AGENDA

Queen Creek Local Public Safety
Personnel Retirement System Fire Board

Municipal Service Building, San Tan Conference Room
22358 S. Ellsworth Road, Queen Creek, AZ 85142
December 9, 2021 | 8:00 am

1. **Call to Order and Roll Call.**
2. **Public Comment.** *Members of the public may address the Board on items not on the printed agenda. Please observe a time limit of three minutes. Note that pursuant to the Arizona Open Meeting Law, members of the Board may not discuss matters raised under this public comment portion of the meeting.*
3. **Executive Session.** *Pursuant to A.R.S. Section 38-431.03(A)(2)&(3) the Queen Creek Public Safety Retirement Board may vote to convene into Executive Session to discuss or consider confidential records exempt by law from public inspection concerning matters on the agenda and/or consult with the Board's attorney for legal advice concerning any item on the agenda.*
4. **Items for Discussion and Possible Action.**
   A. Introduction of new Queen Creek PSPRS Local Board Attorney, Cynthia Kelly, from Ryan, Rapp, Underwood, and Pacheco
   B. Consideration and possible approval of the October 19, 2020 Minutes.
   C. Certification of full-time Firefighters. A.R.S. §§ 38-842.24 & 38-847(D)(1)

Name	Current Title	Certification Date
Robert Keay	Firefighter	12/31/2020

   D. Pension Funding Policy and Fire Actuary Reports (Dan Olsen)
5. **Announcements.**
6. **Adjournment.**

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the members of the Queen Creek Public Safety Retirement Board and the general public that a meeting open to the public will be held as set forth above.

Maria E. Gonzalez, CMC
Town Clerk | Board Secretary

I, Maria E. Gonzalez, do hereby certify that I caused to be posted this 7th day of December, the Agenda for the December 9, 2021 Queen Creek Public Safety Retirement Board in the following places: 1) Queen Creek Town Hall; 2) Queen Creek Library; 3) Queen Creek Community Center.

The Town of Queen Creek encourages the participation of disabled individuals in the services, activities, and programs provided by the Town. Individuals with disabilities who require reasonable accommodations in order to participate should contact the Town Clerk's office at (480) 358-3000.

Requesting Department:
Town Clerk's Office,
Assistant Town Manager

TO: QUEEN CREEK LOCAL PUBLIC SAFETY PERSONNEL RETIREMENT SYSTEM (PSPRS) FIRE BOARD

FROM: BRUCE GARDNER, ASSISTANT TOWN MANAGER
MARIA GONZALEZ, TOWN CLERK AND BOARD SECRETARY

RE: Queen Creek PSPRS Board Attorney Introduction

DATE: December 9, 2021

For Discussion Only

There have been recent changes to statutes for PSPRS local boards where any attorney that has any relationship representing a city or town in any fashion is no longer able to represent the PSPRS local boards. As a member of the Arizona Municipal Risk and Retention Pool (AMRRP), the Town is often represented by Pierce Coleman in risk and employment issues. As such, Justin Pierce and his firm will no longer be able to represent the Town's local boards.

In contacting agencies for other options, the Assistant Town Manager has identified the firm of Ryan, Rapp, Underwood, and Pacheco, PLC as a replacement. The firm represents several other PSPRS local boards throughout Arizona, in addition to other types of Boards and Commissions. In addition to the firm, Cynthia Kelley will be introducing herself as the new Queen Creek local board attorney.

Attachments

- Engagement and Retainer Letter
- Resumes

RYAN RAPP
UNDERWOOD
& PACHECO PLC
3200 N. Central Avenue, Suite 2250
Phoenix, Arizona 85012
(602) 280-1000
Fax (602) 265-1495
Cynthia K. Kelley
ckelley@rrulaw.com

November 18, 2021

SENT VIA EMAIL ONLY bruce.gardner@queencreekaz.gov

Queen Creek PSPRS Police and Fire Boards
c/o Bruce Gardner

Re: Engagement and Retainer Agreement

Dear Mr. Gardner:

Thank you for the selection of Ryan Rapp Underwood & Pacheco, P.L.C., to represent the Queen Creek PSPRS Police and Fire Boards ("the Boards"). We recognize that the Boards have a choice of legal counsel, and appreciate the confidence you have in our firm.

This letter is to confirm our understanding of the representation that Ryan Rapp Underwood & Pacheco has undertaken on the Boards' behalf, its scope and the terms of our engagement. In addition, under our professional rules of ethics, we have an obligation to inform the Boards of the firm's billing practices. Experience has shown that a letter such as this is useful both to the client and to the firm to express our respective expectations and undertakings.

We ask that you and the Boards representatives carefully review this letter. It is intended to be a formal Retainer and Engagement Agreement. If it meets with the Boards' approval and understanding of our respective responsibilities and duties, please sign where indicated and return it to us. Your signature on this Agreement will confirm the Boards' consent to the terms contained herein.

SCOPE OF REPRESENTATION

We understand that Ryan Rapp Underwood & Pacheco, P.L.C., has been retained to represent the Boards and its constituent members in connection with their duties and responsibilities under the Arizona Public Safety Personnel Retirement System. The primary attorneys engaged in this representation will be Cynthia Kelley, Lesli Sorenson and David Niederdeppe.

The attorneys will, as requested, attend meetings relating to the Boards, review materials prior to the meetings and, if necessary, monitor compliance with open meeting law for those meetings attended. The attorneys will, upon referral of a lawsuit or other legal matter by either Board, provide any necessary legal representation to the Boards and any of its officers, employees, or agents as directed by the Boards. The attorneys agree to perform all necessary legal services, including but not limited to investigation, legal research, preparation of legal memoranda, pleadings and briefs and making appearances before administrative tribunals and courts, in representing the Boards.

The Boards and their representatives, as our client, agree to cooperate with, and to timely provide assistance and requested documentation and information to us so that we may handle these legal matters on its behalf.

FEES AND COSTS AND RETAINER

All matters undertaken by the firm require that the client agree to terms of payment prior to the commencement of representation. In consideration of our services in connection with this representation, the Boards agree to pay Ryan Rapp Underwood & Pacheco according to the terms set forth in this Agreement. Any litigation necessitated by this representation is, by its very nature, time consuming, uncertain and often expensive. While the firm will work diligently on each Board's behalf, no predictions can be made as to the outcome of any particular matter. We normally send billings on a periodic basis, usually monthly. The periodic bills are to be paid upon presentation, and the amounts thereof are applied to the total fee. If the bills are not promptly paid, we reserve the right to withdraw from representation.

The normal fee arrangement of the firm is the "reasonable fee" arrangement which is based upon the criteria for reasonableness specified in the Rules of Professional Conduct. The factors set forth in the rules include the time required for tasks performed; the difficulty, novelty or complexity of the problem presented; the skill required to perform the services properly; the time constraints imposed by the clients or the nature of the matter; the amount involved and the results obtained for the clients; and the experience, reputation and ability of the lawyer or lawyers performing the service. We have established a normal hourly billing rate for each attorney and legal assistant, which is adjusted from time to time. Attorneys Cynthia Kelley and Lesli Sorenson will be the primary attorneys in this matter and their hourly billing rate for this representation is $275.00. David Niederdeppe may assist in special projects. His hourly raye is $300 per hour. If necessary, other attorneys may be involved in the matter and if that occurs, his/her hourly billing rate will be disclosed to you prior to that attorney commencing work on your cases. In addition to attorneys, there may be legal assistants involved in the matter. The firm's legal assistants are typically billed at rates between $75 and $150 per hour. In most circumstances, the total fee billed to the clients will be calculated primarily on the basis of the hourly rates and the amount of time expended for all attorneys and legal assistants involved in the matter. Such hourly totals, however, may be adjusted at the end of any particular case (and occasionally on an interim basis) to take account of the various factors described above.

For some cases, the fee arrangement may be a fixed hourly, fixed project, flat, or such other arrangement as is set forth in writing between the clients and the primary attorney performing the work. In certain instances, modified or hybrid fee calculations may be appropriate as well. For example, in instances where the result achieved is particularly beneficial or advantageous to the clients when viewed against the amount(s) at stake or in controversy, the efforts expended and other like factors, the application of a "value billing" methodology above and beyond the base or customary hourly billing agreement may be appropriate. Of course, any such hybrid or value billing arrangement will be utilized only after prior consultation with, and concurrence of, the clients.

In addition to fees for legal services, the firm may incur various costs and expenses in performing legal services under this Agreement. These expenses will be itemized in our billing statements. Costs and expenses include, without limitation, filing fees, messenger and process services, special mailing expenses, express mail services, copying charges and other reproduction costs charged by an outside agency or vendor, expert fees, Westlaw research, long distance telephone calls, travel expenses and court reporter charges. We may send larger copying jobs to an outside copying service and charge the Board for such service. We may ask that the Boards pay court reporters' fees, outside copying charges and other large charges directly to the provider of the service.

To aid in the representation, our firm and the Boards may agree that hiring expert witnesses, appraisers, accountants, consultants or investigators is necessary. Our firm will select such outside experts or entities, after consultation with the Boards. The Boards authorizes us to retain and the Boards agree to pay the fees or charges of these persons or entities hired by us, either directly to the outside person or entity, or to the firm, as appropriate.

In the event that either Board is involved in litigation, it may be possible to seek an award of the Board's attorneys' fees and costs from the opposing party. We will pursue such an award if appropriate, but we cannot and will not look to such an award as a source of payment for amounts owed to the firm under this Agreement. The Board is responsible for paying the fees and costs as set forth in this Agreement. If attorneys' fees and costs are awarded, we will reimburse the Board for the amount of the award, or apply the award to fees and costs that are still being accrued or owing.

We ask and expect payment of our billings on a current basis because delayed payments add to our overall costs of providing services to all of our clients. To avoid burdening our clients who do pay promptly with these additional overhead costs, we reserve the right to charge interest on any balance which is not paid by the end of the month following the month in which the firm's billing statement is dated. Unless otherwise agreed, payment of each monthly billing statement is due upon receipt.

CORRESPONDENCE, PLEADINGS AND DOCUMENTS

As a matter of course, the firm will forward to the Boards copies of key correspondence, and any court pleadings and documents generated or received by us concerning the legal matter being handled. This is an inexpensive and routine way to keep our clients advised of important developments and the status of the matter as it progresses. The Boards should review the documents sent to them and contact us with any questions or comments about them. All communications to the Boards are directed to the addresses provided to us. Because communications between the Boards and the firm are critical, we must be kept informed of any changes in address, telephone number, and e-mail as appropriate.

RETENTION OF FILES AND FILE DESTRUCTION

Given the number of client matters the firm handles, the indefinite retention of each client's file is impractical. Therefore, once any particular matter is completed, the file will be marked "closed" by the firm. The Board has a right to obtain a copy of the files at any time, but given the firm's routine practice of copying clients with correspondence, pleadings and documents, the firm will only copy those documents the Boards have not already been sent. Original documents will be returned to the Boards upon the closing of the file. If a Board needs another copy of the file after receiving copies from the firm, we will charge for the cost to re-copy the file. By executing this Agreement, you give the firm permission to destroy any files once they have remained closed, with no material activity, for a period of seven years.

CONFLICT OF INTEREST

The firm has conducted an internal conflict of interest check based upon the names of the persons and/or entities provided to us by you. No conflict of interest has appeared from this internal conflict check. The Boards agree to continue to provide any additional information to the firm regarding the names and identities of any other person or entity involved, or which may become involved, in any matters for which we provide representation.

TERMINATION OF REPRESENTATION AND CONCLUSION OF MATTERS

Once the representation of either Board in the matters described in this Agreement concludes, the firm will have no continuing obligation to represent the Board in any matter beyond the scope of representation as described herein unless an agreement for continued representation is reached.

The Boards have the right to terminate the firm's representation with or without cause. However, should a Board determine to terminate our services, it must notify us in writing of the termination. Termination of our services does not negate any fees or costs owed to the firm in the representation.

The firm reserves the right to withdraw as set forth herein if our fees are not paid on a timely basis. The firm also reserves the right to withdraw for any reason permitted or required under the Code of Professional Responsibility. In the event the firm determines to terminate the representation, the Board will be notified in writing as to the termination, and agree to execute an approval of a Motion to Withdraw or Substitution of Counsel, if applicable. In that event, the firm will cooperate in transitioning the matter to another attorney as appropriate.

After the Board representatives have had an opportunity to review this Agreement, please sign it where indicated and return it to me for our file. The firm's attorneys will generally not proceed to work for a client beyond the initial consultation and initial research until a signed Agreement is received from the Board. In the event that legal services have been performed and costs expended on the Board's behalf, it is obligated to the firm for the value of such services and costs.

We recognize that this Agreement has a formal tone, but we believe that a complete understanding of our business relationship helps to assure a mutually beneficial attorney-client relationship. We appreciate this opportunity to be of assistance and look forward to working with the Police and Fire Boards.

Very truly yours,

RYAN RAPP & UNDERWOOD, P.L.C.

