C	2,330,517	2,150,829	(179,688)	108.4%	1,753,632	(10.2%)
1484	1484	Scituate Police Dept COLA	C	268,480	241,331	(27,149)	111.2%	375,931	(7.2%)
1805	1805	Pascoag Fire District COLA	C	538,561	1,072,034	533,473	50.2%	321,968	165.7%
1815	1815	Saylesville Fire (NO COLA)	2	76,740	36,870	(39,870)	208.1%	170,439	(23.4%)
Police & Fire Units Subtotal				\$ 645,021,133	\$ 832,122,333	\$ 187,101,200	77.5%	\$ 121,245,099	154.3%
All MERS Units Total				1,712,288,344	2,126,482,075	414,193,731	80.5%	382,932,704	108.2%

B - Municipality has adopted COLA Plan B

D - Municipality has adopted the "20-year" optional Police & Fire Plan

C - Municipality has adopted COLA Plan C

1 - S.Kingstown Police have a unique plan that provides 2.0% of salary for service prior to July 1, 1993, and 2.5% of salary for service on or after July 1, 1993.

2 - New unit since prior valuation.

3 - Closed unit.

4 - Historically, Cranston Fire and Police are contributing 10% due to special plan provision.

5 - This unit has no active members.

6 - Historically, Special plan provisions apply to this unit.



Table 8

**Distribution of Assets at Market Value
(Percentage of Total Investments)**

Item (1)	June 30, 2020 (2)
US Equity	23.0%
International Developed Equity	12.1%
Emerging Markets Equity	4.9%
Private Equity	11.3%
Non-Core Real Estate	2.3%
Opportunistic Private Credit	1.5%
High Yield Infrastructure	1.0%
REITS	1.0%
Liquid Credit	2.8%
Private Credit	3.2%
Treasury Duration	5.0%
Systematic Trend	5.0%
Core Real Estate	3.6%
Private Infrastructure	2.4%
TIPs	2.0%
IG Corp Credit	3.3%
Equity Options	2.0%
EMD (50/50 Blend)	2.0%
Securitized Credit	3.3%
Absolute Return	6.5%
Cash	2.0%
Total investments	100.0%

Table 9

Active Member Statistics

Old Unit Number	New Unit Number	Unit	Code(s)	Active Employees as of June 30, 2020				Active Employees as of June 30, 2019			
				Number	Average Age	Average Service	Average Salary	Number	Average Age	Average Service	Average Salary
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
General Employee Units											
3002	1012 1019	Bristol	B	93	50.0	14.7	\$ 55,970	95	50.2	15.1	\$ 54,221
3003	1032 1033	Burrillville	C	137	52.9	12.8	48,635	140	52.4	12.5	46,960
3004	1052	Central Falls		42	46.6	10.3	51,516	45	44.8	9.0	47,611
3005	1082	Charlestown	C	48	52.3	13.5	60,557	45	53.2	13.9	56,646
3007	1112 1113	Cranston	B	632	54.3	13.9	39,255	640	54.0	13.7	37,705
3008	1122 1123	Cumberland		261	52.6	12.3	42,132	242	52.4	13.0	39,164
3009	1152 1153	East Greenwich	C	17	54.4	13.9	92,521	14	51.3	13.5	89,040
3010	1162 1163	East Providence	B	436	50.2	11.1	47,681	431	50.2	11.1	46,794
3011	1183	Exeter/West Greenwich	B	69	55.1	13.1	42,437	69	53.7	12.4	41,277
3012	1192 1193	Foster		35	56.2	11.3	37,425	36	55.0	12.1	37,301
3013	1212 1213	Glocester	C	66	54.5	12.1	43,208	67	54.2	12.5	42,313
3014	1262	Hopkinton	C	38	51.6	10.1	52,932	36	51.0	10.2	52,108
3015	1272 1273	Jamestown	C	83	52.9	14.3	52,431	85	52.9	13.5	52,002
3016	1282 1283	Johnston	C	214	51.4	11.4	38,081	223	51.0	11.3	36,706
3017	1302 1303	Lincoln		14	61.0	17.6	69,763	15	59.7	16.5	68,190
3019	1322 1323	Middletown	C	106	52.4	13.7	47,120	105	51.7	13.7	45,740
3021	1352 1353 1354	Newport	B	286	48.9	11.3	49,742	296	48.2	10.8	47,162
3022	1342 1343	New Shoreham	B	58	49.9	9.1	44,680	56	50.4	9.4	43,463
3023	1372 1373	North Kingstown	C	316	50.8	10.6	39,952	303	51.5	11.2	39,404
3024	1382 1383	North Providence		224	51.4	12.0	38,982	217	51.9	12.1	35,561
3025	1392 1393	North Smithfield	B	95	52.6	10.4	43,583	100	52.6	10.6	43,063
3026	1412 1413	Pawtucket	C	481	50.7	13.7	45,806	517	50.5	13.1	42,545
3027	1515	Union Fire District		7	61.0	17.9	56,540	7	60.2	16.9	52,821
3029	1452	Richmond		27	49.7	10.1	50,301	27	47.8	9.2	46,368
3030	1462 1463	Scituate	B	88	51.8	11.3	39,693	85	51.9	11.1	39,021
3031	1472 1473	Smithfield	C	88	54.5	11.8	45,402	90	54.8	11.7	41,770
3032	1492 1493	South Kingstown	B	281	52.2	13.6	46,529	295	52.1	13.2	44,591
3033	1532 1533	Tiverton	C	100	50.2	8.7	37,890	94	50.3	9.0	37,309
3034	1562	Warren	C	45	47.4	13.9	56,232	46	47.0	12.9	53,814
3036	1622 1623	Westerly		---	---	---	---	---	---	---	---
3037	1602	West Greenwich	C	23	50.9	12.4	54,584	25	50.1	11.3	49,148
3039	1632 1633	Woonsocket	B	376	50.4	10.9	35,864	367	50.7	11.2	35,325
3040	1073	Chariho School District	C	160	51.9	13.5	34,769	158	52.0	13.5	35,277
3041	1203	Foster/Glocester	B	57	51.8	10.4	39,081	57	53.0	10.8	38,549
3043	1336	Narragansett Housing	C	4	57.7	21.3	48,911	4	56.7	20.3	47,293
3045	1098	Coventry Lighting District	C	1	53.3	5.4	46,856	1	52.3	4.4	45,698
3046	1242	Hope Valley Fire	C	3	44.7	9.6	54,765	3	43.7	8.6	53,009
3050	1156	East Greenwich Housing	C	9	58.2	12.1	61,475	9	57.2	11.1	62,895
3051	1116	Cranston Housing	C	19	47.1	8.6	59,947	21	47.6	8.6	55,587
3052	1166	East Providence Housing	B	13	54.0	11.5	62,005	14	51.7	9.9	58,693
3053	1416	Pawtucket Housing	B	48	49.4	14.5	64,868	47	49.3	14.3	62,111
3056	1126	Cumberland Housing	C	10	55.5	12.2	56,508	11	54.1	10.2	54,332
3057	1306	Lincoln Housing	B	13	49.9	8.4	49,069	12	50.0	8.8	48,812
3059	1016	Bristol Housing		9	53.9	14.1	60,075	9	53.2	16.4	59,138
3065	1036	Burrillville Housing	B	4	49.3	8.3	55,069	4	48.3	7.3	53,311
3066	1386	North Providence Housing	B	7	46.9	5.8	44,723	6	48.8	5.8	42,914
3067	1177	East Smithfield Water	C	---	---	---	---	---	---	---	---
3068	1227	Greenville Water	B	5	55.2	17.3	73,277	5	54.2	16.3	71,217

Table 9

Active Member Statistics

Old Unit Number	New Unit Number	Unit	Code(s)	Active Employees as of June 30, 2020				Active Employees as of June 30, 2019			
				Number	Average Age	Average Service	Average Salary	Number	Average Age	Average Service	Average Salary
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3069	1356	Newport Housing	C	27	51.5	10.6	56,231	29	49.3	10.6	57,730
3071	1566	Warren Housing	B	8	49.9	6.6	54,165	8	48.9	5.6	51,891
3072	1286	Johnston Housing		8	52.3	15.6	58,895	8	51.3	14.6	57,085
3077	1538	Tiverton Local 2670A	C	27	45.9	8.5	42,964	25	46.7	9.0	41,621
3078	02 1003 1007 10	Barrington COLA	C	177	53.8	12.9	47,377	175	53.9	12.8	46,288
3079	1096	Coventry Housing		13	55.0	13.4	50,670	12	56.3	13.4	49,218
3080	1496	South Kingstown Housing	C	3	55.7	3.1	44,754	4	54.9	9.4	48,439
3081	1403	N. RI Collaborative Adm. Services	C	23	54.2	10.3	27,497	24	52.6	9.8	28,929
3083	1616	West Warwick Housing	B	7	44.7	6.2	57,400	8	45.4	5.2	53,165
3084	1476	Smithfield Housing		3	53.7	15.8	64,065	3	52.7	14.8	60,228
3094	1478	Smithfield COLA	C	71	52.2	14.4	62,610	72	53.0	14.5	60,001
3096	1056	Central Falls Housing	C	21	51.9	12.2	56,978	20	50.5	11.6	54,078
3098	1293	Lime Rock Administrative Services		2	60.8	20.7	52,121	2	59.8	19.7	51,705
3099	1063	Central Falls Schools	C	117	48.3	10.3	38,029	131	47.1	9.3	35,552
3100	1023	Bristol/Warren Schools	B	117	50.6	10.7	39,406	113	51.6	11.2	39,159
3101	1157 1158	Town of E. Greenwich-COLA-NCE	C	159	54.2	12.8	36,052	159	53.7	12.6	36,280
3102	1712	Harrisville Fire District (ADMIN)	C	4	57.2	22.3	67,087	4	56.2	21.4	66,239
3103	1702	Albion Fire District (ADMIN)	C,5	---	---	---	---	---	---	---	---
3150	1159	East Greenwich Fire (ADMIN)	C	1	37.5	0.7	36,653	---	---	---	---
1802	1802	Pascoag Fire District (ADMIN) COLA	C	---	---	---	---	---	---	---	---
All General Employee Units				5,936	51.7	12.2	\$ 44,085	5,971	51.6	12.1	\$ 42,493
Police & Fire Units											
4016	1285	Johnston Fire	D	71	39.7	10.8	\$ 69,272	68	39.7	10.3	\$ 67,387
4029	1454	Richmond Police	6	13	39.1	12.2	66,607	12	39.3	12.1	63,799
4031	1474	Smithfield Police	C,D	40	41.5	16.5	78,884	42	41.1	16.1	79,122
4042	1555	Valley Falls Fire	D	10	42.6	16.2	66,749	10	41.6	15.1	66,547
4047	1395 1435	North Smithfield Voluntary Fire	B,D	23	40.4	13.1	63,882	22	40.4	12.9	65,570
4050	1155	East Greenwich Fire	C,D	35	45.1	14.7	73,901	35	44.5	13.5	73,679
4054	1154	East Greenwich Police	C,D	33	45.3	14.7	71,768	32	45.4	14.5	74,112
4055	1375	North Kingstown Fire	C,D	68	41.9	13.8	72,939	73	42.0	14.0	72,359
4056	1374	North Kingstown Police	C,D	51	39.5	13.4	79,349	50	38.8	12.4	76,028
4058	1385	North Providence Fire	D	90	40.6	13.8	67,423	94	39.2	12.7	63,548
4059	1008	Barrington Fire (25)	C	28	36.1	9.0	68,773	27	36.4	9.3	67,668
4060	1004	Barrington Police	C,D	26	41.1	15.3	74,828	25	40.6	14.9	72,067
4061	1005	Barrington Fire (20)	C,D	1	54.0	33.0	70,390	1	53.0	32.0	68,737
4062	1564 1565	Warren Police & Fire	C,D	26	41.4	14.4	70,517	27	42.4	15.1	71,004
4063	1494	South Kingstown Police	B,1	53	39.8	13.0	70,838	55	39.4	12.4	67,571
4076	1394	North Smithfield Police	C,D	25	33.5	8.3	73,402	27	33.7	7.7	70,551
4077	1534	Tiverton Fire	C,D	29	38.3	9.0	62,138	26	40.2	10.2	66,522
4082	1194	Foster Police	C,D	8	42.8	6.8	64,187	8	45.6	6.8	64,716
4085	1634	Woonsocket Police	C,D	93	39.4	12.4	66,104	93	39.7	12.7	66,472
4086	1084	Charlestown Police	C,D	20	40.6	13.4	79,463	20	40.3	13.2	73,629
4087	1264	Hopkinton Police	C,D,6	15	42.3	10.3	76,580	15	41.4	9.9	78,457
4088	1214	Glocester Police	C,D	17	43.1	13.1	71,957	17	43.4	13.6	71,810
4089	1604	West Greenwich Police/Rescue	C,D	16	46.1	13.5	68,058	17	45.7	12.7	65,408
4090	1034	Burrillville Police	C,D,6	24	40.5	12.6	72,879	25	40.3	12.4	69,394
4091	1148	Cumberland Rescue	C,D	18	43.0	14.3	64,643	18	44.2	15.7	65,169
4093	1635	Woonsocket Fire	C,D	108	40.5	14.1	65,554	107	40.5	14.3	65,866
4094	1015	Bristol Fire	D	3	52.2	12.5	55,613	3	51.2	11.5	53,255

Table 9

Active Member Statistics

Old Unit Number	New Unit Number	Unit	Code(s)	Active Employees as of June 30, 2020				Active Employees as of June 30, 2019			
				Number	Average Age	Average Service	Average Salary	Number	Average Age	Average Service	Average Salary
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
4095	1135	Cumberland Hill Fire	C,D	11	42.6	14.9	69,355	11	41.6	14.0	65,920
4096	1014	Bristol Police	C,D	40	39.8	12.9	76,720	39	38.4	11.9	74,558
4098	1095	Coventry Fire	C,D	7	44.6	15.9	75,287	9	42.3	12.8	67,871
4099	1505	South Kingstown EMT	C,D	19	40.7	6.7	53,838	16	39.9	6.3	53,980
4101	1365	North Cumberland	C,D	10	52.1	19.8	66,178	11	51.8	20.3	65,299
4102	45 1235 1525 15	Central Coventry Fire	C,D	31	39.6	10.7	61,734	32	39.1	10.6	62,378
4103	1255	Hopkins Hill Fire	C,D	15	51.6	11.8	63,416	12	53.3	15.3	65,830
4104	1114	Cranston Police	C,D,4	145	41.6	14.6	83,244	144	41.0	14.2	76,010
4105	1115	Cranston Fire	C,D,4	185	43.7	15.2	84,224	171	44.8	16.1	83,397
4106	1125	Cumberland Fire	B,D	22	37.7	8.9	59,935	21	39.2	9.4	60,307
4107	1305	Lincoln Rescue	C	15	39.1	9.7	55,902	15	40.9	10.9	52,797
4108	1344	New Shoreham Police	B,D	6	47.2	12.3	67,605	6	49.6	12.9	66,770
4109	1324	Middletown Police & Fire	C,D	62	36.3	9.5	70,906	61	36.2	9.5	70,609
4110	1715	Harrisville Fire District	C,D	8	42.6	12.7	62,007	8	41.6	11.7	59,990
4111	1705	Albion Fire District	C	5	38.7	6.6	60,516	5	43.1	11.2	60,163
1054	1054	Central Falls Police & Fire New	C	10	27.6	0.4	44,646	---	---	---	---
1055	1055	Central Falls Police & Fire Legacy	C	71	41.6	13.2	61,040	---	---	---	---
1284	1284	Johnston Police		21	35.3	5.9	62,496	20	34.8	5.2	59,766
1364	1364	Newport Police Dept		24	30.5	3.6	59,988	20	30.5	3.0	56,983
1425	1425	Portsmouth Fire Department	C	10	29.9	3.5	62,984	---	---	---	---
1465	1465	Smithfield Fire	C	31	30.1	4.7	56,569	31	29.2	3.8	54,052
1484	1484	Scituate Police Dept COLA	C	6	33.4	3.8	62,655	6	32.4	2.8	52,585
1805	1805	Pascoag Fire District COLA	C	6	47.6	14.4	53,661	6	46.6	13.4	50,940
1815	1815	Saylesville Fire (NO COLA)	2	3	38.2	2.5	56,813	3	37.2	1.5	51,938
All Police & Fire Units				1,707	40.5	12.6	\$ 71,028	1,596	40.6	12.6	\$ 69,989
All MERS Units				7,643	49.2	12.3	\$ 50,102	7,567	49.2	12.2	\$ 48,292

B - Municipality has adopted COLA Plan B

C - Municipality has adopted COLA Plan C

D - Municipality has adopted the "20-year" optional Police & Fire Plan

1 - S.Kingstown Police have a unique plan that provides 2.0% of salary for service prior to July 1, 1993, and 2.5% of salary for service on or after July 1, 1993.

2 - New unit since prior valuation.

3 - Closed unit.

4 - Historically, Cranston Fire and Police are contributing 10% due to special plan provision.

5 - This unit has no active members.

6 - Historically, Special plan provisions apply to this unit.

Table 10

Retired Member Statistics

Old Unit Number	New Unit Number	Unit	Code(s)	Retirees and Beneficiaries As of June 30, 2020			Retirees and Beneficiaries As of June 30, 2019		
				Number	Average Age	Average Monthly Benefit	Number	Average Age	Average Monthly Benefit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
General Employee Units									
3002	1012 1019	Bristol	B	71	75.3	\$ 1,717	73	76.2	\$ 1,655
3003	1032 1033	Burrillville	C	116	73.8	1,322	114	73.6	1,277
3004	1052	Central Falls		32	73.7	1,292	34	73.4	1,262
3005	1082	Charlestown	C	15	70.5	1,703	17	72.4	1,565
3007	1112 1113	Cranston	B	619	74.7	1,315	626	74.3	1,279
3008	1122 1123	Cumberland		171	75.6	882	177	75.9	845
3009	1152 1153	East Greenwich	C	41	82.0	903	44	81.6	875
3010	1162 1163	East Providence	B	421	73.5	1,518	410	73.1	1,530
3011	1183	Exeter/West Greenwich	B	41	72.0	1,273	40	71.2	1,279
3012	1192 1193	Foster		28	72.2	822	29	73.7	773
3013	1212 1213	Glocester	C	44	74.0	1,088	43	73.6	1,133
3014	1262	Hopkinton	C	16	74.5	1,283	17	74.5	1,243
3015	1272 1273	Jamestown	C	46	72.9	1,405	46	72.2	1,419
3016	1282 1283	Johnston	C	239	73.3	1,122	226	73.4	1,104
3017	1302 1303	Lincoln		6	77.2	1,427	6	76.2	1,427
3019	1322 1323	Middletown	C	66	68.3	1,503	65	67.4	1,513
3021	1352 1353 1354	Newport	B	267	72.7	1,643	260	72.2	1,667
3022	1342 1343	New Shoreham	B	30	75.2	1,313	29	75.4	1,226
3023	1372 1373	North Kingstown	C	261	73.6	1,393	254	73.8	1,362
3024	1382 1383	North Providence		184	75.0	843	191	74.8	817
3025	1392 1393	North Smithfield	B	76	77.0	1,102	73	77.5	1,046
3026	1412 1413	Pawtucket	C	469	74.5	1,323	473	74.4	1,327
3027	1515	Union Fire District		1	70.9	1,115	1	69.9	1,115
3029	1452	Richmond		20	76.3	688	20	75.3	688
3030	1462 1463	Scituate	B	58	76.6	1,245	59	76.3	1,232
3031	1472 1473	Smithfield	C	73	77.3	1,017	73	77.3	983
3032	1492 1493	South Kingstown	B	232	72.2	1,438	220	72.0	1,434
3033	1532 1533	Tiverton	C	59	74.1	1,097	53	74.9	1,113
3034	1562	Warren	C	29	79.9	1,029	30	79.9	1,002
3036	1622 1623	Westerly		7	86.9	1,481	6	86.5	1,552
3037	1602	West Greenwich	C	14	73.4	1,456	15	72.3	1,432
3039	1632 1633	Woonsocket	B	352	75.3	1,198	348	75.2	1,170
3040	1073	Chariho School District	C	79	71.6	1,311	72	71.6	1,260
3041	1203	Foster/Glocester	B	44	73.1	1,018	38	73.7	1,038
3042	1528	Tiogue Fire & Lighting	C,5	1	72.3	175	1	71.3	173
3043	1336	Narragansett Housing	C	---	---	---	---	---	---
3045	1098	Coventry Lighting District	C	2	79.3	2,640	2	78.3	2,604
3046	1242	Hope Valley Fire	C	1	78.0	1,809	1	77.0	1,776
3050	1156	East Greenwich Housing	C	3	69.5	2,538	3	68.5	2,518
3051	1116	Cranston Housing	C	22	75.1	1,538	23	74.5	1,485
3052	1166	East Providence Housing	B	11	77.9	1,904	12	77.0	1,850
3053	1416	Pawtucket Housing	B	28	74.8	1,772	27	74.3	1,789
3056	1126	Cumberland Housing	C	2	76.6	2,152	3	80.8	1,535
3057	1306	Lincoln Housing	B	8	72.9	1,451	8	71.9	1,427
3059	1016	Bristol Housing		8	77.5	1,166	7	78.6	1,013
3065	1036	Burrillville Housing	B	3	73.2	2,520	3	72.2	2,422
3066	1386	North Providence Housing	B	7	74.9	1,882	7	73.9	1,882
3067	1177	East Smithfield Water	C	4	75.6	1,079	4	74.6	1,063
3068	1227	Greenville Water	B	1	74.3	3,234	1	73.3	3,199

Table 10

Retired Member Statistics

Old Unit Number	New Unit Number	Unit	Code(s)	Retirees and Beneficiaries As of June 30, 2020			Retirees and Beneficiaries As of June 30, 2019		
				Number	Average Age	Average Monthly Benefit	Number	Average Age	Average Monthly Benefit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
3069	1356	Newport Housing	C	34	72.3	1,894	33	71.7	1,842
3071	1566	Warren Housing	B	5	77.0	1,884	5	76.0	1,860
3072	1286	Johnston Housing		5	77.0	1,882	7	82.2	1,442
3077	1538	Tiverton Local 2670A	C	19	72.3	1,317	19	72.3	1,283
3078	1002 1003 1007 1009	Barrington COLA	C	130	75.5	1,561	130	75.0	1,566
3079	1096	Coventry Housing		6	82.1	549	5	84.1	578
3080	1496	South Kingstown Housing	C	1	63.7	1,798	---	---	---
3081	1403	N. RI Collaborative Adm. Services	C	17	69.4	885	17	69.5	876
3083	1616	West Warwick Housing	B	6	77.3	2,054	6	76.3	2,012
3084	1476	Smithfield Housing		---	---	---	---	---	---
3094	1478	Smithfield COLA	C	39	71.8	1,853	38	71.1	1,884
3096	1056	Central Falls Housing	C	11	74.6	1,385	12	73.8	1,316
3098	1293	Lime Rock Administrative Services		1	68.0	1,212	1	67.0	1,212
3099	1063	Central Falls Schools	C	81	72.2	990	79	71.7	992
3100	1023	Bristol/Warren Schools	B	130	73.1	1,024	129	72.5	1,049
3101	1157 1158	Town of E. Greenwich-COLA-NCE	C	65	70.3	1,554	60	70.0	1,544
3102	1712	Harrisville Fire District (ADMIN)	C	---	---	---	---	---	---
3103	1702	Albion Fire District (ADMIN)	C,5	1	62.9	790	1	61.9	790
3150	1159	East Greenwich Fire (ADMIN)	C	1	71.1	1,784	1	70.1	1,784
1802	1802	Pascoag Fire District (ADMIN) COLA	C	---	---	---	---	---	---
All General Employee Units				4,880	74.1	1,308	4,827	74.0	1,291
Police and Fire Units									
4016	1285	Johnston Fire	D	6	52.9	\$ 3,158	6	51.9	\$ 3,158
4029	1454	Richmond Police	6	1	59.8	2,199	1	58.8	2,199
4031	1474	Smithfield Police	C,D	9	50.4	3,259	10	53.2	2,944
4042	1555	Valley Falls Fire	D	10	59.7	2,354	10	58.7	2,339
4047	1395 1435	North Smithfield Voluntary Fire	B,D	13	66.0	2,785	13	65.0	2,757
4050	1155	East Greenwich Fire	C,D	34	62.5	2,738	34	62.9	2,657
4054	1154	East Greenwich Police	C,D	31	65.2	3,059	31	64.2	3,059
4055	1375	North Kingstown Fire	C,D	77	67.0	2,832	71	66.9	2,770
4056	1374	North Kingstown Police	C,D	44	62.6	2,994	44	61.6	2,994
4058	1385	North Providence Fire	D	88	61.1	2,732	87	60.2	2,724
4059	1008	Barrington Fire (25)	C	2	58.0	4,290	1	73.0	4,613
4060	1004	Barrington Police	C,D	24	70.1	2,356	26	69.5	2,295
4061	1005	Barrington Fire (20)	C,D	28	71.6	2,336	28	70.5	2,336
4062	1564 1565	Warren Police & Fire	C,D	27	68.5	2,620	25	68.2	2,483
4063	1494	South Kingstown Police	B,1	51	66.1	2,956	50	66.0	2,879
4073	1464	Scituate Police	5	1	89.6	301	1	88.6	301
4076	1394	North Smithfield Police	C,D	23	61.2	2,835	22	60.5	2,820
4077	1534	Tiverton Fire	C,D	30	64.4	2,218	29	64.6	2,250
4082	1194	Foster Police	C,D	9	64.6	2,290	9	63.6	2,290
4085	1634	Woonsocket Police	C,D	83	55.8	2,903	78	54.8	2,878
4086	1084	Charlestown Police	C,D	20	60.9	3,273	19	60.5	3,238
4087	1264	Hopkinton Police	C,D,6	14	60.2	2,834	14	59.2	2,834
4088	1214	Glocester Police	C,D	16	64.4	2,278	15	64.2	2,224
4089	1604	West Greenwich Police/Rescue	C,D	8	59.3	2,680	7	58.8	2,997
4090	1034	Burrillville Police	C,D,6	20	63.9	2,790	18	63.2	2,826
4091	1148	Cumberland Rescue	C,D	10	57.2	2,206	9	56.8	2,060

Table 10

Retired Member Statistics

Old Unit Number	New Unit Number	Unit	Code(s)	Retirees and Beneficiaries As of June 30, 2020			Retirees and Beneficiaries As of June 30, 2019		
				Number	Average Age	Average Monthly Benefit	Number	Average Age	Average Monthly Benefit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
4093	1635	Woonsocket Fire	C,D	62	55.2	3,078	58	54.6	3,016
4094	1015	Bristol Fire	D	2	69.7	723	2	68.7	723
4095	1135	Cumberland Hill Fire	C,D	12	63.2	2,824	12	62.2	2,824
4096	1014	Bristol Police	C,D	1	55.4	3,265	1	54.4	3,230
4098	1095	Coventry Fire	C,D	12	58.5	2,532	10	59.6	2,495
4099	1505	South Kingstown EMT	C,D	5	51.3	2,446	5	50.3	2,418
4101	1365	North Cumberland	C,D	12	61.0	2,180	11	60.2	2,039
4102	1045 1235 1525 1585	Central Coventry Fire	C,D	29	58.4	2,414	27	58.1	2,474
4103	1255	Hopkins Hill Fire	C,D	3	62.3	1,600	2	57.3	1,497
4104	1114	Cranston Police	C,D,4	28	52.4	4,034	26	51.3	3,899
4105	1115	Cranston Fire	C,D,4	33	55.5	3,807	26	54.2	3,766
4106	1125	Cumberland Fire	B,D	11	66.1	2,691	9	67.2	2,925
4107	1305	Lincoln Rescue	C	12	58.6	2,473	11	57.7	2,412
4108	1344	New Shoreham Police	B,D	2	59.2	3,284	2	58.2	3,284
4109	1324	Middletown Police & Fire	C,D	1	40.7	3,213	1	39.7	3,213
4110	1715	Harrisville Fire District	C,D	---	---	---	---	---	---
4111	1705	Albion Fire District	C	3	63.4	2,368	2	66.0	2,066
1054	1054	Central Falls Police & Fire New	C	---	---	---	---	---	---
1055	1055	Central Falls Police & Fire Legacy	C	108	69.0	1,531	---	---	---
1284	1284	Johnston Police	---	---	---	---	---	---	---
1364	1364	Newport Police Dept	---	---	---	---	---	---	---
1425	1425	Portsmouth Fire Department	C	---	---	---	---	---	---
1465	1465	Smithfield Fire	C	---	---	---	---	---	---
1484	1484	Scituate Police Dept COLA	C	---	---	---	---	---	---
1805	1805	Pascoag Fire District COLA	C	---	---	---	---	---	---
All Police & Fire Units				1,015	62.4	\$ 2,688	824	60.8	\$ 2,743
All MERS Units				5,895	72.1	\$ 1,545	5,556	71.9	\$ 1,489

B - Municipality has adopted COLA Plan B

C - Municipality has adopted COLA Plan C

1 - S.Kingstown Police have a unique plan that provides 2.0% of salary for service prior to July 1, 1993, and 2.5% of salary for service on or after July 1, 1993.

2 - New unit since prior valuation.

4 - Historically, Cranston Fire and Police are contributing 10% due to special plan provision.

6 - Historically, Special plan provisions apply to this unit.

D - Municipality has adopted the "20-year" optional Police & Fire Plan

3 - Closed unit.

5 - This unit has no active members.