Cynthia K. Kelley

Cynthia K. Kelley

I have read and understand the foregoing terms set forth in the Ryan Rapp Underwood & Pacheco, P.L.C. Engagement and Retainer Agreement, and approve and agree to them as of the date that Ryan Rapp Underwood & Pacheco, P.L.C., first provided services to the Board.

QUEEN CREEK PSPRS POLICE AND FIRE BOARDS

By:____________________________ Date:____________________

Printed Name:________________________

Its:____________________________

CYNTHIA KELLEY

3200 North Central Avenue, Ste. 2250
Phoenix, Arizona 85012
ckelley@rrulaw.com · 602.280-1000

PROFESSIONAL EXPERIENCE

RYAN, RAPP & UNDERWOOD, P.L.C., PHOENIX, ARIZONA, AUGUST 2008 - PRESENT

PARTNER: ADMINISTRATIVE LAW AND FAMILY LAW

Represents various Local Public Safety Personnel Retirement System Local Boards throughout Arizona. Monitor compliance with open meeting law for those meetings attended. Upon referral of a lawsuit or other legal matter by the Board, provide any necessary legal representation to the Board and any of its officers, employees, or agents as directed by the Board. Perform all necessary legal services, including but not limited to investigation, legal research, preparation of legal memoranda, pleadings and briefs and making appearances before administrative tribunals and courts, in representing the Board.

Assists clients in developing premarital agreements, resolving dissolution issues, legal separations and annulments, and representation in disputes involving spousal support, custody and child support, parenting time and post-dissolution enforcement issues.

ARIZONA STATE UNIVERSITY, 2007- 2008

Executive Director of External Affairs & Alumni Relations

Worked directly with the Dean of the Sandra Day O'Connor College of Law, faculty, Director of Development and high-profile community leaders in formulating a fundraising strategy for the College. Identified new potential donors and develop long-term relationships between the College and its students and alumni, while serving as liaison between the College and the SDOCOL Alumni Association. Gave direction to staff regarding compliance of departmental policy and procedure for charitable giving. Assisted the Dean and comptroller with development of budget representing Alumni interests. Participate in the creation and implementation of the Annual plan. Worked with the Dean and Communications personnel for marketing, branding and communication strategy for the College of Law. Organize and implement the following events: Alumni Reunions, Law Society Dinners, Class Leader's Luncheons and Dean's Forums.

MARICOPA COUNTY ATTORNEY, Phoenix, Arizona, 2004- 2007

Deputy County Attorney

Prosecute felony and misdemeanor cases for busy office. Negotiate plea agreements with defendants and their attorneys. Conduct felony jury and bench trials. Manage a large case load of up to 80 cases at a time. Represent County in preliminary, evidentiary, and probation-violation hearings. Draft pleadings, plea agreements, motions, correspondence, and memoranda. Conduct legal research on a wide variety of substantive and procedural issues. Submit sentencing recommendations and case dispositions. Present cases to the Grand Jury.

- Promoted to major crimes, Drug Enforcement Bureau after 10 months in trial group.
- Conducted twelve jury and bench trials.

RYAN, RAPP & UNDERWOOD, PLC, Phoenix, Arizona, 2003-2004

Associate Attorney

Practiced transactional law for full-service boutique law firm. Drafted complex Qualified Domestic Relations Orders for division of pension plans and retirement accounts during divorce proceedings. Developed mastery of applicable tax, benefits, and estate law.

BRIAN E. KELLEY, PA, Phoenix, Arizona, 1992-2003

Administrative Manager

Managed all operational and logistics functions for family law practitioner. Administered payroll, taxes, and employee benefits, including health insurance. Oversaw personnel matters. Researched and identified best-fit office space, software and hardware, equipment, and supplies. Negotiated favorable contracts with vendors. Maintained current awareness of applicable tax and employment law. Managed accounts payable and receivable and supervised outsourced accounting functions.

- Managed all aspects of start-up for business, including office set-up, initial hiring, systems development, software selection, and policy development.

EDUCATION AND CREDENTIALS

Juris Doctor (1988)
ARIZONA STATE UNIVERSITY – Tempe, Arizona
Moot Court Brief Selected for Publication
ASU Criminal Practice Clinic
Law Intern City of Phoenix Prosecutor's Office

Bachelor of Science, Accounting (1988)
ARIZONA STATE UNIVERSITY – Tempe, Arizona

Licensure
Licensed to Practice Law in Arizona since 1988

Conferences
National Alliance for Drug Endangered Children, 2006
APPAC Summer Conference, 2006
Advanced Trial Advocacy II, 2005

BAR AND CIVIC ACTIVITIES

ARIZONA STATE BAR ASSOCIATION, Member, 1988-Present
MARICOPA COUNTY BAR ASSOCIATION, Member, 2004-Present
ARIZONA WOMEN LAWYER ASSOCIATION, 2007-Present
ARIZONA WOMEN LAWYERS HONORING JUSTICE O'CONNOR, 2007-Present

XAVIER COLLEGE PREPARATORY, Chairman, Mother's Guild, 2002-2005
ARIZONA BEHAVIORAL HEALTH EXAMINERS BOARD, Member, 2002-2004
BROPHY COLLEGE PREPARATORY, Chairman, Mother's Guild Varsity Shop, 2002-2004
ARIZONA HEART BALL COMMITTEE, Committee Chair, 1999-2001

LESLI M. H. SORENSEN, ESQ.

37 East Woodward Drive • Phoenix, Arizona 85004 • (602) 315-4789 • lsorensen@rrulaw.com

EMPLOYMENT

RYAN RAPP UNDERWOOD & PACHECO, PLC PHOENIX, ARIZONA

Partner *August 2017-present*

- Provide legal services for clients in areas relating to public retirement and pensions, open meeting laws, public records, civil law, government operations, tax law, criminal law, planning and zoning, business law, campaigns elections, and ethics. Clients include fire districts, government entities, corporations, and individuals.

SORENSEN LAW, PLLC PHOENIX, ARIZONA

Owner *October 2010- August 2017*

- Provided diversified legal services in multiple practice areas including pension, wills, trusts, insurance, civil litigation, tax law, and business law.
- Supplied Amicus brief writing and editing services.

ARIZONA HOUSE OF REPRESENTATIVES PHOENIX, ARIZONA

Deputy Chief of Staff and Supervising Attorney *November 2014-January 2017*

In addition to the duties of Majority Policy Advisor and Staff Attorney:

- Assisted with the management of the House of Representatives, which included supervision of managers and personnel, building facilities, and budget, creating the weekly schedule, and strategic planning.
- Assisted House Leadership with negotiating the $9 billion State budget.
- Supervised the General Counsel, other attorneys, and legal staff.
- Reviewed and approved publication of final work product by policy and research staff.

Majority Policy Advisor and Staff Attorney *October 2013-November 2014*

- Advised the Republican caucus on legislative policy, including public retirement, insurance, public safety, military and veterans, regulatory affairs, and government.
- Assisted with drafting bills, amendments, summaries, press releases, and speeches.
- Managed extensive stakeholder negotiation processes by bringing together diverse views and finding areas of consensus.
- Assisted the General Counsel with oral arguments, legal briefs and strategy, and legal analysis of pending legislation.

ARIZONA STATE RETIREMENT SYSTEM PHOENIX, ARIZONA

Government Relations Officer, External Affairs Division *October 2006-October 2013*

- Represented the Arizona State Retirement System (ASRS), which manages a $38 billion public pension fund, at the Arizona Legislature to forward the directives of the Board.
- Testified at Legislative Committee hearings and stakeholder meetings to educate and facilitate the agency's strategic vision.
- Built consensus and support for legislative changes among external groups.
- Assisted the Assistant Attorney General with legal interpretations and gauge impact of proposed Legislation on the ASRS.
- Coordinated with outside tax counsel to ensure the continued tax qualification of a supplemental defined contribution plan, and prepared plan statement amendments as needed.

THE CINEMAT, VIDEO STORE AND SCREENING ROOM BLOOMINGTON, INDIANA
Consultant *April 2004-Feb 2009*

- Negotiated contracts, managed finances including bookkeeping and payroll, suggested efficiency improvements, created and implemented marketing plans, and worked with film distribution companies to secure screening rights.
- Managed a full business-model conversion from a coffee house to a movie screening room and live music venue with an alcohol license.

EDUCATION

INDIANA UNIVERSITY MAURER SCHOOL OF LAW BLOOMINGTON, INDIANA
Doctor of Jurisprudence *May 2006*

- Highest Grade in Intellectual Property Practicum.
- Notable courses: Negotiations, Pensions & Employee Benefits, Legislation, Tax Procedure, Law & Architecture, Copyright Law, Information Technology Law, and Entertainment Law.

ARIZONA STATE UNIVERSITY TEMPE, ARIZONA
Bachelor of Music, Music Theory and Composition with Theory Emphasis *December 2001*

- Played Oboe and English Horn for the School of Music's Lyric Opera Theatre.
- Notable courses outside the School of Music: Organic Chemistry, Biology, and Humanities.

BAR ADMISSIONS

- State of New York *August 2007*
- State of Arizona *February 2008*
- Supreme Court of the United States *March 2015*

REFERENCES

Available upon request.

Résumé

DAVID L. NIEDERDEPPE

Business Address:		Ryan Rapp & Underwood, PLC 3200 N. Central Avenue, Suite 2250 Phoenix, Arizona 85012 (602) 280-1000
Education:	Legal:	University of Nebraska College of Law Lincoln, Nebraska Recipient of Juris Doctor Degree
	Undergraduate:	Midland Lutheran College Fremont, Nebraska
		University of Nebraska Lincoln, Nebraska Recipient of Bachelor of Science Degree in Mechanical Engineering
Experience:	2006 – Present	Ryan Rapp & Underwood, PLC Phoenix, Arizona Consultation and representation of clients in employee benefit matters
	1989 – 2006	Law Office of David L. Niederdeppe/ David L. Niederdeppe, Ltd. Phoenix, Arizona and Prescott, Arizona Consultation and representation of clients in employee benefit matters.
	1976 – 1989	Ward & Keenan, Ltd. Phoenix, Arizona Consultation and representation of variety of clients in employment and employee benefit matters.
	1975 – 1976	Law Clerk to Hon. Harry A. Spencer, Judge, Nebraska Supreme Court Research and preparation of memoranda concerning issues before the Court.

Current Responsibilities:

Fund Counsel to a number of private sector Health and Welfare, Pension and Annuity Funds in Arizona and elsewhere; Local Board Counsel to a number of Police and Fire Pension Boards under the Arizona Public Safety Personnel Retirement System;

Bar Admissions: Admitted to practice in the State of Nebraska and the U.S. District Court for the District of Nebraska in June, 1975.

Admitted to practice in the State of Arizona and the U.S. District Court for the District of Arizona in October, 1976.

Admitted to practice in the Ninth Circuit Court of Appeals.

Memberships:	State Bar of Arizona Nebraska State Bar Association (Inactive) American Bar Association American Judicature Society

Client and Professional References Available upon Request

MINUTES

Queen Creek Public Safety Retirement Board
Municipal Service Building, San Tan Conference Room
22358 S. Ellsworth Road, Queen Creek, AZ 85142
October 19, 2020 | 9:00 a.m.

BOARD MEMBERS PRESENT	**STAFF PRESENT**
Gail Barney, Chair *	Bruce Gardner, HR Liaison
Ryan Denning, Board Member *	Maria Gonzalez, Board Secretary
Patti Elzer, Board Member *	Justin Pierce, Attorney*
Andy Fritz, Board Member *	Vance Gray, Fire Chief*
John Kross, Board Member	
** Present via WebEx or Telephone*	

1. **CALL TO ORDER.**

   The meeting was called to order at 9:08 a.m.

2. **ROLL CALL.**

3. **PUBLIC COMMENT.** *Members of the public may address the Board on items not on the Agenda. Please observe a time limit of three minutes. Note that pursuant to the Arizona Open Meeting Law, members of the Board may not discuss matters raised under this public comment portion of the meeting.*

   There were no public comments.

4. **EXECUTIVE SESSION.** *Pursuant to A.R.S. Section 38-431.03(A)(2) & (3) the Queen Creek Public Safety Retirement Board may vote to convene into Executive Session to discuss or consider confidential records exempt by law from public inspection concerning matters on the agenda and/or consult with the Board's attorney for legal advice concerning any item on the agenda.*

   John Kross moved to adjourn into Executive Session at 9:09 a.m.
   Andy Fritz seconded the motion. The motion carried unanimously

   The Regular Session reconvened at 9:14 a.m.

5. **ITEMS FOR DISCUSSION AND POSSIBLE ACTION.**

   A. Consideration and possible approval of the November 20, 2018 Minutes.

   John Kross moved to approve the December 2, 2019 Minutes;
   Andy Fritz seconded the motion. The motion was carried unanimously.