Table 11

Distribution of Active Members by Age and by Years of Service (General Employees) As of June 30, 2020

Attained Age	Years of Credited Service												Total Count & Avg. Comp.
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	
Under 25	50 \$33,089	19 \$32,693	12 \$32,762	5 \$36,110	5 \$36,941	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	91 \$33,341
25-29	59 \$35,394	56 \$36,444	43 \$38,901	30 \$40,047	23 \$38,419	22 \$39,961	1 \$42,823	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	234 \$37,645
30-34	49 \$31,948	56 \$33,709	58 \$35,120	38 \$39,765	36 \$43,645	77 \$47,023	14 \$49,590	1 \$47,393	0 \$0	0 \$0	0 \$0	0 \$0	329 \$39,316
35-39	56 \$35,492	52 \$37,139	36 \$36,783	48 \$36,929	33 \$36,746	76 \$45,638	55 \$50,042	24 \$47,687	0 \$0	0 \$0	0 \$0	0 \$0	380 \$41,036
40-44	48 \$34,502	48 \$36,395	44 \$37,104	66 \$39,149	35 \$37,105	96 \$48,979	63 \$55,779	66 \$54,931	18 \$58,258	0 \$0	0 \$0	0 \$0	484 \$45,059
45-49	61 \$32,182	47 \$31,884	48 \$34,502	59 \$35,214	43 \$35,976	111 \$41,477	80 \$50,970	70 \$53,012	49 \$54,458	19 \$55,552	2 \$44,749	0 \$0	589 \$42,357
50-54	56 \$43,874	54 \$33,071	54 \$39,315	67 \$35,675	49 \$39,602	175 \$39,967	143 \$45,700	149 \$50,697	82 \$57,208	55 \$59,080	47 \$59,483	2 \$64,608	933 \$45,707
55-59	50 \$40,314	40 \$38,163	36 \$38,234	43 \$38,058	49 \$43,021	163 \$40,041	176 \$44,211	284 \$42,981	156 \$52,431	94 \$56,163	88 \$59,498	15 \$67,678	1,194 \$45,969
60-64	25 \$39,848	27 \$32,707	31 \$42,406	38 \$41,287	33 \$41,586	117 \$44,764	149 \$42,447	279 \$43,562	227 \$44,860	109 \$52,223	61 \$58,515	18 \$58,265	1,114 \$45,193
65-69	11 \$35,321	8 \$60,574	14 \$31,987	19 \$39,246	11 \$32,544	76 \$43,906	74 \$45,512	113 \$43,513	104 \$44,864	88 \$47,161	43 \$52,469	27 \$57,951	588 \$45,380
70 & Over	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0
Total	465 \$36,069	407 \$35,397	376 \$37,174	413 \$37,938	317 \$39,359	913 \$43,121	755 \$46,477	986 \$46,003	636 \$49,428	365 \$53,224	241 \$57,870	62 \$60,610	5,936 \$44,085

Table 12

Distribution of Active Members by Age and by Years of Service (Police & Fire) As of June 30, 2020

Attained Age	Years of Credited Service												Total Count & Avg. Comp.
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	
Under 25	25 \$50,447	25 \$54,055	1 \$61,186	3 \$63,791	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	54 \$53,058
25-29	50 \$48,922	45 \$53,246	49 \$58,134	38 \$63,845	26 \$61,656	28 \$69,222	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	236 \$57,874
30-34	13 \$48,450	26 \$50,674	24 \$59,760	29 \$63,182	20 \$63,410	139 \$70,002	23 \$76,895	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	274 \$65,624
35-39	8 \$50,904	5 \$54,080	16 \$59,222	14 \$63,709	6 \$63,908	81 \$68,239	110 \$74,408	33 \$75,381	0 \$0	0 \$0	0 \$0	0 \$0	273 \$69,965
40-44	1 \$58,092	0 \$0	5 \$57,482	2 \$61,066	5 \$64,586	27 \$70,295	64 \$70,797	99 \$76,827	26 \$80,032	0 \$0	0 \$0	0 \$0	229 \$73,827
45-49	3 \$61,119	2 \$54,804	1 \$60,768	6 \$59,829	1 \$71,094	8 \$68,394	43 \$70,399	70 \$74,975	100 \$84,370	11 \$89,685	0 \$0	0 \$0	245 \$77,673
50-54	1 \$47,415	2 \$58,703	3 \$66,387	2 \$74,307	0 \$0	11 \$70,388	26 \$70,081	51 \$73,382	71 \$80,745	41 \$85,601	19 \$85,565	0 \$0	227 \$78,061
55-59	1 \$43,505	2 \$95,308	0 \$0	1 \$63,107	0 \$0	9 \$72,460	9 \$81,546	12 \$74,036	23 \$79,289	38 \$86,990	23 \$89,239	1 \$95,648	119 \$82,766
60-64	0 \$0	0 \$0	1 \$81,189	1 \$100,115	0 \$0	2 \$78,828	2 \$82,531	9 \$71,837	8 \$71,026	11 \$89,984	7 \$91,167	3 \$82,400	44 \$81,681
65-69	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$52,211	0 \$0	1 \$93,908	1 \$95,250	0 \$0	3 \$100,022	6 \$90,240
70 & Over	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0
Total	102 \$49,772	107 \$53,766	100 \$59,201	96 \$63,903	58 \$62,909	305 \$69,590	278 \$72,967	274 \$75,252	229 \$81,819	102 \$87,126	49 \$88,090	7 \$91,845	1,707 \$71,028

Table 13**Membership Data (General Employee Units)**

	June 30, 2020 (1)	June 30, 2019 (2)
1. Active members		
a. Number	5,936	5,971
b. Number vested	3,988	3,988
c. Total payroll supplied by ERSRI	\$261,687,605	\$253,727,796
d. Average salary	\$44,085	\$42,493
e. Average age	51.7	51.6
f. Average service	12.2	12.1
2. Inactive members		
a. Number	3,231	3,124
3. Service retirees		
a. Number	4,116	4,074
b. Total annual benefits	\$67,084,549	\$65,775,841
c. Average annual benefit	\$16,298	\$16,145
d. Average age	74.3	74.2
4. Disabled retirees		
a. Number	260	260
b. Total annual benefits	\$4,164,218	\$4,088,544
c. Average annual benefit	\$16,016	\$15,725
d. Average age	66.7	66.3
5. Beneficiaries and spouses		
a. Number	504	493
b. Total annual benefits	\$5,318,931	\$4,895,179
c. Average annual benefit	\$10,553	\$9,929
d. Average age	76.1	76.0

Table 14**Membership Data (Police & Fire Units)**

	<u>June 30, 2020</u> (1)	<u>June 30, 2019</u> (2)
1. Active members		
a. Number	1,707	1,596
b. Number vested	1,181	1,181
c. Total payroll supplied by ERSRI	\$121,245,099	\$111,701,541
d. Average salary	\$71,028	\$69,988
e. Average age	40.5	40.6
f. Average service	12.6	12.6
2. Inactive members		
a. Number	232	242
3. Service retirees		
a. Number	629	561
b. Total annual benefits	\$22,880,998	\$20,757,917
c. Average annual benefit	\$36,377	\$37,002
d. Average age	62.4	61.9
4. Disabled retirees		
a. Number	220	165
b. Total annual benefits	\$7,414,875	\$6,095,026
c. Average annual benefit	\$33,704	\$36,940
d. Average age	58.9	55.7
5. Beneficiaries and spouses		
a. Number	166	137
b. Total annual benefits	\$2,440,516	\$1,976,718
c. Average annual benefit	\$14,702	\$14,429
d. Average age	66.5	64.6

Table 15**Membership Data (All MERS Units)**

	<u>June 30, 2020</u> (1)	<u>June 30, 2019</u> (2)
1. Active members		
a. Number	7,643	7,567
b. Number vested	5,169	5,169
c. Total payroll supplied by ERSRI	\$382,932,704	\$365,429,337
d. Average salary	\$50,102	\$48,292
e. Average age	49.2	49.2
f. Average service	12.3	12.2
2. Inactive members		
a. Number	3,463	3,366
3. Service retirees		
a. Number	4,745	4,635
b. Total annual benefits	\$89,965,547	\$86,533,758
c. Average annual benefit	\$18,960	\$18,670
d. Average age	72.8	72.7
4. Disabled retirees		
a. Number	480	425
b. Total annual benefits	\$11,579,093	\$10,183,570
c. Average annual benefit	\$24,123	\$23,961
d. Average age	63.1	62.2
5. Beneficiaries and spouses		
a. Number	670	630
b. Total annual benefits	\$7,759,447	\$6,871,897
c. Average annual benefit	\$11,581	\$10,908
d. Average age	73.7	73.5

APPENDIX 1

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

APPENDIX 1

Summary of Actuarial Methods and Assumptions

I. Valuation Date

The valuation date is June 30th of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

The actuarial valuation uses the Entry Age actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial accrued liability (UAAL).

The employer normal cost rate is the total normal cost rate, less the member contribution rate. The total normal cost rate is the level percentage-of-pay contribution which would theoretically pay for all benefits if it had been made each year from the inception of the plan and if there had never been any changes of benefits, any changes of assumptions or methods, or any experience gains or losses. The normal costs are determined on an individual basis.

The actuarial accrued liability is the difference between the actuarial present value of all future benefits and the actuarial present value of future normal costs. It is the amount to which the normal costs would have accumulated under the assumptions described in the preceding paragraph. The unfunded actuarial accrued liability (UAAL) is the difference between the actuarial accrued liability and the actuarial value of assets.

The amortization contribution rate is the level percentage of payroll required to reduce the UAAL to zero over the remaining amortization period. The employer contribution rate determined by this valuation will not be effective until two years after the valuation date. The determination of the contribution rate reflects this deferral. The amortization payment for the applicable fiscal year is first determined based on the individual amortization bases. The covered payroll is projected forward for two years, and we then determine the amortization rate by dividing the amortization payment by the projected payroll. Contributions are assumed to be made monthly throughout the year.

For underfunded units, the amortization period for the UAAL as of June 30, 2010 was set to 25 years, or 16 years as of the current valuation date. In conjunction with the Article 21 legislation, employers were given the option to reset the amortization period for the UAAL existing as of June 30, 2014 to 25 years from June 30, 2014. All new gains and losses each year will be amortized over individual 20 year periods. At any time that a unit is in an overfunded status, the amortization schedule will be a rolling 20 year amortization of any surplus.

APPENDIX 1 (Continued)

III. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses. The actuarial value is calculated in the aggregate for all units combined, and then it is allocated to each unit in proportion to that unit's market value.

IV. Actuarial Assumptions

A. Economic Assumptions

1. Investment return: 7.00% per year, compounded annually, composed of an assumed 2.50% inflation rate and a 4.50% net real rate of return. This rate represents the assumed return, net of all investment and administrative expenses.
2. Salary increase rate: For general employees, the sum of (i) a 3.00% wage inflation assumption (composed of a 2.50% price inflation assumption and a 0.50% additional general increase), (ii) individual merit of 0.25%, and (iii) a service-related component as shown below:

General Employees		
Years of Service	Service-Related Component	Total Increase
1	4.00%	7.25%
2	3.00	6.25
3	2.75	6.00
4	2.50	5.75
5	2.25	5.50
6	2.00	5.25
7	1.25	4.50
8	0.75	4.00
9-10	0.50	3.75
11-15	0.25	3.50
16 or more	0.00	3.25

For police/fire employees, the sum of (i) a 3.00% wage inflation assumption (composed of a 2.50% price inflation assumption and a 0.50% additional general increase), (ii) an individual merit component of 1.00%, and (iii) a service-related component as shown below:

Police/Fire Employees		
Years of Service	Service-Related Component	Total Increase
1	10.00%	14.00%
2	9.00	13.00
3	7.00	11.00
4	4.00	8.00
5	4.50	6.50
6	3.00	7.00
7	0.50	4.50
8	0.50	4.50
9 or more	0.00	4.00

Salary increases are assumed to occur once a year, on July 1. Therefore the pay used for the period year following the valuation date is equal to the reported pay for the prior year, increased by the salary increase assumption. For employees with less than one year of service, the reported rate of pay is used rather than the fiscal year salary paid.

3. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.00% per year. This increase rate is solely due to the effect of wage inflation on salaries, with no allowance for future membership growth.
4. Post-retirement Benefit Increase: Post-retirement benefit increases are assumed to be 2.15%, per annum, while the plan has a funding level that exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The actual COLA will be determined based on the plan's five-year average investment rate of return (return on actuarial assets) minus 5.0% and will range from zero to 4.0%. It is known that the COLA for calendar years 2020 and 2021 will be 1.56% and 1.06% respectively, and this has been reflected in the valuation.

B. Demographic Assumptions

1. Post-retirement mortality rates:

- a. Male employees: PUB(10) Median Table for Healthy General Employee Males, loaded by 115%, projected with Scale Ultimate MP16.
- b. Female employees: PUB(10) Median Table for Healthy General Employee Females, loaded by 111%, projected with Scale Ultimate MP16.
- c. Disabled males – PUB(10) Tables for Disabled Retirees by Occupation for males, projected with Scale Ultimate MP16.
- d. Disabled females – PUB(10) Tables for Disabled Retirees by Occupation for females, projected with Scale Ultimate MP16

2. Pre-retirement mortality (combined ordinary and duty):

- a. Male employees: PUB(10) Tables for Employees by Occupation for males, projected with Scale Ultimate MP16.
- b. Female employees: PUB(10) Tables for Employees by Occupation for females, projected with Scale Ultimate MP16.

3. Disability rates: Sample rates per 1,000 active members are shown below. Ordinary disability rates are not applied to members eligible for unreduced retirement.

Age	Number of Disabilities per 1,000					
	General Employees, Ordinary, Males	General Employees, Accidental, Males	General Employees, Ordinary, Females	General Employees, Accidental, Females	Police & Fire, Ordinary, Males and Females	Police & Fire, Accidental, Males and Females
25	0.45	0.14	0.18	0.04	0.45	0.7
30	0.55	0.17	0.22	0.04	0.55	0.9
35	0.75	0.23	0.30	0.06	0.75	1.2
40	1.1	0.33	0.44	0.09	1.1	1.8
45	1.8	0.54	0.72	0.14	1.8	2.9
50	3.05	0.92	1.22	0.24	3.05	4.9
55	5.05	1.52	2.02	0.40	5.05	8.1
60	7.05	2.12	2.82	0.56	7.05	11.3
65	11.55	3.47	4.62	0.92	11.55	18.5

For General Employees that are age 55 with 20 Years of service but not eligible to retire, an additional 1% is added to the rates above. In addition, if the member is above age 60, another 1% is added to the rates above.

4. Termination rates (for causes other than death, disability, or retirement) are a function of the member's service. Termination rates are not applied to members eligible for retirement. Rates are shown below:

Service	General Employees, Males & Females	Police & Fire, Males & Females
1	0.175000	0.100000
2	0.118774	0.055650
3	0.101396	0.043890
4	0.086148	0.037012
5	0.072887	0.032131
6	0.061471	0.028346
7	0.051757	0.025253
8	0.043604	0.022637
9	0.036868	0.020372
10	0.031408	0.018374
11	0.027082	0.016586
12	0.023746	0.014969
13	0.021259	0.013493
14	0.019479	0.012135
15	0.018263	0.010878
16	0.017470	0.009708
17	0.016956	0.008613
18	0.016579	0.007584
19	0.016198	0.006615
20	0.015669	0.000000
21	0.014851	0.000000
22	0.013602	0.000000
23	0.011778	0.000000
24	0.009239	0.000000
25	0.005841	0.000000

5. Retirement rates (unreduced):

For MERS General Employees: a flat 20% per year retirement probability for members eligible for unreduced retirement. A 25% retirement probability at first eligibility will be only applied if they have reached age 65 or with at least 25 years of service.

For MERS P&F: Unisex, service based rates are used for police and fire.

Service	Units without the Optional 20-year retirement election
25	13.0%
26	16.0%
27	19.0%
28	20.0%
29	20.0%
30-34	25.0%
35-39	35.0%
40+	100.0%

100% of members eligible to retire as of June 30, 2012 are assumed to retire once they reach 35 years of service. All members not eligible to retire as of June 30, 2012 are assumed retire at SSNRA, if eligible.

Members are eligible to receive an enhanced benefit if they are at least age 57 with 30 or more years of service. In the year prior to becoming eligible for this provision, no members are assumed to retire.

6. Reduced retirement rates: No early retirements are assumed for police and fire. Rates for general employees are based on the years from Retirement Eligibility for unreduced benefits, as shown below:

Years from Normal Retirement Age	Ret. Rate
5	1%
4	1%
3	1%
2	2%
1	3%

C. Other Assumptions:

1. Valuation payroll (used for determining the amortization contribution rate): Prior aggregate fiscal year payroll projected forward one year using the overall payroll growth rate.
2. Percent married: 80% of employees are assumed to be married.
3. For the special post-retirement police and fire survivor benefit, we have assumed 80% of members will have a spouse at the time of retirement and 10% of those members would choose option 1 or option 2.
4. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
5. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity. The spousal annuity death benefit for vested married participants is valued using optional form conversion factors based on a unisex mortality table.
6. For active death benefits, the liability is initially calculated based on the ordinary death benefit provisions, and then a 7.5% load is applied to account for duty related benefits.
7. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
8. Recovery from disability: None assumed.
9. Remarriage: It is assumed that no surviving spouse will remarry and there will be no children's benefit.

C. Other Assumptions:

10. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available.
11. Investment and administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.
12. Inactive members: For members who terminated service prior to June 30, 2017 liabilities for inactive members are approximated as a multiple of their member contribution account balances. For nonvested inactive members, the multiple is 1.0. For vested inactive members, the multiple is 8.0 for members with 25 or more years of service, 3.0 for vested inactive members age 45 or older with less than 25 years of service, and 1.0 for other vested inactive members younger than age 45. For members who terminated service after June 30, 2017, the expected liability at termination has been carried forward with interest from the last valuation the member was active.
13. Decrement timing: For all members, decrements are assumed to occur at the middle of the year.
14. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
15. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
16. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
17. Benefit Service: All members are assumed to accrue one year of eligibility service each year.
18. All calculations were performed without regard to the compensation limit in IRC Section 401(a)(17) and the benefit limit under IRC Section 415.

D. Participant Data

Participant data was supplied on electronic files. There were separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included name, identification number, sex, a code indicating whether the member was active or inactive, date of birth, service, salary, unit indicator, date of last contribution, accumulated member contributions without interest, accrued benefit multiplier as of Valuation Date, Final Average Compensation as of June 30, 2012, and the Rhode Island Retirement Security Act Retirement Date. For retired members and beneficiaries, the data included date of birth, sex, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and a form of payment code.

Salary supplied for the current year was based on the earnings for the year preceding the valuation date. This salary was adjusted by the salary increase rate for one year. However, for members with less than one year of service, the current rate of salary was used. This salary was adjusted by the salary increase rate for one year. An additional adjustment was made so that a member's compensation would not be less than it was in the previous year.

In defining who was an active member, members with a date of last contribution in the final quarter of the fiscal year were considered active. Otherwise, the member was defined as inactive.

Beneficiary data for police and fire employees was completed, based on the Age Difference stated above, if the information was not originally supplied on the electronic files.

To correct for incomplete and inconsistent data, we first attempted to pull data from prior valuation files and then made general assumptions to complete the rest. These had no material impact on the results presented.

For members who transferred during the prior fiscal year adjustments were made for certain data records as needed. The active record for a member who transferred into a MERS unit was compared to the prior active record to test for reasonability of service and account balances relative to the prior year's active record and adjusted if needed. The inactive record for any member who transferred out of a MERS unit was deleted when calculating the inactive liability.

APPENDIX 2

SUMMARY OF BENEFIT PROVISIONS

APPENDIX 2

Summary of Benefit Provisions

1. **Authority:** The Municipal Employees' Retirement System (MERS) covers employees of certain participating Rhode Island municipalities and other local governmental units, such as housing authorities, water districts, etc. Benefits are described in Rhode Island General Laws, Title 45, Chapters 19, 19.1, 21, 21.1, 21.2, and 21.3.
2. **Plan Year:** A twelve-month period ending June 30th.
3. **Administration:** MERS is administered by the State of Rhode Island Retirement Board. However, the State Investment Commission is responsible for the investment of the trust assets, including the establishment of the asset allocation policy.
4. **Type of Plan:** MERS is a qualified governmental defined benefit retirement plan. Separate contribution rates are determined for each participating governmental unit. For Governmental Accounting Standards Board purposes, it is an agent multiple-employer plan.
5. **Eligibility:** General employees, police officers and firefighters employed by electing municipalities participate in MERS. Teachers and administrators are covered by the separate Employees' Retirement System of Rhode Island, but other school employees may be covered by MERS. Eligible employees become members at their date of employment. Anyone employed by a municipality at the time the municipality joins MERS may elect not to be covered. Elected officials may opt to be covered by MERS. Employees covered under another plan maintained by the municipality may not become members of MERS. Police officers and/or firefighters may be designated as such by the municipality, in which case the special contribution and benefit provisions described below will apply to them, or they may be designated as general employees with no special benefits. Members designated as police officers and/or firefighters are treated as belonging to a unit separate from the general employees, with separate contribution rates applicable.
6. **Employee Contributions:** Effective July 1, 2012, General employees contribute 1.00% of their salary per year, and police officers and firefighters contribute 7.00%. General MERS active members with 20 years of service as of June 30, 2012 will contribute 8.25% beginning July 1, 2015. Also, beginning July 1, 2015, MERS Police and Fire active members will contribute 9.00%. In addition, if the municipality has elected one of the optional cost-of-living provisions, an additional member contribution of 1.00% of salary is required. The municipality, at its election, may choose to "pick up" the members' contributions for its employees under the provisions of Internal Revenue Code (IRC) Section 414(h).
7. **Salary:** Salary includes the member's base earnings plus any payments under a regular longevity or incentive plan. Salary excludes overtime, unused sick and vacation leave, severance pay, and other extraordinary compensation. Certain amounts that are excluded from taxable wages, such as amounts sheltered under a Section 125 plan or amounts picked up by the employer under IRC Section 414(h), are not excluded from salary.



APPENDIX 2 (Continued)

8. Employer Contributions: Each participating unit's contribution rate is determined actuarially. Contributions determined in a given actuarial valuation go into effect two years after the actuarial valuation.
9. Service: Employees receive credit for service while a member. In addition, a member may purchase credit for certain periods by making an additional contribution to purchase the additional service. Special rules and limits govern the purchase of additional service and the contribution required.
10. Final Average Compensation (FAC): Prior to July 1, 2012 and for general employee members eligible to retire as of June 30, 2012, the average was based on the member's highest three consecutive annual salaries. Effective July 1, 2012, the average was based on the member's highest five consecutive annual salaries. Once a member retires or is terminated, the applicable FAC will be the greater of the member's highest three year FAC as of July 1, 2012 or the five year FAC as of the retirement/termination date. Monthly benefits are based on one-twelfth of this amount.
11. Retirement
 - a. General employees: Eligibility
 - (i) Members with less than five years of contributory service as of June 30, 2012 and members hired on or after that date are eligible for retirement on or after their Social Security normal retirement age.
 - (ii) Members who had at least five years of contributory service as of June 30, 2012 will be eligible for retirement at an individually determined age. This age is the result of interpolating between the member's prior Retirement Date, described in Section (e) below, and the retirement age applicable to members hired after June 30, 2012 in (a) above. The interpolation is based on service as of June 30, 2012 divided by projected service at the member's prior Retirement Date. The minimum retirement age is 59.
 - (iii) Members with 10 or more years of contributory service on June 30, 2012 may choose to retire at their prior Retirement Date if they continue to work and contribute until that date. If option is elected, the retirement benefit will be calculated using the benefits accrued as of June 30, 2012, i.e., the member will accumulate no additional defined benefits after this date, but the benefit will be paid without any actuarial reduction.
 - (iv) Effective July 1, 2015, members will be eligible to retire with full benefits at the earlier of their current RIRSA date described in sections (a) – (c) above or upon the attainment of age 65 with 30 years of service, age 64 with 31 years of service, age 63 with 32 years of service, or age 62 with 33 years of service.
 - (v) A member who is within five years of reaching their retirement eligibility date, as described in this section, and has 20 or more years of service, may elect to retire at any time with an actuarially reduced benefit.

- (vi) Prior to July 1, 2012, members were eligible for retirement on or after age 58 if they had credit for 10 or more years of service, or at any age if they had credit for at least 30 years of service. Members eligible to retire before July 1, 2012 were not impacted by the changes to retirement eligibility above.

b. General employees: Monthly Benefit

2.00% of the member's monthly FAC for each year of service prior to July 1, 2012 and 1.00% of the member's monthly FAC for each year of service from July 1, 2012 through June 30, 2105. 1.0% per year for all service after June 30, 2015 unless the member had 20 or more years of service as of June 30, 2012 in which case the benefit accrual is 2.0% per year for service after June 30, 2015. The benefit cannot exceed 75% of the member's monthly FAC

c. Police and Fire employees: Eligibility

- (i) Members are eligible to retire when they are at least 50 years old and have a minimum of 25 years of contributing service or if they have 27 years of contributing service at any age. Members with less than 25 years of contributing service are eligible for retirement on or after their Social Security normal retirement age.
- (ii) Members who, as of June 30, 2012, had at least 10 years of contributing service, had attained age 45, and had a prior Retirement Date (described in Section (e)) before age 52 may retire at age 52.
- (iii) Active members on June 30, 2012 may choose to retire at their prior Retirement Date if they continue to work and contribute until that date. If option is elected, the retirement benefit will be calculated using the benefits accrued as of June 30, 2012, i.e., the member will accumulate no additional defined benefits after this date, but the benefit will be paid without any actuarial reduction.
- (iv) A member who is within five years of reaching their retirement eligibility date, as described in this section, and has 20 or more years of service, may elect to retire at any time with an actuarially reduced benefit.
- (v) Prior to July 1, 2012, members designated as police officers or firefighters were eligible for retirement at or after age 55 with credit for at least 10 years of service or at any age with credit for 25 or more years of service. Members were also eligible to retire and receive a reduced benefit if they are at least age 50 and have at least 20 years of service. If the municipality elected to adopt the 20-year retirement provisions for police officers and/or firefighters, then such a member was eligible to retire at any age with 20 or more years of service. Members eligible to retire before July 1, 2012 were not impacted by the changes to retirement eligibility above.

d. Police and Fire employees: Monthly Benefit

- (i) 2.00% of the member's monthly FAC for each year of service, up to 37.5 years (75% of FAC maximum)
- (ii) If the optional 20-year retirement provisions were adopted by the municipality prior to July 1, 2012: 2.50% of the member's monthly FAC for each year of service prior to July 1, 2012 and 2.00% of the member's monthly FAC for each year of service after July 1, 2012. The benefit cannot exceed 75% of the member's monthly FAC.
- (iii) Active members (including future hires), members who retire after July 1, 2015 and after attaining age 57 with 30 years of service will have a benefit equal to the greater of their current benefit described in (a) and (b) above and one calculated based on a 2.25% multiplier for all years of service.

e. Payment Form: Benefits are paid as a monthly life annuity. Optional forms of payment are available; see item 16. Below.

f. Death Benefit

- (i) a. After retirement, death benefits are based on the form of annuity elected. If no option is elected, i.e., if payments are made as a life annuity, there is a minimum death benefit equal to the sum of the member's contributions without interest, less the sum of the monthly benefit payments made before the member's death. In addition, a lump-sum death benefit is payable upon the death of any retired member, regardless of option elected. This lump sum is equal to a percentage of the lump-sum death benefit that was available to the member at the time of retirement. The percentage is 100% in the first year of retirement, 75% in the second year, 50% in the third year, and 25% in the fourth and subsequent years of retirement. However, in no event will the lump sum death benefit be less than \$4,000.
- (ii) Special Police/Fire Death Benefit: A member that does not elect an optional form of payment at retirement will be eligible the active member death benefit, which is an annuity of 30% of the member's salary that will be paid to the member's spouse upon death, for life or until remarriage. Children's benefits may also be payable.

APPENDIX 2 (Continued)

12. Disability Retirement

- a. Eligibility: A member is eligible for a disability retirement provided he/she has credit for at least five years of service or if the disability is work-related. Members are not eligible for an ordinary disability benefit if they are eligible for unreduced retirement.
- b. Ordinary Disability Benefit: The benefit payable under the retirement formula, using FAC and service at the time of disability, but not less than 10 years of service.
- c. Occupational Disability Benefit: An annual annuity equal to two-thirds of salary at the time of disability.
- d. Payment Form: The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement will be paid in a lump-sum to the member's beneficiary. All alternative forms of payment except for the Social Security Option are permitted in the case of disability retirement.

13. Deferred Termination Benefit

- a. Eligibility: A member with at least ten years of service is vested. Effective July 1, 2012, a member with at least 5 years of service is vested. A vested member who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.
- b. Monthly Benefit: The monthly benefit is based on the retirement formula described above. Both FAC and service are determined at the time the member leaves active employment. Benefits may commence at Social Security normal retirement age provided that the member has met the requirements for a retirement benefit.
- c. Payment Form: The same as for Retirement above.
- d. Death Benefit before retirement: A member who dies after leaving active service but before retiring is entitled to receive a benefit as described below in Item 15.
- e. Death Benefit after Retirement: The same as for Retirement above.

14. Withdrawal (Refund) Benefit

- a. Eligibility: All members leaving covered employment with less than ten years (5 years, effective July 1, 2012) of service are eligible. Optionally, vested members (described in Item 13, above) may withdraw their accumulated contributions in lieu of the deferred benefits otherwise due.



APPENDIX 2 (Continued)

- b. Benefit: The member who withdraws receives a lump-sum payment equal to the sum of his/her employee contributions. No interest is credited on these contributions.

15. Death Benefit of Active or Inactive Members

- a. Eligibility: Death must have occurred while an active member or while an inactive, non-retired member. The basic benefit plus the lump-sum benefit are paid on behalf of an active, general employee, and the special police/fire benefit and the lump-sum benefit are paid on behalf of an active police officer or firefighter. If the death was due to accidental, duty-related causes, the accidental death benefit is paid regardless of whether the employee is a general employee, a police officer, or a firefighter. Inactive members receive a refund of their accumulated contributions without interest.
- b. Basic Benefit: Upon the death of a non-vested member, or upon the death of a vested, inactive member, or upon the death of an active, unmarried member, a refund of the member's contributions (without interest) is paid. Upon the death of a vested, married, active member, the spouse may elect (i) the refund benefit described above, or (ii) a life annuity paid to the spouse or beneficiary. The amount of the annuity is equal to the amount which would have been paid had the member retired at the time of his death and elected the Joint and 100% Survivor option. If the member was not eligible for retirement, the annuity benefit is reduced 9% per year from the date at which the member would have been eligible had he or she remained in service.
- c. Lump-sum Benefit: \$800 per year of service, with a maximum benefit of \$16,000 and a minimum of \$4,000. This benefit is only available to active members.
- d. Special Police/Fire Death Benefit: In lieu of the basic benefit above, if a police officer or firefighter dies while an active member, an annuity of 30% of the member's salary will be paid to the member's spouse, for life or until remarriage. Children's benefits may also be payable.
- e. Accidental Duty-related Death Benefit: If a member dies as the result of an accident while in the course of his or her duties, in lieu of the above benefits the member's spouse may elect to receive (i) a refund of all contributions made (including interest), and (ii) an annual life annuity equal to 50% of the member's salary at the time of death. The annuity benefit stops when the spouse remarries or dies, although it may be continued to any children under age 18 or to any dependent parents.

APPENDIX 2 (Continued)

16. Optional Forms of Payment: In addition to a life annuity, MERS offers members these optional forms of payment on an actuarially equivalent basis:

- a. Option 1 (Joint and 100% Survivor) - A life annuity payable while either the participant or his beneficiary is alive.
- b. Option 2 (Joint and 50% Survivor) - A life annuity payable to the member while both the member and beneficiary are alive, reducing to 50% of this amount if the member predeceases the beneficiary.
- c. Social Security Option – An annuity paid at one amount prior to age 62, and at a reduced amount after age 62, designed to provide a level total income when combined with the member's age 62 Social Security benefit. Benefits cease upon the member's death.

Actuarial equivalence is based on tables adopted by the Employees' Retirement Board.

17. Post-retirement Benefit Increase: For members who retire after June 30, 2012: members will be eligible to receive cost of living increases at the later of the member's third anniversary of retirement and the month following their SSNRA (age 55 for members designated as police officers and/or firefighters). When a municipality elects coverage, it may elect either COLA C (covering only current and future active members and excluding members already retired) or COLA B (covering current retired members as well as current and future active members).

- a. The COLA will be suspended for any unit whose funding level is less than 80%; however, an interim COLA may be granted in four-year intervals while the COLA is suspended. The first interim COLA may begin January 1, 2018.
- b. Effective July 1, 2015, the COLA is determined based on 50% of the plan's five-year average investment rate of return less 5.5% limited to a range of 0.0% to 4.0%, plus 50% of the lesser of 3.0% or last year's CPI-U increase for a total maximum increase of 3.50%. Previously, it was the plan's five-year average investment rate of return less 5.5% limited to a range of 0.0% to 4.0%.
- c. The COLA will be limited to the first \$25,000 of the member's annual pension benefit. For retirees and beneficiaries who retired on or before July 1, 2015, years in which a COLA is payable based on the every fourth year provision described in (i) above will be limited to the first \$30,000. These limits will be indexed annually to increase in the same manner as COLAs, with the known values of \$25,000 for 2013, \$25,000 for 2014, \$25,168 for 2015, \$25,855 for 2016, \$26,098 for 2017, \$26,290 for 2018, \$26,687 for 2019, \$27,184 for 2020, \$27,608 for 2021, and \$27,901 for 2022.

APPENDIX 2 (Continued)

18. Special Provisions Applying to Specific Units: Prior to July 1, 2012, some units had specific provisions that apply only to that unit. The transition rules outlined in Item 11, above, apply to these units in a similar manner.

The following summarizes those provisions:

- a. Rhode Island General Law §45-21.2-22.1 contains special provisions that apply to employees of Burrillville Police, but only if adopted by the Town of Burrillville. The Town adopted these provisions effective July 1, 2006. Under these special provisions, the retirement benefit for a member with 20 or more years of service is improved. The new formula is $60.00\% \times \text{Final Average Compensation (FAC)}$, plus $1.50\% \times \text{FAC} \times \text{Years of Service in Excess of 20}$, with a maximum benefit equal to 75% of FAC. In addition to this benefit change, the member contribution rate increased from 9.00% to 10.20%.
- b. Rhode Island General Law § 45-21.2-6.1, § 45-21.2-5(5), and § 45-21.2-14(d) contain special provisions that apply to members of the South Kingstown police department. Under these special provisions, the member receives a retirement allowance which is a life annuity terminable at the death of the annuitant, and is an amount equal to the sum of two and one-half percent (2.5%) of final compensation multiplied by the years of service accrued after July 1, 1993 and two percent (2%) of final compensation multiplied by the years of service accrued prior to July 1, 1993. The annual retirement allowance in no event shall exceed seventy-five percent (75%) of final compensation. The member contribution rate is 8.00%, plus 1.00% for the adoption of the optional COLA, for a total of 9.00%.
- c. Rhode Island General Law § 45-21.2-5 (9) contains special provisions that apply to members of the Hopkinton police department. Under these special provisions, the final compensation for benefit computation is based on the members' highest year of earnings. In addition, the members shall receive a three percent (3%) escalation of their pension payment compounded each year on January 1st following the year of retirement and continuing on an annual basis on that date. The member contribution rate is 9.00%. Compensation for benefit purposes includes base, longevity, and holiday pay.
- d. Rhode Island General Law § 45-21.2-5 (7) and § 45-21.2-14 contain special provisions that apply to members of the Cranston fire department hired after July 1, 1995 or with less than 5 years of service at that date. Under these special provisions, the final compensation for benefit computation is based on the members' highest year of earnings. In addition, the members shall receive a three percent (3%) escalation of their pension payment compounded each year on January 1st following the year of retirement and continuing on an annual basis on that date. The member contribution rate is 10.00%. Compensation for benefit purposes includes base, longevity, and holiday pay.