   B. Certification of full-time Firefighters (A.R.S. §§ 38-842.24 & 38-847(D)(1)

Certification Effective 01/22/2020:
Jacob Olivarez-Giles

Certification Effective 08/11/2020:
John Rankin

Certification Effective 08/25/2020:

Josue Indas Coronado	Jacob Peloquin	Conner Whigham
Chloe Cossette	Gabriel Rubalcaba	Aadam Yates
Christopher Doxsey	Daniel Shearer	Gabriel Yu
Matthew Keogh	Carlos Vargas	
Michael Paul	Declan Wall	

John Kross moved to approve the certification of full-time Firefighters as listed and noting pre-existing conditions for Matthew Keogh and Chris Doxsey. Andy Fritz seconded the motion. The motion carried unanimously.

6. ANNOUNCEMENTS.

Bruce Gardner indicated that the next meeting would be scheduled after the first of the year with an update on the actuarials presented by the Town's CFO and PSPRS Board of Trustee Chairman Scott McCarty.

7. ADJOURNMENT.

The meeting adjourned at 9:18 a.m.

TOWN OF QUEEN CREEK

____
Gail Barney, Chair

ATTEST:

____
Maria E. Gonzalez, Board Secretary

I, Maria E. Gonzalez, do hereby certify that, to the best of my knowledge and belief, the foregoing Minutes are a true and correct copy of the Regular Session of the October 19, 2020 Queen Creek Public Safety Retirement Board. I further certify that the meeting was duly called and that a quorum was present.

Requesting Department:
Town Clerk's Office,
Assistant Town Manager

TO: QUEEN CREEK LOCAL PUBLIC SAFETY PERSONNEL RETIREMENT SYSTEM (PSPRS) FIRE BOARD

FROM: BRUCE GARDNER, ASSISTANT TOWN MANAGER
MARIA GONZALEZ, TOWN CLERK AND BOARD SECRETARY

RE: CERTIFICATION OF FULL-TIME FIREFIGHTERS INTO THE ARIZONA PUBLIC SAFETY PERSONNEL RETIREMENT SYSTEM (PSPRS)

DATE: December 9, 2021

Proposed Motion:
Motion for the Queen Creek PSPRS Retirement Board to retro-actively certify the following full-time firefighter personnel into the Arizona Public Safety Personnel Retirement System (PSPRS), subject to any pre-existing conditions as noted in executive session.

Name	Current Title	Certification Date
Robert Keay	Firefighter	12/31/2020

Discussion:

The Public Safety Personnel Retirement System (PSPRS) gives local boards the authority to approve individuals into and out of the retirement system. To summarize the responsibilities, the three main areas revolve around:

1. Approving new hires into the PSPRS system and designating, if any, pre-existing conditions in which the new hire may have that would eliminate them from disability coverage in the event of injury/illness due to the pre-existing condition. This will require the Board to ***confidentially*** review the medical information that has been organized by Human Resources and the Town Clerk's office.

2. Approving/determining disability claims by the employees in the public safety retirement system.

3. Approving/determining eligibility for retirement.

Attachments:

Applications for each member will be available to the Board upon request.
Member applications will be included with the official file by the Board Secretary.

Requesting Department:
Town Clerk's Office,
Assistant Town Manager

TO: QUEEN CREEK LOCAL PUBLIC SAFETY PERSONNEL RETIREMENT SYSTEM (PSPRS) FIRE BOARD

FROM: BRUCE GARDNER, ASSISTANT TOWN MANAGER
MARIA GONZALEZ, TOWN CLERK AND BOARD SECRETARY

RE: Queen Creek PSPRS Funding Policy and Actuary Review

DATE: December 9, 2021

For Discussion Only

Annually it is recommended for the PSPRS Local Board to receive information on the Town's funding policy and be presented information on the fund valuation. Dan Olsen, Deputy Finance Director, will be briefly presenting information on these areas.

Attachments

- Queen Creek Pension Funding Policy
- 2020 PSPRS GASB 68 Report – Fire Department
- 2020 PSPRS Valuation – Fire Department

TOWN OF QUEEN CREEK, ARIZONA
PENSION FUNDING POLICY
JUNE 2021

INTRODUCTION

The purpose of this Policy is to establish the pension funding objectives for the Town's pension plans. The Town has three pension plans: 1. the Queen Creek Fire Defined Benefit Pension Plan in the Public Safety Personnel Retirement System (PSPRS), 2. the pension costs associated with the Maricopa County Sheriff's Office contract, and 3. the Arizona State Retirement System (ASRS). The Town Council establishes this Funding Policy to help ensure the financial sustainability of the Town's plans.

In 2018, the Arizona Legislature passed HB 2097 which requires all governing boards of PSPRS member entities to adopt a pension funding policy. This requirement, along with the reporting requirements of the Governmental Accounting Standards Board (GASB) discussed below, necessitate the creation of this funding policy.

The Government Finance Officers Association (GFOA) recommends the adoption of a pension funding policy and has numerous recommendations regarding the funding of pension plans. Those recommendations are incorporated into this policy. Furthermore, the League of Arizona Cities and Towns Pension Task Force recommends adoption of a policy as well.

This policy shall be reviewed by the Town Council annually.

FUNDING OBJECTIVES

1. Fully funded pension plans. Maintain adequate assets so that current plan assets plus future contributions and investment earnings are sufficient to fund all benefits expected to be paid to members and their beneficiaries.

   The target funded ratio goal is 100% (full funding). Taxpayer and member equity is best achieved at full funding. At full funding, both the member and taxpayer have paid the appropriate costs incurred to date.

2. Maintain intergenerational equity. Pension costs are paid by the generation of taxpayers who receive the services.

   Fully funded pension plans are the best way to achieve taxpayer and member intergenerational equity.

   Pensions that are less than fully funded place the cost of service provided in earlier periods on the current and future taxpayers. If the plan is underfunded (less than 100%), future members and taxpayer are responsible for an unfair portion of plan costs.

3. Maintain stability of the Town's contribution amounts.

4. Maintain public policy goals of accountability and transparency. Each policy element is clear in intent and effect, and each should allow an assessment of whether, how and when the funding requirements of the plan will be met.

OVERVIEW OF PENSION REPORTING TERMS AND REPORTS

The following terms are used throughout this policy:

Unfunded Actuarial Accrued Liability (UAAL) – the difference between assets and the estimated future cost of pensions earned by employees. This UAAL results from actual results (interest earnings, member mortality, disability rates, etc.) being different from the assumptions used in previous actuarial valuations. This amount is reported in the annual Actuarial Valuation that is used to set contribution rates.

Annual Required Contribution (ARC) – the annual amount required to pay into the pension funds, as determined through the annual Actuarial Valuation. It is comprised of two primary components: normal pension cost – which is the estimated cost of pension benefits earned by employees in the current year; and, amortization of the UAAL – which is the cost needed to cover the unfunded portion of pensions earned by employees in previous years. The UAAL is collected over a period of time referred to as the amortization period. The ARC is a percentage of the current payroll.

Funded Ratio – a ratio of fund assets to actuarial accrued liability. The higher the ratio, the better funded the pension is, with 100% being fully funded.

Intergenerational Equity – ensures that no generation is burdened by substantially more or less pension costs than past or future generations.

Net Pension Liability (NPL) – similar to the UAAL, the difference between assets and estimated future costs of pensions earned by employees, as calculated using asset values and assumptions required by GASB Statement 68. This amount is reported in the annual GASB 68 Employer Reporting Accounting Schedules provided by the pension plan administrator.

The Annual Required Contribution (ARC) rate is calculated and reported in the Town's annual Actuarial Valuation report. For many years, the ARC was used as a basis for both funding decisions and financial reporting requirements.

In 2012, the Governmental Accounting Standards Board (GASB) approved two financial standards: GASB Statement No. 67 (*Financial Reporting for Pension Plans*) and GASB Statement No. 68 (*Accounting and Financial Reporting for Pensions*).

As a result of GASB Statement 68, the Town receives a second annual report that measures the Town's Net Pension Liability using a specific set of assumptions and asset valuation methods required by the GASB. The main difference between the Actuarial Valuation and the GASB 68 report is how the Town's pension assets are valued and reported.

GASB 68 requires the use of the market value assets at June 30th, including all investment gains and losses during the year. A point-in-time market value measurement can be very volatile. In contrast, the Actuarial Valuation follows a generally accepted actuarial method to "smooth" the value of assets by recognizing investment gains and losses over a long-term period (PSPRS uses a seven-year smoothing period, and ASRS uses a ten-year smoothing period). This smoothing method helps maintain reasonably stable contribution rates.

The result is that the Town has two different numbers that attempt to report the Town's pension liability on the same date. The Actuarial Valuation number is generally used to make *funding* decisions (i.e., set the contribution rates), while the GASB 68 number is used for *reporting* in the Town's financial statements.

The Town will use the higher of the two numbers in any given year to meet the funding objectives of this policy.

SPECIFIC FUNDING PRACTICES

The Town Council will fully fund the pension liabilities for the three pension systems by directing resources created from revenues in excess of expenses at the end of every fiscal year. The three pension liabilities will be fully funded in the following priority order: first, the fire unfunded pension liability; second, the MCSO unfunded pension liability; and third, the ASRS unfunded pension liability.

1. Fire Plan in PSPRS

PSPRS is administered as an agent multiple-employer pension plan. This system has two main functions: 1) to co-mingle assets of all plans under its administration, thus achieving economy of scale for more cost efficient investments, and invest those assets for the benefit of all members under its administration and 2) serve as the statewide uniform administrator for the distribution of benefits.

Under an agent multiple-employer plan, each agency participating in the plan has an individual trust fund reflecting that agency's assets and liabilities. Under this plan all contributions are deposited to and distributions are made from that fund's assets, each fund has its own funded ratio and contribution rate, and each fund has a unique annual actuarial valuation.

Prior to June 30th annually, the Town will remit a one-time payment to PSPRS. The amount remitted will be the greater of the Net Pension Liability reported in the Town's most recent GASB 68 Employer Reporting Accounting Schedules, or the Unfunded Actuarial Accrued Liability reported in the most recent Actuarial Valuation. The amount will be based on Tier 1 and 2 employees only.

Without this policy, the Town's Fire Unfunded Actuarial Accrued Liability will not be paid off until the year 2036. The PSPRS Board makes the determination regarding the amortization period of the Unfunded Actuarial Accrued Liability which is a closed, 30-year period.

2. Maricopa County Sheriff's Office (MCSO) Contract

The Maricopa County Sheriff's Office has a plan in PSPRS. MCSO's annual pension costs are included in the Town's service contract. This cost includes MCSO's contribution toward paying down its Unfunded Actuarial Accrued Liability.

As such, the Town is unable to directly make payments to the MCSO plan to reduce the Unfunded Actuarial Accrued Liability as the Town does with its Fire Plan. Therefore, an alternative approach has been developed to achieve the objectives identified in this Policy.

Effective June 2018, an MCSO Unfunded Pension Liability Reserve account is created in the General Fund. The amount recorded in this reserve represents the Town's share of the greater of the Net Pension Liability as reported in the MCSO's most recent GASB 68 Employer Reporting Accounting Schedules, or the Unfunded Actuarial Accrued Liability as reported in the MSCO's most recent Actuarial Valuation. The Town's share is determined based on the Town's number of sworn contract employees as a percentage of the total active sworn employees in the MCSO PSPRS plan.

Without this policy, the Town's MCSO Unfunded Actuarial Accrued Liability will not be paid off until the year 2036. The PSPRS Board makes the determination regarding the amortization period of the Unfunded Actuarial Accrued Liability which is a closed, 30-year period.

3. Arizona State Retirement System (ASRS)

ASRS is administered as a cost-sharing, multiple-employer pension plan. This system has two main functions: 1) to comingle assets and liabilities of all member entities under its administration, thus achieving economy of scale for more cost efficient investments, and 2) serve as the statewide uniform administrator for the distribution of benefits.

Under this system, each agency participating in the plan is allocated its individual share of assets and liabilities. As such, the Town does not have its own separate plan as it does with Fire under PSPRS. All of the Town's employees (excluding those in the Fire PSPRS) are included in this system.

As a result, an alternative approach has been developed to achieve the objectives identified in this Policy.

Effective June 2018, ASRS Unfunded Pension Liability Reserve accounts are created in the General Fund and each Enterprise Fund. The amounts recorded in these reserves represent the Town's share of the ASRS Net Pension Liability as reported in the ASRS's most recent GASB 68 Employer Reporting Accounting Schedules. The ASRS Actuarial Valuation does not have sufficient information to allocate or estimate the Town's portion of the ASRS UAAL, therefore only the GASB 68 reports will be used for this policy.

Without this policy, the Town's ASRS Net Pension Liability will not be paid off until the year 2047. The ASRS Board makes the determination regarding the amortization period of the Unfunded Actuarial Accrued Liability which is a closed, 30-year period.