APPENDIX 2 (Continued)

- e. Rhode Island General Law §§ 45-21.2-5 (8) and § 45-21.2-14 contain special provisions that apply to members of the Cranston police department hired after July 1, 1995 or with less than 5 years of service at that date. Under these special provisions, the final compensation for benefit computation is based on the members' highest year of earnings. In addition, the members shall receive a three percent (3%) escalation of their pension payment compounded each year on January 1st following the year of retirement and continuing on an annual basis on that date. The member contribution rate is 10.00%. Compensation for benefit purposes includes base, longevity, and holiday pay.
- f. Rhode Island General Law §§ 45-21.2-6.3 contains special provisions that apply to employees of Richmond Police. The Town adopted these provisions on April 3, 2008, effective July 1, 2008. Under these special provisions, members are eligible to retire after attaining 22 years of service. The retirement benefit for a member with 22 or more years of service was improved to $50.00\% \times \text{Final Average Compensation (FAC)}$, plus $2.2727\% \times \text{FAC} \times \text{Years of Service in Excess of 22}$, with a maximum benefit equal to 75% of FAC.

APPENDIX 3

OUTSTANDING AMORTIZATION BASES

APPENDIX 3

Outstanding Amortization Bases

Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
3002	1012 1019	Bristol	2014 Mediation Settlement	\$ 6,115,340	\$ 487,009	17
3002	1012 1019	Bristol	2015 Experience	\$ (292,591)	\$ (25,177)	15
3002	1012 1019	Bristol	2016 Assumption Change - FY20 Stagger	\$ 24,913	\$ 1,984	17
3002	1012 1019	Bristol	2016 Assumption Change - FY21 Stagger	\$ 409,472	\$ 31,501	18
3002	1012 1019	Bristol	2016 Assumption Change - FY22 Stagger	\$ 409,472	\$ 32,724	19
3002	1012 1019	Bristol	2016 Assumption Change - FY23 Stagger	\$ 409,472	\$ 33,995	20
3002	1012 1019	Bristol	2016 Assumption Change - FY24 Stagger	\$ 409,472	\$ -	21
3002	1012 1019	Bristol	2016 Experience	\$ 531,707	\$ 43,950	16
3002	1012 1019	Bristol	2017 Experience	\$ 434,938	\$ 34,637	17
3002	1012 1019	Bristol	2018 Experience	\$ (294,246)	\$ (22,636)	18
3002	1012 1019	Bristol	2019 Assumption Change - FY23 Stagger	\$ (122,257)	\$ (10,150)	20
3002	1012 1019	Bristol	2019 Assumption Change - FY24 Stagger	\$ (122,257)	\$ -	21
3002	1012 1019	Bristol	2019 Experience	\$ (849,310)	\$ (67,875)	19
3002	1012 1019	Bristol	2020 Experience	\$ (305,274)	\$ (25,344)	20
3003	1032 1033	Burrillville	2016 Assumption Change - FY21 Stagger	\$ 464,160	\$ 35,708	18
3003	1032 1033	Burrillville	2016 Assumption Change - FY22 Stagger	\$ 464,160	\$ 37,095	19
3003	1032 1033	Burrillville	2016 Assumption Change - FY23 Stagger	\$ 464,160	\$ 38,535	20
3003	1032 1033	Burrillville	2016 Assumption Change - FY24 Stagger	\$ 464,160	\$ -	21
3003	1032 1033	Burrillville	2016 Experience	\$ 145,090	\$ 11,993	16
3003	1032 1033	Burrillville	2017 Experience	\$ (203,106)	\$ (16,175)	17
3003	1032 1033	Burrillville	2018 Experience	\$ 768,649	\$ 59,133	18
3003	1032 1033	Burrillville	2019 Assumption Change - FY23 Stagger	\$ (169,219)	\$ (14,049)	20
3003	1032 1033	Burrillville	2019 Assumption Change - FY24 Stagger	\$ (169,219)	\$ -	21
3003	1032 1033	Burrillville	2019 Experience	\$ (526,411)	\$ (42,070)	19
3003	1032 1033	Burrillville	2020 Experience	\$ 152,468	\$ 12,658	20
3004	1052	Central Falls	2014 Mediation Settlement	\$ 1,938,189	\$ 182,654	13
3004	1052	Central Falls	2015 Experience	\$ (77,513)	\$ (6,670)	15
3004	1052	Central Falls	2016 Assumption Change - FY20 Stagger	\$ 1,652	\$ 132	17
3004	1052	Central Falls	2016 Assumption Change - FY21 Stagger	\$ 113,698	\$ 8,747	18
3004	1052	Central Falls	2016 Assumption Change - FY22 Stagger	\$ 113,698	\$ 9,087	19
3004	1052	Central Falls	2016 Assumption Change - FY23 Stagger	\$ 113,698	\$ 9,439	20
3004	1052	Central Falls	2016 Assumption Change - FY24 Stagger	\$ 113,698	\$ -	21
3004	1052	Central Falls	2016 Experience	\$ 576,944	\$ 47,689	16
3004	1052	Central Falls	2017 Experience	\$ (296,223)	\$ (23,590)	17
3004	1052	Central Falls	2018 Experience	\$ (161,099)	\$ (12,393)	18
3004	1052	Central Falls	2019 Assumption Change - FY23 Stagger	\$ (17,352)	\$ (1,441)	20
3004	1052	Central Falls	2019 Assumption Change - FY24 Stagger	\$ (17,352)	\$ -	21
3004	1052	Central Falls	2019 Experience	\$ 132,552	\$ 10,593	19
3004	1052	Central Falls	2020 Experience	\$ (1,481)	\$ (123)	20
3005	1082	Charlestown	2014 Mediation Settlement	\$ 502,566	\$ 47,362	13
3005	1082	Charlestown	2015 Experience	\$ (381,674)	\$ (32,843)	15
3005	1082	Charlestown	2016 Assumption Change - FY21 Stagger	\$ 104,040	\$ 8,004	18
3005	1082	Charlestown	2016 Assumption Change - FY22 Stagger	\$ 104,040	\$ 8,315	19
3005	1082	Charlestown	2016 Assumption Change - FY23 Stagger	\$ 104,040	\$ 8,638	20
3005	1082	Charlestown	2016 Assumption Change - FY24 Stagger	\$ 104,040	\$ -	21
3005	1082	Charlestown	2016 Experience	\$ 112,067	\$ 9,263	16
3005	1082	Charlestown	2017 Experience	\$ (109,807)	\$ (8,745)	17
3005	1082	Charlestown	2018 Experience	\$ (305,944)	\$ (23,536)	18
3005	1082	Charlestown	2019 Assumption Change - FY23 Stagger	\$ (51,048)	\$ (4,238)	20
3005	1082	Charlestown	2019 Assumption Change - FY24 Stagger	\$ (51,048)	\$ -	21
3005	1082	Charlestown	2019 Experience	\$ 144,881	\$ 11,579	19
3005	1082	Charlestown	2020 Experience	\$ 112,199	\$ 9,315	20
3007	1112 1113	Cranston	2014 Mediation Settlement	\$ 5,787,990	\$ 545,457	13
3007	1112 1113	Cranston	2015 Experience	\$ (2,817,316)	\$ (242,430)	15
3007	1112 1113	Cranston	2016 Assumption Change - FY20 Stagger	\$ 335,062	\$ 26,683	17
3007	1112 1113	Cranston	2016 Assumption Change - FY21 Stagger	\$ 2,371,258	\$ 182,422	18
3007	1112 1113	Cranston	2016 Assumption Change - FY22 Stagger	\$ 2,371,258	\$ 189,506	19
3007	1112 1113	Cranston	2016 Assumption Change - FY23 Stagger	\$ 2,371,258	\$ 196,866	20
3007	1112 1113	Cranston	2016 Assumption Change - FY24 Stagger	\$ 2,371,258	\$ -	21
3007	1112 1113	Cranston	2016 Experience	\$ 2,855,494	\$ 236,031	16
3007	1112 1113	Cranston	2017 Experience	\$ 819,734	\$ 65,281	17
3007	1112 1113	Cranston	2018 Experience	\$ 140,516	\$ 10,810	18
3007	1112 1113	Cranston	2019 Assumption Change - FY23 Stagger	\$ (944,378)	\$ (78,404)	20
3007	1112 1113	Cranston	2019 Assumption Change - FY24 Stagger	\$ (944,378)	\$ -	21
3007	1112 1113	Cranston	2019 Experience	\$ (607,481)	\$ (48,549)	19
3007	1112 1113	Cranston	2020 Experience	\$ 476,509	\$ 39,561	20
3008	1122 1123	Cumberland	2014 Mediation Settlement	\$ 8,109,595	\$ 645,826	17
3008	1122 1123	Cumberland	2015 Experience	\$ (1,150,607)	\$ (99,010)	15
3008	1122 1123	Cumberland	2016 Assumption Change - FY21 Stagger	\$ 444,502	\$ 34,196	18
3008	1122 1123	Cumberland	2016 Assumption Change - FY22 Stagger	\$ 444,502	\$ 35,524	19
3008	1122 1123	Cumberland	2016 Assumption Change - FY23 Stagger	\$ 444,502	\$ 36,903	20
3008	1122 1123	Cumberland	2016 Assumption Change - FY24 Stagger	\$ 444,502	\$ -	21
3008	1122 1123	Cumberland	2016 Experience	\$ (909,430)	\$ (75,172)	16
3008	1122 1123	Cumberland	2017 Experience	\$ (746,726)	\$ (59,467)	17
3008	1122 1123	Cumberland	2018 Experience	\$ (131,202)	\$ (10,093)	18
3008	1122 1123	Cumberland	2019 Assumption Change - FY23 Stagger	\$ (175,266)	\$ (14,551)	20
3008	1122 1123	Cumberland	2019 Assumption Change - FY24 Stagger	\$ (175,266)	\$ -	21
3008	1122 1123	Cumberland	2019 Experience	\$ (181,385)	\$ (14,496)	19
3008	1122 1123	Cumberland	2020 Experience	\$ (636,802)	\$ (52,868)	20
3009	1152 1153	East Greenwich	2020 Over Funded Base	\$ (638,409)	\$ (53,002)	20



APPENDIX 3 (Continued)

Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
3010	1162 1163	East Providence	2014 Mediation Settlement	\$ 43,178,188	\$ 3,438,594	17
3010	1162 1163	East Providence	2015 Experience	\$ (2,933,629)	\$ (252,439)	15
3010	1162 1163	East Providence	2016 Assumption Change - FY20 Stagger	\$ 378,018	\$ 30,104	17
3010	1162 1163	East Providence	2016 Assumption Change - FY21 Stagger	\$ 1,828,941	\$ 140,701	18
3010	1162 1163	East Providence	2016 Assumption Change - FY22 Stagger	\$ 1,828,941	\$ 146,165	19
3010	1162 1163	East Providence	2016 Assumption Change - FY23 Stagger	\$ 1,828,941	\$ 151,842	20
3010	1162 1163	East Providence	2016 Assumption Change - FY24 Stagger	\$ 1,828,941	\$ -	21
3010	1162 1163	East Providence	2016 Experience	\$ 161,347	\$ 13,337	16
3010	1162 1163	East Providence	2017 Experience	\$ (518,350)	\$ (41,280)	17
3010	1162 1163	East Providence	2018 Experience	\$ 1,763,873	\$ 135,695	18
3010	1162 1163	East Providence	2019 Assumption Change - FY23 Stagger	\$ (550,895)	\$ (45,736)	20
3010	1162 1163	East Providence	2019 Assumption Change - FY24 Stagger	\$ (550,895)	\$ -	21
3010	1162 1163	East Providence	2019 Experience	\$ (828,421)	\$ (66,206)	19
3010	1162 1163	East Providence	2020 Experience	\$ (1,070,126)	\$ (88,844)	20
3011	1183	Exeter/West Greenwich	2014 Mediation Settlement	\$ 1,540,716	\$ 145,196	13
3011	1183	Exeter/West Greenwich	2015 Experience	\$ (292,727)	\$ (25,189)	15
3011	1183	Exeter/West Greenwich	2016 Assumption Change - FY21 Stagger	\$ 190,453	\$ 14,652	18
3011	1183	Exeter/West Greenwich	2016 Assumption Change - FY22 Stagger	\$ 190,453	\$ 15,221	19
3011	1183	Exeter/West Greenwich	2016 Assumption Change - FY23 Stagger	\$ 190,453	\$ 15,812	20
3011	1183	Exeter/West Greenwich	2016 Assumption Change - FY24 Stagger	\$ 190,453	\$ -	21
3011	1183	Exeter/West Greenwich	2016 Experience	\$ 129,053	\$ 10,667	16
3011	1183	Exeter/West Greenwich	2017 Experience	\$ 630,498	\$ 50,211	17
3011	1183	Exeter/West Greenwich	2018 Experience	\$ (86,348)	\$ (6,643)	18
3011	1183	Exeter/West Greenwich	2019 Assumption Change - FY23 Stagger	\$ (54,976)	\$ (4,564)	20
3011	1183	Exeter/West Greenwich	2019 Assumption Change - FY24 Stagger	\$ (54,976)	\$ -	21
3011	1183	Exeter/West Greenwich	2019 Experience	\$ (448,945)	\$ (35,879)	19
3011	1183	Exeter/West Greenwich	2020 Experience	\$ (79,424)	\$ (6,594)	20
3012	1192 1193	Foster	2014 Mediation Settlement	\$ 442,193	\$ 41,672	13
3012	1192 1193	Foster	2015 Experience	\$ 274,811	\$ 23,648	15
3012	1192 1193	Foster	2016 Assumption Change - FY21 Stagger	\$ 49,464	\$ 3,805	18
3012	1192 1193	Foster	2016 Assumption Change - FY22 Stagger	\$ 49,464	\$ 3,953	19
3012	1192 1193	Foster	2016 Assumption Change - FY23 Stagger	\$ 49,464	\$ 4,107	20
3012	1192 1193	Foster	2016 Assumption Change - FY24 Stagger	\$ 49,464	\$ -	21
3012	1192 1193	Foster	2016 Experience	\$ (256,713)	\$ (21,220)	16
3012	1192 1193	Foster	2017 Experience	\$ 278,336	\$ 22,166	17
3012	1192 1193	Foster	2018 Experience	\$ 15,259	\$ 1,174	18
3012	1192 1193	Foster	2019 Assumption Change - FY23 Stagger	\$ (17,580)	\$ (1,460)	20
3012	1192 1193	Foster	2019 Assumption Change - FY24 Stagger	\$ (17,580)	\$ -	21
3012	1192 1193	Foster	2019 Experience	\$ 25,832	\$ 2,064	19
3012	1192 1193	Foster	2020 Experience	\$ (154,970)	\$ (12,866)	20
3013	1212 1213	Glocester	2014 Mediation Settlement	\$ 1,091,914	\$ 102,901	13
3013	1212 1213	Glocester	2015 Experience	\$ (66,242)	\$ (5,700)	15
3013	1212 1213	Glocester	2016 Assumption Change - FY21 Stagger	\$ 161,191	\$ 12,401	18
3013	1212 1213	Glocester	2016 Assumption Change - FY22 Stagger	\$ 161,191	\$ 12,882	19
3013	1212 1213	Glocester	2016 Assumption Change - FY23 Stagger	\$ 161,191	\$ 13,382	20
3013	1212 1213	Glocester	2016 Assumption Change - FY24 Stagger	\$ 161,191	\$ -	21
3013	1212 1213	Glocester	2016 Experience	\$ 167,837	\$ 13,873	16
3013	1212 1213	Glocester	2017 Experience	\$ 12,303	\$ 980	17
3013	1212 1213	Glocester	2018 Experience	\$ 22,391	\$ 1,723	18
3013	1212 1213	Glocester	2019 Assumption Change - FY23 Stagger	\$ (50,737)	\$ (4,212)	20
3013	1212 1213	Glocester	2019 Assumption Change - FY24 Stagger	\$ (50,737)	\$ -	21
3013	1212 1213	Glocester	2019 Experience	\$ (325,435)	\$ (26,008)	19
3013	1212 1213	Glocester	2020 Experience	\$ (141,230)	\$ (11,725)	20
3014	1262	Hopkinton	2020 Over Funded Base	\$ (870,412)	\$ (72,263)	20
3015	1272 1273	Jamestown	2014 Mediation Settlement	\$ 1,674,838	\$ 157,836	13
3015	1272 1273	Jamestown	2015 Experience	\$ (56,901)	\$ (4,896)	15
3015	1272 1273	Jamestown	2016 Assumption Change - FY21 Stagger	\$ 230,057	\$ 17,698	18
3015	1272 1273	Jamestown	2016 Assumption Change - FY22 Stagger	\$ 230,057	\$ 18,386	19
3015	1272 1273	Jamestown	2016 Assumption Change - FY23 Stagger	\$ 230,057	\$ 19,100	20
3015	1272 1273	Jamestown	2016 Assumption Change - FY24 Stagger	\$ 230,057	\$ -	21
3015	1272 1273	Jamestown	2016 Experience	\$ 137,319	\$ 11,351	16
3015	1272 1273	Jamestown	2017 Experience	\$ 66,069	\$ 5,262	17
3015	1272 1273	Jamestown	2018 Experience	\$ 298,026	\$ 22,927	18
3015	1272 1273	Jamestown	2019 Assumption Change - FY23 Stagger	\$ (98,009)	\$ (8,137)	20
3015	1272 1273	Jamestown	2019 Assumption Change - FY24 Stagger	\$ (98,009)	\$ -	21
3015	1272 1273	Jamestown	2019 Experience	\$ (512,236)	\$ (40,937)	19
3015	1272 1273	Jamestown	2020 Experience	\$ (488,907)	\$ (40,590)	20
3016	1282 1283	Johnston	2014 Mediation Settlement	\$ 10,946,815	\$ 871,775	17
3016	1282 1283	Johnston	2015 Experience	\$ (42,659)	\$ (3,671)	15
3016	1282 1283	Johnston	2016 Assumption Change - FY20 Stagger	\$ 62,849	\$ 5,005	17
3016	1282 1283	Johnston	2016 Assumption Change - FY21 Stagger	\$ 725,294	\$ 55,797	18
3016	1282 1283	Johnston	2016 Assumption Change - FY22 Stagger	\$ 725,294	\$ 57,964	19
3016	1282 1283	Johnston	2016 Assumption Change - FY23 Stagger	\$ 725,294	\$ 60,215	20
3016	1282 1283	Johnston	2016 Assumption Change - FY24 Stagger	\$ 725,294	\$ -	21
3016	1282 1283	Johnston	2016 Experience	\$ (297,451)	\$ (24,587)	16
3016	1282 1283	Johnston	2017 Experience	\$ 144,470	\$ 11,505	17
3016	1282 1283	Johnston	2018 Experience	\$ (417,307)	\$ (32,104)	18
3016	1282 1283	Johnston	2019 Assumption Change - FY23 Stagger	\$ (241,400)	\$ (20,041)	20
3016	1282 1283	Johnston	2019 Assumption Change - FY24 Stagger	\$ (241,400)	\$ -	21
3016	1282 1283	Johnston	2019 Experience	\$ 47,526	\$ 3,798	19



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
3016	1282 1283	Johnston	2020 Experience	\$ 1,302,203	\$ 108,111	20
3017	1302 1303	Lincoln	2014 Mediation Settlement	\$ 503,331	\$ 47,434	13
3017	1302 1303	Lincoln	2015 Experience	\$ (17,377)	\$ (1,495)	15
3017	1302 1303	Lincoln	2016 Assumption Change - FY21 Stagger	\$ 46,901	\$ 3,608	18
3017	1302 1303	Lincoln	2016 Assumption Change - FY22 Stagger	\$ 46,901	\$ 3,748	19
3017	1302 1303	Lincoln	2016 Assumption Change - FY23 Stagger	\$ 46,901	\$ 3,894	20
3017	1302 1303	Lincoln	2016 Assumption Change - FY24 Stagger	\$ 46,901	\$ -	21
3017	1302 1303	Lincoln	2016 Experience	\$ (29,202)	\$ (2,414)	16
3017	1302 1303	Lincoln	2017 Experience	\$ (23,048)	\$ (1,835)	17
3017	1302 1303	Lincoln	2018 Experience	\$ (96,937)	\$ (7,457)	18
3017	1302 1303	Lincoln	2019 Assumption Change - FY23 Stagger	\$ (13,182)	\$ (1,094)	20
3017	1302 1303	Lincoln	2019 Assumption Change - FY24 Stagger	\$ (13,182)	\$ -	21
3017	1302 1303	Lincoln	2019 Experience	\$ (151,601)	\$ (12,116)	19
3017	1302 1303	Lincoln	2020 Experience	\$ (28,509)	\$ (2,367)	20
3019	1322 1323	Middletown	2014 Mediation Settlement	\$ 3,596,218	\$ 286,393	17
3019	1322 1323	Middletown	2015 Experience	\$ (238,724)	\$ (20,542)	15
3019	1322 1323	Middletown	2016 Assumption Change - FY21 Stagger	\$ 335,431	\$ 25,805	18
3019	1322 1323	Middletown	2016 Assumption Change - FY22 Stagger	\$ 335,431	\$ 26,807	19
3019	1322 1323	Middletown	2016 Assumption Change - FY23 Stagger	\$ 335,431	\$ 27,848	20
3019	1322 1323	Middletown	2016 Assumption Change - FY24 Stagger	\$ 335,431	\$ -	21
3019	1322 1323	Middletown	2016 Experience	\$ 279,474	\$ 23,101	16
3019	1322 1323	Middletown	2017 Experience	\$ (75,547)	\$ (6,016)	17
3019	1322 1323	Middletown	2018 Experience	\$ 194,860	\$ 14,991	18
3019	1322 1323	Middletown	2019 Assumption Change - FY23 Stagger	\$ (81,647)	\$ (6,778)	20
3019	1322 1323	Middletown	2019 Assumption Change - FY24 Stagger	\$ (81,647)	\$ -	21
3019	1322 1323	Middletown	2019 Experience	\$ (749,128)	\$ (59,869)	19
3019	1322 1323	Middletown	2020 Experience	\$ (439,546)	\$ (36,492)	20
3021	1352 1353 1354	Newport	2014 Mediation Settlement	\$ 24,620,523	\$ 2,320,226	13
3021	1352 1353 1354	Newport	2015 Experience	\$ 161,296	\$ 13,880	15
3021	1352 1353 1354	Newport	2016 Assumption Change - FY20 Stagger	\$ 222,762	\$ 17,740	17
3021	1352 1353 1354	Newport	2016 Assumption Change - FY21 Stagger	\$ 1,194,934	\$ 91,927	18
3021	1352 1353 1354	Newport	2016 Assumption Change - FY22 Stagger	\$ 1,194,934	\$ 95,497	19
3021	1352 1353 1354	Newport	2016 Assumption Change - FY23 Stagger	\$ 1,194,934	\$ 99,205	20
3021	1352 1353 1354	Newport	2016 Assumption Change - FY24 Stagger	\$ 1,194,934	\$ -	21
3021	1352 1353 1354	Newport	2016 Experience	\$ (271,362)	\$ (22,430)	16
3021	1352 1353 1354	Newport	2017 Experience	\$ 396,731	\$ 31,595	17
3021	1352 1353 1354	Newport	2018 Experience	\$ (1,317,170)	\$ (101,330)	18
3021	1352 1353 1354	Newport	2019 Assumption Change - FY23 Stagger	\$ (306,696)	\$ (25,462)	20
3021	1352 1353 1354	Newport	2019 Assumption Change - FY24 Stagger	\$ (306,696)	\$ -	21
3021	1352 1353 1354	Newport	2019 Experience	\$ (898,626)	\$ (71,816)	19
3021	1352 1353 1354	Newport	2020 Experience	\$ 200,895	\$ 16,679	20
3022	1342 1343	New Shoreham	2016 Assumption Change - FY21 Stagger	\$ 114,882	\$ 8,838	18
3022	1342 1343	New Shoreham	2016 Assumption Change - FY22 Stagger	\$ 114,882	\$ 9,181	19
3022	1342 1343	New Shoreham	2016 Assumption Change - FY23 Stagger	\$ 114,882	\$ 9,538	20
3022	1342 1343	New Shoreham	2016 Assumption Change - FY24 Stagger	\$ 114,882	\$ -	21
3022	1342 1343	New Shoreham	2016 Experience	\$ 67,087	\$ 5,545	16
3022	1342 1343	New Shoreham	2017 Experience	\$ 135,887	\$ 10,822	17
3022	1342 1343	New Shoreham	2018 Experience	\$ (2,143)	\$ (165)	18
3022	1342 1343	New Shoreham	2019 Assumption Change - FY23 Stagger	\$ (48,460)	\$ (4,023)	20
3022	1342 1343	New Shoreham	2019 Assumption Change - FY24 Stagger	\$ (48,460)	\$ -	21
3022	1342 1343	New Shoreham	2019 Experience	\$ (123,938)	\$ (9,905)	19
3022	1342 1343	New Shoreham	2020 Experience	\$ 165,004	\$ 13,699	20
3023	1372 1373	North Kingstown	2014 Mediation Settlement	\$ 15,593,474	\$ 1,469,521	13
3023	1372 1373	North Kingstown	2015 Experience	\$ (1,405,081)	\$ (120,907)	15
3023	1372 1373	North Kingstown	2016 Assumption Change - FY20 Stagger	\$ 102,509	\$ 8,164	17
3023	1372 1373	North Kingstown	2016 Assumption Change - FY21 Stagger	\$ 1,057,325	\$ 81,340	18
3023	1372 1373	North Kingstown	2016 Assumption Change - FY22 Stagger	\$ 1,057,325	\$ 84,499	19
3023	1372 1373	North Kingstown	2016 Assumption Change - FY23 Stagger	\$ 1,057,325	\$ 87,781	20
3023	1372 1373	North Kingstown	2016 Assumption Change - FY24 Stagger	\$ 1,057,325	\$ -	21
3023	1372 1373	North Kingstown	2016 Experience	\$ 1,117,417	\$ 92,364	16
3023	1372 1373	North Kingstown	2017 Experience	\$ 215,920	\$ 17,195	17
3023	1372 1373	North Kingstown	2018 Experience	\$ (1,959,335)	\$ (150,732)	18
3023	1372 1373	North Kingstown	2019 Assumption Change - FY23 Stagger	\$ (343,867)	\$ (28,548)	20
3023	1372 1373	North Kingstown	2019 Assumption Change - FY24 Stagger	\$ (343,867)	\$ -	21
3023	1372 1373	North Kingstown	2019 Experience	\$ (934,596)	\$ (74,691)	19
3023	1372 1373	North Kingstown	2020 Experience	\$ 644,342	\$ 53,494	20
3024	1382 1383	North Providence	2016 Assumption Change - FY20 Stagger	\$ 3,382	\$ 269	17
3024	1382 1383	North Providence	2016 Assumption Change - FY21 Stagger	\$ 436,446	\$ 33,576	18
3024	1382 1383	North Providence	2016 Assumption Change - FY22 Stagger	\$ 436,446	\$ 34,880	19
3024	1382 1383	North Providence	2016 Assumption Change - FY23 Stagger	\$ 436,446	\$ 36,234	20
3024	1382 1383	North Providence	2016 Assumption Change - FY24 Stagger	\$ 436,446	\$ -	21
3024	1382 1383	North Providence	2017 Experience	\$ (909,531)	\$ (72,433)	17
3024	1382 1383	North Providence	2018 Experience	\$ 87,741	\$ 6,750	18
3024	1382 1383	North Providence	2019 Assumption Change - FY23 Stagger	\$ (118,223)	\$ (9,815)	20
3024	1382 1383	North Providence	2019 Assumption Change - FY24 Stagger	\$ (118,223)	\$ -	21
3024	1382 1383	North Providence	2019 Experience	\$ (253,801)	\$ (20,283)	19
3024	1382 1383	North Providence	2020 Experience	\$ 612,025	\$ 50,811	20
3025	1392 1393	North Smithfield	2020 Over Funded Base	\$ (91,762)	\$ (7,618)	20
3026	1412 1413	Pawtucket	2014 Mediation Settlement	\$ 28,832,472	\$ 2,296,140	17
3026	1412 1413	Pawtucket	2015 Experience	\$ (3,999,205)	\$ (344,132)	15



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
3026	1412 1413	Pawtucket	2016 Assumption Change - FY20 Stagger	\$ 506,544	\$ 40,340	17
3026	1412 1413	Pawtucket	2016 Assumption Change - FY21 Stagger	\$ 2,045,049	\$ 157,327	18
3026	1412 1413	Pawtucket	2016 Assumption Change - FY22 Stagger	\$ 2,045,049	\$ 163,436	19
3026	1412 1413	Pawtucket	2016 Assumption Change - FY23 Stagger	\$ 2,045,049	\$ 169,783	20
3026	1412 1413	Pawtucket	2016 Assumption Change - FY24 Stagger	\$ 2,045,049	\$ -	21
3026	1412 1413	Pawtucket	2016 Experience	\$ 1,744,521	\$ 144,200	16
3026	1412 1413	Pawtucket	2017 Experience	\$ 939,063	\$ 74,784	17
3026	1412 1413	Pawtucket	2018 Experience	\$ (5,266,821)	\$ (405,179)	18
3026	1412 1413	Pawtucket	2019 Assumption Change - FY23 Stagger	\$ (716,560)	\$ (59,490)	20
3026	1412 1413	Pawtucket	2019 Assumption Change - FY24 Stagger	\$ (716,560)	\$ -	21
3026	1412 1413	Pawtucket	2019 Experience	\$ (2,343,636)	\$ (187,299)	19
3026	1412 1413	Pawtucket	2020 Experience	\$ (2,005,470)	\$ (166,497)	20
3027	1515	Union Fire District	2020 Over Funded Base	\$ (12,314)	\$ (1,022)	20
3029	1452	Richmond	2014 Mediation Settlement	\$ 296,429	\$ 27,935	13
3029	1452	Richmond	2015 Experience	\$ (124,023)	\$ (10,672)	15
3029	1452	Richmond	2016 Assumption Change - FY21 Stagger	\$ 37,715	\$ 2,901	18
3029	1452	Richmond	2016 Assumption Change - FY22 Stagger	\$ 37,715	\$ 3,014	19
3029	1452	Richmond	2016 Assumption Change - FY23 Stagger	\$ 37,715	\$ 3,131	20
3029	1452	Richmond	2016 Assumption Change - FY24 Stagger	\$ 37,715	\$ -	21
3029	1452	Richmond	2016 Experience	\$ (66,674)	\$ (5,511)	16
3029	1452	Richmond	2017 Experience	\$ 309,263	\$ 24,629	17
3029	1452	Richmond	2018 Experience	\$ (94,214)	\$ (7,248)	18
3029	1452	Richmond	2019 Assumption Change - FY23 Stagger	\$ (14,897)	\$ (1,237)	20
3029	1452	Richmond	2019 Assumption Change - FY24 Stagger	\$ (14,897)	\$ -	21
3029	1452	Richmond	2019 Experience	\$ 107,567	\$ 8,597	19
3029	1452	Richmond	2020 Experience	\$ 1,246	\$ 103	20
3030	1462 1463	Scituate	2014 Mediation Settlement	\$ 2,681,374	\$ 252,691	13
3030	1462 1463	Scituate	2015 Experience	\$ (63,059)	\$ (5,426)	15
3030	1462 1463	Scituate	2016 Assumption Change - FY20 Stagger	\$ 39,402	\$ 3,138	17
3030	1462 1463	Scituate	2016 Assumption Change - FY21 Stagger	\$ 256,742	\$ 19,751	18
3030	1462 1463	Scituate	2016 Assumption Change - FY22 Stagger	\$ 256,742	\$ 20,518	19
3030	1462 1463	Scituate	2016 Assumption Change - FY23 Stagger	\$ 256,742	\$ 21,315	20
3030	1462 1463	Scituate	2016 Assumption Change - FY24 Stagger	\$ 256,742	\$ -	21
3030	1462 1463	Scituate	2016 Experience	\$ 233,772	\$ 19,323	16
3030	1462 1463	Scituate	2017 Experience	\$ 644,898	\$ 51,358	17
3030	1462 1463	Scituate	2018 Experience	\$ (324,484)	\$ (24,963)	18
3030	1462 1463	Scituate	2019 Assumption Change - FY23 Stagger	\$ (92,489)	\$ (7,679)	20
3030	1462 1463	Scituate	2019 Assumption Change - FY24 Stagger	\$ (92,489)	\$ -	21
3030	1462 1463	Scituate	2019 Experience	\$ (366,983)	\$ (29,329)	19
3030	1462 1463	Scituate	2020 Experience	\$ (158,814)	\$ (13,185)	20
3031	1472 1473	Smithfield	2014 Mediation Settlement	\$ 191,189	\$ 15,226	17
3031	1472 1473	Smithfield	2015 Experience	\$ (200,902)	\$ (17,288)	15
3031	1472 1473	Smithfield	2016 Assumption Change - FY21 Stagger	\$ 240,615	\$ 18,511	18
3031	1472 1473	Smithfield	2016 Assumption Change - FY22 Stagger	\$ 240,615	\$ 19,229	19
3031	1472 1473	Smithfield	2016 Assumption Change - FY23 Stagger	\$ 240,615	\$ 19,976	20
3031	1472 1473	Smithfield	2016 Assumption Change - FY24 Stagger	\$ 240,615	\$ -	21
3031	1472 1473	Smithfield	2016 Experience	\$ 422,597	\$ 34,931	16
3031	1472 1473	Smithfield	2017 Experience	\$ 213,185	\$ 16,977	17
3031	1472 1473	Smithfield	2018 Experience	\$ 415,605	\$ 31,973	18
3031	1472 1473	Smithfield	2019 Assumption Change - FY23 Stagger	\$ (96,974)	\$ (8,051)	20
3031	1472 1473	Smithfield	2019 Assumption Change - FY24 Stagger	\$ (96,974)	\$ -	21
3031	1472 1473	Smithfield	2019 Experience	\$ (40,477)	\$ (3,235)	19
3031	1472 1473	Smithfield	2020 Experience	\$ 149,332	\$ 12,398	20
3032	1492 1493	South Kingstown	2014 Mediation Settlement	\$ 6,081,985	\$ 573,163	13
3032	1492 1493	South Kingstown	2015 Experience	\$ (128,943)	\$ (11,096)	15
3032	1492 1493	South Kingstown	2016 Assumption Change - FY21 Stagger	\$ 1,008,955	\$ 77,619	18
3032	1492 1493	South Kingstown	2016 Assumption Change - FY22 Stagger	\$ 1,008,955	\$ 80,634	19
3032	1492 1493	South Kingstown	2016 Assumption Change - FY23 Stagger	\$ 1,008,955	\$ 83,765	20
3032	1492 1493	South Kingstown	2016 Assumption Change - FY24 Stagger	\$ 1,008,955	\$ -	21
3032	1492 1493	South Kingstown	2016 Experience	\$ 1,234,484	\$ 102,041	16
3032	1492 1493	South Kingstown	2017 Experience	\$ 742,015	\$ 59,092	17
3032	1492 1493	South Kingstown	2018 Experience	\$ 257,646	\$ 19,821	18
3032	1492 1493	South Kingstown	2019 Assumption Change - FY23 Stagger	\$ (300,209)	\$ (24,924)	20
3032	1492 1493	South Kingstown	2019 Assumption Change - FY24 Stagger	\$ (300,209)	\$ -	21
3032	1492 1493	South Kingstown	2019 Experience	\$ (545,213)	\$ (43,572)	19
3032	1492 1493	South Kingstown	2020 Experience	\$ 83,543	\$ 6,936	20
3033	1532 1533	Tiverton	2020 Over Funded Base	\$ (815,248)	\$ (67,683)	20
3034	1562	Warren	2014 Mediation Settlement	\$ 1,763,678	\$ 140,454	17
3034	1562	Warren	2015 Experience	\$ (188,345)	\$ (16,207)	15
3034	1562	Warren	2016 Assumption Change - FY21 Stagger	\$ 113,499	\$ 8,732	18
3034	1562	Warren	2016 Assumption Change - FY22 Stagger	\$ 113,499	\$ 9,071	19
3034	1562	Warren	2016 Assumption Change - FY23 Stagger	\$ 113,499	\$ 9,423	20
3034	1562	Warren	2016 Assumption Change - FY24 Stagger	\$ 113,499	\$ -	21
3034	1562	Warren	2016 Experience	\$ 3,282	\$ 271	16
3034	1562	Warren	2017 Experience	\$ (87,421)	\$ (6,962)	17
3034	1562	Warren	2018 Experience	\$ (48,008)	\$ (3,693)	18
3034	1562	Warren	2019 Assumption Change - FY23 Stagger	\$ (39,595)	\$ (3,287)	20
3034	1562	Warren	2019 Assumption Change - FY24 Stagger	\$ (39,595)	\$ -	21
3034	1562	Warren	2019 Experience	\$ 96,573	\$ 7,718	19
3034	1562	Warren	2020 Experience	\$ (95,936)	\$ (7,965)	20



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
3036	1622 1623	Westerly	2020 Under Funded Base	\$ 101,784	N/A	N/A
3037	1602	West Greenwich	2014 Mediation Settlement	\$ 1,382,195	\$ 110,074	17
3037	1602	West Greenwich	2015 Experience	\$ (15,077)	\$ (1,297)	15
3037	1602	West Greenwich	2016 Assumption Change - FY21 Stagger	\$ 72,655	\$ 5,589	18
3037	1602	West Greenwich	2016 Assumption Change - FY22 Stagger	\$ 72,655	\$ 5,806	19
3037	1602	West Greenwich	2016 Assumption Change - FY23 Stagger	\$ 72,655	\$ 6,032	20
3037	1602	West Greenwich	2016 Assumption Change - FY24 Stagger	\$ 72,655	\$ -	21
3037	1602	West Greenwich	2016 Experience	\$ (36,451)	\$ (3,013)	16
3037	1602	West Greenwich	2017 Experience	\$ 91,548	\$ 7,291	17
3037	1602	West Greenwich	2018 Experience	\$ (136,615)	\$ (10,510)	18
3037	1602	West Greenwich	2019 Assumption Change - FY23 Stagger	\$ (21,008)	\$ (1,744)	20
3037	1602	West Greenwich	2019 Assumption Change - FY24 Stagger	\$ (21,008)	\$ -	21
3037	1602	West Greenwich	2019 Experience	\$ 23,838	\$ 1,905	19
3037	1602	West Greenwich	2020 Experience	\$ (248,998)	\$ (20,672)	20
3039	1632 1633	Woonsocket	2014 Mediation Settlement	\$ 5,769,693	\$ 543,733	13
3039	1632 1633	Woonsocket	2015 Experience	\$ (1,683,904)	\$ (144,900)	15
3039	1632 1633	Woonsocket	2016 Assumption Change - FY20 Stagger	\$ 215,312	\$ 17,147	17
3039	1632 1633	Woonsocket	2016 Assumption Change - FY21 Stagger	\$ 1,229,357	\$ 94,575	18
3039	1632 1633	Woonsocket	2016 Assumption Change - FY22 Stagger	\$ 1,229,357	\$ 98,248	19
3039	1632 1633	Woonsocket	2016 Assumption Change - FY23 Stagger	\$ 1,229,357	\$ 102,063	20
3039	1632 1633	Woonsocket	2016 Assumption Change - FY24 Stagger	\$ 1,229,357	\$ -	21
3039	1632 1633	Woonsocket	2016 Experience	\$ 2,025,672	\$ 167,439	16
3039	1632 1633	Woonsocket	2017 Experience	\$ (109,006)	\$ (8,681)	17
3039	1632 1633	Woonsocket	2018 Experience	\$ (426,133)	\$ (32,783)	18
3039	1632 1633	Woonsocket	2019 Assumption Change - FY23 Stagger	\$ (467,339)	\$ (38,799)	20
3039	1632 1633	Woonsocket	2019 Assumption Change - FY24 Stagger	\$ (467,339)	\$ -	21
3039	1632 1633	Woonsocket	2019 Experience	\$ 65,614	\$ 5,244	19
3039	1632 1633	Woonsocket	2020 Experience	\$ 665,117	\$ 55,219	20
3040	1073	Chariho School District	2014 Mediation Settlement	\$ 3,032,851	\$ 285,814	13
3040	1073	Chariho School District	2015 Experience	\$ (444,787)	\$ (38,274)	15
3040	1073	Chariho School District	2016 Assumption Change - FY21 Stagger	\$ 361,136	\$ 27,782	18
3040	1073	Chariho School District	2016 Assumption Change - FY22 Stagger	\$ 361,136	\$ 28,861	19
3040	1073	Chariho School District	2016 Assumption Change - FY23 Stagger	\$ 361,136	\$ 29,982	20
3040	1073	Chariho School District	2016 Assumption Change - FY24 Stagger	\$ 361,136	\$ -	21
3040	1073	Chariho School District	2016 Experience	\$ 151,903	\$ 12,556	16
3040	1073	Chariho School District	2017 Experience	\$ (123,935)	\$ (9,870)	17
3040	1073	Chariho School District	2018 Experience	\$ (86,185)	\$ (6,630)	18
3040	1073	Chariho School District	2019 Assumption Change - FY23 Stagger	\$ (122,617)	\$ (10,180)	20
3040	1073	Chariho School District	2019 Assumption Change - FY24 Stagger	\$ (122,617)	\$ -	21
3040	1073	Chariho School District	2019 Experience	\$ 176,582	\$ 14,112	19
3040	1073	Chariho School District	2020 Experience	\$ (143,895)	\$ (11,946)	20
3041	1203	Foster/Glocester	2014 Mediation Settlement	\$ 758,461	\$ 71,477	13
3041	1203	Foster/Glocester	2015 Experience	\$ 96,643	\$ 8,316	15
3041	1203	Foster/Glocester	2016 Assumption Change - FY21 Stagger	\$ 129,409	\$ 9,955	18
3041	1203	Foster/Glocester	2016 Assumption Change - FY22 Stagger	\$ 129,409	\$ 10,342	19
3041	1203	Foster/Glocester	2016 Assumption Change - FY23 Stagger	\$ 129,409	\$ 10,744	20
3041	1203	Foster/Glocester	2016 Assumption Change - FY24 Stagger	\$ 129,409	\$ -	21
3041	1203	Foster/Glocester	2016 Experience	\$ (8,927)	\$ (738)	16
3041	1203	Foster/Glocester	2017 Experience	\$ 76,816	\$ 6,117	17
3041	1203	Foster/Glocester	2018 Experience	\$ (428,258)	\$ (32,946)	18
3041	1203	Foster/Glocester	2019 Assumption Change - FY23 Stagger	\$ (61,270)	\$ (5,087)	20
3041	1203	Foster/Glocester	2019 Assumption Change - FY24 Stagger	\$ (61,270)	\$ -	21
3041	1203	Foster/Glocester	2019 Experience	\$ 159,830	\$ 12,773	19
3041	1203	Foster/Glocester	2020 Experience	\$ 427,366	\$ 35,481	20
3042	1528	Tiogus Fire & Lighting	2020 Over Funded Base	\$ (25,910)	N/A	N/A
3043	1336	Narragansett Housing	2020 Over Funded Base	\$ (98,805)	\$ (8,203)	20
3045	1098	Coventry Lighting District	2020 Over Funded Base	\$ (686,052)	\$ (56,957)	20
3046	1242	Hope Valley Fire	2020 Over Funded Base	\$ (160,011)	\$ (13,284)	20
3050	1156	East Greenwich Housing	2014 Mediation Settlement	\$ 122,605	\$ 11,554	13
3050	1156	East Greenwich Housing	2015 Experience	\$ (11,545)	\$ (993)	15
3050	1156	East Greenwich Housing	2016 Assumption Change - FY21 Stagger	\$ 20,897	\$ 1,608	18
3050	1156	East Greenwich Housing	2016 Assumption Change - FY22 Stagger	\$ 20,897	\$ 1,670	19
3050	1156	East Greenwich Housing	2016 Assumption Change - FY23 Stagger	\$ 20,897	\$ 1,735	20
3050	1156	East Greenwich Housing	2016 Assumption Change - FY24 Stagger	\$ 20,897	\$ -	21
3050	1156	East Greenwich Housing	2016 Experience	\$ (38,633)	\$ (3,193)	16
3050	1156	East Greenwich Housing	2017 Experience	\$ (8,402)	\$ (669)	17
3050	1156	East Greenwich Housing	2018 Experience	\$ 162,689	\$ 12,516	18
3050	1156	East Greenwich Housing	2019 Assumption Change - FY23 Stagger	\$ (13,163)	\$ (1,093)	20
3050	1156	East Greenwich Housing	2019 Assumption Change - FY24 Stagger	\$ (13,163)	\$ -	21
3050	1156	East Greenwich Housing	2019 Experience	\$ 3,096	\$ 247	19
3050	1156	East Greenwich Housing	2020 Experience	\$ (40,631)	\$ (3,373)	20
3051	1116	Cranston Housing	2016 Assumption Change - FY21 Stagger	\$ 70,535	\$ 5,426	18
3051	1116	Cranston Housing	2016 Assumption Change - FY22 Stagger	\$ 70,535	\$ 5,637	19
3051	1116	Cranston Housing	2016 Assumption Change - FY23 Stagger	\$ 70,535	\$ 5,856	20
3051	1116	Cranston Housing	2016 Assumption Change - FY24 Stagger	\$ 70,535	\$ -	21
3051	1116	Cranston Housing	2018 Experience	\$ (150,049)	\$ (11,543)	18
3051	1116	Cranston Housing	2019 Assumption Change - FY23 Stagger	\$ (29,341)	\$ (2,436)	20
3051	1116	Cranston Housing	2019 Assumption Change - FY24 Stagger	\$ (29,341)	\$ -	21
3051	1116	Cranston Housing	2019 Experience	\$ 100,896	\$ 8,063	19
3051	1116	Cranston Housing	2020 Experience	\$ (54,458)	\$ (4,521)	20



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
3052	1166	East Providence Housing	2014 Mediation Settlement	\$ 620,033	\$ 49,378	17
3052	1166	East Providence Housing	2015 Experience	\$ (145,911)	\$ (12,556)	15
3052	1166	East Providence Housing	2016 Assumption Change - FY20 Stagger	\$ 1,791	\$ 143	17
3052	1166	East Providence Housing	2016 Assumption Change - FY21 Stagger	\$ 69,556	\$ 5,351	18
3052	1166	East Providence Housing	2016 Assumption Change - FY22 Stagger	\$ 69,556	\$ 5,559	19
3052	1166	East Providence Housing	2016 Assumption Change - FY23 Stagger	\$ 69,556	\$ 5,775	20
3052	1166	East Providence Housing	2016 Assumption Change - FY24 Stagger	\$ 69,556	\$ -	21
3052	1166	East Providence Housing	2016 Experience	\$ 305,348	\$ 25,240	16
3052	1166	East Providence Housing	2017 Experience	\$ (372,174)	\$ (29,639)	17
3052	1166	East Providence Housing	2018 Experience	\$ 164,416	\$ 12,649	18
3052	1166	East Providence Housing	2019 Assumption Change - FY23 Stagger	\$ (29,561)	\$ (2,454)	20
3052	1166	East Providence Housing	2019 Assumption Change - FY24 Stagger	\$ (29,561)	\$ -	21
3052	1166	East Providence Housing	2019 Experience	\$ (163,070)	\$ (13,032)	19
3052	1166	East Providence Housing	2020 Experience	\$ (117,680)	\$ (9,770)	20
3053	1416	Pawtucket Housing	2020 Over Funded Base	\$ (3,376,878)	\$ (280,354)	20
3056	1126	Cumberland Housing	2020 Over Funded Base	\$ (186,687)	\$ (15,499)	20
3057	1306	Lincoln Housing	2014 Mediation Settlement	\$ 114,602	\$ 9,127	17
3057	1306	Lincoln Housing	2015 Experience	\$ 136,828	\$ 11,774	15
3057	1306	Lincoln Housing	2016 Assumption Change - FY20 Stagger	\$ 3,016	\$ 240	17
3057	1306	Lincoln Housing	2016 Assumption Change - FY21 Stagger	\$ 40,771	\$ 3,137	18
3057	1306	Lincoln Housing	2016 Assumption Change - FY22 Stagger	\$ 40,771	\$ 3,258	19
3057	1306	Lincoln Housing	2016 Assumption Change - FY23 Stagger	\$ 40,771	\$ 3,385	20
3057	1306	Lincoln Housing	2016 Assumption Change - FY24 Stagger	\$ 40,771	\$ -	21
3057	1306	Lincoln Housing	2016 Experience	\$ (110,617)	\$ (9,143)	16
3057	1306	Lincoln Housing	2017 Experience	\$ (69,535)	\$ (5,538)	17
3057	1306	Lincoln Housing	2018 Experience	\$ 170,893	\$ 13,147	18
3057	1306	Lincoln Housing	2019 Assumption Change - FY23 Stagger	\$ (5,954)	\$ (494)	20
3057	1306	Lincoln Housing	2019 Assumption Change - FY24 Stagger	\$ (5,954)	\$ -	21
3057	1306	Lincoln Housing	2019 Experience	\$ 37,599	\$ 3,005	19
3057	1306	Lincoln Housing	2020 Experience	\$ 8,310	\$ 690	20
3059	1016	Bristol Housing	2020 Over Funded Base	\$ (322,802)	\$ (26,800)	20
3065	1036	Burrillville Housing	2014 Mediation Settlement	\$ 66,196	\$ 5,272	17
3065	1036	Burrillville Housing	2015 Experience	\$ (19,703)	\$ (1,695)	15
3065	1036	Burrillville Housing	2016 Assumption Change - FY21 Stagger	\$ 19,275	\$ 1,483	18
3065	1036	Burrillville Housing	2016 Assumption Change - FY22 Stagger	\$ 19,275	\$ 1,540	19
3065	1036	Burrillville Housing	2016 Assumption Change - FY23 Stagger	\$ 19,275	\$ 1,600	20
3065	1036	Burrillville Housing	2016 Assumption Change - FY24 Stagger	\$ 19,275	\$ -	21
3065	1036	Burrillville Housing	2016 Experience	\$ (10,867)	\$ (898)	16
3065	1036	Burrillville Housing	2017 Experience	\$ 115,743	\$ 9,217	17
3065	1036	Burrillville Housing	2018 Experience	\$ 13,797	\$ 1,061	18
3065	1036	Burrillville Housing	2019 Assumption Change - FY23 Stagger	\$ (8,884)	\$ (738)	20
3065	1036	Burrillville Housing	2019 Assumption Change - FY24 Stagger	\$ (8,884)	\$ -	21
3065	1036	Burrillville Housing	2019 Experience	\$ 7,136	\$ 570	19
3065	1036	Burrillville Housing	2020 Experience	\$ 20,809	\$ 1,728	20
3066	1386	North Providence Housing	2014 Mediation Settlement	\$ 845,177	\$ 67,308	17
3066	1386	North Providence Housing	2015 Experience	\$ (56,579)	\$ (4,869)	15
3066	1386	North Providence Housing	2016 Assumption Change - FY20 Stagger	\$ 4,836	\$ 385	17
3066	1386	North Providence Housing	2016 Assumption Change - FY21 Stagger	\$ 29,013	\$ 2,232	18
3066	1386	North Providence Housing	2016 Assumption Change - FY22 Stagger	\$ 29,013	\$ 2,319	19
3066	1386	North Providence Housing	2016 Assumption Change - FY23 Stagger	\$ 29,013	\$ 2,409	20
3066	1386	North Providence Housing	2016 Assumption Change - FY24 Stagger	\$ 29,013	\$ -	21
3066	1386	North Providence Housing	2016 Experience	\$ (9,734)	\$ (805)	16
3066	1386	North Providence Housing	2017 Experience	\$ 50,044	\$ 3,985	17
3066	1386	North Providence Housing	2018 Experience	\$ (1,854)	\$ (143)	18
3066	1386	North Providence Housing	2019 Assumption Change - FY23 Stagger	\$ (10,061)	\$ (835)	20
3066	1386	North Providence Housing	2019 Assumption Change - FY24 Stagger	\$ (10,061)	\$ -	21
3066	1386	North Providence Housing	2019 Experience	\$ 133,914	\$ 10,702	19
3066	1386	North Providence Housing	2020 Experience	\$ 7,753	\$ 644	20
3067	1177	East Smithfield Water	2020 Under Funded Base	\$ 21,998	\$ 5,938	5
3068	1227	Greenville Water	2020 Over Funded Base	\$ (155,968)	\$ (12,949)	20
3069	1356	Newport Housing	2014 Mediation Settlement	\$ 2,376,895	\$ 223,997	13
3069	1356	Newport Housing	2015 Experience	\$ (363,949)	\$ (31,318)	15
3069	1356	Newport Housing	2016 Assumption Change - FY20 Stagger	\$ 39,657	\$ 3,158	17
3069	1356	Newport Housing	2016 Assumption Change - FY21 Stagger	\$ 160,349	\$ 12,336	18
3069	1356	Newport Housing	2016 Assumption Change - FY22 Stagger	\$ 160,349	\$ 12,815	19
3069	1356	Newport Housing	2016 Assumption Change - FY23 Stagger	\$ 160,349	\$ 13,312	20
3069	1356	Newport Housing	2016 Assumption Change - FY24 Stagger	\$ 160,349	\$ -	21
3069	1356	Newport Housing	2016 Experience	\$ 529,525	\$ 43,770	16
3069	1356	Newport Housing	2017 Experience	\$ 349,249	\$ 27,813	17
3069	1356	Newport Housing	2018 Experience	\$ (237,888)	\$ (18,301)	18
3069	1356	Newport Housing	2019 Assumption Change - FY23 Stagger	\$ (57,675)	\$ (4,788)	20
3069	1356	Newport Housing	2019 Assumption Change - FY24 Stagger	\$ (57,675)	\$ -	21
3069	1356	Newport Housing	2019 Experience	\$ (134,937)	\$ (10,784)	19
3069	1356	Newport Housing	2020 Experience	\$ 29,058	\$ 2,412	20
3071	1566	Warren Housing	2016 Assumption Change - FY20 Stagger	\$ 9,091	\$ 724	17
3071	1566	Warren Housing	2016 Assumption Change - FY21 Stagger	\$ 20,165	\$ 1,551	18
3071	1566	Warren Housing	2016 Assumption Change - FY22 Stagger	\$ 20,165	\$ 1,612	19
3071	1566	Warren Housing	2016 Assumption Change - FY23 Stagger	\$ 20,165	\$ 1,674	20
3071	1566	Warren Housing	2016 Assumption Change - FY24 Stagger	\$ 20,165	\$ -	21
3071	1566	Warren Housing	2018 Experience	\$ (75,337)	\$ (5,796)	18

Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
3071	1566	Warren Housing	2019 Assumption Change - FY23 Stagger	\$ (16,915)	\$ (1,404)	20
3071	1566	Warren Housing	2019 Assumption Change - FY24 Stagger	\$ (16,915)	\$ -	21
3071	1566	Warren Housing	2019 Experience	\$ 46,715	\$ 3,733	19
3071	1566	Warren Housing	2020 Experience	\$ 48,645	\$ 4,039	20
3072	1286	Johnston Housing	2014 Mediation Settlement	\$ 199,431	\$ 15,882	17
3072	1286	Johnston Housing	2015 Experience	\$ (44,973)	\$ (3,870)	15
3072	1286	Johnston Housing	2016 Assumption Change - FY21 Stagger	\$ 25,857	\$ 1,989	18
3072	1286	Johnston Housing	2016 Assumption Change - FY22 Stagger	\$ 25,857	\$ 2,066	19
3072	1286	Johnston Housing	2016 Assumption Change - FY23 Stagger	\$ 25,857	\$ 2,147	20
3072	1286	Johnston Housing	2016 Assumption Change - FY24 Stagger	\$ 25,857	\$ -	21
3072	1286	Johnston Housing	2016 Experience	\$ 121,474	\$ 10,041	16
3072	1286	Johnston Housing	2017 Experience	\$ 119,262	\$ 9,498	17
3072	1286	Johnston Housing	2018 Experience	\$ 553	\$ 43	18
3072	1286	Johnston Housing	2019 Assumption Change - FY23 Stagger	\$ (10,953)	\$ (909)	20
3072	1286	Johnston Housing	2019 Assumption Change - FY24 Stagger	\$ (10,953)	\$ -	21
3072	1286	Johnston Housing	2019 Experience	\$ (12,960)	\$ (1,036)	19
3072	1286	Johnston Housing	2020 Experience	\$ (9,310)	\$ (773)	20
3077	1538	Tiverton Local 2670A	2014 Mediation Settlement	\$ 412,967	\$ 38,918	13
3077	1538	Tiverton Local 2670A	2015 Experience	\$ (223,135)	\$ (19,201)	15
3077	1538	Tiverton Local 2670A	2016 Assumption Change - FY21 Stagger	\$ 79,461	\$ 6,113	18
3077	1538	Tiverton Local 2670A	2016 Assumption Change - FY22 Stagger	\$ 79,461	\$ 6,350	19
3077	1538	Tiverton Local 2670A	2016 Assumption Change - FY23 Stagger	\$ 79,461	\$ 6,597	20
3077	1538	Tiverton Local 2670A	2016 Assumption Change - FY24 Stagger	\$ 79,461	\$ -	21
3077	1538	Tiverton Local 2670A	2016 Experience	\$ 27,625	\$ 2,283	16
3077	1538	Tiverton Local 2670A	2017 Experience	\$ (74,487)	\$ (5,932)	17
3077	1538	Tiverton Local 2670A	2018 Experience	\$ 280,181	\$ 21,554	18
3077	1538	Tiverton Local 2670A	2019 Assumption Change - FY23 Stagger	\$ (29,515)	\$ (2,450)	20
3077	1538	Tiverton Local 2670A	2019 Assumption Change - FY24 Stagger	\$ (29,515)	\$ -	21
3077	1538	Tiverton Local 2670A	2019 Experience	\$ (399,067)	\$ (31,893)	19
3077	1538	Tiverton Local 2670A	2020 Experience	\$ (7,712)	\$ (640)	20
3078	1002 1003 1007 1009	Barrington COLA	2014 Mediation Settlement	\$ 1,611,300	\$ 151,848	13
3078	1002 1003 1007 1009	Barrington COLA	2015 Experience	\$ (76,884)	\$ (6,616)	15
3078	1002 1003 1007 1009	Barrington COLA	2016 Assumption Change - FY21 Stagger	\$ 574,862	\$ 44,224	18
3078	1002 1003 1007 1009	Barrington COLA	2016 Assumption Change - FY22 Stagger	\$ 574,862	\$ 45,942	19
3078	1002 1003 1007 1009	Barrington COLA	2016 Assumption Change - FY23 Stagger	\$ 574,862	\$ 47,726	20
3078	1002 1003 1007 1009	Barrington COLA	2016 Assumption Change - FY24 Stagger	\$ 574,862	\$ -	21
3078	1002 1003 1007 1009	Barrington COLA	2016 Experience	\$ 412,830	\$ 34,124	16
3078	1002 1003 1007 1009	Barrington COLA	2017 Experience	\$ 905,098	\$ 72,080	17
3078	1002 1003 1007 1009	Barrington COLA	2018 Experience	\$ 892,224	\$ 68,639	18
3078	1002 1003 1007 1009	Barrington COLA	2019 Assumption Change - FY23 Stagger	\$ (217,651)	\$ (18,070)	20
3078	1002 1003 1007 1009	Barrington COLA	2019 Assumption Change - FY24 Stagger	\$ (217,651)	\$ -	21
3078	1002 1003 1007 1009	Barrington COLA	2019 Experience	\$ 197,190	\$ 15,759	19
3078	1002 1003 1007 1009	Barrington COLA	2020 Experience	\$ (755,451)	\$ (62,719)	20
3079	1096	Coventry Housing	2020 Over Funded Base	\$ (72,263)	\$ (5,999)	20
3080	1496	South Kingstown Housing	2020 Over Funded Base	\$ (120,419)	\$ (9,997)	20
3081	1403	N. RI Collaborative Adm. Services	2014 Mediation Settlement	\$ 566,009	\$ 53,340	13
3081	1403	N. RI Collaborative Adm. Services	2015 Experience	\$ (85,885)	\$ (7,390)	15
3081	1403	N. RI Collaborative Adm. Services	2016 Assumption Change - FY21 Stagger	\$ 65,939	\$ 5,073	18
3081	1403	N. RI Collaborative Adm. Services	2016 Assumption Change - FY22 Stagger	\$ 65,939	\$ 5,270	19
3081	1403	N. RI Collaborative Adm. Services	2016 Assumption Change - FY23 Stagger	\$ 65,939	\$ 5,474	20
3081	1403	N. RI Collaborative Adm. Services	2016 Assumption Change - FY24 Stagger	\$ 65,939	\$ -	21
3081	1403	N. RI Collaborative Adm. Services	2016 Experience	\$ 251,985	\$ 20,829	16
3081	1403	N. RI Collaborative Adm. Services	2017 Experience	\$ (17,558)	\$ (1,398)	17
3081	1403	N. RI Collaborative Adm. Services	2018 Experience	\$ 168,534	\$ 12,965	18
3081	1403	N. RI Collaborative Adm. Services	2019 Assumption Change - FY23 Stagger	\$ (18,434)	\$ (1,530)	20
3081	1403	N. RI Collaborative Adm. Services	2019 Assumption Change - FY24 Stagger	\$ (18,434)	\$ -	21
3081	1403	N. RI Collaborative Adm. Services	2019 Experience	\$ (330,495)	\$ (26,412)	19
3081	1403	N. RI Collaborative Adm. Services	2020 Experience	\$ (165,948)	\$ (13,777)	20
3083	1616	West Warwick Housing	2014 Mediation Settlement	\$ 85,792	\$ 6,832	17
3083	1616	West Warwick Housing	2015 Experience	\$ 264,194	\$ 22,734	15
3083	1616	West Warwick Housing	2016 Assumption Change - FY20 Stagger	\$ 17,407	\$ 1,386	17
3083	1616	West Warwick Housing	2016 Assumption Change - FY21 Stagger	\$ 39,554	\$ 3,043	18
3083	1616	West Warwick Housing	2016 Assumption Change - FY22 Stagger	\$ 39,554	\$ 3,161	19
3083	1616	West Warwick Housing	2016 Assumption Change - FY23 Stagger	\$ 39,554	\$ 3,284	20
3083	1616	West Warwick Housing	2016 Assumption Change - FY24 Stagger	\$ 39,554	\$ -	21
3083	1616	West Warwick Housing	2016 Experience	\$ 1,056	\$ 87	16
3083	1616	West Warwick Housing	2017 Experience	\$ 58,436	\$ 4,654	17
3083	1616	West Warwick Housing	2018 Experience	\$ 42,988	\$ 3,307	18
3083	1616	West Warwick Housing	2019 Assumption Change - FY23 Stagger	\$ (11,441)	\$ (950)	20
3083	1616	West Warwick Housing	2019 Assumption Change - FY24 Stagger	\$ (11,441)	\$ -	21
3083	1616	West Warwick Housing	2019 Experience	\$ (315,757)	\$ (25,235)	19
3083	1616	West Warwick Housing	2020 Experience	\$ (24,427)	\$ (2,028)	20
3084	1476	Smithfield Housing	2020 Over Funded Base	\$ (99,838)	\$ (8,289)	20
3094	1478	Smithfield COLA	2014 Mediation Settlement	\$ 1,556,523	\$ 123,957	17
3094	1478	Smithfield COLA	2015 Experience	\$ (397,799)	\$ (34,231)	15
3094	1478	Smithfield COLA	2016 Assumption Change - FY21 Stagger	\$ 267,101	\$ 20,548	18
3094	1478	Smithfield COLA	2016 Assumption Change - FY22 Stagger	\$ 267,101	\$ 21,346	19
3094	1478	Smithfield COLA	2016 Assumption Change - FY23 Stagger	\$ 267,101	\$ 22,175	20
3094	1478	Smithfield COLA	2016 Assumption Change - FY24 Stagger	\$ 267,101	\$ -	21
3094	1478	Smithfield COLA	2016 Experience	\$ (119,978)	\$ (9,917)	16