<u>Allocation of Resources to Fund Reserve Accounts</u>

Annually, all available resources in the Operating Budget in excess of the Town's Operating Budget 25% Unassigned Fund Balance Reserve will be directed in the following priority order until both reserves are fully funded: first, to the MCSO Unfunded Pension Liability Reserve and second, to the ASRS Unfunded Pension Liability Reserve in the General Fund.

Annually, unrestricted net position in each Enterprise Fund will be directed to the ASRS Unfunded Pension Liability Reserve in the respective Enterprise Fund until the reserves are fully funded. Each Enterprise Fund's share of the ASRS Net Pension Liability will be based on that fund's covered payroll relative to total covered payroll for all of the Town's ASRS-eligible employees.

ARIZONA PUBLIC SAFETY PERSONNEL RETIREMENT SYSTEM

QUEEN CREEK FIRE DEPT. (247)

GASB STATEMENT NO. 68

EMPLOYER REPORTING ACCOUNTING SCHEDULES
MEASUREMENT DATE JUNE 30, 2020

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

VIA E-MAIL

April 2021

Queen Creek Fire Dept.
Arizona Public Safety Personnel Retirement System

Re: GASB Statement No. 68 – Queen Creek Fire Dept. (247)

We are pleased to present this report of the GASB Statement No. 68 measured as of June 30, 2020 for the Queen Creek Fire Dept., an employer of the Arizona Public Safety Personnel Retirement System (PSPRS).

The calculation of the liability associated with the benefits referenced in this report was performed to satisfy the requirements of GASB No. 68 and is not applicable for other purposes, such as determining the plan's funding requirements. Use of the results for other purposes may not be applicable and may produce significantly different results.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of June 30, 2020. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No. 68.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Title 38, Chapter 5, Article 4 of the Arizona Revised Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by PSPRS through June 30, 2020 and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The undersigned are familiar with the immediate and long-term aspects of pension valuations and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All sections of this report are considered an integral part of the actuarial opinions. To the best of our knowledge, these statements are complete and accurate and are in accordance with generally recognized actuarial practices and methods.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the Arizona Public Safety Personnel Retirement System, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Arizona Public Safety Personnel Retirement System. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 239-433-5500.

Respectfully Submitted,

Foster & Foster, Inc.

By: ______________________________
Bradley R. Heinrichs, FSA, EA, MAAA

By: ______________________________
Paul M. Baugher, FSA, EA, MAAA

TABLE OF CONTENTS

I. Financial Statements 1

II. Notes to Financial Statements 11

III. Actuarial Assumptions and Methods 13

IV. Summary of Current Plan 18

I. Financial Statements

Schedule of Changes in Net Pension Liability

GASB 68 Reporting Period Ending	06/30/2021	06/30/2020
Measurement Date	06/30/2020	06/30/2019
Total Pension Liability		
Service Cost	996,494	1,012,408
Interest	937,489	783,592
Change of Benefit Terms	0	0
Difference between Expected and Actual Experience	1,334,175	321,036
Changes of Assumptions	0	285,948
Benefit Payments, including Refund of Employee Contributions	(135,152)	(132,502)
Net Change in Total Pension Liability	3,133,006	2,270,482
Total Pension Liability – Beginning	11,913,400	9,642,918
Total Pension Liability – Ending (a)	$15,046,406	$11,913,400
Plan Fiduciary Net Position		
Contributions - Employer	1,635,722	778,481
Contributions - Employee	460,110	474,279
Net Investment Income	152,446	556,726
Benefit Payments, including Refund of Employee Contributions	(135,152)	(132,502)
Administrative Expense	(50,794)	(10,665)
Other [1]	4,238	0
Net Change in Plan Fiduciary Net Position	2,066,570	1,666,319
Plan Fiduciary Net Position – Beginning	11,227,863	9,562,655
Adjustment to Beginning of Year	1	(1,111)
Plan Fiduciary Net Position – Ending (b)	$13,294,434	$11,227,863
Net Pension Liability – Ending (a) – (b)	$1,751,972	$685,537
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	88.36%	94.25%
Covered Payroll [2]	$4,858,290	$4,464,356
Net Pension Liability as a Percentage of Covered Payroll	36.06%	15.36%

[1] Other changes include adjustments for prior year GASB 68 and reserve transfer to/from employer and employee reserves.
[2] Does not necessarily represent Covered Payroll as defined in GASB Statement No. 82. This does not include Tier 3 Defined Benefit or Defined Contribution payrolls.

Statement of Changes in Net Pension Liability

	Increase (Decrease)		
	Total Pension Liability (a)	**Plan Fiduciary Net Position (b)**	**Net Pension Liability (a) – (b)**
Balances at June 30, 2019	$11,913,400	$11,227,863	$685,537
Adjustment to Beginning of Year	0	1	(1)
Changes for a Year:			
Service Cost	996,494	0	996,494
Interest	937,489	0	937,489
Difference between Expected and Actual Experience	1,334,175	0	1,334,175
Changes of Assumptions	0	0	0
Changes of Benefit Terms	0	0	0
Contributions - Employer	0	1,635,722	(1,635,722)
Contributions - Employee	0	460,110	(460,110)
Net Investment Income	0	152,446	(152,446)
Benefit Payments	(135,152)	(135,152)	0
Administrative Expense	0	(50,794)	50,794
Other *	0	4,238	(4,238)
Net Changes	3,133,006	2,066,570	1,066,436
Balances at June 30, 2020	$15,046,406	$13,294,434	$1,751,972

* Other changes include adjustments for prior year GASB 68 and reserve transfer to/from employer and employee reserves.

Sensitivity of Changes

Sensitivity of Net Pension Liability to Changes in the Discount Rate:

	1% Decrease 6.30%	**Current Discount Rate 7.30%**	**1% Increase 8.30%**
Sponsor's Net Pension Liability	$4,782,716	$1,751,972	$(662,909)

Pension Expense and Deferred Outflows / Inflows of Resources Related to Pensions (Year-End June 30, 2021)

For the reporting period ending June 30, 2021, the Sponsor will recognize a pension expense of $1,123,786.

On June 30, 2021, the Sponsor reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources *	**Deferred Inflows of Resources**
Differences between Actual and Expected Experience	$2,262,194	$8,380
Changes of Assumptions	601,335	0
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	670,792	0
Total	$3,534,321	$8,380

* Note that employer contributions made after the measurement date have not been reported as deferred outflows of resources. These employer contributions must be separately accounted for by the employer.

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Reporting period ending June 30:	
2022	$417,096
2023	469,633
2024	460,318
2025	421,925
2026	274,545
Thereafter	1,482,424

Components of Pension Expense
Year-End June 30, 2021

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning Balance	$685,537	$114,125	$2,061,694	
Total Pension Liability Factors:				
Service Cost	996,494	0	0	996,494
Interest	937,489	0	0	937,489
Changes of Benefit Terms	0	0	0	0
Difference between Expected and Actual Experience with regard to Economic and Demographic Assumptions	1,334,175	0	1,334,175	0
Current Year Amortization	0	(672)	(209,644)	208,972
Changes in Assumptions about Future Economic or Demographic Factors and Other Inputs	0	0	0	0
Current Year Amortization	0	0	(65,573)	65,573
Benefit Payments	(135,152)	0	0	0
Net Change	3,133,006	(672)	1,058,958	2,208,528
Plan Fiduciary Net Position:				
Contributions – Employer	1,635,722	0	0	0
Contributions - Employee	460,110	0	0	(460,110)
Projected Net Investment Income	889,345	0	0	(889,345)
Difference between Projected and Actual Earnings on Pension Plan Investments	(736,899)	0	736,899	0
Current Year Amortization	0	(52,536)	(270,693)	218,157
Benefit Payments	(135,152)	0	0	0
Administrative Expenses	(50,794)	0	0	50,794
Other *	4,238	0	0	(4,238)
Net Change	2,066,570	(52,536)	466,206	(1,084,742)
Adjustment to Beginning of Year	1	0	0	0
Ending Balance	$1,751,972	$60,917	$3,586,858	$1,123,786

* Other changes include adjustments for prior year GASB 68 and reserve transfer to/from employer and employee reserves.

Amortization Schedule - Experience

Year First Reported	Differences Between Expected and Actual Experience	Recognition Period (Years)	Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience							
			2021	2022	2023	2024	2025	2026	2027	2028
2021	$1,334,175	15.0000	$88,945	$88,945	$88,945	$88,945	$88,945	$88,945	$88,945	$88,945
2020	321,036	15.0000	21,402	21,402	21,402	21,402	21,402	21,402	21,402	21,402
2019	(10,396)	15.4654	(672)	(672)	(672)	(672)	(672)	(672)	(672)	(672)
2018	509,418	12.4623	40,877	40,877	40,877	40,877	40,877	40,877	40,877	40,877
2017	37,328	12.8174	2,912	2,912	2,912	2,912	2,912	2,912	2,912	2,912
2016	67,556	13.2086	5,115	5,115	5,115	5,115	5,115	5,115	5,115	5,115
2015	685,945	13.6119	50,393	50,393	50,393	50,393	50,393	50,393	50,393	30,836
Net Increase (Decrease)			208,972	208,972	208,972	208,972	208,972	208,972	208,972	189,415

Note: Schedule is limited to show only eight years into the future. This is simply to provide a readable display. If the recognition period is longer than eight years, the amortization will continue for the full period even though it is not shown.

Amortization Schedule – Changes of Assumptions

Year First Reported	Effects of Changes in Assumptions	Recognition Period (Years)	Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions							
			2021	2022	2023	2024	2025	2026	2027	2028
2021	$0	0.0000	$0	$0	$0	$0	$0	$0	$0	$0
2020	285,948	15.0000	19,063	19,063	19,063	19,063	19,063	19,063	19,063	19,063
2019	0	0.0000	0	0	0	0	0	0	0	0
2018	106,791	12.4623	8,569	8,569	8,569	8,569	8,569	8,569	8,569	8,569
2017	320,534	12.8174	25,008	25,008	25,008	25,008	25,008	25,008	25,008	25,008
2016	0	0.0000	0	0	0	0	0	0	0	0
2015	176,038	13.6119	12,933	12,933	12,933	12,933	12,933	12,933	12,933	7,909
Net Increase (Decrease)			65,573	65,573	65,573	65,573	65,573	65,573	65,573	60,549

Note: Schedule is limited to show only eight years into the future. This is simply to provide a readable display. If the recognition period is longer than eight years, the amortization will continue for the full period even though it is not shown.

Amortization Schedule - Investments

Year First Reported	Differences Between Projected and Actual Earnings	Recognition Period (Years)	Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Plan Investments					
			2021	2022	2023	2024	2025	2026
2021	$736,899	5.0000	$147,379	$147,380	$147,380	$147,380	$147,380	$0
2020	191,965	5.0000	38,393	38,393	38,393	38,393	0	0
2019	46,575	5.0000	9,315	9,315	9,315	0	0	0
2018	(262,681)	5.0000	(52,536)	(52,537)	0	0	0	0
2017	378,026	5.0000	75,606	0	0	0	0	0
Net Increase (Decrease)			218,157	142,551	195,088	185,773	147,380	0

Schedule of Contributions

Plan Year-End	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll *	Contributions as a Percentage of Covered Payroll
06/30/2020	$1,635,722	$1,635,722	$0	$4,858,290	33.67%
06/30/2019	778,481	778,481	0	4,464,356	17.44%

* Does not necessarily represent Covered Payroll as defined in GASB Statement No. 82. This does not include Tier 3 Defined Benefit or Defined Contribution payrolls.

Note: Actual contributions are based on covered payroll at the time of contribution. It is the actuary's understanding that the Employer's practice is to contribute the percent-of-payroll employer contribution rate (or flat dollar amount if there are no active employees) shown in the actuarial valuation report. Because of this understanding, the Actuarially Determined Contributions shown in the Schedule of Employer contributions are the actual contributions made by the Employer in the fiscal year. Actual contributions include any additional contributions made by the Employer as well as Arizona Fire Insurance Premium Tax received by the Employer.

The following assumptions were used to determine the Actuarially Determined Contribution as of June 30, 2018:

Calculation Timing

The Actuarially Determined Contribution is calculated as of June 30 one year prior to the beginning of the fiscal year in which contributions are reported.

.

Interest Rate

7.40%

Mortality

Healthy Actives:
RP-2014 Employee Mortality Tables, extended via cubic spline, projected backwards 1 year to 2013 with mortality improvement scale MP-2014. Future mortality improvements are assumed each year using 75% of scale MP-2016.

Healthy Inactives:
RP-2014 Healthy Annuitant Mortality Tables (110% for females), extended via cubic spline, projected backwards 1 year to 2013 with mortality improvement scale MP-2014. Future mortality improvements are assumed each year using 75% of scale MP-2016.

Disabled Lives:
RP-2014 Disabled Mortality Tables, extended via cubic spline, projected backwards 1 year to 2013 with mortality improvement

	scale MP-2014. Future mortality improvements are assumed each year using 75% of scale MP-2016. The mortality assumptions sufficiently accommodate anticipated future mortality improvements.
Assumptions	All other assumptions and methods used for determining the Actuarially Determined Contribution can be found in the June 30, 2018 Actuarial Valuation Report prepared by GRS Retirement Consulting.

Summary of Participant Data

Plan Membership	**June 30, 2020**	**June 30, 2019**
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	2	2
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2	2
Active Plan Members	47	47
Total	51	51
Covered Payroll *	$4,858,290	$4,464,356

* Does not necessarily represent Covered Payroll as defined in GASB Statement No. 82. This does not include Tier 3 Defined Benefit or Defined Contribution payrolls.

II. Notes to Financial Statements

Support for Long-Term Expected Rate of Return

The Long-Term Expected Rate of Return on Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by target asset allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation adopted as of June 30, 2020, as provided by PSPRS, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
U.S. Public Equity	23%	4.93%
International Public Equity	15%	6.09%
Global Private Equity	18%	8.42%
Other Assets (Capital Appreciation)	7%	5.61%
Core Bonds	2%	0.22%
Private Credit	22%	5.31%
Diversifying Strategies	12%	3.22%
Cash - Mellon	1%	(0.60)%
Total	100%	

Assumed inflation rate (as provided by PSPRS): 2.40%

Discount Rate

The Discount Rate used to measure the Total Pension Liability was 7.30 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Fiduciary Net Position for Queen Creek Fire Dept. was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments (7.30 percent) was applied to all periods of projected benefit payments to determine the Total Pension Liability.

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.30 percent. The municipal bond rate is 2.66 percent (based on the daily rate closest to, but not later than the measurement date of the S&P Municipal Bond 20 Year High Grade Rate Index). The resulting single discount rate is 7.30 percent.

III. Actuarial Assumptions and Methods

Valuation Date: June 30, 2020

Measurement Date: June 30, 2020

GASB 68 Expense Measurement Period: July 1, 2019 – June 30, 2020

Reporting Period: July 1, 2020 – June 30, 2021

Discount Rate

Tiers 1 & 2:
7.30% per year.

Tier 3:
7.00% per year.

Salary Increases

See table below. This is an annual increase for individual member's salary. These rates, which are based on a 2017 experience study using actual plan experience, consist of 3.5% for wage inflation with the remaining portion for merit / seniority increases.

Age	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
20	7.50%	7.50%	7.50%	7.50%	7.50%	7.20%
25	7.14%	6.24%	6.60%	7.35%	6.36%	6.60%
30	6.00%	5.16%	5.25%	6.74%	5.48%	5.60%
35	4.77%	4.55%	4.15%	5.56%	4.83%	4.96%
40	3.90%	3.89%	3.60%	4.46%	4.03%	4.44%
45	3.54%	3.56%	3.50%	3.74%	3.60%	3.78%
50+	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%

Inflation: 2.50%.

Tier 3 Compensation Limit: $110,000 for calendar 2020. Assumed increases of 2.00% per year thereafter.

Cost-of-Living Adjustment: 1.75%.

Mortality Rates

These rates are used to project future decrements from the population due to death.

Active Lives:
PubS-2010 Employee mortality, loaded 110% for males and females, projected with future mortality improvements reflected generationally using 75% of scale MP-2019. 100% of active deaths are assumed to be in the line of duty.

Inactive Lives
PubS-2010 Healthy Retiree mortality, loaded 110% for males and females, projected with future mortality improvements reflected generationally using 75% of scale MP-2019.

Beneficiaries:
PubS-2010 Survivor mortality, projected with future mortality improvements reflected generationally using 75% of scale MP-2019.

Disabled Lives:
PubS-2010 Disabled mortality, projected with future mortality improvements reflected generationally using 75% of scale MP-2019.

The mortality assumptions sufficiently accommodate anticipated future mortality improvements.

Retirement / DROP Rates

These rates are used to project future decrements from the active population due to retirement. The rates below are based on a 2017 experience study using actual plan experience.

Tier 1 – reaching age 62 before attaining 20 years of service:
Age-related rates based on age at retirement: 60% assumed at age 62, 50% assumed at ages 63 – 69, and 100% assumed at age 70. Rates are the same for all employers.

Tier 1 – reaching age 62 after attaining 20 years of service:
Service-related rates based on service at retirement:

Service	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
20	27%	24%	35%	14%	18%	23%
21	18%	19%	30%	14%	18%	18%
22	14%	14%	23%	7%	11%	11%
23	10%	10%	10%	7%	7%	8%
24	8%	7%	10%	7%	7%	5%
25	38%	32%	36%	22%	22%	30%
26	36%	32%	30%	26%	26%	30%
27	29%	22%	30%	19%	19%	30%
28	29%	22%	30%	32%	25%	25%
29	29%	22%	30%	30%	25%	16%
30	34%	35%	30%	30%	30%	32%
31	34%	35%	30%	30%	30%	35%
32	65%	65%	70%	55%	55%	60%
33	65%	65%	70%	55%	55%	60%
34+	100%	100%	100%	100%	100%	100%

60% are assumed to enter the DROP program while the remaining 40% are assumed to retire and commence benefits immediately.

Tiers 2 & 3:
Age-related rates based on age at retirement:

Age	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
53	38%	32%	36%	22%	22%	30%
54	36%	32%	30%	26%	26%	30%
55	29%	22%	30%	19%	19%	30%
56	29%	22%	30%	32%	25%	25%
57	29%	22%	30%	30%	25%	16%
58	34%	35%	30%	30%	30%	32%
59	34%	35%	30%	30%	30%	35%
60-63	65%	65%	70%	55%	55%	60%
64+	100%	100%	100%	100%	100%	100%

Termination Rate

These rates are used to project future decrements from the active population due to termination. Service-related rates based on service at termination are shown below. The rates below apply to members prior to retirement eligibility and are based on a 2017 experience study using actual plan experience.

Service	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
1	14.00%	16.00%	16.00%	7.00%	10.00%	9.50%
2	8.50%	9.00%	12.50%	4.50%	5.00%	9.00%
3	6.50%	7.50%	11.50%	3.70%	5.00%	7.50%
4	4.50%	6.00%	9.00%	3.00%	4.00%	7.50%
5	3.60%	6.00%	8.00%	2.50%	4.00%	6.50%
6	3.30%	4.50%	8.00%	1.70%	3.50%	4.50%
7	3.30%	4.50%	7.00%	1.70%	3.00%	4.00%
8	3.30%	3.20%	7.00%	1.70%	2.40%	3.50%
9	2.70%	3.20%	6.50%	1.70%	2.40%	3.50%
10	2.70%	3.20%	6.00%	1.50%	2.40%	3.00%
11	2.70%	3.20%	5.00%	1.10%	2.40%	2.70%
12	1.80%	1.40%	4.00%	0.70%	1.00%	2.00%
13	1.30%	1.40%	3.50%	0.70%	1.00%	2.00%
14	1.30%	1.40%	3.00%	0.70%	1.00%	1.70%
15	1.30%	1.00%	3.00%	0.60%	1.00%	1.20%
16	0.70%	1.00%	2.00%	0.50%	1.00%	1.20%
17	0.70%	1.00%	1.75%	0.50%	0.50%	1.20%
18	0.70%	1.00%	1.75%	0.40%	0.50%	1.20%
19	0.50%	1.00%	1.75%	0.40%	0.50%	1.20%
20+	0.50%	1.00%	1.75%	0.40%	0.50%	0.50%

Disability Rate

These rates are used to project future decrements from the active population due to disability. Sample age-related rates based on age at disability are provided below. These rates are based on a 2017 experience study using actual plan experience. 100% of disablements are assumed to be duty-related.

Age	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
20	0.08%	0.08%	0.10%	0.03%	0.03%	0.03%
25	0.08%	0.08%	0.10%	0.03%	0.03%	0.03%
30	0.17%	0.16%	0.20%	0.04%	0.03%	0.03%
35	0.22%	0.21%	0.26%	0.09%	0.07%	0.08%
40	0.36%	0.35%	0.44%	0.17%	0.16%	0.17%
45	0.51%	0.49%	0.62%	0.17%	0.43%	0.48%
50	0.78%	0.75%	0.95%	0.43%	0.59%	0.65%
55	1.02%	0.98%	1.23%	1.00%	1.01%	1.13%

<u>Marital Status</u>	For active members, 85% of males and 60% of females are assumed to be married. Actual marital status is used, where applicable, for inactive members.
<u>Spouse's Age</u>	Males are assumed to be three years older than females.
<u>Funding Method</u>	Entry Age Normal Cost Method.

IV. SUMMARY OF CURRENT PLAN

The following is a summary of the benefit provisions provided in Title 38, Chapter 5, Article 4 of the Arizona Revised Statutes.

Plan Administration

The Plan is a multiple-employer defined benefit pension plan administered by a Board of Trustees comprised of:

a.) Four members appointed by the Governor,
b.) One member appointed by the Governor after nomination by PSPRS and the Board,
c.) Two members appointed by the president of the Senate, and
d.) Two members appointed by the speaker of the House of Representatives.

Membership

Full-time employees of an eligible group, prior to attaining age 65, who are engaged to work for more than six months in a calendar year.

Benefit Tiers

Benefits differ for members based on their hire date:

Tier	Hire Date
1	Hired before January 1, 2012
2	Hired on or after January 1, 2012 but before July 1, 2017
3	Hired on or after July 1, 2017

Compensation

Compensation is the amount including base salary, overtime pay, shift and military differential pay, compensatory time used in lieu of overtime pay, and holiday pay, paid to an employee on a regular payroll basis and longevity pay paid at least every six months for which contributions are made to the System. For Tier 3 members, compensation is limited by statutory cap ($110,000 with adjustments by the Board).

Average Monthly Benefit Compensation

Tier 1:
The highest compensation paid to member during three consecutive years out of the last 20 years of Credited Service, divided by months.

Tier 2:
The highest compensation paid to member during five consecutive years out of the last 20 years of Credited Service, divided by months.

Tier 3:
The highest compensation paid to member during five consecutive years out of the last 15 years of Credited Service, divided by months.

Credited Service	Total periods of service, both before and after the member's date of participation, for which the member made contributions to the fund.
Normal Retirement Date	***Tier 1:*** First day of month following attainment of 1) 20 years of service or 2) 62nd birthday and completion of 15 years of service. ***Tier 2:*** First day of month following the attainment of age 52.5 and completion of 15 years of service. ***Tier 3:*** First day of month following the attainment of age 55 and completion of 15 years of service.
Benefit	***Tier 1:*** 50% of Average Monthly Benefit Compensation, adjusted based on Credited Service as follows (maximum benefit of 80% of Average Monthly Benefit Compensation):

Credited Service	Benefit Adjustment
15 years, but less than 20	Reduced 4% per year less than 20
20 years, but less than 25	Plus 2% per year between 20 and 25
25+ years	Plus 2.5% per year above 20

Tier 2:
Benefit multiplier (below) times Average Monthly Benefit Compensation times Credited Service (maximum benefit of 80% of Average Monthly Benefit Compensation):

Credited Service	Benefit Multiplier
15 years, but less than 17	1.50%
17 years, but less than 19	1.75%
19 years, but less than 22	2.00%
22 years, but less than 25	2.25%
25+ years	2.50%

Tier 3:
Benefit multiplier (below) times Average Monthly Benefit Compensation times Credited Service (maximum benefit of 80% of Average Monthly Benefit Compensation):

Credited Service	Benefit Multiplier
15 years, but less than 17	1.50%
17 years, but less than 19	1.75%
19 years, but less than 22	2.00%
22 years, but less than 25	2.25%
25+ years	2.50%

Form of Benefit — For married retirees, an annuity payable for the life of the member with 80% continuing to the eligible spouse upon death. For unmarried retirees, the normal form is a single life annuity.

Early Retirement — ***Only applicable to Tier 3 members:***

Date — Attainment of age 52.5 and 15 years of Credited Service.

Benefit — Actuarial equivalent of Normal Retirement benefit.

Disability Benefit – Accidental (duty-related)

Eligibility — Total and permanent disability incurred in performance of duty.

Benefit Amount — A maximum of:

e.) 50% of Average Monthly Benefit Compensation, and;
f.) The monthly Normal Retirement pension that the member is entitled to receive if he or she retired immediately.

Disability Benefit – Ordinary (not duty-related)

Eligibility — Total and permanent disability not incurred in performance of duty.

Benefit Amount — Normal Retirement pension that the member is entitled to receive prorated on Credited Service (maximum 20 years) over 20.

Disability Benefit – Other

Temporary — Benefit equals 1/12 of 50% of compensation during year preceding date of disability. Payments terminate after 12 months.

Catastrophic — Benefit equals 90% of Average Monthly Benefit Compensation. After 60 months member receives greater of 62.5% Average Monthly Benefit Compensation and accrued normal pension.

Pre-Retirement Death Benefit

Service Incurred: 100% of Average Monthly Benefit Compensation, reduced by child's pension.

Non-Service Incurred: 80% of benefit based on calculation for accidental disability retirement.