Old Unit				Remaining Balance	Fiscal Year 2023	Years Remaining
Number	New Unit Number	Unit	Purpose	as of June 30, 2020	Amortization Payment	Beginning with Fiscal Year 2023
3094	1478	Smithfield COLA	2017 Experience	\$ 1,003,460	\$ 79,913	17
3094	1478	Smithfield COLA	2018 Experience	\$ (480,632)	\$ (36,975)	18
3094	1478	Smithfield COLA	2019 Assumption Change - FY23 Stagger	\$ (91,981)	\$ (7,636)	20
3094	1478	Smithfield COLA	2019 Assumption Change - FY24 Stagger	\$ (91,981)	\$ -	21
3094	1478	Smithfield COLA	2019 Experience	\$ 4,233	\$ 338	19
3094	1478	Smithfield COLA	2020 Experience	\$ (16,931)	\$ (1,406)	20
3096	1056	Central Falls Housing	2014 Mediation Settlement	\$ 805,661	\$ 64,161	17
3096	1056	Central Falls Housing	2015 Experience	\$ (30,920)	\$ (2,661)	15
3096	1056	Central Falls Housing	2016 Assumption Change - FY21 Stagger	\$ 47,203	\$ 3,631	18
3096	1056	Central Falls Housing	2016 Assumption Change - FY22 Stagger	\$ 47,203	\$ 3,772	19
3096	1056	Central Falls Housing	2016 Assumption Change - FY23 Stagger	\$ 47,203	\$ 3,919	20
3096	1056	Central Falls Housing	2016 Assumption Change - FY24 Stagger	\$ 47,203	\$ -	21
3096	1056	Central Falls Housing	2016 Experience	\$ (126,600)	\$ (10,465)	16
3096	1056	Central Falls Housing	2017 Experience	\$ 483,208	\$ 38,481	17
3096	1056	Central Falls Housing	2018 Experience	\$ (52,277)	\$ (4,022)	18
3096	1056	Central Falls Housing	2019 Assumption Change - FY23 Stagger	\$ (15,738)	\$ (1,307)	20
3096	1056	Central Falls Housing	2019 Assumption Change - FY24 Stagger	\$ (15,738)	\$ -	21
3096	1056	Central Falls Housing	2019 Experience	\$ 48,070	\$ 3,842	19
3096	1056	Central Falls Housing	2020 Experience	\$ (2,040)	\$ (169)	20
3098	1293	Lime Rock Administrative Services	2014 Mediation Settlement	\$ 94,581	\$ 7,532	17
3098	1293	Lime Rock Administrative Services	2015 Experience	\$ 1,924	\$ 166	15
3098	1293	Lime Rock Administrative Services	2016 Assumption Change - FY21 Stagger	\$ 4,768	\$ 367	18
3098	1293	Lime Rock Administrative Services	2016 Assumption Change - FY22 Stagger	\$ 4,768	\$ 381	19
3098	1293	Lime Rock Administrative Services	2016 Assumption Change - FY23 Stagger	\$ 4,768	\$ 396	20
3098	1293	Lime Rock Administrative Services	2016 Assumption Change - FY24 Stagger	\$ 4,768	\$ -	21
3098	1293	Lime Rock Administrative Services	2016 Experience	\$ (28,495)	\$ (2,355)	16
3098	1293	Lime Rock Administrative Services	2017 Experience	\$ 39,587	\$ 3,153	17
3098	1293	Lime Rock Administrative Services	2018 Experience	\$ (1,737)	\$ (134)	18
3098	1293	Lime Rock Administrative Services	2019 Assumption Change - FY23 Stagger	\$ (3,670)	\$ (305)	20
3098	1293	Lime Rock Administrative Services	2019 Assumption Change - FY24 Stagger	\$ (3,670)	\$ -	21
3098	1293	Lime Rock Administrative Services	2019 Experience	\$ (2,100)	\$ (168)	19
3098	1293	Lime Rock Administrative Services	2020 Experience	\$ (23,507)	\$ (1,952)	20
3099	1063	Central Falls Schools	2014 Mediation Settlement	\$ 626,064	\$ 59,000	13
3099	1063	Central Falls Schools	2015 Experience	\$ (235,992)	\$ (20,307)	15
3099	1063	Central Falls Schools	2016 Assumption Change - FY21 Stagger	\$ 253,187	\$ 19,478	18
3099	1063	Central Falls Schools	2016 Assumption Change - FY22 Stagger	\$ 253,187	\$ 20,234	19
3099	1063	Central Falls Schools	2016 Assumption Change - FY23 Stagger	\$ 253,187	\$ 21,020	20
3099	1063	Central Falls Schools	2016 Assumption Change - FY24 Stagger	\$ 253,187	\$ -	21
3099	1063	Central Falls Schools	2016 Experience	\$ 406,583	\$ 33,608	16
3099	1063	Central Falls Schools	2017 Experience	\$ 170,350	\$ 13,566	17
3099	1063	Central Falls Schools	2018 Experience	\$ (884,448)	\$ (68,041)	18
3099	1063	Central Falls Schools	2019 Assumption Change - FY23 Stagger	\$ (84,685)	\$ (7,031)	20
3099	1063	Central Falls Schools	2019 Assumption Change - FY24 Stagger	\$ (84,685)	\$ -	21
3099	1063	Central Falls Schools	2019 Experience	\$ 935,411	\$ 74,756	19
3099	1063	Central Falls Schools	2020 Experience	\$ (130,484)	\$ (10,833)	20
3100	1023	Bristol/Warren Schools	2014 Mediation Settlement	\$ 5,555,614	\$ 442,434	17
3100	1023	Bristol/Warren Schools	2015 Experience	\$ (387,890)	\$ (33,378)	15
3100	1023	Bristol/Warren Schools	2016 Assumption Change - FY20 Stagger	\$ 9,561	\$ 761	17
3100	1023	Bristol/Warren Schools	2016 Assumption Change - FY21 Stagger	\$ 391,794	\$ 30,141	18
3100	1023	Bristol/Warren Schools	2016 Assumption Change - FY22 Stagger	\$ 391,794	\$ 31,311	19
3100	1023	Bristol/Warren Schools	2016 Assumption Change - FY23 Stagger	\$ 391,794	\$ 32,527	20
3100	1023	Bristol/Warren Schools	2016 Assumption Change - FY24 Stagger	\$ 391,794	\$ -	21
3100	1023	Bristol/Warren Schools	2016 Experience	\$ 125,545	\$ 10,377	16
3100	1023	Bristol/Warren Schools	2017 Experience	\$ (515,140)	\$ (41,024)	17
3100	1023	Bristol/Warren Schools	2018 Experience	\$ 897,182	\$ 69,021	18
3100	1023	Bristol/Warren Schools	2019 Assumption Change - FY23 Stagger	\$ (128,260)	\$ (10,648)	20
3100	1023	Bristol/Warren Schools	2019 Assumption Change - FY24 Stagger	\$ (128,260)	\$ -	21
3100	1023	Bristol/Warren Schools	2019 Experience	\$ (93,006)	\$ (7,433)	19
3100	1023	Bristol/Warren Schools	2020 Experience	\$ (110,648)	\$ (9,186)	20
3101	1157 1158	Town of E. Greenwich-COLA-NCE	2016 Assumption Change - FY21 Stagger	\$ 325,047	\$ 25,006	18
3101	1157 1158	Town of E. Greenwich-COLA-NCE	2016 Assumption Change - FY22 Stagger	\$ 325,047	\$ 25,977	19
3101	1157 1158	Town of E. Greenwich-COLA-NCE	2016 Assumption Change - FY23 Stagger	\$ 325,047	\$ 26,986	20
3101	1157 1158	Town of E. Greenwich-COLA-NCE	2016 Assumption Change - FY24 Stagger	\$ 325,047	\$ -	21
3101	1157 1158	Town of E. Greenwich-COLA-NCE	2018 Experience	\$ (974,284)	\$ (74,952)	18
3101	1157 1158	Town of E. Greenwich-COLA-NCE	2019 Assumption Change - FY23 Stagger	\$ (112,732)	\$ (9,359)	20
3101	1157 1158	Town of E. Greenwich-COLA-NCE	2019 Assumption Change - FY24 Stagger	\$ (112,732)	\$ -	21
3101	1157 1158	Town of E. Greenwich-COLA-NCE	2019 Experience	\$ 109,962	\$ 8,788	19
3101	1157 1158	Town of E. Greenwich-COLA-NCE	2020 Experience	\$ 157,842	\$ 13,104	20
3102	1712	Harrisville Fire District (ADMIN)	2020 Over Funded Base	\$ (87,229)	\$ (7,242)	20
3103	1702	Albion Fire District (ADMIN)	2020 Over Funded Base	\$ (8,696)	\$ (722)	20
3150	1159	East Greenwich Fire (ADMIN)	2020 Experience	\$ 100,013	\$ 8,303	20
1802	1802	Pascoag Fire District (ADMIN) COLA	2016 Assumption Change - FY21 Stagger	\$ 111	\$ 9	18
1802	1802	Pascoag Fire District (ADMIN) COLA	2016 Assumption Change - FY22 Stagger	\$ 111	\$ 9	19
1802	1802	Pascoag Fire District (ADMIN) COLA	2016 Assumption Change - FY23 Stagger	\$ 111	\$ 9	20
1802	1802	Pascoag Fire District (ADMIN) COLA	2016 Assumption Change - FY24 Stagger	\$ 111	\$ -	21
1802	1802	Pascoag Fire District (ADMIN) COLA	2017 Experience	\$ 87,098	\$ 6,936	17
1802	1802	Pascoag Fire District (ADMIN) COLA	2018 Experience	\$ (3,191)	\$ (245)	18
1802	1802	Pascoag Fire District (ADMIN) COLA	2019 Experience	\$ (78,677)	\$ (6,288)	19
1802	1802	Pascoag Fire District (ADMIN) COLA	2020 Experience	\$ 10,807	\$ 897	20
4016	1285	Johnston Fire	2016 Assumption Change - FY21 Stagger	\$ 166,014	\$ 12,772	18



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
4016	1285	Johnston Fire	2016 Assumption Change - FY22 Stagger	\$ 166,014	\$ 13,267	19
4016	1285	Johnston Fire	2016 Assumption Change - FY23 Stagger	\$ 166,014	\$ 13,783	20
4016	1285	Johnston Fire	2016 Assumption Change - FY24 Stagger	\$ 166,014	\$ -	21
4016	1285	Johnston Fire	2017 Experience	\$ 581,488	\$ 46,308	17
4016	1285	Johnston Fire	2018 Experience	\$ (196,445)	\$ (15,113)	18
4016	1285	Johnston Fire	2019 Assumption Change - FY23 Stagger	\$ 43,167	\$ 3,584	20
4016	1285	Johnston Fire	2019 Assumption Change - FY24 Stagger	\$ 43,167	\$ -	21
4016	1285	Johnston Fire	2019 Experience	\$ 1,080,445	\$ 86,347	19
4016	1285	Johnston Fire	2020 Experience	\$ (149,331)	\$ (12,398)	20
4029	1454	Richmond Police	2014 Mediation Settlement	\$ 329,464	\$ 31,049	13
4029	1454	Richmond Police	2015 Experience	\$ (98,770)	\$ (8,499)	15
4029	1454	Richmond Police	2016 Assumption Change - FY21 Stagger	\$ 44,924	\$ 3,456	18
4029	1454	Richmond Police	2016 Assumption Change - FY22 Stagger	\$ 44,924	\$ 3,590	19
4029	1454	Richmond Police	2016 Assumption Change - FY23 Stagger	\$ 44,924	\$ 3,730	20
4029	1454	Richmond Police	2016 Assumption Change - FY24 Stagger	\$ 44,924	\$ -	21
4029	1454	Richmond Police	2016 Experience	\$ (34,912)	\$ (2,886)	16
4029	1454	Richmond Police	2017 Experience	\$ 67,599	\$ 5,383	17
4029	1454	Richmond Police	2018 Experience	\$ (11,577)	\$ (891)	18
4029	1454	Richmond Police	2019 Assumption Change - FY23 Stagger	\$ 29,851	\$ 2,478	20
4029	1454	Richmond Police	2019 Assumption Change - FY24 Stagger	\$ 29,851	\$ -	21
4029	1454	Richmond Police	2019 Experience	\$ (240,005)	\$ (19,181)	19
4029	1454	Richmond Police	2020 Experience	\$ 23,186	\$ 1,925	20
4031	1474	Smithfield Police	2016 Assumption Change - FY21 Stagger	\$ 230,890	\$ 17,762	18
4031	1474	Smithfield Police	2016 Assumption Change - FY22 Stagger	\$ 230,890	\$ 18,452	19
4031	1474	Smithfield Police	2016 Assumption Change - FY23 Stagger	\$ 230,890	\$ 19,169	20
4031	1474	Smithfield Police	2016 Assumption Change - FY24 Stagger	\$ 230,890	\$ -	21
4031	1474	Smithfield Police	2016 Experience	\$ 291,001	\$ 24,054	16
4031	1474	Smithfield Police	2017 Experience	\$ 643,402	\$ 51,239	17
4031	1474	Smithfield Police	2018 Experience	\$ (414,837)	\$ (31,914)	18
4031	1474	Smithfield Police	2019 Assumption Change - FY23 Stagger	\$ (45,486)	\$ (3,776)	20
4031	1474	Smithfield Police	2019 Assumption Change - FY24 Stagger	\$ (45,486)	\$ -	21
4031	1474	Smithfield Police	2019 Experience	\$ 56,588	\$ 4,522	19
4031	1474	Smithfield Police	2020 Experience	\$ (78,197)	\$ (6,492)	20
4042	1555	Valley Falls Fire	2014 Mediation Settlement	\$ 1,032,277	\$ 82,208	17
4042	1555	Valley Falls Fire	2015 Experience	\$ 76,541	\$ 6,586	15
4042	1555	Valley Falls Fire	2016 Assumption Change - FY21 Stagger	\$ 77,969	\$ 5,998	18
4042	1555	Valley Falls Fire	2016 Assumption Change - FY22 Stagger	\$ 77,969	\$ 6,231	19
4042	1555	Valley Falls Fire	2016 Assumption Change - FY23 Stagger	\$ 77,969	\$ 6,473	20
4042	1555	Valley Falls Fire	2016 Assumption Change - FY24 Stagger	\$ 77,969	\$ -	21
4042	1555	Valley Falls Fire	2016 Experience	\$ 33,600	\$ 2,777	16
4042	1555	Valley Falls Fire	2017 Experience	\$ (24,129)	\$ (1,922)	17
4042	1555	Valley Falls Fire	2018 Experience	\$ 442,898	\$ 34,072	18
4042	1555	Valley Falls Fire	2019 Assumption Change - FY23 Stagger	\$ 15,718	\$ 1,305	20
4042	1555	Valley Falls Fire	2019 Assumption Change - FY24 Stagger	\$ 15,718	\$ -	21
4042	1555	Valley Falls Fire	2019 Experience	\$ 5,347	\$ 427	19
4042	1555	Valley Falls Fire	2020 Experience	\$ (8,052)	\$ (669)	20
4047	1395 1435	North Smithfield Voluntary Fire	2014 Mediation Settlement	\$ 1,321,569	\$ 124,544	13
4047	1395 1435	North Smithfield Voluntary Fire	2015 Experience	\$ (256,117)	\$ (22,039)	15
4047	1395 1435	North Smithfield Voluntary Fire	2016 Assumption Change - FY21 Stagger	\$ 158,558	\$ 12,198	18
4047	1395 1435	North Smithfield Voluntary Fire	2016 Assumption Change - FY22 Stagger	\$ 158,558	\$ 12,672	19
4047	1395 1435	North Smithfield Voluntary Fire	2016 Assumption Change - FY23 Stagger	\$ 158,558	\$ 13,164	20
4047	1395 1435	North Smithfield Voluntary Fire	2016 Assumption Change - FY24 Stagger	\$ 158,558	\$ -	21
4047	1395 1435	North Smithfield Voluntary Fire	2016 Experience	\$ 43,660	\$ 3,609	16
4047	1395 1435	North Smithfield Voluntary Fire	2017 Experience	\$ (8,963)	\$ (714)	17
4047	1395 1435	North Smithfield Voluntary Fire	2018 Experience	\$ (150,861)	\$ (11,606)	18
4047	1395 1435	North Smithfield Voluntary Fire	2019 Assumption Change - FY23 Stagger	\$ 1,090	\$ 90	20
4047	1395 1435	North Smithfield Voluntary Fire	2019 Assumption Change - FY24 Stagger	\$ 1,090	\$ -	21
4047	1395 1435	North Smithfield Voluntary Fire	2019 Experience	\$ 137,734	\$ 11,007	19
4047	1395 1435	North Smithfield Voluntary Fire	2020 Experience	\$ (245,054)	\$ (20,345)	20
4050	1155	East Greenwich Fire	2014 Mediation Settlement	\$ 6,526,060	\$ 615,013	13
4050	1155	East Greenwich Fire	2015 Experience	\$ 77,017	\$ 6,627	15
4050	1155	East Greenwich Fire	2016 Assumption Change - FY21 Stagger	\$ 368,237	\$ 28,329	18
4050	1155	East Greenwich Fire	2016 Assumption Change - FY22 Stagger	\$ 368,237	\$ 29,429	19
4050	1155	East Greenwich Fire	2016 Assumption Change - FY23 Stagger	\$ 368,237	\$ 30,572	20
4050	1155	East Greenwich Fire	2016 Assumption Change - FY24 Stagger	\$ 368,237	\$ -	21
4050	1155	East Greenwich Fire	2016 Experience	\$ 546,213	\$ 45,149	16
4050	1155	East Greenwich Fire	2017 Experience	\$ (483,250)	\$ (38,485)	17
4050	1155	East Greenwich Fire	2018 Experience	\$ 7,009	\$ 539	18
4050	1155	East Greenwich Fire	2019 Assumption Change - FY23 Stagger	\$ 52,299	\$ 4,342	20
4050	1155	East Greenwich Fire	2019 Assumption Change - FY24 Stagger	\$ 52,299	\$ -	21
4050	1155	East Greenwich Fire	2019 Experience	\$ (355,052)	\$ (28,375)	19
4050	1155	East Greenwich Fire	2020 Experience	\$ 411,759	\$ 34,185	20
4054	1154	East Greenwich Police	2014 Mediation Settlement	\$ 5,684,981	\$ 535,750	13
4054	1154	East Greenwich Police	2015 Experience	\$ 14,921	\$ 1,284	15
4054	1154	East Greenwich Police	2016 Assumption Change - FY21 Stagger	\$ 384,192	\$ 29,556	18
4054	1154	East Greenwich Police	2016 Assumption Change - FY22 Stagger	\$ 384,192	\$ 30,704	19
4054	1154	East Greenwich Police	2016 Assumption Change - FY23 Stagger	\$ 384,192	\$ 31,896	20
4054	1154	East Greenwich Police	2016 Assumption Change - FY24 Stagger	\$ 384,192	\$ -	21
4054	1154	East Greenwich Police	2016 Experience	\$ 239,558	\$ 19,802	16
4054	1154	East Greenwich Police	2017 Experience	\$ (234,119)	\$ (18,645)	17



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
4054	1154	East Greenwich Police	2018 Experience	\$ (49,262)	\$ (3,790)	18
4054	1154	East Greenwich Police	2019 Assumption Change - FY23 Stagger	\$ (29,511)	\$ (2,450)	20
4054	1154	East Greenwich Police	2019 Assumption Change - FY24 Stagger	\$ (29,511)	\$ -	21
4054	1154	East Greenwich Police	2019 Experience	\$ (543,198)	\$ (43,411)	19
4054	1154	East Greenwich Police	2020 Experience	\$ (444,577)	\$ (36,910)	20
4055	1375	North Kingstown Fire	2014 Mediation Settlement	\$ 10,941,475	\$ 1,031,119	13
4055	1375	North Kingstown Fire	2015 Experience	\$ (734,531)	\$ (63,206)	15
4055	1375	North Kingstown Fire	2016 Assumption Change - FY21 Stagger	\$ 767,906	\$ 59,075	18
4055	1375	North Kingstown Fire	2016 Assumption Change - FY22 Stagger	\$ 767,906	\$ 61,370	19
4055	1375	North Kingstown Fire	2016 Assumption Change - FY23 Stagger	\$ 767,906	\$ 63,753	20
4055	1375	North Kingstown Fire	2016 Assumption Change - FY24 Stagger	\$ 767,906	\$ -	21
4055	1375	North Kingstown Fire	2016 Experience	\$ 1,653,208	\$ 136,652	16
4055	1375	North Kingstown Fire	2017 Experience	\$ 1,000,299	\$ 79,661	17
4055	1375	North Kingstown Fire	2018 Experience	\$ (1,742,203)	\$ (134,028)	18
4055	1375	North Kingstown Fire	2019 Assumption Change - FY23 Stagger	\$ (39,137)	\$ (3,249)	20
4055	1375	North Kingstown Fire	2019 Assumption Change - FY24 Stagger	\$ (39,137)	\$ -	21
4055	1375	North Kingstown Fire	2019 Experience	\$ (743,138)	\$ (59,390)	19
4055	1375	North Kingstown Fire	2020 Experience	\$ (126,876)	\$ (10,533)	20
4056	1374	North Kingstown Police	2014 Mediation Settlement	\$ 7,945,706	\$ 748,799	13
4056	1374	North Kingstown Police	2015 Experience	\$ (174,553)	\$ (15,020)	15
4056	1374	North Kingstown Police	2016 Assumption Change - FY21 Stagger	\$ 500,270	\$ 38,486	18
4056	1374	North Kingstown Police	2016 Assumption Change - FY22 Stagger	\$ 500,270	\$ 39,981	19
4056	1374	North Kingstown Police	2016 Assumption Change - FY23 Stagger	\$ 500,270	\$ 41,533	20
4056	1374	North Kingstown Police	2016 Assumption Change - FY24 Stagger	\$ 500,270	\$ -	21
4056	1374	North Kingstown Police	2016 Experience	\$ 317,283	\$ 26,226	16
4056	1374	North Kingstown Police	2017 Experience	\$ 1,089,184	\$ 86,740	17
4056	1374	North Kingstown Police	2018 Experience	\$ (675,073)	\$ (51,934)	18
4056	1374	North Kingstown Police	2019 Assumption Change - FY23 Stagger	\$ (59,352)	\$ (4,927)	20
4056	1374	North Kingstown Police	2019 Assumption Change - FY24 Stagger	\$ (59,352)	\$ -	21
4056	1374	North Kingstown Police	2019 Experience	\$ (744,617)	\$ (59,508)	19
4056	1374	North Kingstown Police	2020 Experience	\$ 189,996	\$ 15,774	20
4058	1385	North Providence Fire	2014 Mediation Settlement	\$ 11,453,011	\$ 912,087	17
4058	1385	North Providence Fire	2015 Experience	\$ 679,885	\$ 58,504	15
4058	1385	North Providence Fire	2016 Assumption Change - FY21 Stagger	\$ 852,246	\$ 65,564	18
4058	1385	North Providence Fire	2016 Assumption Change - FY22 Stagger	\$ 852,246	\$ 68,110	19
4058	1385	North Providence Fire	2016 Assumption Change - FY23 Stagger	\$ 852,246	\$ 70,755	20
4058	1385	North Providence Fire	2016 Assumption Change - FY24 Stagger	\$ 852,246	\$ -	21
4058	1385	North Providence Fire	2016 Experience	\$ 2,161,997	\$ 178,708	16
4058	1385	North Providence Fire	2017 Experience	\$ (428,820)	\$ (34,150)	17
4058	1385	North Providence Fire	2018 Experience	\$ (1,097,546)	\$ (84,435)	18
4058	1385	North Providence Fire	2019 Assumption Change - FY23 Stagger	\$ 355,940	\$ 29,551	20
4058	1385	North Providence Fire	2019 Assumption Change - FY24 Stagger	\$ 355,940	\$ -	21
4058	1385	North Providence Fire	2019 Experience	\$ 277,904	\$ 22,210	19
4058	1385	North Providence Fire	2020 Experience	\$ (900)	\$ (75)	20
4059	1008	Barrington Fire (25)	2014 Mediation Settlement	\$ 192,537	\$ 18,145	13
4059	1008	Barrington Fire (25)	2015 Experience	\$ (55,055)	\$ (4,738)	15
4059	1008	Barrington Fire (25)	2016 Assumption Change - FY21 Stagger	\$ 81,747	\$ 6,289	18
4059	1008	Barrington Fire (25)	2016 Assumption Change - FY22 Stagger	\$ 81,747	\$ 6,533	19
4059	1008	Barrington Fire (25)	2016 Assumption Change - FY23 Stagger	\$ 81,747	\$ 6,787	20
4059	1008	Barrington Fire (25)	2016 Assumption Change - FY24 Stagger	\$ 81,747	\$ -	21
4059	1008	Barrington Fire (25)	2016 Experience	\$ (6,021)	\$ (498)	16
4059	1008	Barrington Fire (25)	2017 Experience	\$ 71,027	\$ 5,656	17
4059	1008	Barrington Fire (25)	2018 Experience	\$ (25,912)	\$ (1,993)	18
4059	1008	Barrington Fire (25)	2019 Assumption Change - FY23 Stagger	\$ (14,855)	\$ (1,233)	20
4059	1008	Barrington Fire (25)	2019 Assumption Change - FY24 Stagger	\$ (14,855)	\$ -	21
4059	1008	Barrington Fire (25)	2019 Experience	\$ (44,583)	\$ (3,563)	19
4059	1008	Barrington Fire (25)	2020 Experience	\$ 336,805	\$ 27,962	20
4060	1004	Barrington Police	2014 Mediation Settlement	\$ 4,817,757	\$ 454,023	13
4060	1004	Barrington Police	2015 Experience	\$ 17,950	\$ 1,545	15
4060	1004	Barrington Police	2016 Assumption Change - FY21 Stagger	\$ 237,507	\$ 18,272	18
4060	1004	Barrington Police	2016 Assumption Change - FY22 Stagger	\$ 237,507	\$ 18,981	19
4060	1004	Barrington Police	2016 Assumption Change - FY23 Stagger	\$ 237,507	\$ 19,718	20
4060	1004	Barrington Police	2016 Assumption Change - FY24 Stagger	\$ 237,507	\$ -	21
4060	1004	Barrington Police	2016 Experience	\$ 356,575	\$ 29,474	16
4060	1004	Barrington Police	2017 Experience	\$ (67,165)	\$ (5,349)	17
4060	1004	Barrington Police	2018 Experience	\$ (256,617)	\$ (19,742)	18
4060	1004	Barrington Police	2019 Assumption Change - FY23 Stagger	\$ (50,346)	\$ (4,180)	20
4060	1004	Barrington Police	2019 Assumption Change - FY24 Stagger	\$ (50,346)	\$ -	21
4060	1004	Barrington Police	2019 Experience	\$ (305,656)	\$ (24,427)	19
4060	1004	Barrington Police	2020 Experience	\$ (485,800)	\$ (40,332)	20
4061	1005	Barrington Fire (20)	2014 Mediation Settlement	\$ 2,900,825	\$ 273,372	13
4061	1005	Barrington Fire (20)	2015 Experience	\$ 208,892	\$ 17,975	15
4061	1005	Barrington Fire (20)	2016 Assumption Change - FY20 Stagger	\$ 160,118	\$ 12,751	17
4061	1005	Barrington Fire (20)	2016 Assumption Change - FY21 Stagger	\$ 156,402	\$ 12,032	18
4061	1005	Barrington Fire (20)	2016 Assumption Change - FY22 Stagger	\$ 156,402	\$ 12,499	19
4061	1005	Barrington Fire (20)	2016 Assumption Change - FY23 Stagger	\$ 156,402	\$ 12,985	20
4061	1005	Barrington Fire (20)	2016 Assumption Change - FY24 Stagger	\$ 156,402	\$ -	21
4061	1005	Barrington Fire (20)	2016 Experience	\$ (53,539)	\$ (4,425)	16
4061	1005	Barrington Fire (20)	2017 Experience	\$ 95,530	\$ 7,608	17
4061	1005	Barrington Fire (20)	2018 Experience	\$ 1,066	\$ 82	18



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
4061	1005	Barrington Fire (20)	2019 Assumption Change - FY23 Stagger	\$ 93,412	\$ 7,755	20
4061	1005	Barrington Fire (20)	2019 Assumption Change - FY24 Stagger	\$ 93,412	\$ -	21
4061	1005	Barrington Fire (20)	2019 Experience	\$ (172,787)	\$ (13,809)	19
4061	1005	Barrington Fire (20)	2020 Experience	\$ 5,048	\$ 419	20
4062	1564 1565	Warren Police & Fire	2014 Mediation Settlement	\$ 4,454,570	\$ 354,750	17
4062	1564 1565	Warren Police & Fire	2015 Experience	\$ (297,769)	\$ (25,623)	15
4062	1564 1565	Warren Police & Fire	2016 Assumption Change - FY21 Stagger	\$ 265,297	\$ 20,409	18
4062	1564 1565	Warren Police & Fire	2016 Assumption Change - FY22 Stagger	\$ 265,297	\$ 21,202	19
4062	1564 1565	Warren Police & Fire	2016 Assumption Change - FY23 Stagger	\$ 265,297	\$ 22,025	20
4062	1564 1565	Warren Police & Fire	2016 Assumption Change - FY24 Stagger	\$ 265,297	\$ -	21
4062	1564 1565	Warren Police & Fire	2016 Experience	\$ (902,810)	\$ (74,625)	16
4062	1564 1565	Warren Police & Fire	2017 Experience	\$ 919,929	\$ 73,261	17
4062	1564 1565	Warren Police & Fire	2018 Experience	\$ (184,345)	\$ (14,182)	18
4062	1564 1565	Warren Police & Fire	2019 Assumption Change - FY23 Stagger	\$ 47,605	\$ 3,952	20
4062	1564 1565	Warren Police & Fire	2019 Assumption Change - FY24 Stagger	\$ 47,605	\$ -	21
4062	1564 1565	Warren Police & Fire	2019 Experience	\$ (5,819)	\$ (465)	19
4062	1564 1565	Warren Police & Fire	2020 Experience	\$ (138,461)	\$ (11,495)	20
4063	1494	South Kingstown Police	2014 Mediation Settlement	\$ 7,190,814	\$ 677,659	13
4063	1494	South Kingstown Police	2015 Experience	\$ (1,376,321)	\$ (118,433)	15
4063	1494	South Kingstown Police	2016 Assumption Change - FY21 Stagger	\$ 557,365	\$ 42,878	18
4063	1494	South Kingstown Police	2016 Assumption Change - FY22 Stagger	\$ 557,365	\$ 44,544	19
4063	1494	South Kingstown Police	2016 Assumption Change - FY23 Stagger	\$ 557,365	\$ 46,273	20
4063	1494	South Kingstown Police	2016 Assumption Change - FY24 Stagger	\$ 557,365	\$ -	21
4063	1494	South Kingstown Police	2016 Experience	\$ (211,203)	\$ (17,458)	16
4063	1494	South Kingstown Police	2017 Experience	\$ 1,478,502	\$ 117,744	17
4063	1494	South Kingstown Police	2018 Experience	\$ (102,419)	\$ (7,879)	18
4063	1494	South Kingstown Police	2019 Assumption Change - FY23 Stagger	\$ 291,189	\$ 24,175	20
4063	1494	South Kingstown Police	2019 Assumption Change - FY24 Stagger	\$ 291,189	\$ -	21
4063	1494	South Kingstown Police	2019 Experience	\$ (1,090,925)	\$ (87,185)	19
4063	1494	South Kingstown Police	2020 Experience	\$ 264,756	\$ 21,981	20
4073	1464	Scituate Police	2020 Over Funded Base	\$ (240,530)	\$ N/A	N/A
4076	1394	North Smithfield Police	2014 Mediation Settlement	\$ 2,753,702	\$ 259,508	13
4076	1394	North Smithfield Police	2015 Experience	\$ (112,174)	\$ (9,653)	15
4076	1394	North Smithfield Police	2016 Assumption Change - FY21 Stagger	\$ 222,633	\$ 17,127	18
4076	1394	North Smithfield Police	2016 Assumption Change - FY22 Stagger	\$ 222,633	\$ 17,792	19
4076	1394	North Smithfield Police	2016 Assumption Change - FY23 Stagger	\$ 222,633	\$ 18,483	20
4076	1394	North Smithfield Police	2016 Assumption Change - FY24 Stagger	\$ 222,633	\$ -	21
4076	1394	North Smithfield Police	2016 Experience	\$ 90,386	\$ 7,471	16
4076	1394	North Smithfield Police	2017 Experience	\$ 110,354	\$ 8,788	17
4076	1394	North Smithfield Police	2018 Experience	\$ (87,032)	\$ (6,695)	18
4076	1394	North Smithfield Police	2019 Assumption Change - FY23 Stagger	\$ 47,516	\$ 3,945	20
4076	1394	North Smithfield Police	2019 Assumption Change - FY24 Stagger	\$ 47,516	\$ -	21
4076	1394	North Smithfield Police	2019 Experience	\$ (274,267)	\$ (21,919)	19
4076	1394	North Smithfield Police	2020 Experience	\$ (35,049)	\$ (2,910)	20
4077	1534	Tiverton Fire	2014 Mediation Settlement	\$ 1,784,687	\$ 168,188	13
4077	1534	Tiverton Fire	2015 Experience	\$ (204,582)	\$ (17,604)	15
4077	1534	Tiverton Fire	2016 Assumption Change - FY21 Stagger	\$ 252,128	\$ 19,396	18
4077	1534	Tiverton Fire	2016 Assumption Change - FY22 Stagger	\$ 252,128	\$ 20,150	19
4077	1534	Tiverton Fire	2016 Assumption Change - FY23 Stagger	\$ 252,128	\$ 20,932	20
4077	1534	Tiverton Fire	2016 Assumption Change - FY24 Stagger	\$ 252,128	\$ -	21
4077	1534	Tiverton Fire	2016 Experience	\$ 1,365,090	\$ 112,837	16
4077	1534	Tiverton Fire	2017 Experience	\$ (985)	\$ (78)	17
4077	1534	Tiverton Fire	2018 Experience	\$ 9,911	\$ 762	18
4077	1534	Tiverton Fire	2019 Assumption Change - FY23 Stagger	\$ 98,533	\$ 8,180	20
4077	1534	Tiverton Fire	2019 Assumption Change - FY24 Stagger	\$ 98,533	\$ -	21
4077	1534	Tiverton Fire	2019 Experience	\$ 25,747	\$ 2,058	19
4077	1534	Tiverton Fire	2020 Experience	\$ (584,940)	\$ (48,563)	20
4082	1194	Foster Police	2014 Mediation Settlement	\$ 891,677	\$ 84,031	13
4082	1194	Foster Police	2015 Experience	\$ (90,822)	\$ (7,815)	15
4082	1194	Foster Police	2016 Assumption Change - FY21 Stagger	\$ 74,667	\$ 5,744	18
4082	1194	Foster Police	2016 Assumption Change - FY22 Stagger	\$ 74,667	\$ 5,967	19
4082	1194	Foster Police	2016 Assumption Change - FY23 Stagger	\$ 74,667	\$ 6,199	20
4082	1194	Foster Police	2016 Assumption Change - FY24 Stagger	\$ 74,667	\$ -	21
4082	1194	Foster Police	2016 Experience	\$ 506,232	\$ 41,844	16
4082	1194	Foster Police	2017 Experience	\$ (55,808)	\$ (4,444)	17
4082	1194	Foster Police	2018 Experience	\$ (194,036)	\$ (14,927)	18
4082	1194	Foster Police	2019 Assumption Change - FY23 Stagger	\$ 3,718	\$ 309	20
4082	1194	Foster Police	2019 Assumption Change - FY24 Stagger	\$ 3,718	\$ -	21
4082	1194	Foster Police	2019 Experience	\$ (100,947)	\$ (8,067)	19
4082	1194	Foster Police	2020 Experience	\$ (120,715)	\$ (10,022)	20
4085	1634	Woonsocket Police	2014 Mediation Settlement	\$ 14,940,672	\$ 1,408,002	13
4085	1634	Woonsocket Police	2015 Experience	\$ (1,034,533)	\$ (89,022)	15
4085	1634	Woonsocket Police	2016 Assumption Change - FY21 Stagger	\$ 920,050	\$ 70,780	18
4085	1634	Woonsocket Police	2016 Assumption Change - FY22 Stagger	\$ 920,050	\$ 73,529	19
4085	1634	Woonsocket Police	2016 Assumption Change - FY23 Stagger	\$ 920,050	\$ 76,384	20
4085	1634	Woonsocket Police	2016 Assumption Change - FY24 Stagger	\$ 920,050	\$ -	21
4085	1634	Woonsocket Police	2016 Experience	\$ 1,391,578	\$ 115,026	16
4085	1634	Woonsocket Police	2017 Experience	\$ (142,180)	\$ (11,323)	17
4085	1634	Woonsocket Police	2018 Experience	\$ 3,131	\$ 241	18
4085	1634	Woonsocket Police	2019 Assumption Change - FY23 Stagger	\$ 259,759	\$ 21,566	20



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
4085	1634	Woonsocket Police	2019 Assumption Change - FY24 Stagger	\$ 259,759	\$ -	21
4085	1634	Woonsocket Police	2019 Experience	\$ (1,155,780)	\$ (92,368)	19
4085	1634	Woonsocket Police	2020 Experience	\$ (386,835)	\$ (32,116)	20
4086	1084	Charlestown Police	2014 Mediation Settlement	\$ 3,190,825	\$ 300,702	13
4086	1084	Charlestown Police	2015 Experience	\$ (191,216)	\$ (16,454)	15
4086	1084	Charlestown Police	2016 Assumption Change - FY21 Stagger	\$ 239,043	\$ 18,390	18
4086	1084	Charlestown Police	2016 Assumption Change - FY22 Stagger	\$ 239,043	\$ 19,104	19
4086	1084	Charlestown Police	2016 Assumption Change - FY23 Stagger	\$ 239,043	\$ 19,846	20
4086	1084	Charlestown Police	2016 Assumption Change - FY24 Stagger	\$ 239,043	\$ -	21
4086	1084	Charlestown Police	2016 Experience	\$ 457,528	\$ 37,819	16
4086	1084	Charlestown Police	2017 Experience	\$ 211,149	\$ 16,815	17
4086	1084	Charlestown Police	2018 Experience	\$ 424,380	\$ 32,648	18
4086	1084	Charlestown Police	2019 Assumption Change - FY23 Stagger	\$ 100,961	\$ 8,382	20
4086	1084	Charlestown Police	2019 Assumption Change - FY24 Stagger	\$ 100,961	\$ -	21
4086	1084	Charlestown Police	2019 Experience	\$ (151,859)	\$ (12,136)	19
4086	1084	Charlestown Police	2020 Experience	\$ 419,277	\$ 34,809	20
4087	1264	Hopkinton Police	2014 Mediation Settlement	\$ 2,798,961	\$ 263,773	13
4087	1264	Hopkinton Police	2015 Experience	\$ (56,444)	\$ (4,857)	15
4087	1264	Hopkinton Police	2016 Assumption Change - FY21 Stagger	\$ 138,548	\$ 10,659	18
4087	1264	Hopkinton Police	2016 Assumption Change - FY22 Stagger	\$ 138,548	\$ 11,072	19
4087	1264	Hopkinton Police	2016 Assumption Change - FY23 Stagger	\$ 138,548	\$ 11,502	20
4087	1264	Hopkinton Police	2016 Assumption Change - FY24 Stagger	\$ 138,548	\$ -	21
4087	1264	Hopkinton Police	2016 Experience	\$ (156,941)	\$ (12,973)	16
4087	1264	Hopkinton Police	2017 Experience	\$ 100,010	\$ 7,965	17
4087	1264	Hopkinton Police	2018 Experience	\$ 130,231	\$ 10,019	18
4087	1264	Hopkinton Police	2019 Assumption Change - FY23 Stagger	\$ (5,470)	\$ (454)	20
4087	1264	Hopkinton Police	2019 Assumption Change - FY24 Stagger	\$ (5,470)	\$ -	21
4087	1264	Hopkinton Police	2019 Experience	\$ (95,081)	\$ (7,599)	19
4087	1264	Hopkinton Police	2020 Experience	\$ (104,152)	\$ (8,647)	20
4088	1214	Glocester Police	2014 Mediation Settlement	\$ 1,175,586	\$ 110,787	13
4088	1214	Glocester Police	2015 Experience	\$ 126,070	\$ 10,848	15
4088	1214	Glocester Police	2016 Assumption Change - FY21 Stagger	\$ 124,408	\$ 9,571	18
4088	1214	Glocester Police	2016 Assumption Change - FY22 Stagger	\$ 124,408	\$ 9,942	19
4088	1214	Glocester Police	2016 Assumption Change - FY23 Stagger	\$ 124,408	\$ 10,329	20
4088	1214	Glocester Police	2016 Assumption Change - FY24 Stagger	\$ 124,408	\$ -	21
4088	1214	Glocester Police	2016 Experience	\$ 221,624	\$ 18,319	16
4088	1214	Glocester Police	2017 Experience	\$ 181,794	\$ 14,478	17
4088	1214	Glocester Police	2018 Experience	\$ 135,379	\$ 10,415	18
4088	1214	Glocester Police	2019 Assumption Change - FY23 Stagger	\$ 11,460	\$ 951	20
4088	1214	Glocester Police	2019 Assumption Change - FY24 Stagger	\$ 11,460	\$ -	21
4088	1214	Glocester Police	2019 Experience	\$ (87,472)	\$ (6,991)	19
4088	1214	Glocester Police	2020 Experience	\$ (125,389)	\$ (10,410)	20
4089	1604	West Greenwich Police/Rescue	2014 Mediation Settlement	\$ 1,470,324	\$ 117,093	17
4089	1604	West Greenwich Police/Rescue	2015 Experience	\$ (143,533)	\$ (12,351)	15
4089	1604	West Greenwich Police/Rescue	2016 Assumption Change - FY21 Stagger	\$ 99,656	\$ 7,667	18
4089	1604	West Greenwich Police/Rescue	2016 Assumption Change - FY22 Stagger	\$ 99,656	\$ 7,964	19
4089	1604	West Greenwich Police/Rescue	2016 Assumption Change - FY23 Stagger	\$ 99,656	\$ 8,274	20
4089	1604	West Greenwich Police/Rescue	2016 Assumption Change - FY24 Stagger	\$ 99,656	\$ -	21
4089	1604	West Greenwich Police/Rescue	2016 Experience	\$ (28,032)	\$ (2,317)	16
4089	1604	West Greenwich Police/Rescue	2017 Experience	\$ 35,167	\$ 2,801	17
4089	1604	West Greenwich Police/Rescue	2018 Experience	\$ 401,832	\$ 30,913	18
4089	1604	West Greenwich Police/Rescue	2019 Assumption Change - FY23 Stagger	\$ 43,650	\$ 3,624	20
4089	1604	West Greenwich Police/Rescue	2019 Assumption Change - FY24 Stagger	\$ 43,650	\$ -	21
4089	1604	West Greenwich Police/Rescue	2019 Experience	\$ (135,110)	\$ (10,798)	19
4089	1604	West Greenwich Police/Rescue	2020 Experience	\$ (308,079)	\$ (25,577)	20
4090	1034	Burrillville Police	2014 Mediation Settlement	\$ 1,967,677	\$ 185,433	13
4090	1034	Burrillville Police	2015 Experience	\$ (370,037)	\$ (31,842)	15
4090	1034	Burrillville Police	2016 Assumption Change - FY21 Stagger	\$ 218,069	\$ 16,776	18
4090	1034	Burrillville Police	2016 Assumption Change - FY22 Stagger	\$ 218,069	\$ 17,428	19
4090	1034	Burrillville Police	2016 Assumption Change - FY23 Stagger	\$ 218,069	\$ 18,104	20
4090	1034	Burrillville Police	2016 Assumption Change - FY24 Stagger	\$ 218,069	\$ -	21
4090	1034	Burrillville Police	2016 Experience	\$ 529,509	\$ 43,768	16
4090	1034	Burrillville Police	2017 Experience	\$ (127,589)	\$ (10,161)	17
4090	1034	Burrillville Police	2018 Experience	\$ 72,990	\$ 5,615	18
4090	1034	Burrillville Police	2019 Assumption Change - FY23 Stagger	\$ (28,024)	\$ (2,327)	20
4090	1034	Burrillville Police	2019 Assumption Change - FY24 Stagger	\$ (28,024)	\$ -	21
4090	1034	Burrillville Police	2019 Experience	\$ (281,279)	\$ (22,479)	19
4090	1034	Burrillville Police	2020 Experience	\$ (176,343)	\$ (14,640)	20
4091	1148	Cumberland Rescue	2016 Assumption Change - FY21 Stagger	\$ 111,121	\$ 8,549	18
4091	1148	Cumberland Rescue	2016 Assumption Change - FY22 Stagger	\$ 111,121	\$ 8,881	19
4091	1148	Cumberland Rescue	2016 Assumption Change - FY23 Stagger	\$ 111,121	\$ 9,225	20
4091	1148	Cumberland Rescue	2016 Assumption Change - FY24 Stagger	\$ 111,121	\$ -	21
4091	1148	Cumberland Rescue	2016 Experience	\$ 21,689	\$ 1,793	16
4091	1148	Cumberland Rescue	2017 Experience	\$ (424,718)	\$ (33,823)	17
4091	1148	Cumberland Rescue	2018 Experience	\$ 410,473	\$ 31,578	18
4091	1148	Cumberland Rescue	2019 Assumption Change - FY23 Stagger	\$ (2,609)	\$ (217)	20
4091	1148	Cumberland Rescue	2019 Assumption Change - FY24 Stagger	\$ (2,609)	\$ -	21
4091	1148	Cumberland Rescue	2019 Experience	\$ 197,960	\$ 15,821	19
4091	1148	Cumberland Rescue	2020 Experience	\$ (178,991)	\$ (14,860)	20
4093	1635	Woonsocket Fire	2014 Mediation Settlement	\$ 2,495,149	\$ 235,142	13



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
4093	1635	Woonsocket Fire	2015 Experience	\$ (1,610,895)	\$ (138,618)	15
4093	1635	Woonsocket Fire	2016 Assumption Change - FY21 Stagger	\$ 776,625	\$ 59,746	18
4093	1635	Woonsocket Fire	2016 Assumption Change - FY22 Stagger	\$ 776,625	\$ 62,066	19
4093	1635	Woonsocket Fire	2016 Assumption Change - FY23 Stagger	\$ 776,625	\$ 64,477	20
4093	1635	Woonsocket Fire	2016 Assumption Change - FY24 Stagger	\$ 776,625	\$ -	21
4093	1635	Woonsocket Fire	2016 Experience	\$ 1,505,127	\$ 124,412	16
4093	1635	Woonsocket Fire	2017 Experience	\$ 270,643	\$ 21,553	17
4093	1635	Woonsocket Fire	2018 Experience	\$ (983,687)	\$ (75,676)	18
4093	1635	Woonsocket Fire	2019 Assumption Change - FY23 Stagger	\$ 57,887	\$ 4,806	20
4093	1635	Woonsocket Fire	2019 Assumption Change - FY24 Stagger	\$ 57,887	\$ -	21
4093	1635	Woonsocket Fire	2019 Experience	\$ 595,427	\$ 47,585	19
4093	1635	Woonsocket Fire	2020 Experience	\$ (322,088)	\$ (26,740)	20
4094	1015	Bristol Fire	2014 Mediation Settlement	\$ 70,884	\$ 5,645	17
4094	1015	Bristol Fire	2015 Experience	\$ (18,063)	\$ (1,554)	15
4094	1015	Bristol Fire	2016 Assumption Change - FY21 Stagger	\$ 7,163	\$ 551	18
4094	1015	Bristol Fire	2016 Assumption Change - FY22 Stagger	\$ 7,163	\$ 572	19
4094	1015	Bristol Fire	2016 Assumption Change - FY23 Stagger	\$ 7,163	\$ 595	20
4094	1015	Bristol Fire	2016 Assumption Change - FY24 Stagger	\$ 7,163	\$ -	21
4094	1015	Bristol Fire	2016 Experience	\$ 29,530	\$ 2,441	16
4094	1015	Bristol Fire	2017 Experience	\$ 15,088	\$ 1,202	17
4094	1015	Bristol Fire	2018 Experience	\$ (35,210)	\$ (2,709)	18
4094	1015	Bristol Fire	2019 Assumption Change - FY23 Stagger	\$ (128)	\$ (11)	20
4094	1015	Bristol Fire	2019 Assumption Change - FY24 Stagger	\$ (128)	\$ -	21
4094	1015	Bristol Fire	2019 Experience	\$ (43,155)	\$ (3,449)	19
4094	1015	Bristol Fire	2020 Experience	\$ (12,406)	\$ (1,030)	20
4095	1135	Cumberland Hill Fire	2014 Mediation Settlement	\$ 2,380,810	\$ 189,601	17
4095	1135	Cumberland Hill Fire	2015 Experience	\$ (95,758)	\$ (8,240)	15
4095	1135	Cumberland Hill Fire	2016 Assumption Change - FY21 Stagger	\$ 118,429	\$ 9,111	18
4095	1135	Cumberland Hill Fire	2016 Assumption Change - FY22 Stagger	\$ 118,429	\$ 9,465	19
4095	1135	Cumberland Hill Fire	2016 Assumption Change - FY23 Stagger	\$ 118,429	\$ 9,832	20
4095	1135	Cumberland Hill Fire	2016 Assumption Change - FY24 Stagger	\$ 118,429	\$ -	21
4095	1135	Cumberland Hill Fire	2016 Experience	\$ 83,440	\$ 6,897	16
4095	1135	Cumberland Hill Fire	2017 Experience	\$ 112,459	\$ 8,956	17
4095	1135	Cumberland Hill Fire	2018 Experience	\$ (13,840)	\$ (1,065)	18
4095	1135	Cumberland Hill Fire	2019 Assumption Change - FY23 Stagger	\$ 13,327	\$ 1,106	20
4095	1135	Cumberland Hill Fire	2019 Assumption Change - FY24 Stagger	\$ 13,327	\$ -	21
4095	1135	Cumberland Hill Fire	2019 Experience	\$ 223,141	\$ 17,833	19
4095	1135	Cumberland Hill Fire	2020 Experience	\$ 83,721	\$ 6,951	20
4096	1014	Bristol Police	2020 Over Funded Base	\$ (488,867)	\$ (40,587)	20
4098	1095	Coventry Fire	2014 Mediation Settlement	\$ 2,173,944	\$ 173,127	17
4098	1095	Coventry Fire	2015 Experience	\$ (173,574)	\$ (14,936)	15
4098	1095	Coventry Fire	2016 Assumption Change - FY21 Stagger	\$ 94,515	\$ 7,271	18
4098	1095	Coventry Fire	2016 Assumption Change - FY22 Stagger	\$ 94,515	\$ 7,553	19
4098	1095	Coventry Fire	2016 Assumption Change - FY23 Stagger	\$ 94,515	\$ 7,847	20
4098	1095	Coventry Fire	2016 Assumption Change - FY24 Stagger	\$ 94,515	\$ -	21
4098	1095	Coventry Fire	2016 Experience	\$ (666,025)	\$ (55,053)	16
4098	1095	Coventry Fire	2017 Experience	\$ 192,199	\$ 15,306	17
4098	1095	Coventry Fire	2018 Experience	\$ 187,588	\$ 14,431	18
4098	1095	Coventry Fire	2019 Assumption Change - FY23 Stagger	\$ 53,120	\$ 4,410	20
4098	1095	Coventry Fire	2019 Assumption Change - FY24 Stagger	\$ 53,120	\$ -	21
4098	1095	Coventry Fire	2019 Experience	\$ (24,759)	\$ (1,979)	19
4098	1095	Coventry Fire	2020 Experience	\$ 1,020,632	\$ 84,735	20
4099	1505	South Kingstown EMT	2020 Over Funded Base	\$ (712,667)	\$ (59,167)	20
4101	1365	North Cumberland	2014 Mediation Settlement	\$ 1,370,716	\$ 109,160	17
4101	1365	North Cumberland	2015 Experience	\$ (140,455)	\$ (12,086)	15
4101	1365	North Cumberland	2016 Assumption Change - FY21 Stagger	\$ 103,826	\$ 7,987	18
4101	1365	North Cumberland	2016 Assumption Change - FY22 Stagger	\$ 103,826	\$ 8,298	19
4101	1365	North Cumberland	2016 Assumption Change - FY23 Stagger	\$ 103,826	\$ 8,620	20
4101	1365	North Cumberland	2016 Assumption Change - FY24 Stagger	\$ 103,826	\$ -	21
4101	1365	North Cumberland	2016 Experience	\$ 201,524	\$ 16,658	16
4101	1365	North Cumberland	2017 Experience	\$ 19,234	\$ 1,532	17
4101	1365	North Cumberland	2018 Experience	\$ (122,583)	\$ (9,430)	18
4101	1365	North Cumberland	2019 Assumption Change - FY23 Stagger	\$ 12,367	\$ 1,027	20
4101	1365	North Cumberland	2019 Assumption Change - FY24 Stagger	\$ 12,367	\$ -	21
4101	1365	North Cumberland	2019 Experience	\$ (117,773)	\$ (9,412)	19
4101	1365	North Cumberland	2020 Experience	\$ (169,805)	\$ (14,098)	20
4102	1045 1235 1525 1585	Central Coventry Fire	2014 Mediation Settlement	\$ 3,537,465	\$ 281,714	17
4102	1045 1235 1525 1585	Central Coventry Fire	2015 Experience	\$ 95,718	\$ 8,237	15
4102	1045 1235 1525 1585	Central Coventry Fire	2016 Assumption Change - FY21 Stagger	\$ 284,764	\$ 21,907	18
4102	1045 1235 1525 1585	Central Coventry Fire	2016 Assumption Change - FY22 Stagger	\$ 284,764	\$ 22,758	19
4102	1045 1235 1525 1585	Central Coventry Fire	2016 Assumption Change - FY23 Stagger	\$ 284,764	\$ 23,642	20
4102	1045 1235 1525 1585	Central Coventry Fire	2016 Assumption Change - FY24 Stagger	\$ 284,764	\$ -	21
4102	1045 1235 1525 1585	Central Coventry Fire	2016 Experience	\$ 1,189,520	\$ 98,324	16
4102	1045 1235 1525 1585	Central Coventry Fire	2017 Experience	\$ 121,436	\$ 9,671	17
4102	1045 1235 1525 1585	Central Coventry Fire	2018 Experience	\$ 621,495	\$ 47,812	18
4102	1045 1235 1525 1585	Central Coventry Fire	2019 Assumption Change - FY23 Stagger	\$ 122,269	\$ 10,151	20
4102	1045 1235 1525 1585	Central Coventry Fire	2019 Assumption Change - FY24 Stagger	\$ 122,269	\$ -	21
4102	1045 1235 1525 1585	Central Coventry Fire	2019 Experience	\$ (248,505)	\$ (19,860)	19
4102	1045 1235 1525 1585	Central Coventry Fire	2020 Experience	\$ (165,965)	\$ (13,779)	20
4103	1255	Hopkins Hill Fire	2014 Mediation Settlement	\$ 273,677	\$ 21,795	17



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
4103	1255	Hopkins Hill Fire	2015 Experience	\$ (68,945)	\$ (5,933)	15
4103	1255	Hopkins Hill Fire	2016 Assumption Change - FY21 Stagger	\$ 54,766	\$ 4,213	18
4103	1255	Hopkins Hill Fire	2016 Assumption Change - FY22 Stagger	\$ 54,766	\$ 4,377	19
4103	1255	Hopkins Hill Fire	2016 Assumption Change - FY23 Stagger	\$ 54,766	\$ 4,547	20
4103	1255	Hopkins Hill Fire	2016 Assumption Change - FY24 Stagger	\$ 54,766	\$ -	21
4103	1255	Hopkins Hill Fire	2016 Experience	\$ 15,201	\$ 1,256	16
4103	1255	Hopkins Hill Fire	2017 Experience	\$ (105,915)	\$ (8,435)	17
4103	1255	Hopkins Hill Fire	2018 Experience	\$ 207,407	\$ 15,956	18
4103	1255	Hopkins Hill Fire	2019 Assumption Change - FY23 Stagger	\$ (70,822)	\$ (5,880)	20
4103	1255	Hopkins Hill Fire	2019 Assumption Change - FY24 Stagger	\$ (70,822)	\$ -	21
4103	1255	Hopkins Hill Fire	2019 Experience	\$ (48,697)	\$ (3,892)	19
4103	1255	Hopkins Hill Fire	2020 Experience	\$ (119,336)	\$ (9,907)	20
4104	1114	Cranston Police	2014 Mediation Settlement	\$ 2,845,417	\$ 268,151	13
4104	1114	Cranston Police	2015 Experience	\$ 14,527	\$ 1,250	15
4104	1114	Cranston Police	2016 Assumption Change - FY21 Stagger	\$ 795,617	\$ 61,207	18
4104	1114	Cranston Police	2016 Assumption Change - FY22 Stagger	\$ 795,617	\$ 63,584	19
4104	1114	Cranston Police	2016 Assumption Change - FY23 Stagger	\$ 795,617	\$ 66,053	20
4104	1114	Cranston Police	2016 Assumption Change - FY24 Stagger	\$ 795,617	\$ -	21
4104	1114	Cranston Police	2016 Experience	\$ 3,918,265	\$ 323,878	16
4104	1114	Cranston Police	2017 Experience	\$ 356,612	\$ 28,400	17
4104	1114	Cranston Police	2018 Experience	\$ (222,072)	\$ (17,084)	18
4104	1114	Cranston Police	2019 Assumption Change - FY23 Stagger	\$ 345,400	\$ 28,676	20
4104	1114	Cranston Police	2019 Assumption Change - FY24 Stagger	\$ 345,400	\$ -	21
4104	1114	Cranston Police	2019 Experience	\$ (1,082,517)	\$ (86,513)	19
4104	1114	Cranston Police	2020 Experience	\$ 1,733,097	\$ 143,885	20
4105	1115	Cranston Fire	2020 Over Funded Base	\$ (1,233,649)	\$ (102,420)	20
4106	1125	Cumberland Fire	2014 Mediation Settlement	\$ 1,493,004	\$ 118,899	17
4106	1125	Cumberland Fire	2015 Experience	\$ 60,947	\$ 5,245	15
4106	1125	Cumberland Fire	2016 Assumption Change - FY21 Stagger	\$ 108,056	\$ 8,313	18
4106	1125	Cumberland Fire	2016 Assumption Change - FY22 Stagger	\$ 108,056	\$ 8,636	19
4106	1125	Cumberland Fire	2016 Assumption Change - FY23 Stagger	\$ 108,056	\$ 8,971	20
4106	1125	Cumberland Fire	2016 Assumption Change - FY24 Stagger	\$ 108,056	\$ -	21
4106	1125	Cumberland Fire	2016 Experience	\$ 201,002	\$ 16,615	16
4106	1125	Cumberland Fire	2017 Experience	\$ 118,156	\$ 9,410	17
4106	1125	Cumberland Fire	2018 Experience	\$ (109,230)	\$ (8,403)	18
4106	1125	Cumberland Fire	2019 Assumption Change - FY23 Stagger	\$ (105,978)	\$ (8,798)	20
4106	1125	Cumberland Fire	2019 Assumption Change - FY24 Stagger	\$ (105,978)	\$ -	21
4106	1125	Cumberland Fire	2019 Experience	\$ (381,880)	\$ (30,519)	19
4106	1125	Cumberland Fire	2020 Experience	\$ 193,386	\$ 16,055	20
4107	1305	Lincoln Rescue	2014 Mediation Settlement	\$ 1,358,443	\$ 128,019	13
4107	1305	Lincoln Rescue	2015 Experience	\$ (189,346)	\$ (16,293)	15
4107	1305	Lincoln Rescue	2016 Assumption Change - FY21 Stagger	\$ 132,339	\$ 10,181	18
4107	1305	Lincoln Rescue	2016 Assumption Change - FY22 Stagger	\$ 132,339	\$ 10,576	19
4107	1305	Lincoln Rescue	2016 Assumption Change - FY23 Stagger	\$ 132,339	\$ 10,987	20
4107	1305	Lincoln Rescue	2016 Assumption Change - FY24 Stagger	\$ 132,339	\$ -	21
4107	1305	Lincoln Rescue	2016 Experience	\$ 347,312	\$ 28,708	16
4107	1305	Lincoln Rescue	2017 Experience	\$ 52,192	\$ 4,156	17
4107	1305	Lincoln Rescue	2018 Experience	\$ (171,332)	\$ (13,181)	18
4107	1305	Lincoln Rescue	2019 Assumption Change - FY23 Stagger	\$ 37,758	\$ 3,135	20
4107	1305	Lincoln Rescue	2019 Assumption Change - FY24 Stagger	\$ 37,758	\$ -	21
4107	1305	Lincoln Rescue	2019 Experience	\$ 482,701	\$ 38,577	19
4107	1305	Lincoln Rescue	2020 Experience	\$ (3,223)	\$ (268)	20
4108	1344	New Shoreham Police	2014 Mediation Settlement	\$ 504,999	\$ 47,591	13
4108	1344	New Shoreham Police	2015 Experience	\$ (46,350)	\$ (3,988)	15
4108	1344	New Shoreham Police	2016 Assumption Change - FY21 Stagger	\$ 33,195	\$ 2,554	18
4108	1344	New Shoreham Police	2016 Assumption Change - FY22 Stagger	\$ 33,195	\$ 2,653	19
4108	1344	New Shoreham Police	2016 Assumption Change - FY23 Stagger	\$ 33,195	\$ 2,756	20
4108	1344	New Shoreham Police	2016 Assumption Change - FY24 Stagger	\$ 33,195	\$ -	21
4108	1344	New Shoreham Police	2016 Experience	\$ (15,205)	\$ (1,257)	16
4108	1344	New Shoreham Police	2017 Experience	\$ 25,664	\$ 2,044	17
4108	1344	New Shoreham Police	2018 Experience	\$ (3,744)	\$ (288)	18
4108	1344	New Shoreham Police	2019 Assumption Change - FY23 Stagger	\$ 3,509	\$ 291	20
4108	1344	New Shoreham Police	2019 Assumption Change - FY24 Stagger	\$ 3,509	\$ -	21
4108	1344	New Shoreham Police	2019 Experience	\$ (34,568)	\$ (2,763)	19
4108	1344	New Shoreham Police	2020 Experience	\$ (94,220)	\$ (7,822)	20
4109	1324	Middletown Police & Fire	2020 Over Funded Base	\$ (797,205)	\$ (66,185)	20
4110	1715	Harrisville Fire District	2020 Over Funded Base	\$ (367,312)	\$ (30,495)	20
4111	1705	Albion Fire District	2014 Mediation Settlement	\$ 400,972	\$ 31,932	17
4111	1705	Albion Fire District	2015 Experience	\$ (42,810)	\$ (3,684)	15
4111	1705	Albion Fire District	2016 Assumption Change - FY21 Stagger	\$ 28,648	\$ 2,204	18
4111	1705	Albion Fire District	2016 Assumption Change - FY22 Stagger	\$ 28,648	\$ 2,290	19
4111	1705	Albion Fire District	2016 Assumption Change - FY23 Stagger	\$ 28,648	\$ 2,378	20
4111	1705	Albion Fire District	2016 Assumption Change - FY24 Stagger	\$ 28,648	\$ -	21
4111	1705	Albion Fire District	2016 Experience	\$ (31,405)	\$ (2,596)	16
4111	1705	Albion Fire District	2017 Experience	\$ (26,055)	\$ (2,075)	17
4111	1705	Albion Fire District	2018 Experience	\$ (15,976)	\$ (1,229)	18
4111	1705	Albion Fire District	2019 Assumption Change - FY23 Stagger	\$ (6,522)	\$ (541)	20
4111	1705	Albion Fire District	2019 Assumption Change - FY24 Stagger	\$ (6,522)	\$ -	21
4111	1705	Albion Fire District	2019 Experience	\$ (20,886)	\$ (1,669)	19
4111	1705	Albion Fire District	2020 Experience	\$ 1,841	\$ 153	20



Old Unit Number	New Unit Number	Unit	Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2023 Amortization Payment	Years Remaining Beginning with Fiscal Year 2023
1054	1054	Central Falls Police & Fire New	2020 Experience	\$ 931	\$ 77	20
1055	1055	Central Falls Police & Fire Legacy	2020 Experience	\$ 27,509,946	\$ 2,283,921	20
1284	1284	Johnston Police	2020 Over Funded Base	\$ (62,915)	\$ (5,223)	20
1364	1364	Newport Police Dept	2020 Over Funded Base	\$ (118,762)	\$ (9,860)	20
1425	1425	Portsmouth Fire Department	2020 Over Funded Base	\$ (5,114)	\$ (425)	20
1465	1465	Smithfield Fire	2020 Over Funded Base	\$ (179,688)	\$ (14,918)	20
1484	1484	Scituate Police Dept COLA	2020 Over Funded Base	\$ (27,149)	\$ (2,254)	20
1805	1805	Pascoag Fire District COLA	2016 Assumption Change - FY21 Stagger	\$ 2,291	\$ 176	18
1805	1805	Pascoag Fire District COLA	2016 Assumption Change - FY22 Stagger	\$ 2,291	\$ 183	19
1805	1805	Pascoag Fire District COLA	2016 Assumption Change - FY23 Stagger	\$ 2,291	\$ 190	20
1805	1805	Pascoag Fire District COLA	2016 Assumption Change - FY24 Stagger	\$ 2,291	\$ -	21
1805	1805	Pascoag Fire District COLA	2017 Experience	\$ 616,086	\$ 49,063	17
1805	1805	Pascoag Fire District COLA	2018 Experience	\$ (105,240)	\$ (8,096)	18
1805	1805	Pascoag Fire District COLA	2019 Assumption Change - FY21 Stagger	\$ (12,989)	\$ (1,078)	20
1805	1805	Pascoag Fire District COLA	2019 Assumption Change - FY24 Stagger	\$ (12,989)	\$ -	21
1805	1805	Pascoag Fire District COLA	2019 Experience	\$ 57,524	\$ 4,597	19
1805	1805	Pascoag Fire District COLA	2020 Experience	\$ (18,083)	\$ (1,501)	20
1815	1815	Saylesville Fire (NO COLA)	2020 Over Funded Base	\$ (39,870)	\$ (3,310)	20



APPENDIX 4

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION

APPENDIX 4

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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 scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

APPENDIX 4 (Continued)

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The computed contribution rate shown on page 9 may be considered as a minimum contribution rate that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

For General Employees	<u>June 30, 2020</u>	<u>June 30, 2019</u>
Ratio of the market value of assets to total payroll	4.0	4.1
Ratio of actuarial accrued liability to payroll	5.0	5.1
Ratio of actives to retirees and beneficiaries	1.2	1.2
Ratio of net cash flows to market value of assets	-3.5%	-3.6%
Duration of the actuarial accrued liability	12.2	10.6

For Police and Fire	<u>June 30, 2020</u>	<u>June 30, 2019</u>
Ratio of the market value of assets to total payroll	5.2	5.3
Ratio of actuarial accrued liability to payroll	6.9	6.7
Ratio of actives to retirees and beneficiaries	1.7	1.8
Ratio of net cash flows to market value of assets	2.8%	0.2%
Duration of the actuarial accrued liability	17.3	10.4

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 4.0 times the payroll, a return on assets 5% different than assumed would equal 20% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.