Child's Pension: 10% of pension for each child (maximum 20% paid) based on calculation for accidental disability retirement. Payable to dependent child under age 18 (23, if full-time student).

Guardian's Pension: Same as spouse's pension. Payable (along with child's pension) when no spouse is being paid and there is at least one child under 18 (23, if full-time student).

Vesting (Termination)

Vesting Service Requirement

Tier 1:
10 years of Credited Service.

Tiers 2 & 3:
15 years of Credited Service.

Non-Vested Benefit

Tier 1:
Lump sum payment of accumulated contributions, plus additional amount based on years of Credited Service.

Service	Additional % of Contributions
Less than 5 years	0%
5 years	25%
6 years	40%
7 years	55%
8 years	70%
9 years	85%
10+ years	100%

Tiers 2 & 3:
Lump sum payment of accumulated contributions, with interest at rate determined by the Board.

Vested Benefit

Tier 1:
Deferred retirement annuity based on two times member's accumulated contributions, deferred to age 62. Member is not entitled to survivor benefits, benefit increases, or group health insurance subsidy.

Tiers 2 & 3:
Calculated same as normal retirement pension. Payable if contributions left in fund until reach age requirement. Member is entitled to survivor benefits, benefit increases, and group health insurance subsidy.

Cost-of-Living Adjustment

Payable to retired member or survivor of retired member

Tiers 1 & 2:
Compound cost-of-living adjustment on base benefit. First payment is made on July 1, 2018, with annual adjustments effective every July 1 thereafter.

Cost-of-living adjustment will be based on the average annual percentage change in the Metropolitan Phoenix-Mesa Consumer Price Index published by the United States Department of Labor, Bureau of Statistics. Maximum increase of 2%.

Tier 3:
Compound cost-of-living adjustment on base benefit beginning earlier of first calendar year after the 7th anniversary of retirement or when the retired member reaches 60 years of age.

A cost-of-living adjustment shall be paid on July 1 each year that the funded ratio for members hired on or after July 1, 2017 is 70% or more.

The cost-of-living adjustment will be based on the average annual percentage change in the Metropolitan Phoenix-Mesa Consumer Price Index published by the United States Department of Labor, Bureau of Statistics. The cost-of-living adjustment will not exceed:

- 2%, if funded ratio for members who are hired on or after July 1, 2017 is 90% or more;
- 1.5%, if funded ratio for members who are hired on or after July 1, 2017 is 80-90%;
- 1%, if funded ratio for members who are hired on or after July 1, 2017 is 70-80%.

Deferred Retirement Option Plan (DROP):

Eligibility	Tier 1 and 20 years of Credited Service.
DROP Period	Maximum 60 months.
Member Contributions	Cease upon DROP entry.

Benefit Amount	Calculated based on Credited Service and average monthly compensation as of the beginning of the DROP period, credited to DROP participation account for DROP period.

Interest on DROP Participation Account

Beginning Year	Interest Rate
July 1, 2015	7.50%
July 1, 2016	7.40%
July 1, 2017	7.40%
July 1, 2018	7.30%
July 1, 2019	7.30%

Payment of DROP Participation Account	Payable as lump sum distribution to Public Safety Personnel Defined Contribution Retirement Plan at end of DROP period or at termination.
Payment Monthly Benefit	System commences payment of benefit amount at the earlier of 1) the end of the DROP period and 2) at termination.

Employee Contributions

Members hired before July 20, 2011:
7.65%

Members hired on/after July 20, 2011, but before July 1, 2017:
11.65%. Amounts in excess of 7.65% are not used to reduce the employer contribution ("maintenance of effort").

Tier 3:
50% of total contribution, which is Normal Cost plus a level-dollar amortization of unfunded actuarial accrued liability over a closed period not to exceed 10 years.

Employer Contributions

Tiers 1 & 2:
Normal Cost plus amortization of unfunded actuarial accrued liability over a closed period not to exceed 20 years (subject to one-time election to extend to closed period not to exceed 30 years). Contribution will never be less than 8% of payroll.

Tier 3:
50% of total contribution, which is Normal Cost plus a level-dollar amortization of unfunded actuarial accrued liability over a closed period not to exceed 10 years.

ARIZONA PUBLIC SAFETY PERSONNEL RETIREMENT SYSTEM

QUEEN CREEK FIRE DEPT. (247)

ACTUARIAL VALUATION
AS OF JUNE 30, 2020

CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING JUNE 30, 2022

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

VIA E-MAIL

December 2020

Board of Trustees
Arizona Public Safety Personnel Retirement System
Phoenix, AZ

Re: Actuarial Valuation Report as of June 30, 2020 for Queen Creek Fire Dept. (247)

Dear Members of the Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the Arizona Public Safety Personnel Retirement System (PSPRS). The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year.

This report was prepared at the request of the Board and is intended for use by PSPRS and those designated or approved by the Board. It documents the valuation of the consolidated plan and provides summary information for PSPRS participating employers. This report may be provided to parties other than PSPRS only in its entirety and only with the permission of the Board. Foster & Foster is not responsible for the unauthorized use of this report.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Title 38, Chapter 5, Article 4 of the Arizona Revised Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

The computed contribution rates shown in the “Contribution Results” section should be considered minimum contribution rates that comply with the Board’s funding policy and Arizona Statutes. Users of this report should be aware that contributions made at that rate do not guarantee benefit security. Given the importance of benefit security to any retirement system, we suggest that contributions to the System in excess of those presented in this report be considered.

The funding percentages and unfunded accrued liability as measured based on the actuarial value of assets will differ from similar measures based on the market value of assets. These measures, as provided, are appropriate for determining the adequacy of future contributions, but may not be appropriate for the purpose of settling a portion or all of the Plan’s liabilities.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by PSPRS through June 30, 2020 and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

This valuation assumes the continuing ability of the participating employers to make the contributions necessary to fund this plan. A determination regarding whether or not the participating employers are actually able to do so is outside our scope of expertise. Consequently, we did not perform such an analysis.

The undersigned are familiar with the immediate and long-term aspects of pension valuations and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the Arizona Public Safety Personnel Retirement System, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Arizona Public Safety Personnel Retirement System. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 239-433-5500.

Respectfully Submitted,

Foster & Foster, Inc.

By: ______________________
Bradley R. Heinrichs, FSA, EA, MAAA

By: ______________________
Jason L. Franken, FSA, EA, MAAA

By: ______________________
Paul M. Baugher, FSA, EA, MAAA

TABLE OF CONTENTS

I. Summary of Report 1

II. Contribution Results..........4

III. Liability Support..........9

IV. Asset Support..........13

V. Member Statistics..........18

VI. Actuarial Assumptions and Methods..........20

VII. Discussion of Risk..........25

VIII. Summary of Current Plan..........28

IX. Actuarial Funding Policy..........34

X. Glossary..........36

I. Summary of Report

The regular annual actuarial valuation of the Arizona Public Safety Personnel Retirement System for the Queen Creek Fire Dept., performed as of June 30, 2020, has been completed and the results are presented in this Report. The purpose of this valuation is to:

- Compute the liabilities associated with benefits likely to be paid on behalf of current retired and active members. This information is contained in the section entitled "Liability Support."
- Compare accumulated assets with the liabilities to assess the funded condition. This information is contained in the section entitled "Liability Support."
- Compute the employers' recommended contribution rates for the Fiscal Year beginning July 1, 2021. This information is contained in the section entitled "Contribution Results."

1. Key Valuation Results

The funded status as of June 30, 2020 and the employer contribution amounts applicable to the plan/fiscal year ending June 30, 2022 are as follows:

	Tier 1 & Tier 2 Members			Tier 3 Members *		
	Pension	**Health**	**Total**	**Pension**	**Health**	**Total**
Employer Contribution Rate	15.33%	0.21%	15.54%	9.05%	0.13%	9.18%
Funded Status	95.1%	125.8%	95.5%	101.4%	203.9%	103.0%

2. Comparison of Key Results to Prior Year

The chart below compares the results from this valuation with the results of the prior year's valuation (as of June 30, 2019):

Contribution Rate

	Tier 1 & Tier 2 Members			Tier 3 Members *		
Valuation Date	**Pension**	**Health**	**Total**	**Pension**	**Health**	**Total**
June 30, 2019	15.51%	0.25%	15.76%	9.21%	0.14%	9.35%
June 30, 2020	15.33%	0.21%	15.54%	9.05%	0.13%	9.18%

Funded Status

	Tier 1 & Tier 2 Members			Tier 3 Members		
Valuation Date	**Pension**	**Health**	**Total**	**Pension**	**Health**	**Total**
June 30, 2019	97.5%	136.6%	97.9%	116.9%	205.3%	118.4%
June 30, 2020	95.1%	125.8%	95.5%	101.4%	203.9%	103.0%

** The Tier 3 rates shown are the calculated rates as of the valuation date and do not reflect any Legacy costs that the employer must also contribute.*

3. Reasons for Change

Changes in the results from the prior year's valuation can be illustrated in the following tables along with high-level explanations for the entire System below:

Contribution Rate

	Tier 1 & Tier 2		Tier 3 Members	
	Pension	**Health**	**Pension**	**Health**
Contribution Rate Last Valuation	15.51%	0.25%	9.21%	0.14%
Asset Experience	0.40%	0.01%	0.02%	0.00%
Payroll Base	(0.11%)	0.01%	0.02%	(0.02%)
Liability Experience	0.51%	0.00%	(0.15%)	0.00%
Assumption/Method Change	0.14%	(0.01%)	0.00%	0.00%
Other	(1.12%)	(0.05%)	(0.05%)	0.01%
Contribution Rate This Valuation	15.33%	0.21%	9.05%	0.13%

Funded Status

	Tier 1 & Tier 2		Tier 3 Members	
	Pension	**Health**	**Pension**	**Health**
Funded Status Last Valuation	97.5%	136.6%	116.9%	205.3%
Asset Experience	(1.7%)	(2.5%)	(0.6%)	(1.2%)
Liability Experience	(2.1%)	0.9%	4.1%	5.4%
Assumption/Method Change	0.0%	0.0%	0.0%	0.0%
Other	1.4%	(9.2%)	(19.0%)	(5.6%)
Funded Status This Valuation	95.1%	125.8%	101.4%	203.9%

Assets Experience – Asset gains and losses (relative to the assumed earnings rate) are smoothed over seven years for Tiers 1 and 2 and over five years for Tier 3. The return on the market value of assets for the year ending June 30, 2020 was 1.2% for Tiers 1 and 2 and 1.7% for Tier 3. On a smoothed, actuarial value of assets basis, however, the average return was 5.4% for Tiers 1 and 2 and 6.1% for Tier 3. This fell short of the 2019 assumed earnings rate for Tiers 1 and 2 of 7.3% and for Tier 3 of 7.0%.

Liability Experience – Experience overall was unfavorable, driven by less than expected inactive mortality and turnover.

Payroll Base – Under the current amortization policy for Tiers 1 and 2, the contribution rate is developed as a level percentage of payroll. The payroll is expected to increase each year in line with the growth assumption (currently 3.50%). To the extent that actual payroll is lower/greater than expected, the contribution rate will increase/decrease as a result.

Assumption / Method Change – The amortization method for Tiers 1 and 2 was updated to use a layered approach. New bases will be amortized on a Level Dollar basis while the 2019 base will continue to be amortized on a Level Percentage of Payroll basis.

Other – This is the combination of all other factors that could impact liabilities year-over-year, with the primary sources being changes resulting from an updated understanding of some data components provided by staff and changes in member data. Note that Tier 3 experience will stabilize as the group matures.

4. Looking Ahead

The continuing effect of prior asset losses was dampened by the asset smoothing reflected in the actuarial value of assets. There remain unrecognized investment losses that will, in the absence of other gains, put upward pressure on the contribution rate next year.

If the June 30, 2020 pension valuation results were based on the market value of assets instead of the actuarial value of assets, the pension funded percentage for Tiers 1 and 2 would be 88.4% (instead of 95.1%) and the pension employer contribution requirement would be 16.93% of payroll (instead of 15.33%).

5. Conclusion

The funded status for Tiers 1 and 2 will continue to improve if assumptions are met and contributions at least equal to the rates determined for each employer are made to the fund. The recent adoption of a layered amortization approach along with a plan to systematically lower the payroll growth assumption was an excellent step to improve funding and ensure the Plan is on a viable path.

The funded status for Tier 3 will stabilize as the population continues to grow, as contributions appear sufficient to keep the liabilities fully funded.