APPENDIX 4 (Continued)

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 5.5 times the payroll, a change in liability 2% other than assumed would equal 11% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF ACTUARIAL ACCRUED LIABILITY

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

ADDITIONAL RISK ASSESSMENT

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability

GLOSSARY

DEFINITION OF ACTUARIAL TERMS

GLOSSARY

1. **Actuarial Accrued Liability (AAL)** - That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.
2. **Actuarial Assumptions** - Assumptions as to future experience under the Plan. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:
 - mortality, withdrawal, disablement, and retirement;
 - future increases in salary;
 - future rates of investment earnings and future investment and administrative expenses;
 - characteristics of members not specified in the data, such as marital status;
 - characteristics of future members;
 - future elections made by members; and
 - other relevant items.
3. **Actuarial Cost Method or Funding Method** - A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ARC.
4. **Actuarial Gain or Actuarial Loss** - A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Plan's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
5. **Actuarially Equivalent** - Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

GLOSSARY (Continued)

6. Actuarial Present Value (APV) - The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:
 - a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.),
 - b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
 - c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.
7. Actuarial Present Value of Future Plan Benefits - The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members either entitled to a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would be provide sufficient assets to pay all projected benefits and expenses when due.
8. Actuarial Valuation - The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB 25, such as the funded ratio and the ARC.
9. Actuarial Value of Assets or Valuation Assets - The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ARC.
10. Actuarially Determined - Values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

11. Amortization Method - A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
12. Amortization Payment - That portion of the pension plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
13. Annual Required Contribution (ARC) - The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB 25. The ARC consists of the Employer Normal Cost and the Amortization Payment.
14. Closed Amortization Period - A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.
15. Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.
16. Defined Benefit Plan: An employer-sponsored retirement benefit that provides workers, upon attainment of designated age and service thresholds, with a monthly benefit based on the employee's salary and length of service. The value of a benefit from a defined benefit plan is generally not affected by the return on the assets that are invested to fund the benefit.
17. Defined Contribution Plan: An employer-sponsored retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
18. Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.
19. Experience Study: A periodic review and analysis of the actual experience of the Plan which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

20. **Funded Ratio:** The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA, although GASB 25 reporting requires the use of the AVA.
21. **Funding Period or Amortization Period:** The term “Funding Period” is used in two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ARC. This funding period is chosen by the Board of Trustees. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.
22. **GASB:** Governmental Accounting Standards Board.
23. **GASB 67 and GASB 68:** Governmental Accounting Standards Board Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 67 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 68 sets the rules for the systems themselves.
24. **Normal Cost:** That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.
25. **Open Amortization Period:** An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
26. **Unfunded Actuarial Accrued Liability:** The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
27. **Valuation Date or Actuarial Valuation Date:** The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

Judicial Retirement Benefits Trust State of Rhode Island

Actuarial Valuation Report
As of June 30, 2020

DRAFT





December 8, 2020

Retirement Board
40 Fountain Street, First Floor
Providence, RI 02903-1854

Dear Members of the Board:

Subject: Actuarial Valuation of the JRBT as of June 30, 2020

This is the June 30, 2020 actuarial valuation of the Judicial Retirement Benefits Trust (JRBT). This report describes the current actuarial condition of the JRBT, determines the recommended employer contribution rate, and analyzes changes in the contribution rate. Valuations are prepared annually, as of June 30, the last day of the JRBT plan year. Benefits for state judges hired before January 1, 1990 are funded by the State from general assets, on a pay-as-you-go basis, and are not included in this valuation.

Under Rhode Island General Laws, the employer contribution rate for the JRBT is certified annually by the State of Rhode Island Retirement Board. This rate is determined actuarially, based on the plan provisions in effect as of the valuation date and the actuarial assumptions and methods adopted by the Board or set by statute. The Board's current policy is that the contribution rate determined by a given actuarial valuation becomes effective two years after the valuation date. For example, the rate determined by the June 30, 2020 actuarial valuation will be applicable for the year beginning July 1, 2022 and ending June 30, 2023.

Financing objectives and funding policy

The actuarial cost method and the amortization periods are set by statute. The normal cost rate (as a percent of pay) and actuarial accrued liabilities are computed using the Entry Age Normal actuarial cost method. The employer contribution rate is the sum of two pieces: the employer normal cost rate and the amortization rate. The employer normal cost rate is the difference between the normal cost rate and the member contribution rate. The amortization rate, also determined as a level percent of pay, is the amount required to amortize the unfunded actuarial accrued liability over a closed period. The amortization rate is adjusted for the two-year deferral in contribution rates.

Progress toward realization of financing objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. The funded status alone is not appropriate for assessing the need for future contributions. The funded status is also not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded ratio, as can be seen in Table 4 of this report, decreased from 96.0% to 93.1% between the valuations. This is due to the changes in assumptions and a loss on the actuarial value of assets. If the market value of assets were used rather than the actuarial value, the funded ratio would be 90.5%.

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.00% on the actuarial valuation of assets), it is expected that:

1. The amortization payment as a percentage of pay will increase through fiscal year 2024 as annual payments begin for each of four staggered bases established in connection with the experience study after which it will remain level through fiscal year 2036,
2. The unfunded actuarial accrued liability will be fully amortized after 20 years from fiscal year 2020, and
3. In the absence of benefit improvements, the funded ratio should increase over time, until it reaches 100%.

The employer contribution rate increased from 21.82% to 24.16% for fiscal year 2023, mainly due to the phased recognition of the 2017 assumption changes in the contribution rate, changes in assumptions and salary losses.

An analysis of the changes in the employer contribution rate appears on Table 11a of this report. An analysis of the changes in the unfunded actuarial accrued liability appears on Table 11c.

Additional information regarding these assumptions changes is provided further below and in the body of this report.

Benefit provisions

The benefit provisions reflected in this valuation are those which were in effect on June 30, 2019, and there have been no changes in benefits since the preceding valuation. All benefit provisions are summarized in Appendix B.

Assumptions and methods

The assumptions have been updated from the last actuarial valuation based on the 2019 Actuarial Experience Investigation Study approved by the Board on May 22, 2020. Below is a summary of the changes made to the assumptions:

1. Update the underlying mortality tables from the RP-2014 set of tables to the public sector based PUB(10) tables. The above median version of the tables was used for healthy retirees. This increased costs and liabilities.
2. Reduce the payroll growth rate assumption from 3.00% to 2.75%.
3. Decrease the salary increase assumption from 3.00% to 2.75% consistent with the decrease in payroll growth.

We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI.

The results of the actuarial valuation are dependent upon the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities and the calculated contribution rates.

All assumptions and methods are described in Appendix A. The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in Governmental Accounting Standards Board (GASB) Statement Number 67.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Data

The System's staff supplied data for active members and retirees as of June 30, 2020. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. The System's staff also supplied asset data as of June 30, 2019.

Certification

All of our work conforms with generally accepted actuarial principles and practices and with the



Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Rhode Island state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries. All are Members of the American Academy of Actuaries. They all meet the Qualification Standards of the American Academy of Actuaries, and they are experienced in performing valuations for large public retirement systems.

Respectfully submitted,



Joseph P. Newton, FSA, MAAA, EA
Pension Market Leader and Actuary



Brad Stewart, ASA, MAAA, EA
Consultant



Paul T. Wood, ASA, MAAA, FCA
Consultant

J:\3014\2020\PensionVal\Reports\JRBT\JDGSval2020.doc



Actuarial Standards of Practice Disclosure Statements

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.

This report should not be relied on for any purpose other than the purpose described above. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

The valuation was based upon information furnished by the System's staff, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the System's staff.

The developed findings included in this report consider data or other information through June 30, 2020.

This is one of multiple documents comprising the actuarial report. The other document comprising the actuarial report is a PowerPoint presentation presented to the Board of Trustees following the publication of this report.

Table of Contents

	<u>Page</u>
Section 1 Executive Summary.....	1
Section 2 Discussion.....	2
Section 3 Tables	
1 – Development of Contribution Rate	7
2 – Summary of Unfunded Liability.....	8
3 – Actuarial Present Value of Future Benefits	9
4 – Schedule of Funding Progress.....	10
5 – Notes to Required Supplementary Information	11
6 – Plan Net Assets.....	12
7 – Reconciliation of Plan Net Assets	13
8– Development of Actuarial Value of Assets.....	14
9– Distribution of Assets at Market Value	15
10– History of Investment Return Rates	16
11a – Analysis of Change in Employer Cost	17
11b – History of Employer Contribution Rates	18
11c – Analysis of Change in UAAL.....	19
12 – Membership Data	20
13 – Historical Summary of Active Member Data.....	21
14 – Distribution of Active Members by Age and By Years of Service	22
Appendix A Summary of Actuarial Methods and Assumptions.....	24
Appendix B Summary of Benefit Provisions.....	30
Appendix C Risk Associated with Measuring the Accrued Liability and Actuarially Determined Contribution	36
Glossary Glossary.....	39

Executive Summary

Item	Valuation Date	
	June 30, 2020	June 30, 2019
Membership <ul style="list-style-type: none"> Number of: <ul style="list-style-type: none"> Active members 54 55 Retirees and beneficiaries 27 26 Inactive members 1 1 Total 82 82 Payroll supplied by ERSRI, annualized \$ 10,220,315 \$ 9,928,890 		
Contribution rates <ul style="list-style-type: none"> Member 12.00% 12.00% State 24.16% 21.82% 		
Assets <ul style="list-style-type: none"> Market value \$ 80,157,921 \$ 77,612,617 Actuarial value 82,419,083 78,027,132 Return on market value 3.7% 6.5% Return on actuarial value 6.1% 6.7% Employer contribution \$ 2,189,255 \$ 1,922,023 Ratio of actuarial value to market value 102.8% 100.5% 		
Actuarial Information <ul style="list-style-type: none"> Employer normal cost % 20.61% 20.43% Unfunded actuarial accrued liability (UAAL) \$ 6,115,457 \$ 3,233,807 Amortization rate 3.55% 1.39% Funding period 20 years 20 years Funded ratio 93.1% 96.0% 		
Projected employer contribution <ul style="list-style-type: none"> Fiscal year ending June 30, 2023 2022 Projected payroll \$ 11,053,790 \$ 10,543,939 Projected employer contribution 2,670,596 2,300,687 		

Discussion (Contribution Rates)

The employer contribution rate for the JRBT is determined actuarially. The rate determined in each valuation becomes effective two years after the valuation date, in this case as of July 1, 2022.

The rate consists of two pieces: the normal cost rate and the amortization rate. The normal cost rate is the employer's Entry Age normal cost, expressed as a percentage of active member payroll. The amortization rate is the contribution required to amortize each of the laddered bases that comprise the unfunded actuarial accrued liability over closed period as a level percentage of payroll. Payment for each base is generally calculated based on a 20 year amortization period beginning 2 years after they are established. The impact of the experience study was divided into separate "stagers" with the first payment beginning in FY2020 over a 20 year period. Other staggers will begin payment in FY2021 through FY2024 with amortization periods decreasing by one year for each year past FY2020 in which payment begins (e.g. the FY2024 stagger will have a 16 year amortization period). The amortization rate is adjusted for the fact that the contribution rate set by this valuation is deferred for two years. Should the JRBT become overfunded, the UAAL will be amortized using a single base over a period of 20 years.

The increase in the employer contribution rate, from 21.82% to 24.16% of payroll, was primary due to changes in assumptions, the recognition of 2017 assumption changes and salary losses.

An analysis of the changes in the employer contribution rate appears in Table 11a of this report and a history of the employer contribution rates appears in Table 11b. Table 11c shows a reconciliation of the UAAL.

Discussion (Financial Data and Experience)

Assets for the JRBT are held in trust and are commingled with those of several other plans and programs—including the Employees' Retirement System of Rhode Island—for investment purposes. The State Investment Commission is responsible for setting the asset allocation policy and for investing the funds.

Table 6 shows the net plan assets for the JRBT. Table 7 shows a reconciliation of the assets between the previous valuation and this valuation. Table 8 shows the development of the actuarial value of assets. Table 9 shows the distribution of investments by category — 60% of assets are held in equities, including real estate and private equity — and Table 10 shows a historical summary of the return rates. As can be seen, the market value rate of return was 3.7% for the year ended June 30, 2020, and the return on an actuarial asset value basis was 6.1%.

The average annual return based on the market value of assets over the last ten years (July 1, 2020 – June 30, 2020) was 7.7%. This is more than the current 7.00% annual investment return assumption. The average annual return based on the actuarial value of assets over the same period was 6.38%.

All returns above are net of both investment and administrative expenses and may differ from other information provided by the General Treasurer's office or the investment managers and advisors.

The System's staff provided all of the financial information used in this report.

Discussion (Member Data)

The System's staff supplied member data as of June 30, 2020. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year's data, and was reasonable overall. Information provided for active members includes: name, identification number, sex, a code indicating whether the member was active or inactive, date of birth, service, salary, date of last contribution, and accumulated member contributions without interest. For retired members, data includes: name, an identification number, sex, date of birth, date of retirement, amount of benefit (original, COLA, gross), a code indicating the option elected and the type of retiree (service retiree, disabled retiree, beneficiary), and if applicable, the joint pensioner's date of birth and sex.

Table 12 and Table 13 show information and statistics about the active and retired members. Table 14 shows the distribution of active members by age and service.

The total payroll shown on the statistical tables is the amount that was supplied by the System's staff. For the cost calculations, the earnings were adjusted in accordance with the actuarial assumptions to reflect one year's salary increase.

Discussion (Benefit Provisions)

Appendix B includes a summary of the benefit provisions for the JRBT. There were no changes in the benefit provisions since the preceding valuation. Also, there are no ancillary benefits—e.g., cost of living benefits—that are currently provided by a source independent of the JRBT but that might be deemed a liability of the JRBT if continued beyond the availability of funding by the current funding source.

The COLA to be provided to retired members is contingent on the investment performance, the annual change in the CPI-U, and funded status of the System. The amount of the COLA is determined based on 50% of the plan's five-year average investment rate of return minus 5.0% and will range from zero to 4.0%, and 50% of the lesser of 3% or last year's CPI-U increase for a total maximum increase of 3.50%. This calculation produces a 1.06% COLA for Calendar Year 2020. The COLA will be limited and this limit will be indexed annually to increase in the same manner as COLAs, with the known values of \$25,855 for 2016, \$26,098 for 2017, \$26,290 for 2018, \$26,687 for 2019, \$27,184 for 2020, \$27,608 for 2021, and \$27,472 for 2022.

Furthermore, the COLA will be suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The first interim COLA was during the Calendar Year beginning January 1, 2017. Also, for current retirees and beneficiaries retired on or before July 1, 2015 the \$25,000 cap will be increased to \$30,000 (indexed) for any COLA payable based on the every fourth year provision.

Discussion (Actuarial Methods and Assumptions)

Appendix A of this report includes a summary of the actuarial assumptions and methods used in this valuation.

Costs are determined using the Entry Age Normal actuarial cost method. This method was initially adopted effective June 30, 1999 and was modified, effective June 30, 2011, to be consistent with the Act and the standards outlined in the GASB Statement No. 67 exposure draft, which has now been finalized.

The method used to determine the actuarial value of assets is the five-year smoothed market method. This technique is further described in Section III of Appendix A. The development of the actuarial value of assets utilizing this method is shown on Table 8.

The assumptions were adopted by the Board on May 22, 2020. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of the JRBT.

Table 1

Development of Contribution Rate (Judges)

	June 30, 2020	June 30, 2019	
		New Assumptions	Valuation Result
	(1)	(2)	(3)
1. Compensation			
(a) Supplied by ERSRI, annualized	\$ 10,220,315	\$ 9,928,890	\$ 9,928,890
(b) Adjusted for one-year's pay increase	10,470,021	9,914,551	9,938,674
2. Actuarial accrued liability	88,534,540	83,589,474	81,260,939
3. Actuarial value of assets	82,419,083	78,027,132	78,027,132
4. Unfunded actuarial accrued liability (UAAL) (2 - 3)	6,115,457	5,562,342	3,233,807
5. Remaining amortization period at valuation date	20	20	20
6. Contribution effective for fiscal year ending:	June 30, 2023	June 30, 2022	June 30, 2022
7. Base pay projected for two-year delay	11,053,790	10,467,349	10,543,939
8. Amortization of UAAL	392,493	345,231	146,596
9. Normal cost			
(a) Total normal cost rate	32.61%	32.65%	32.43%
(b) Employee contribution rate	12.00%	12.00%	12.00%
(c) Employer normal cost rate (a - b)	20.61%	20.65%	20.43%
10. Employer contribution rate as percent of payroll			
(a) Employer normal cost rate	20.61%	20.65%	20.43%
(b) Amortization payments (8 / 7)	3.55%	2.43%	1.39%
(c) Total (a + b)	24.16%	23.08%	21.82%
11. Estimated employer contribution amount (7 * 10(c))	\$ 2,670,596	\$ 2,506,930	\$ 2,300,687

Table 2

Summary of Unfunded Liability

Purpose	Remaining Balance as of June 30, 2020	Fiscal Year 2021 Amortization Payment *	Fiscal Year 2022 Amortization Payment *	Fiscal Year 2023 Amortization Payment *	Years Remaining Beginning with Fiscal Year 2023
Original 2011 RIRSA Base	5,998,589	532,853	548,839	572,844	13
2014 Experience Base	(3,559,696)	(301,583)	(310,630)	(324,541)	14
2014 Mediation Settlement	281,616	23,859	24,575	25,675	14
2015 Experience Base	(1,330,292)	(107,901)	(111,138)	(116,229)	15
2016 Experience Base	(842,789)	(65,665)	(67,635)	(70,802)	16
2016 Assumption Change - FY20 Stagger **	254,190	19,081	19,653	20,594	17
2016 Assumption Change - FY21 Stagger **	2,904,634	218,039	224,580	235,322	17
2016 Assumption Change - FY22 Stagger **	1,148,859	-	95,778	100,359	17
2016 Assumption Change - FY23 Stagger **	1,148,859	-	-	108,534	17
2016 Assumption Change - FY24 Stagger **	1,148,859	-	-	-	17
2017 Experience Base	(1,340,760)	(100,645)	(103,664)	(108,623)	17
2018 Experience Base	(3,006,834)	(218,038)	(224,579)	(235,543)	18
2019 Experience Base	654,938	-	50,817	53,347	19
2019 Assumption Change - FY23 Stagger**	1,245,766	-	-	117,689	17
2019 Assumption Change - FY24 Stagger**	1,245,766	-	-	-	17
New Experience Base This Fiscal Year	163,751	-	-	13,869	20
Unfunded Actuarial Accrued Liability	\$ 6,115,457	\$ -	\$ 146,596	\$ 392,493	

*Assuming payment made at the middle of the year.

**Assumption change staggers will begin in the fiscal year indicated. The stagger was accelerated in FY21 so that the FY2021 amortization payment would not be a credit when the UAAL was still positive.

Table 3

Actuarial Present Value of Future Benefits

	June 30, 2020 (1)
1. Active members	
a. Service retirement benefits	\$ 69,446,214
b. Deferred termination benefits	-
c. Refunds	-
d. Pre-retirement death benefits	537,702
e. Non-occupational disability retirement benefits	-
f. Occupational disability retirement benefits	-
g. Total	<u>\$ 69,983,916</u>
2. Retired members	
a. Service retirements	\$ 31,582,456
b. Disability retirements	-
c. Beneficiaries	3,255,365
d. Total	<u>\$ 34,837,821</u>
3. Inactive members	<u>\$ 182,320</u>
4. Total actuarial present value of future benefits	\$ 105,004,057
5. Determination of actuarial accrued liability	
a. Total actuarial present value of future benefits	\$ 105,004,057
b. Less present value of future normal costs	<u>(16,469,517)</u>
c. Actuarial accrued liability (a + b)	<u>\$ 88,534,540</u>

Table 4

Schedule of Funding Progress

Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL) (3)-(2)	Funded Ratio (2)/(3)	Annual Covered Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
June 30, 2003	\$ 13,270,977	\$ 18,435,395	\$ 5,164,418	72.0%	\$ 5,303,153	97.4%
June 30, 2004	16,019,053	21,845,744	5,826,691	73.3%	5,637,865	103.3%
June 30, 2005	19,347,372	22,250,728	2,903,356	87.0%	5,684,585	51.1%
June 30, 2006	23,873,009	27,504,102	3,631,093	86.8%	6,313,069	57.5%
June 30, 2007 ¹	29,630,637	35,355,326	5,724,689	83.8%	6,451,666	88.7%
June 30, 2008 ²	34,670,394	38,115,602	3,445,208	91.0%	6,601,889	52.2%
June 30, 2009	36,839,221	41,738,040	4,898,819	88.3%	6,843,454	71.6%
June 30, 2010	38,074,287	48,941,360	10,867,073	77.8%	7,461,120	145.6%
June 30, 2010 ³	38,074,287	46,641,701	8,567,414	81.6%	7,461,120	114.8%
June 30, 2011	40,105,919	46,594,407	6,488,488	86.1%	8,474,716	76.6%
June 30, 2012	43,428,646	52,085,154	8,656,508	83.4%	8,822,823	98.1%
June 30, 2013 ⁴	47,640,773	54,429,531	6,788,758	87.5%	8,975,536	75.6%
June 30, 2014 ⁵	53,830,516	57,504,663	3,674,147	93.6%	9,309,572	39.5%
June 30, 2015	60,004,470	61,963,672	1,959,202	96.8%	9,285,354	21.1%
June 30, 2016	64,401,616	65,287,527	885,911	98.6%	9,034,080	9.8%
June 30, 2017	68,784,251	73,728,347	4,944,096	93.3%	9,569,304	51.7%
June 30, 2018	73,673,771	76,198,297	2,524,526	96.7%	9,237,641	27.3%
June 30, 2019	78,027,132	81,260,939	3,233,807	96.0%	9,928,890	32.6%
June 30, 2019 ⁶	78,027,132	83,589,474	5,562,342	93.3%	9,928,890	56.0%
June 30, 2020	82,419,083	88,534,540	6,115,457	93.1%	10,220,315	59.8%

¹ Reflects the benefit changes enacted by Article 35.

² Restated to reflect the benefit changes enacted by Article 16.

³ Restated after reflecting the Rhode Island Retirement Security Act of 2011.

⁴ Restated to reflect recommended salary scale assumption.

⁵ Restated to reflect impact of Article 21.

⁶ June 30, 2019 results after assumption changes.



Table 5

Notes to Required Supplementary Information

Valuation date	June 30, 2020
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage, closed
Remaining amortization period	20 years
Asset valuation method	5-Yr Smoothed Market
Actuarial assumptions:	
Investment rate of return:	7.00% *
Projected salary increase:	2.75% *
Cost of living adjustment	2.10% **

* Includes inflation at 2.50%.

** COLAs are currently suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%. It is assumed that the COLAs will be suspended for 7 years due to the current funding level of the plans; however, an interim COLA may be granted in four-year intervals while the COLA is suspended.

Table 6

Plan Net Assets
(Assets at Market or Fair Value)

Item (1)	June 30, 2020 (2)	June 30, 2019 (3)
1. Cash and cash equivalents	\$ 142,388	\$ 56,330
2. Receivables:		
a. Employer and member contributions	\$ 515	\$ 746
b. Transfers receivable	0	0
c. Miscellaneous	19,209	24,206
d. Total receivables	\$ 19,724	\$ 24,952
3. Investments		
a. Pooled trust	\$ 80,045,574	\$ 77,568,670
b. Plan specific investments	0	0
c. Total	\$ 80,045,574	\$ 77,568,670
4. Invested securities lending collateral	\$ 0	\$ 0
5. Property and equipment	\$ 0	\$ 0
6. Total assets	\$ 80,207,686	\$ 77,649,952
7. Liabilities		
a. Other post-employment benefit liability, net	\$ 0	\$ 0
b. Securities lending liability	0	0
c. Accounts and vouchers payable	49,765	37,335
d. Total liabilities	\$ 49,765	\$ 37,335
8. Total market value of assets available for benefits		
Total (Item 6 - Item 7)	\$ 80,157,921	\$ 77,612,617

Table 7

Reconciliation of Plan Net Assets

Item (1)	June 30, 2020 (2)	June 30, 2019 (3)
1. Market value of assets as of beginning of year		
a. Market value of assets as of beginning of year	\$ 77,612,616	\$ 73,443,894
b. Adjustment for market value of assets	0	0
c. Adjusted market value of assets as of beginning of year	\$ 77,612,616	\$ 73,443,894
2. Contributions		
a. Members	\$ 1,204,448	\$ 1,109,161
b. State	2,189,255	1,922,023
c. Service purchases	0	0
d. Total	\$ 3,393,703	\$ 3,031,184
3. Investment earnings, net of investment and administrative expenses	\$ 2,875,722	\$ 4,746,383
4. Expenditures for the year		
a. Benefit payments	\$ (3,656,689)	\$ (3,535,440)
b. Cost-of-living adjustments	(67,430)	(73,405)
c. Post-retirement death benefits	0	0
d. Pre-retirement death benefits	0	0
e. Social security supplements	0	0
f. Supplemental pensions	0	0
g. Refunds	0	0
h. Total expenditures	\$ (3,724,119)	\$ (3,608,845)
5. Transfers and other adjustments	\$ 0	\$ 0
6. Market value of assets at end of year	\$ 80,157,922	\$ 77,612,616

Table 8

Development of Actuarial Value of Assets

						Year Ending June 30, 2020
1. Market value of assets at beginning of year						\$ 77,612,616
2. Net new investments						
a. Contributions						\$ 3,393,703
b. Benefits paid						(3,724,119)
c. Refunds						0
d. Subtotal						(330,416)
3. Market value of assets at end of year						\$ 80,157,922
4. Net earnings (3-1-2)						\$ 2,875,722
5. Assumed investment return rate						7.00%
6. Expected return						\$ 5,421,319
7. Excess return (4-6)						\$ (2,545,597)
8. Development of amounts to be recognized as of June 30, 2020:						
Fiscal Year End	Remaining Deferrals of Excess (Shortfall) of Investment Income	Offsetting of Gains/(Losses)	Net Deferrals Remaining	Years Remaining	Recognized for this valuation	Remaining after this valuation
	(1)	(2)	(3) = (1) + (2)	(4)	(5) = (3) / (4)	(6) = (3) - (5)
2016	\$ (114,939)	\$ 0	\$ (114,939)	1	\$ (114,939)	\$ 0
2017	0	0	0	2	0	0
2018	0	0	0	3	0	0
2019	(299,577)	0	(299,577)	4	(74,894)	(224,683)
2020	(2,545,597)	0	(2,545,597)	5	(509,119)	(2,036,478)
	\$ (2,960,113)	\$ 0	\$ (2,960,113)		\$ (698,952)	\$ (2,261,161)
9. Actuarial value of assets as of June 30, 2020 (Item 3 - Item 8)						\$ 82,419,083
10. Ratio of actuarial value to market value						102.8%

*Values of \$0 result from the beginning balance being offset by future gains or losses in the opposite direction.

Table 9

Distribution of Assets at Market Value (Percentage of Total Investments)

Item (1)	June 30, 2020 (2)
US Equity	23.0%
International Developed Equity	12.1%
Emerging Markets Equity	4.9%
Private Equity	11.3%
Non-Core Real Estate	2.2%
Opportunistic Private Credit	1.5%
High Yield Infrastructure	1.0%
REITS	1.0%
Liquid Credit	2.8%
Private Credit	3.2%
Treasury Duration	5.0%
Systematic Trend	5.0%
Core Real Estate	3.6%
Private Infrastructure	2.4%
TIPs	2.0%
IG Corp Credit	3.2%
Equity Options	2.0%
EMD (50/50 Blend)	2.0%
Securitized Credit	3.3%
Absolute Return	6.5%
Cash	2.0%
Total investments	100.0%

Table 10

History of Investment Return Rates

Year Ending June 30 of (1)	Market (2)	Actuarial (3)
1995	17.0%	10.2%
1996	13.7%	13.7%
1997	19.1%	19.1%
1998	16.1%	16.5%
1999	10.1%	14.7%
2000	9.1%	8.8%
2001	-11.0%	4.9%
2002	-8.4%	0.9%
2003	4.3%	1.4%
2004	18.0%	4.1%
2005	10.2%	5.9%
2006	11.6%	8.8%
2007	18.2%	12.2%
2008	-5.9%	9.1%
2009	-19.5%	1.9%
2010	13.4%	1.2%
2011	19.4%	3.2%
2012	1.6%	5.4%
2013	10.7%	6.6%
2014	15.0%	8.6%
2015	2.2%	7.6%
2016	0.0%	5.7%
2017	11.6%	6.1%
2018	7.8%	6.7%
2019	6.5%	6.7%
2020	3.7%	6.1%
Average Returns:		
Last 5 Years	5.8%	6.3%
Last 10 Years	7.7%	6.3%
Since 1995	7.0%	7.4%

Table 11a

Analysis of Change in Employer Cost

Basis	Employer Cost
1. Employer contribution rates from prior valuation	21.82%
2. Impact of changes, gains and losses	
a. Non-salary normal cost and liability experience (gain)/loss	-1.27%
b. Salary (gain)/loss	0.89%
c. Total payroll growth (gain)/loss	-0.08%
d. Investment experience (gain)/loss	0.56%
e. Recognition of 2017 Assmption Changes	0.98%
f. Changes in assumptions	1.26%
g. Changes in plan provisions	0.00%
i. Total	2.34%
3. Employer contribution rates from current valuation	24.16%

Table 11b**History of Employer Contribution Rates**

Valuation Date as of June 30,	Fiscal Year Ending June 30,	Employer Contribution Rate
(1)	(2)	(3)
1999	2002	31.58%
2000	2003	33.42%
2001	2004	33.90%
2002	2005	36.19%
2003	2006	35.51%
2004	2007	36.07%
2005	2008	32.07%
2006	2009	24.06% ¹
2007	2010	16.19% ²
2008	2011	16.19% ²
2009	2012	18.69%
2010	2013	19.69% ³
2011	2014	27.28%
2012	2015	28.32%
2013	2016	26.80%
2014	2017	21.58% ⁴
2015	2018	21.13%
2016	2019	20.28%
2017	2020	21.30%
2018	2021	21.61%
2019	2022	21.82%
2020	2023	24.16%

¹ Reflects changes in benefit provisions enacted by Article 35.

² Restated to reflect changes in benefit provisions enacted by Article 16.

³ Restated after reflecting the Rhode Island Retirement Security Act of 2011.

⁴ Restated after reflecting the impact of Article 21.

Table 11c**Analysis of Change in UAAL**

Basis (1)	June 30, 2020 (2)
1. UAAL as of June 30, 2019:	\$ 3,234
2. Impact of changes, gains and losses	
a. Interest at 7.00% for one year	226
b. Expected amortization payments	(0)
c. Investment experience (gain)/loss	728
d. Salary (gain)/loss	1,135
e. Non-salary liability experience (gain)/loss	(1,700)
f. Changes in assumptions	2,492
g. Changes in plan provisions	0
i. Total	\$ 2,881
3. UAAL as of June 30, 2020:	\$ 6,115

Note: All dollar figures are shown in thousands.

Table 12

Membership Data (State Judges)

	<u>June 30, 2020</u>	<u>June 30, 2019</u>
	(1)	(2)
1. Active members		
a. Number	54	55
b. Number eligible to retire	15	14
c. Total annualized payroll supplied by State	\$ 10,220,315	\$ 9,928,890
d. Average salary	\$ 189,265	\$ 180,525
e. Average age	61.3	60.5
f. Average service	11.7	10.6
2. Inactive members		
a. Number	1	1
3. Service retirees		
a. Number	21	21
b. Total annual benefits	\$ 3,285,077	\$ 3,356,148
c. Average annual benefit	\$ 156,432	159,817
d. Average age	74.1	73.4
4. Disabled retirees		
a. Number	0	0
b. Total annual benefits	\$ 0	\$ 0
c. Average annual benefit	N/A	N/A
d. Average age	N/A	N/A
5. Beneficiaries and spouses		
a. Number	6	5
b. Total annual benefits	\$ 415,352	\$ 335,327
c. Average annual benefit	\$ 69,225	\$ 67,065
d. Average age	79.3	79.4

Table 13

Historical Summary of Active Member Data

Valuation as of June 30, (1)	Active Members		Covered Payroll		Average Salary		Average Age (8)	Average Service (9)
	Number (2)	Percent Increase (3)	Amount (4)	Percent Increase (5)	Amount (6)	Percent Increase (7)		
1999	29	0.0%	3,169,183	4.3%	109,282	4.3%	55.0	5.9
2000	31	6.9%	3,533,354	11.5%	113,979	4.3%	55.9	6.5
2001	35	12.9%	4,092,423	15.8%	116,926	2.6%	55.4	6.4
2002	39	11.4%	4,738,059	15.8%	121,489	3.9%	55.6	7.5
2003	42	7.7%	5,303,153	11.9%	126,266	3.9%	55.8	7.6
2004	44	4.8%	5,637,865	6.3%	128,133	1.5%	56.9	8.2
2005	44	0.0%	5,684,585	0.8%	129,195	0.8%	58.3	8.4
2006	45	2.3%	6,313,069	11.1%	140,290	8.6%	58.3	9.0
2007	44	-2.2%	6,451,666	2.2%	146,629	4.5%	59.0	9.8
2008	43	-2.3%	6,601,889	2.3%	153,532	4.7%	59.4	10.4
2009	45	4.7%	6,843,454	3.7%	152,077	-0.9%	58.6	10.0
2010	49	8.9%	7,461,120	9.0%	152,268	0.1%	58.8	10.2
2011	54	10.2%	8,474,716	13.6%	156,939	3.1%	58.8	9.6
2012	53	-1.9%	8,822,823	4.1%	166,468	6.1%	59.7	10.5
2013	54	1.9%	8,975,536	1.7%	166,214	-0.2%	60.2	10.9
2014	56	3.7%	9,309,572	3.7%	166,242	0.0%	60.9	11.1
2015	54	-3.6%	9,285,354	-0.3%	171,951	3.4%	61.6	11.4
2016	52	-3.7%	9,034,080	-2.7%	173,732	1.0%	61.5	11.2
2017	55	5.8%	9,569,304	5.9%	173,987	0.1%	62.0	11.4
2018	53	-3.6%	9,237,641	-3.5%	174,295	0.2%	62.0	11.5
2019	55	3.8%	9,928,890	7.5%	180,525	3.6%	60.5	10.6
2020	54	-1.8%	10,220,315	2.9%	189,265	4.8%	61.3	11.7

DRAFT

Table 14

Distribution of Active Members by Age and by Years of Service As of June 30, 2020

Attained Age	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.
Under 30	0	0	0	0	0	0	0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30-34	0	0	0	0	0	0	0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
35-39	0	2	0	0	0	0	0	0	0	0	0	0	2
	\$0	\$165,356	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$165,356
40-44	0	0	0	0	0	0	0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
45-49	0	0	0	0	0	1	0	0	0	0	0	0	1
	\$0	\$0	\$0	\$0	\$0	\$192,204	\$0	\$0	\$0	\$0	\$0	\$0	\$192,204
50-54	0	3	1	1	1	0	2	0	0	0	0	0	8
	\$0	\$167,066	\$183,468	\$192,204	\$175,438	\$0	\$185,136	\$0	\$0	\$0	\$0	\$0	\$177,823
55-59	0	1	1	1	0	2	4	0	0	0	0	0	9
	\$0	\$172,755	\$169,213	\$179,058	\$0	\$178,253	\$182,076	\$0	\$0	\$0	\$0	\$0	\$178,426
60-64	0	0	1	1	1	2	2	6	0	0	0	0	13
	\$0	\$0	\$169,213	\$170,324	\$169,897	\$175,257	\$196,739	\$195,386	\$0	\$0	\$0	\$0	186,596
65-69	0	0	0	0	0	6	2	7	2	4	0	0	21
	\$0	\$0	\$0	\$0	\$0	\$194,289	\$195,306	\$201,898	\$202,330	\$217,236	\$0	\$0	\$202,059
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	0	6	3	3	2	11	10	13	2	4	0	0	54
	\$0	\$167,444	\$173,964	\$180,529	\$172,668	\$187,723	\$188,267	\$198,893	\$202,330	\$217,236	\$0	\$0	\$189,265

APPENDIX A

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

APPENDIX A

Summary of Actuarial Methods and Assumptions

I. Valuation Date

The valuation date is June 30th of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial accrued liability (UAAL).

1. First, the actuarial present value of future benefits is determined by discounting the projected benefits for each member back to the valuation date using the assumed investment return rate as the discount rate. For active members, the projected benefits are based on the member's age, service, sex and compensation, and based on the actuarial assumptions. The calculations take into account the probability of the member's death, disability, or termination of employment prior to becoming eligible for a retirement benefit, as well as the possibility of the member will remain in service and receive a service retirement benefit. Future salary increases are anticipated. The present value of the expected benefits payable to all active members is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits. Liabilities for future members are not included.
2. The employer contributions required to support the benefits are determined as a level percentage of salary, and consist of a normal contribution and an amortization contribution.
3. The normal contribution is determined using the Entry Age Normal method. Under this method, a calculation is made to determine the rate of contribution which, if applied to the compensation of each individual member during the entire period of anticipated covered service, would be required to meet the cost of all benefits payable on his behalf. The salary-weighted average of these rates is the normal cost rate. This calculation reflects the plan provisions that apply to each individual member.
4. The employer normal cost rate is equal to (i) the normal cost rate, minus (ii) the member contribution rate.

5. The actuarial accrued liability is equal to the present value of all benefits less the present value of future normal costs. The unfunded actuarial accrued liability (UAAL) is then determined as (i) the actuarial accrued liability, minus (ii) the actuarial value of assets.
6. The amortization contribution rate is the level percentage of payroll required to reduce the UAAL to zero over the remaining amortization period. The employer contribution rate determined by this valuation will not be effective until two years after the valuation date. The determination of the contribution rate reflects this deferral. The amortization payment for the applicable fiscal year is first determined based on the individual amortization bases. The covered payroll is projected forward for two years, and we then determine the amortization rate by dividing the amortization payment by the projected payroll. Contributions are assumed to be made monthly throughout the year.
 - (a) The UAAL was initially being amortized over the remainder of a closed 30-year period from June 30, 1999. In conjunction with The Rhode Island Retirement Security Act of 2011, the amortization period was reset to 25 years as of June 30, 2010 for the UAAL that existed at that time. New gains and losses each year will be amortized over individual 20 year periods. At any time that the System is in an overfunded status, the amortization schedule will be a rolling 20 year amortization of any surplus.

III. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

APPENDIX A (Continued)

IV. Actuarial Assumptions

A. Economic Assumptions

1. Investment return: 7.00% per year, compounded annually, composed of an assumed 2.50% inflation rate and a 4.50% net real rate of return. This rate represents the assumed return, net of all investment and administrative expenses.

2. Salary increase rate: Salaries are assumed to increase at the rate of 2.75% per year.

Salary increases are assumed to occur once a year, on July 1. Therefore the pay used for the period between the valuation date and the first anniversary of the valuation date is equal to the reported pay for the prior year, increased by the salary increase assumption.

3. Payroll growth rate: In the amortization of the unfunded frozen liability, payroll is assumed to increase 2.75% per year. This assumption includes no allowance for future membership growth.
4. Post-retirement Benefit Increase: Post-retirement benefit increases are assumed to be 2.1%, per annum, while the plan has a funding level that exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The first such COLA will be applicable in Calendar Year 2017. As of June 30, 2019, it is assumed that the COLAs will be suspended for 8 years due to the current funding level of the plans. The actual amount of the COLA is determined based on 50% of the plan's five-year average investment rate of return minus 5.0% which will range from zero to 4.0%, and 50% of the lesser of 3% or last year's CPI-U increase for a total maximum increase of 3.50%.

B. Demographic Assumptions

1. Post-termination mortality rates (non-disabled lives)
 - a. Male: PUB(10) Above Median Table for Healthy General Employee Males, projected with Scale Ultimate MP16.
 - b. Females: PUB(10) Above Median Table for Healthy General Employee Females, projected with Scale Ultimate MP16.
2. Post-termination mortality rates (disabled lives)
 - a. Males: PUB(10) Tables for Disabled Retirees by Occupation for males, projected with Scale Ultimate MP16.
 - b. Females: PUB(10) Tables for Disabled Retirees by Occupation for females, projected with Scale Ultimate MP16.
3. Pre-termination mortality rates
 - a. Males: PUB(10) Tables for Disabled Retirees by Occupation for males, projected with Scale Ultimate MP16.
 - b. Females: PUB(10) Tables for Disabled Retirees by Occupation for females, projected with Scale Ultimate MP16.
4. Disability rates – None
5. Termination rates – None
6. Retirement rates – 33% of members are assumed to retire when first eligible for a reduced retirement benefit (age 65 with 10 years of service, or any age with 20 years of service). All other members are assumed to retire when eligible for an unreduced retirement benefit (age 65 with 20 years of service, or age 70 with 15 years of service). Judges who have not reached eligibility for a retirement benefit by age 75 are assumed to terminate at age 75 and receive either a reduced retirement benefit, if eligible, or a refund.

C. Other Assumptions

1. Percent married: 85% of employees are assumed to be married.
2. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
3. Remarriage: It is assumed that no surviving spouse will remarry and there will be no children's benefit.

4. All married members appointed after January 1, 2009 will elect the optional spouse's coverage at retirement.
5. Investment and administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.

V. Participant Data

Participant data was supplied in electronic files for active members and retirees. The data for active members included birth date, sex, service, salary and employee contribution account balance. For retired members and beneficiaries, the data included date of birth, sex, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and a form of payment code.

APPENDIX B

SUMMARY OF BENEFIT PROVISIONS

APPENDIX B

Summary of Benefit Provisions

1. Effective Date and Authority: The Judicial Retirement Benefits Trust (JRBT) became effective on January 1, 1990 for judges hired on or after that date. Benefits are described in Rhode Island General Laws, Title 8, Chapters 3, 8, and 16, Title 28, Chapter 30, and Title 31, Chapter 43.
2. Plan Year: A twelve-month period ending June 30th.
3. Administration: The Judicial Retirement Benefits Trust is administered by the State of Rhode Island Retirement Board. However, the State Investment Commission is responsible for the investment of the trust assets, including the establishment of the asset allocation policy. Assets are commingled for investment purposes with those of the Employees' Retirement System of Rhode Island and various other plans and programs.
4. Type of Plan: The Judicial Retirement Benefits Trust is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is a single-employer plan.
5. Eligibility: All judges or justices of the Supreme Court, a superior court, a district court, a family court, an administrative adjudication court or a workers' compensation court participate in this plan if they were hired on or after January 1, 1990. (These are referred to collectively as state judges.) Benefits for state judges hired before January 1, 1990 are being paid by the state from the general assets of the state, on a pay-as-you-go basis. Eligible state judges become members at their date of employment.
6. Salary: Contributions are based on the judge's salary. Benefits are based on the judge's salary at the time of retirement.
7. Employee Contributions: State judges contribute 8.75% of their salary per year. Effective July 1, 2012, State judges (excluding justices of supreme, superior, family, and district courts) will contribute 12.00% of their salary per year. Active justices of supreme, superior, and family courts as of June 30, 2011 contribute the rate in effect as of June 30, 2012. The State "picks up" the members' contributions for its employees under the provisions of Internal Revenue Code (IRC) Section 414(h).

8. Employer Contributions: The State contributes an actuarially determined percentage of the member's annual salary. Contributions determined in a given actuarial valuation go into effect two years after the actuarial valuation.
9. Final Average Compensation (FAC)
- a. For judges who became members on or before July 2, 1997, one-twelfth of the judge's annual salary at the time of retirement.
 - b. For judges who became members after July 2, 1997 but before July 1, 2009, one-twelfth of the average of the judge's highest three consecutive annual salaries.
 - c. For judges who became members on or after July 1, 2009, one-twelfth of the average of the judge's highest five consecutive annual salaries.
 - d. Benefits for death while an active member are based on the member's salary at the time of death, regardless of when the judge became a member.
10. Full Retirement
- a. Eligibility: All judges are eligible for unreduced retirement at or after age 65 if the judge has served for 20 years, or at or after age 70 after 15 years of service.
 - b. Monthly Benefit:
 - (i) Judges who were appointed prior to January 1, 2009 receive 100% of FAC at retirement.
 - (ii) Judges who were appointed on or after January 1, 2009 but prior to July 1, 2009 receive 90% of FAC at retirement, and take an additional 10% reduction to 80% of FAC at retirement if they wish to elect the spouse's death benefit.
 - (iii) Judges who were appointed on or after July 1, 2009 receive 80% of FAC at retirement, or 70% of FAC at retirement if they wish to elect the spouse's death benefit.
 - c. Payment Form: Benefits are paid as a monthly life annuity. Members appointed prior to January 1, 2009 automatically receive the spouse's death benefit described below. Members appointed on or after January 1, 2009 must elect to a reduced benefit as described above if they wish to receive the spouse's death benefit. There are no other optional forms of payment available.

- d. Death Benefit: After the death of a retired member, if the member was married, 50% of the retiree's benefit is paid to the surviving spouse for life (or until remarriage) if spouse's death benefit is elected. (No election or benefit reduction is required for members appointed prior to January 1, 2009.)

11. Reduced Retirement

- a. Eligibility: A judge is eligible for a reduced retirement benefit at age 65 if the judge has served for 10 years, or at any age after 20 years of service.
- b. Reduced Retirement Benefit:
 - (i) For judges who were appointed prior to January 1, 2009: 75% of FAC at retirement.
 - (ii) For judges who were appointed on or after January 1, 2009 but prior to July 1, 2009: receive 70% of FAC at retirement, or take an additional 10% reduction to 60% of FAC at retirement if they wish to elect the spouse's death benefit.
 - (iii) For judges who were appointed on or after July 1, 2009: receive 65% of FAC at retirement, or 55% of FAC at retirement if they wish to elect the spouse's death benefit.
- c. Payment Form: Same as for Full Retirement.
- d. Death Benefit: Same as for Full Retirement.

12. Refunds

- a. Eligibility: All judges leaving covered employment for a reason other than death or retirement.
- b. Benefit: A lump-sum payment equal to the sum of his/her employee contributions. No interest is credited on these contributions.

13. Death Benefit of Active Members

After the death of an active member, if the member was married, a benefit will be paid to the spouse until his/her death or remarriage. The benefit is equal to 25% of the judge's salary at death if the member had less than seven years of service. If the judge had at least seven but less than 15 years of service, the benefit is equal to 1/3 of the judge's salary at death. If the judge had at least 15 years of service or if the judge was eligible for retirement, the spouse receives 50% of the judge's salary at death. Benefits are payable until the spouse's death or remarriage. Benefits may be paid to any minor

children after the death of the spouse. If an active member dies without having a spouse or minor children, a refund is paid to the member's beneficiary.

14. Post-retirement Benefit Increase:

- a. For members who retired or will be eligible for retirement as of June 12, 2010: members receive an increase equal to 3.00% of the original benefit each year, beginning in January of the year in which the member reaches the third anniversary of retirement. The increase applies to both retirement and death benefits. This increase is not tied in any way to actual increases in the cost of living. (Judges of the administrative adjudication and workers compensation courts receive a compound 3.00% increase, rather than a simple 3.00% increase.)
- b. For members who are or were formally justices of supreme, superior, family, and district courts and were not retired or were not eligible to retire as of June 12, 2010: The member will receive the first COLA upon the later of their third anniversary of retirement or when the member reaches age 65. The annual increase in the member's benefit will be equal to the lesser of their original benefit and the COLA limit in effect in the year the member retires, multiplied by the percentage increase in CPI up to a maximum of 3.0% per year. The COLA will be provided on a simple basis. The applicable annual COLA limit will be \$35,000 in 2010, and increase annually by the percentage increase in the Consumer Price Index (CPI) up to a maximum of 3.0% per year. No COLA would be paid on any part of the annual benefit in excess of this limit. The annual increase in the COLA limit will be determined on a compound basis.
- c. For members who are or were formally judges of the administrative adjudication court, traffic tribunal, and workers' compensation court and were not retired or were not eligible to retire as of June 12, 2010: The member will receive the first COLA upon the later of their third anniversary of retirement or when the member reaches age 65. The annual increase in the member's benefit will be equal to the lesser of the current benefit and the current COLA limit, multiplied by the percentage increase in CPI up to a maximum of 3.0% per year. The COLA will be provided on a compound basis. The applicable annual COLA limit will initially be \$35,000, and increase annually by the percentage increase in the Consumer Price Index (CPI) up to a maximum of 3.0% per year. No COLA would be paid on any part of the annual benefit in excess of this limit. The annual increase in the COLA limit will be determined on a compound basis.
- d. For members who retire after June 30, 2012: members will be eligible to receive cost of living increases at the later of the member's third anniversary of retirement and the month following their SSNRA.
- e. Effective July 1, 2012, the following provisions will apply to all members:

- (i) The COLA will be suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The first interim COLA may begin January 1, 2017.
 - (ii) Effective July 1, 2015, the COLA is determined based on 50% of the plan's five-year average investment rate of return less 5.5% limited to a range of 0.0% to 4.0%, plus 50% of the lesser of 3.0% or last year's CPI-U increase for a total maximum increase of 3.50%. Previously, it was the plan's five-year average investment rate of return less 5.5% limited to a range of 0.0% to 4.0%
 - (iii) The COLA will be limited to the first \$25,000 of the member's annual pension benefit. For retirees and beneficiaries who retired on or before July 1, 2015, years in which a COLA is payable based on the every fourth year provision described in (i) above will be limited to the first \$30,000. These limits will be indexed annually to increase in the same manner as COLAs, with the known values of \$25,000 for 2013, \$25,000 for 2014, \$25,168 for 2015, \$25,855 for 2016, \$26,098 for 2017, and \$27,472 for 2022.
- f. In addition to the scheduled increases described in section (e) above, there will be a one-time 2% COLA paid in FY2016 on the first \$25,000 of pension benefit for all retirees and beneficiaries who retired on or before June 30, 2012. There will also be two one-time stipends of \$500 payable in FY2016 and FY2017 to retirees and beneficiaries who retired on or before June 30, 2015.

APPENDIX C

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION

APPENDIX C

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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 scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

APPENDIX C (Continued)

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The computed contribution rate shown on page 9 may be considered as a minimum contribution rate that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	<u>June 30, 2020</u>	<u>June 30, 2019</u>	<u>June 30, 2018</u>
Ratio of the market value of assets to total payroll	7.8	7.8	8.0
Ratio of actuarial accrued liability to payroll	8.7	8.2	8.2
Ratio of actives to retirees and beneficiaries	2.0	2.1	2.3
Ratio of net cash flows to market value of assets	-0.4%	-0.8%	0.4%
Duration of the actuarial accrued liability	11.1	10.5	11.4

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 4.0 times the payroll, a return on assets 5% different than assumed would equal 20% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 5.5 times the payroll, a change in liability 2% other than assumed would equal 11% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

APPENDIX C (Continued)

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF ACTUARIAL ACCRUED LIABILITY

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

ADDITIONAL RISK ASSESSMENT

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability

GLOSSARY

Actuarial Accrued Liability (AAL): That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.

Actuarial Assumptions: Assumptions as to future experience under the Fund. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:

- mortality, withdrawal, disablement, and retirement;
- future increases in salary;
- future rates of investment earnings and future investment and administrative expenses;
- characteristics of members not specified in the data, such as marital status;
- characteristics of future members;
- future elections made by members; and
- other relevant items.

Actuarial Cost Method or Funding Method: A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ARC.

Actuarial Gain or Actuarial Loss: A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Fund's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

Actuarially Equivalent: Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

GLOSSARY (Continued)

Actuarial Present Value (APV): The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

- a) adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)
- b) multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
- c) discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits: The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members either entitled to a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would be provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation: The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB 25, such as the funded ratio and the ARC.

Actuarial Value of Assets or Valuation Assets: The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ARC.

Actuarially Determined: Values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

Amortization Method: A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing

GLOSSARY (Continued)

payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment: That portion of the pension plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Annual Required Contribution (ARC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB 25. The ARC consists of the Employer Normal Cost and the Amortization Payment.

Closed Amortization Period: A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.

Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.

Defined Benefit Plan: A retirement plan that is not a Defined Contribution Plan. Typically a defined benefit plan is one in which benefits are defined by a formula applied to the member's compensation and/or years of service.

Defined Contribution Plan: A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.

Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Experience Study: A periodic review and analysis of the actual experience of the Fund which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

Funded Ratio: The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA.

GLOSSARY (Continued)

Funding Period or Amortization Period: The term “Funding Period” is used it two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ARC. This funding period is chosen by the Board of Trustees. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.

GASB: Governmental Accounting Standards Board.

GASB 67 and GASB 68: Governmental Accounting Standards Board Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.

Normal Cost: That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.

Open Amortization Period: An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

Unfunded Actuarial Accrued Liability: The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.

GLOSSARY (Continued)

Valuation Date or Actuarial Valuation Date: The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

STATE POLICE RETIREMENT BENEFITS TRUSTSTATE OF RHODE ISLAND

ACTUARIAL VALUATION REPORT
AS OF JUNE 30, 2020





December 10, 2020

Retirement Board
40 Fountain Street, First Floor
Providence, RI 02903-1854

Dear Members of the Board:

Subject: Actuarial Valuation of the SPRBT as of June 30, 2020

This is the June 30, 2020 actuarial valuation of the State Police Retirement Benefits Trust (SPRBT). This report describes the current actuarial condition of the SPRBT, determines the recommended employer contribution rate, and analyzes changes in the contribution rate. Valuations are prepared annually, as of June 30, the last day of the SPRBT plan year. Benefits for State police officers hired before July 1, 1987 are funded by the State from general assets, on a pay-as-you-go basis, and are not included in this valuation.

Under Rhode Island General Laws, the employer contribution rate for the SPRBT is certified annually by the State of Rhode Island Retirement Board. This rate is determined actuarially, based on the plan provisions in effect as of the valuation date and the actuarial assumptions and methods adopted by the Board or set by statute. The Board's current policy is that the contribution rate determined by a given actuarial valuation becomes effective two years after the valuation date. For example, the rate determined by the June 30, 2020 actuarial valuation will be applicable for the year beginning July 1, 2022 and ending June 30, 2023.

Financing objectives and funding policy

The actuarial cost method and the amortization periods are set by statute. Normal cost rate (as a percent of pay) and actuarial accrued liabilities are computed using the Entry Age Normal actuarial cost method. The employer contribution rate is the sum of two pieces: the employer normal cost rate and the amortization rate. The employer normal cost rate is the difference between the normal cost rate and the member contribution rate. The amortization rate, also determined as a level percent of pay, is the amount required to amortize the unfunded actuarial accrued liability over a closed period. The amortization rate is adjusted for the two-year deferral in contribution rates.

Progress toward realization of financing objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. The funded status alone is not appropriate for assessing the need for future contributions. The funded status is also not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded ratio, as can be seen in Table 4 of this report, decreased from 84.9% to 84.1% between the valuations. The funded ratio decreased from the prior valuation primarily due to the change in assumptions and an asset loss due to a 6.10% return on the actuarial value compared to the assumed rate of 7.00%. If the market value of assets were used, rather than the actuarial value, the funded ratio would be 81.8%.

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.00% on the actuarial valuation of assets), it is expected that:

1. The amortization payment as a percentage of pay will increase through fiscal year 2024 as annual payments begin for each of four staggered bases established in connection with the experience study after which it will remain level through fiscal year 2036,
2. The unfunded actuarial accrued liability will be fully amortized after 20 years from fiscal year 2020, and
3. In the absence of benefit improvements, the funded ratio should increase over time, until it reaches 100%.

The employer contribution rate increased from 19.24% to 20.87% for fiscal year 2023.

An analysis of the changes in the employer contribution rate appears on Table 11a of this report. An analysis of the changes in the unfunded actuarial accrued liability appears on Table 11c.

Benefit provisions

The benefit provisions reflected in this valuation are those which were in effect on June 30, 2020. There have been no changes to the benefit provisions since the preceding valuation. All benefit provisions are summarized in Appendix B.

Assumptions and methods

The assumptions have been updated from the last actuarial valuation based on the 2019 Actuarial Experience Investigation Study approved by the Board on May 22, 2020. Below is a summary of the changes made to the assumptions:

1. Update the underlying mortality tables from the RP-2014 set of tables to the public sector based PUB(10) tables. As adjustments are made based on the actual experience of ERSRI, this had no material impact to the liabilities or contributions.
2. Slightly adjust probabilities of retirement to fit the plan experience.

We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI.

The results of the actuarial valuation are dependent upon the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities and the calculated contribution rates.

All assumptions and methods are described in Appendix A. The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in Governmental Accounting Standards Board (GASB) Statement Number 67.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is



intended to be modeled.

Data

The System's staff supplied data for active, inactive, and retired members as of June 30, 2020. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. The System's staff also supplied asset data as of June 30, 2020.

Certification

All of our work conforms with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Rhode Island state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries. All are Members of the American Academy of Actuaries. They all meet the Qualification Standards of the American Academy of Actuaries, and they are experienced in performing valuations for large public retirement systems.

Respectfully submitted,



Joseph P. Newton, FSA, MAAA, EA
Pension Market Leader and Actuary



Brad Stewart, ASA, MAAA, EA
Consultant



Paul T. Wood, ASA, MAAA, FCA
Consultant

J:\3014\MasterLinkedFile\SPRBT\SPRBT_ValReport.docx

Actuarial Standards of Practice Disclosure Statements

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.

This report should not be relied on for any purpose other than the purpose described above. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

The valuation was based upon information furnished by the System's staff, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the System's staff.

The developed findings included in this report consider data or other information through June 30, 2020.

This is one of multiple documents comprising the actuarial report. The other document comprising the actuarial report is a PowerPoint presentation presented to the Board of Trustees following the publication of this report.

Table of Contents

	<u>Page</u>
Section I	
Executive Summary.....	1
Section II	
Discussion.....	2
Section III	
Tables	
1 – Development of Contribution Rate.....	7
2 – Summary of Unfunded Liability	8
3 – Actuarial Present Value of Future Benefits	9
4 – Schedule of Funding Progress.....	10
5 – Notes to Required Supplementary Information	11
6 – Plan Net Assets	12
7– Reconciliation of Plan Net Assets	13
8– Development of Actuarial Value of Assets.....	14
9– Distribution of Assets at Market Value.....	15
10 – History of Investment Return Rates	16
11a – Analysis of Change in Employer Cost.....	17
11b – History of Employer Contribution Rates	18
11c – Analysis of Change in UAAL.....	19
12 – Membership Data.....	20
13 – Historical Summary of Active Member Data.....	21
14 – Distribution of Active Members by Age and By Years of Service	22
 Appendices	
Appendix A – Summary of Actuarial Assumptions and Methods.....	23
Appendix B – Summary of Benefit Provisions	30
Appendix C– Risk Associated with Measuring the Accrued Liability and Actuarially Determined Contribution	35
Glossary.....	38

SECTION I

EXECUTIVE SUMMARY

Draft

Executive Summary

Item	June 30, 2020	June 30, 2019
Membership <ul style="list-style-type: none"> Number of <ul style="list-style-type: none"> - Active members - Retirees and beneficiaries - Inactive members - Total Payroll for benefits 	251 79 53 <hr/> 383 \$ 26,805,499	260 73 56 <hr/> 389 \$ 26,467,266
Contribution rates <ul style="list-style-type: none"> Member State 	8.75% 20.87%	8.75% 19.24%
Assets <ul style="list-style-type: none"> Market value Actuarial value Return on market value Return on actuarial value Employer contribution Ratio of actuarial value to market value 	\$ 153,908,600 158,212,175 3.7% 6.1% \$ 4,877,630 102.8%	\$ 147,405,372 148,085,853 6.5% 6.8% \$ 3,566,922 100.5%
Actuarial Information <ul style="list-style-type: none"> Employer normal cost % Unfunded actuarial accrued liability (UAAL) Amortization rate Funding period Funded ratio 	13.29% \$ 29,298,716 7.58% 21 years 84.4%	13.16% \$ 26,425,457 6.08% 20 years 84.9%
Projected employer contribution <ul style="list-style-type: none"> Fiscal year ending June 30, Projected payroll for contributions Projected employer contribution 	2023 \$ 28,868,528 6,024,862	2022 \$ 28,313,131 5,447,446



SECTION II

DISCUSSIONS

Draft

Discussion (Contribution Rates)

The employer contribution rate for the SPRBT is determined actuarially. The rate determined in each valuation becomes effective two years after the valuation date, in this case as of July 1, 2022.

The rate consists of two pieces: the normal cost rate and the amortization rate. The normal cost rate is the employer's Entry Age normal cost, expressed as a percentage of active member payroll. The amortization rate is the contribution required to amortize each of the laddered bases that comprise the unfunded actuarial accrued liability over closed periods as a level percentage of payroll. Payment for each base is generally calculated based on a 20 year amortization period beginning 2 years after they are established. The impact of the 2016 Experience Study and 2019 Experience Study were divided into separate "stagers" with the first payment beginning in FY2020 over a 20 year period. Other stagers will begin payment in FY2021 through FY2024 with amortization periods decreasing by one year for each year past FY2020 in which payment begins (e.g. the FY2024 stagger will have a 16 year amortization period). The amortization rate is adjusted for the fact that the contribution rate set by this valuation is deferred for two years. Should the SPRBT become overfunded, the UAAL will be amortized using a single base over a period of 20 years.

The increase in the employer contribution rate from 19.24% to 20.87% of payroll was primarily due to changes in assumptions and the payment beginning for the FY2023 stagger described above. Other sources include an asset loss due to a 6.1% return on the actuarial value of assets being less than the assumed rate of 7.0%.

An analysis of the changes in the employer contribution rate appears in Table 11a of this report and a history of the employer contribution rates appears in Table 11b. Table 11c shows a reconciliation of the UAAL.

Draft



Discussion (Financial Data and Experience)

Assets for the SPRBT are held in trust and are commingled with those of several other plans and programs—including the Employees' Retirement System of Rhode Island—for investment purposes. The State Treasurer is responsible for setting the asset allocation policy and for investing the funds.

Table 6 shows the net plan assets for the SPRBT. Table 7 shows a reconciliation of the assets between the previous valuation and this valuation. Table 8 shows the development of the actuarial value of assets. Table 9 shows the distribution of investments by category — 60% of assets are held in equities, including real estate and private equity — and Table 10 shows a historical summary of the return rates. As can be seen, the market value rate of return was 3.7% for the year ended June 30, 2020, and the return on an actuarial asset basis was 6.1%.

The average annual return based on the market value of assets over the last ten years (July 1, 2020 – June 30, 2020) was 7.7%. This is more than the current 7.00% annual investment return assumption. The average annual return based on the actuarial value of assets over the same period was 6.5%.

All returns above are net of both investment and administrative expenses, and may differ from other information provided by the General Treasurer's office or the investment managers and advisors.

The System's staff provided all of the financial information used in this report.

Draft



Discussion (Member Data)

The System's staff supplied member data as of June 30, 2020. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year's data, and was reasonable overall. Information provided for active members includes: name, identification number, sex, a code indicating whether the member was active or inactive, date of birth, service, salary, date of last contribution, and accumulated member contributions without interest. For retired members, data includes: name, an identification number, sex, date of birth, date of retirement, amount of benefit (original, COLA, gross), a code indicating the option elected and the type of retiree (service retiree, disabled retiree, beneficiary), and if applicable, the joint pensioner's date of birth and sex.

Table 12 and Table 13 show information and statistics about the members. Table 14 shows the distribution of active members by age and service.

The total number of active members is 251 which is a decrease of 9 active members compared to this time last year. Total compensation used for determining benefits increased from \$26.467 million to \$26.805 million.

Since the last valuation, there have been the following changes in active membership:

- Four members terminated
- Five members retired
- Zero new members were hired

The total payroll shown on the statistical tables as of June 30, 2012 is the amount that is used for determining benefits, and includes 400 hours of overtime and other adjustments. Effective June 30, 2013, the total payroll shown on the statistical tables is the amount only including holiday pay and clothing allowance but excluding 400 hours of overtime and other adjustments. An overtime adjustment (if applicable) was applied when determining benefits.



Discussion (Benefit Provisions)

Appendix B includes a summary of the benefit provisions for the SPRBT. There were no changes in the benefit provisions since the preceding valuation. There are no ancillary benefits—e.g., cost of living benefits—that are currently provided by a source independent of the SPRBT but that might be deemed a liability of the SPRBT if continued beyond the availability of funding by the current funding source.

The COLA provided to retired members is contingent on the investment performance, the annual change in the CPI-U, and funded status of the System. The amount of the COLA is determined based on 50% of the plan's five-year average investment rate of return minus 5.0% and will range from zero to 4.0%, and 50% of the lesser of 3% or last year's CPI-U increase for a total maximum increase of 3.50%. This calculation produces a 1.06% COLA for Calendar Year 2021. The COLA will be limited and this limit will be indexed annually to increase in the same manner as COLAs, with the known values of \$25,000 for 2014, \$25,168 for 2015, and \$25,855 for 2016, \$26,098 for 2017, \$26,291 for 2018, \$26,687 for 2019, \$27,184 for 2020, \$27,608 for 2021 and \$27,472 for 2022.

Furthermore, the COLA will be suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The first interim COLA was during the Calendar Year beging January 1, 2017. Also, for current retirees and beneficiaries retired on or before July 1, 2015 the \$25,000 cap will be increased to \$30,000 (indexed) for any COLA payable based on the every fourth year provision.

Draft



Actuarial Methods and Assumptions

Appendix A of this report includes a summary of the actuarial assumptions and methods used in this valuation. Costs are determined using the Entry Age Normal actuarial cost method. This method was initially adopted effective June 30, 1999 and was modified, effective June 30, 2011, to be consistent with the Act and the standards outlined in the GASB Statement No. 67 exposure draft, which has now been finalized.

The method used to determine the actuarial value of assets is the five-year smoothed market method. This technique is further described in Section III of Appendix A. The development of the actuarial value of assets utilizing this method is shown on Table 8.

The assumptions were adopted by the Board on May 22, 2020, We believe the assumptions are internally consistent and are reasonable, based on the actual experience of the SPRBT.

Draft



SECTION III

TABLES

Draft