II. CONTRIBUTION RESULTS

Contribution Requirements

Development of Employer Contributions - Tiers 1 & 2 Members				
Valuation Date	June 30, 2020		June 30, 2019	
Applicable to Fiscal Year Ending	2022		2021	
	Rate	**Dollar**	**Rate**	**Dollar**
Pension				
Normal Cost				
Total Normal Cost	21.43%	$ 1,129,574	22.32%	$ 996,494
Employee Cost	(7.65%)	(403,231)	(7.65%)	(341,523)
Employer (Net) Normal Cost	13.78%	726,343	14.67%	654,971
Amortization of Unfunded Liability	1.55%	81,700	0.84%	40,172
Total Employer Cost (Pension)	15.33%	808,043	15.51%	695,143
Health				
Normal Cost	0.28%	14,759	0.32%	14,239
Amortization of Unfunded Liability	(0.07%)	(3,690)	(0.07%)	(3,348)
Total Employer Cost (Health)	0.21%	11,069	0.25%	10,891
Total Employer Cost (Pension + Health)	**15.54%**	**819,112**	**15.76%**	**706,034**
Total Minimum Contribution Requirement (if applicable)	0.00%		0.00%	
Alternate Contribution Rate (ACR) *	1.55%		0.84%	
Underlying Payroll (as of valuation date)		5,092,749		4,464,356

** The Alternate Contribution Rate is the sum of the positive amortization rates for Tiers 1 & 2 Pension and Health and is charged when retirees return to active status.*

The results above are shown both prior to and after the application of the statutory minimum contribution requirement of 8% of payroll (5% of payroll if the actual employer contribution is less than 5% for the 2006/2007 Fiscal Year) and are based on the current amortization schedule approved by the Board of Trustees for your individual plan (see "Actuarial Assumptions and Methods").

A.R.S. 38-843, subsection I allows for the employer to request a one-time increase in the amortization period up to a maximum of 30 years. The costs below are provided to assist with that decision, where needed. If the current approved amortization period is greater than those below, that request has already been made for this plan and the following is provided to facilitate earlier payoff, if desired.

	Rate	**Dollar**
Total Pension Employer Cost (25-year amortization)	15.13%	797,705
Total Pension Employer Cost (30-year amortization)	15.02%	791,596

Development of Employer Contributions – Tier 3 Members		
Valuation Date	June 30, 2020	June 30, 2019
Applicable to Fiscal Year Ending	2022	2021

Defined Benefit (DB) Retirement Plan

	Rate	**Dollar**	**Rate**	**Dollar**
Pension				
Total Normal Cost	18.10%	$ 181,890	18.41%	$ 124,385
Amortization of Unfunded Liability	0.00%	0	0.00%	0
Total Pension Cost	18.10%	181,890	18.41%	124,385
Employee (EE) Pension Cost	9.05%	90,945	9.21%	62,193
Employer (ER) Pension Cost	9.05%	90,945	9.21%	62,193
Health				
Total Normal Cost	0.25%	2,512	0.28%	1,892
Amortization of Unfunded Liability	0.00%	0	0.00%	0
Total Health Cost	0.25%	2,512	0.28%	1,892
Employee (EE) Health Cost	0.13%	1,256	0.14%	946
Employer (ER) Health Cost	0.13%	1,256	0.14%	946
Total				
Total Calculated Tier 3 Required EE/ER Individual Cost	9.18%	92,201	9.35%	63,139
Board Approved Tier 3 Required EE/ER Individual Cost [1]	9.94%	99,889	9.94%	67,159
ER Legacy Cost of Tiers 1 & 2 Amort of Unfunded Liabilities [2]	1.55%	15,576	0.84%	6,080
Total Calculated Tier 3 Required ER Defined Benefit Cost	10.73%	107,777	10.19%	69,219
Total Board Approved Tier 3 Required ER Defined Benefit Cost	**11.49%**	**115,465**	**10.78%**	**73,239**
Underlying Payroll (as of valuation date)		970,935		675,639

[1] The Board decided to keep Tier 3 rates level (as calculated with the June 30, 2019 valuation) for the fiscal year ending June 30, 2022.

[2] Pursuant to ARS § 38-843(B), the amortization of positive unfunded liabilities for Tiers 1 & 2 shall be applied to all Tier 3 payroll on a level percent basis. However, while it is statutorily required to present the rates in this manner, these are the minimums where alternate methods for paying down that unfunded liability is at the discretion of each employer. Further, to understand the effects of reform in relation to Tier 3, compare the total rate of Tier 3 before application of those legacy costs.

Development of Employer Contributions – Tier 3 Members		
Valuation Date	June 30, 2020	June 30, 2019
Applicable to Fiscal Year Ending	2022	2021

Defined Contribution (DC) Retirement Plan

	Rate	**Dollar**	**Rate**	**Dollar**
Tier 2 & 3 DB / Non-Social Security				
Employee Cost	3.00%		3.00%	
Employer Cost [1]	3.00%		3.00%	
Tier 3 DC Only				
Employee Cost	9.00%	$ 0	9.00%	$ 0
Employee Disability Program Cost	0.88%	0	1.41%	0
Total Employee Cost	**9.88%**	**0**	**10.41%**	**0**
Employer Cost	9.00%	0	9.00%	0
Employer Disability Program Cost	0.88%	0	1.41%	0
Total Employer Cost (before Legacy)	**9.88%**	**0**	**10.41%**	**0**
ER Legacy Cost of Tiers 1 & 2 Amort of Unfunded Liabilities [2]	1.55%	0	0.84%	0
Total Employer Cost	**11.43%**	**0**	**11.25%**	**0**
Underlying Payroll (as of valuation date)		0		0

[1] *Employer rate is 4% for Tier 2 members for a period of time depending on the individual's membership date.*

[2] *Pursuant to ARS § 38-843(B), the amortization of positive unfunded liabilities for Tiers 1 & 2 shall be applied to all Tier 3 payroll on a level percent basis. However, while it is statutorily required to present the rates in this manner, these are the minimums where alternate methods for paying down that unfunded liability is at the discretion of each employer. Further, to understand the effects of reform in relation to Tier 3, compare the total rate of Tier 3 before application of those legacy costs.*

Contribution Rate Summary

	Tier 1		Tier 2		Tier 3		
Membership Date On or After	7/1/1968	7/20/2011	1/1/2012		7/1/2017		
Participates in Social Security	N/A	N/A	Yes	No	Yes	No	N/A
Available Retirement Plan [1]	DB Only	DB Only	DB Only	Hybrid	DB Only	Hybrid	DC Only
Employee Contribution Rate							
PSPRS DB Rate	7.65%	11.65%	11.65%	11.65%	9.94%	9.94%	
PSPRS DC Rate				3.00%		3.00%	9.00%
PSPDCRP Disability Program Rate							0.88%
Total EE Contribution Rate	7.65%	11.65%	11.65%	14.65%	9.94%	12.94%	9.88%
Employer Contribution Rate							
PSPRS DB Normal Cost	14.06%	14.06%	14.06%	14.06%	9.94%	9.94%	
PSPRS DB Tier 1 & 2 Legacy Cost [2]	1.48%	1.48%	1.48%	1.48%	1.55%	1.55%	1.55%
PSPRS DC Rate [3]				4.00%		3.00%	9.00%
PSPDCRP Disability Program Rate							0.88%
Total ER Contribution Rate	15.54%	15.54%	15.54%	19.54%	11.49%	14.49%	11.43%

[1] Employers that pay into Social Security on behalf of their members do not participate in the Hybrid Plan.

[2] Per statute (ARS § 38-843(B)), any positive unfunded liability for Tiers 1 and 2 is to be applied to all Tier 3 (DB and DC) payrolls.

[3] The 4.00% employer match for Tier 2 Hybrid members is for a short period of time depending on the membership date of the employee at which point the rate will change to 3.00% (ARS § 38-868(C)).

Exhibit summarizes employee and employer contributions based on Statute and the results of June 30, 2020 actuarial valuation. Pension and health components are combined, where applicable.

Impact of Additional Contributions

	Additional Contribution (000s)										
	$0	**$100**	**$200**	**$300**	**$400**	**$500**	**$600**	**$700**	**$800**	**$900**	**$1,000**
Impact On											
Funded Status 06/30/2020	95.1%	95.8%	96.5%	97.1%	97.8%	98.5%	99.1%	99.8%	100.4%	101.1%	101.8%
FYE 2022 Contribution Rate	15.54%	15.38%	15.22%	15.06%	14.90%	14.74%	14.58%	14.42%	14.26%	14.10%	13.94%

Table shows the hypothetical change in the funded status and contribution rate from the June 30, 2020 actuarial valuation results for Tiers 1 & 2 if an additional contribution of the amount shown had been made to the Fund on June 30, 2020. This illustration can help estimate the impact of contributing additional monies to the fund in the future.

Historical Summary of Employer Rates

			Pension			Health		
	Valuation Date June 30	**Fiscal Year Ending June 30**	**Normal Cost**	**Unfunded Amortization**	**Total**	**Normal Cost**	**Unfunded Amortization**	**Total**
TIERS 1 & 2	2018	2020	14.02%	0.00%	14.02%	0.27%	0.00%	0.27%
	2019	2021	14.67%	0.84%	15.51%	0.32%	(0.07%)	0.25%
	2020	2022	13.78%	1.55%	15.33%	0.28%	(0.07%)	0.21%
TIER 3 [1, 2]	2018	2020	9.68%	0.00%	9.68%	0.26%	0.00%	0.26%
	2019	2021	9.68%	0.00%	9.68%	0.26%	0.00%	0.26%
	2020 [2]	2022	9.05%	0.00%	9.05%	0.13%	0.00%	0.13%
	2020	2022	9.68%	0.00%	9.68%	0.26%	0.00%	0.26%

[1] *Rates shown are Board approved EE/ER rates, unless otherwise noted. Does not reflect Legacy costs that the employer must also contribute.*

[2] *Rates shown are calculated EE/ER rates*

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ACTUARIES AND CONSULTANTS

III. Liability Support

Liabilities and Funded Ratios by Benefit - Tiers 1 & 2

	June 30, 2020	June 30, 2019
Pension		
Actuarial Present Value of Benefits		
Retirees and Beneficiaries	$ 1,974,425	$ 1,960,792
DROP Members	0	0
Vested Members	12,919	1,855
Active Members	25,901,079	21,975,888
Total Actuarial Present Value of Benefits	27,888,423	23,938,535
Actuarial Accrued Liability (AAL)		
All Inactive Members	1,987,344	1,962,647
Active Members	13,059,062	9,950,753
Total Actuarial Accrued Liability	15,046,406	11,913,400
Actuarial Value of Assets (AVA)	14,313,947	11,613,169
Unfunded Actuarial Accrued Liability		
Gross Unfunded Actuarial Accrued Liability	732,459	300,231
Stabilization Reserve	0	0
Net Unfunded Actuarial Accrued Liability	732,459	300,231
Funded Ratio (AVA / AAL)	95.1%	97.5%
Health		
Present Value of Benefits		
Retirees and Beneficiaries	$ 15,594	$ 16,196
DROP Members	0	0
Active Members	312,651	288,952
Total Present Value of Benefits	328,245	305,148
Actuarial Accrued Liability (AAL)		
All Inactive Members	15,594	16,196
Active Members	156,301	126,431
Total Actuarial Accrued Liability	171,895	142,627
Actuarial Value of Assets (AVA)	216,279	194,883
Unfunded Actuarial Accrued Liability	(44,384)	(52,256)
Funded Ratio (AVA / AAL)	125.8%	136.6%

Liabilities and Funded Ratios by Benefit - Tier 3

	June 30, 2020	June 30, 2019
Pension		
Actuarial Present Value of Benefits		
Retirees and Beneficiaries	$ 429,363	$ 0
Vested Members	743,741	203,244
Active Members	203,486,437	120,826,663
Total Actuarial Present Value of Benefits	204,659,541	121,029,907
Actuarial Accrued Liability (AAL)		
All Inactive Members	1,173,104	203,244
Active Members	22,066,495	7,753,481
Total Actuarial Accrued Liability	23,239,599	7,956,725
Actuarial Value of Assets (AVA)	23,570,444	9,305,220
Unfunded Actuarial Accrued Liability	(330,845)	(1,348,495)
Funded Ratio (AVA / AAL)	101.4%	116.9%
Health		
Present Value of Benefits		
Retirees and Beneficiaries	0	0
Active Members	2,785,857	1,814,082
Total Present Value of Benefits	2,785,857	1,814,082
Actuarial Accrued Liability (AAL)		
All Inactive Members	0	0
Active Members	353,563	136,597
Total Actuarial Accrued Liability	353,563	136,597
Actuarial Value of Assets (AVA)	721,079	280,404
Unfunded Actuarial Accrued Liability	(367,516)	(143,807)
Funded Ratio (AVA / AAL)	203.9%	205.3%

The liabilities shown on this page are the liabilities for all Tier 3 members grouped together in the Risk Sharing group. These liabilities are NOT the liabilities for Queen Creek Fire Dept. Tier 3 members.

Derivation of Experience (Gain)/Loss

		Tiers 1 & 2		Tier 3	
		Pension	**Health**	**Pension**	**Health**
(1)	Unfunded Actuarial Accrued Liability as of June 30, 2019	300,231	(52,256)	(1,348,495)	(143,807)
(2)	Normal Cost Developed in Last Valuation	654,971	14,239	4,806,265	73,059
(3)	Actual Contributions	1,635,722	13,087	6,660,557	411,565
(4)	Expected Interest On (1), (2), and (3)	11,077	(3,245)	13,589	(19,922)
(5)	Expected Unfunded Actuarial Accrued Liability as of June 30, 2020 (1)+(2)-(3)+(4)	(669,443)	(54,349)	(3,189,198)	(502,235)
(6)	Changes to UAAL Due to Assumptions, Methods and Benefits	0	0	0	0
(7)	Change to UAAL Due to Actuarial (Gain)/Loss	1,401,902	9,965	2,858,353	134,719
(8)	Unfunded Actuarial Accrued Liability as of June 30, 2020	732,459	(44,384)	(330,845)	(367,516)

Amortization of Unfunded Liabilities - Tiers 1 & 2

	Date Established	Outstanding Balance	Years Remaining	Amortization Rate
Pension	06/30/2019	570,734	16	0.76%
	06/30/2020	473,271	16	0.79%
	Total	1,044,005		1.55%
Health	06/30/2019	0	19	0.00%
	06/30/2020	(44,384)	20	(0.07%)
	Total	(44,384)		(0.07%)

Amortization of Unfunded Liabilities - Tier 3

	Date Established	Outstanding Balance	Years Remaining	Amortization Rate *
Pension	06/30/2018	166,947	8	0.03%
	06/30/2019	(1,419,864)	9	(0.24%)
	06/30/2020	922,072	10	0.15%
	Total	(330,845)		0.00%
Health	06/30/2018	(3,540)	8	0.00%
	06/30/2019	(129,816)	9	(0.02%)
	06/30/2020	(234,160)	10	(0.04%)
	Total	(367,516)		0.00%

* *By Statute, negative amortization rates are not subtracted in Tier 3 rate calculations.*

IV. ASSET SUPPORT

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2020

Market Value Basis

	Tiers 1 & 2		Tier 3	
	Pension	**Health**	**Pension**	**Health**
Additions				
Contributions				
Member Contributions	$ 128,443,154	$ 0	$ 14,386,911	$ 0
Employer Contributions	938,799,348	0	14,392,453	0
Health Insurance Contributions	0	4,741,938	0	909,053
Total Contributions	1,067,242,502	4,741,938	28,779,364	909,053
Investment Income				
Net Increase in Fair Value	58,711,963	1,945,052	350,525	8,778
Interest and Dividends	66,905,282	2,216,486	399,442	10,003
Other Income	26,056,951	1,568,972	155,567	7,081
Less Investment Expenses	(49,802,841)	(1,555,022)	(297,336)	(7,018)
Net Investment Income	101,871,355	4,175,488	608,198	18,844
Transfers In	379,476	0	155,830	0
Total Additions	1,169,493,333	8,917,426	29,543,392	927,897
Deductions				
Distributions to Members				
Benefit Payments	900,036,400	0	0	0
Health Insurance Subsidy	0	17,050,706	0	0
Refund of Contributions	14,184,072	0	157,299	0
Total Distributions	914,220,472	17,050,706	157,299	0
Administrative Expenses	8,356,791	339,564	49,892	1,532
Transfers Out	367,881	0	0	0
Other	0	0	0	0
Total Deductions	922,945,144	17,390,270	207,191	1,532
Net Increase / (Decrease)	246,548,189	(8,472,844)	29,336,201	926,365
Net Position Held in Trust				
Prior Valuation	7,810,990,750	336,551,716	18,922,750	554,433
Beginning of the Year Adjustment	(163)	163	163	(163)
End of the Year	8,057,538,776	328,079,035	48,259,114	1,480,635

Development of Pension Actuarial Value of Assets - Tiers 1 & 2

A. Investment Income	
A1. Actual Investment Income	$ 93,514,564
A2. Expected Amount for Immediate Recognition	575,689,672
A3. Amount Subject to Amortization	(482,175,108)

	Year Ended June 30						
B. Amortization Schedule	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
2020 Experience (A3 / 7)	(68,882,158)	(68,882,158)	(68,882,158)	(68,882,158)	(68,882,158)	(68,882,158)	(68,882,160)
2019 Experience	(22,859,275)	(22,859,275)	(22,859,275)	(22,859,275)	(22,859,275)	(22,859,275)	
2018 Experience	(6,266,349)	(6,266,349)	(6,266,349)	(6,266,349)	(6,266,351)		
2017 Experience	33,380,149	33,380,149	33,380,149	33,380,148			
2016 Experience	(64,250,729)	(64,250,729)	(64,250,726)				
2015 Experience	(36,894,248)	(36,894,251)					
2014 Experience	33,458,496						
Total Amortization	(132,314,114)	(165,772,613)	(128,878,359)	(64,627,634)	(98,007,784)	(91,741,433)	(68,882,160)

C. Actuarial Value of Assets	**Total**	**Employer**
C1. Actuarial Value of Assets, 06/30/2019	8,079,039,739	
C2. Noninvestment Net Cash Flow	153,033,625	
C3. Preliminary Actuarial Value of Assets, 06/30/2020 (A2 + B + C1 + C2)	8,675,448,922	
C4. Market Value of Assets, 06/30/2020	8,057,538,776	13,294,434
C5. Final Actuarial Value of Assets, 06/30/2020 (C3 Within 20% Corridor of C4)	8,675,448,922	14,313,947

D. Rates of Return	
D1. Market Value Rate of Return	1.2%
D2. Actuarial Value Rate of Return	5.4%

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ACTUARIES AND CONSULTANTS

Development of Health Actuarial Value of Assets - Tiers 1 & 2

A. Investment Income	
A1. Actual Investment Income	$ 3,835,924
A2. Expected Amount for Immediate Recognition	24,126,918
A3. Amount Subject to Amortization	(20,290,994)

	Year Ended June 30						
B. Amortization Schedule	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
2020 Experience (A3 / 7)	(2,898,713)	(2,898,713)	(2,898,713)	(2,898,713)	(2,898,713)	(2,898,713)	(2,898,716)
2019 Experience	(1,075,569)	(1,075,569)	(1,075,569)	(1,075,569)	(1,075,569)	(1,075,572)	
2018 Experience	(304,653)	(304,653)	(304,653)	(304,653)	(304,656)		
2017 Experience	1,532,136	1,532,136	1,532,136	1,532,136			
2016 Experience	(3,221,043)	(3,221,043)	(3,221,044)				
2015 Experience	(1,796,589)	(1,796,586)					
2014 Experience	1,653,381						
Total Amortization	(6,111,050)	(7,764,428)	(5,967,843)	(2,746,799)	(4,278,938)	(3,974,285)	(2,898,716)

C. Actuarial Value of Assets	**Total**	**Employer**
C1. Actuarial Value of Assets, 06/30/2019	350,002,781	
C2. Noninvestment Net Cash Flow	(12,308,768)	
C3. Preliminary Actuarial Value of Assets, 06/30/2020 (A2 + B + C1 + C2)	355,709,881	
C4. Market Value of Assets, 06/30/2020	328,079,035	199,479
C5. Final Actuarial Value of Assets, 06/30/2020 (C3 Within 20% Corridor of C4)	355,709,881	216,279

D. Rates of Return	
D1. Market Value Rate of Return	1.2%
D2. Actuarial Value Rate of Return	5.2%

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ACTUARIES AND CONSULTANTS

Development of Pension Actuarial Value of Assets - Tiers 3

A. Investment Income	
A1. Actual Investment Income	$ 558,306
A2. Expected Amount for Immediate Recognition	2,314,784
A3. Amount Subject to Amortization	(1,756,478)

	Year Ended June 30				
B. Amortization Schedule	**2020**	**2021**	**2022**	**2023**	**2024**
2020 Experience (A3 / 5)	(351,296)	(351,296)	(351,296)	(351,296)	(351,294)
2019 Experience	44,435	44,435	44,435	44,437	
2018 Experience	(370)	(370)	(371)		
2017 Experience	0	0			
2016 Experience	0				
Total Amortization	(307,231)	(307,231)	(307,232)	(306,859)	(351,294)

C. Actuarial Value of Assets	**Total**	**Employer**
C1. Actuarial Value of Assets, 06/30/2019	18,746,119	
C2. Noninvestment Net Cash Flow	28,777,895	
C3. Preliminary Actuarial Value of Assets, 06/30/2020 (A2 + B + C1 + C2)	49,531,567	
C4. Market Value of Assets, 06/30/2020	48,259,114	22,964,925
C5. Final Actuarial Value of Assets, 06/30/2020 (C3 Within 20% Corridor of C4)	49,531,567	23,570,443

D. Rates of Return	
D1. Market Value Rate of Return	1.7%
D2. Actuarial Value Rate of Return	6.1%

Development of Health Actuarial Value of Assets - Tiers 3

A. Investment Income	
A1. Actual Investment Income	$ 17,312
A2. Expected Amount for Immediate Recognition	70,089
A3. Amount Subject to Amortization	(52,777)

	Year Ended June 30				
B. Amortization Schedule	**2020**	**2021**	**2022**	**2023**	**2024**
2020 Experience (A3 / 5)	(10,555)	(10,555)	(10,555)	(10,555)	(10,557)
2019 Experience	1,507	1,507	1,507	1,508	
2018 Experience	0	0	(2)		
2017 Experience	0	0			
2016 Experience	0				
Total Amortization	(9,048)	(9,048)	(9,050)	(9,047)	(10,557)

C. Actuarial Value of Assets	Total	Employer
C1. Actuarial Value of Assets, 06/30/2019	548,406	
C2. Noninvestment Net Cash Flow	909,053	
C3. Preliminary Actuarial Value of Assets, 06/30/2020 (A2 + B + C1 + C2)	1,518,500	
C4. Market Value of Assets, 06/30/2020	1,480,635	703,098
C5. Final Actuarial Value of Assets, 06/30/2020 (C3 Within 20% Corridor of C4)	1,518,500	721,078

D. Rates of Return	
D1. Market Value Rate of Return	1.7%
D2. Actuarial Value Rate of Return	6.1%

V. Member Statistics

Valuation Data Summary

	June 30, 2020		June 30, 2019	
	Tiers 1 & 2	**Tier 3**	**Tiers 1 & 2**	**Tier 3**
Actives				
Number	45	12	45	12
Average Current Age	39.7	33.8	38.8	32.8
Average Age at Employment	30.5	32.2	30.6	32.2
Average Past Service	9.2	1.6	8.2	0.6
Average Annual Salary	$105,077	$70,285	$97,084	$51,972
Actives (transferred)				
Number	2	1	2	1
Average Current Age	30.6	33.7	32.6	32.8
Average Age at Employment	26.1	31.3	24.6	31.3
Average Past Service	4.5	2.5	8.0	1.5
Average Annual Salary	$64,902	$72,062	$47,784	$46,540
Retirees				
Number	0	0	0	0
Average Current Age	N/A	N/A	N/A	N/A
Average Annual Benefit	N/A	N/A	N/A	N/A
Drop Retirees				
Number	0	N/A	0	N/A
Average Current Age	N/A	N/A	N/A	N/A
Average Annual Benefit	N/A	N/A	N/A	N/A
Beneficiaries				
Number	1	0	1	0
Average Current Age	61.2	N/A	60.3	N/A
Average Annual Benefit	$94,848	N/A	$92,988	N/A
Disability Retirees				
Number	1	0	1	0
Average Current Age	47.0	N/A	46.0	N/A
Average Annual Benefit	$43,007	N/A	$42,163	N/A
Inactive / Vested				
Number	2	0	2	0
Average Current Age	36.7	N/A	35.8	N/A
Average Accumulated Contributions	$928	N/A	$928	N/A
Total Number	51	13	51	13
Former Members (transferred)	1	0	0	0

Counts and Pay Summary by Service - Tiers 1 & 2

	Past Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30+**	**Total Count**	**Total Pay**	**Average Pay**
<20	0	0	0	0	0	0	0	0	0	0
20 - 24	1	0	0	0	0	0	0	1	71,362	71,362
25 - 29	5	1	0	0	0	0	0	6	442,096	73,683
30 - 34	6	1	0	0	0	0	0	7	579,097	82,728
35 - 39	2	1	7	0	0	0	0	10	1,108,549	110,855
40 - 44	2	2	10	0	0	0	0	14	1,505,849	107,561
45 - 49	0	1	4	1	0	0	0	6	785,700	130,950
50 - 54	0	0	2	1	0	0	0	3	365,637	121,879
55 - 59	0	0	0	0	0	0	0	0	0	0
60 - 64	0	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0	0
Total	16	6	23	2	0	0	0	47	4,858,290	103,368

Counts and Pay Summary by Service - Tier 3

	Past Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30+**	**Total Count**	**Total Pay**	**Average Pay**
15 - 19	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0
25 - 29	3	0	0	0	0	0	0	3	215,824	71,941
30 - 34	5	0	0	0	0	0	0	5	343,894	68,779
35 - 39	3	0	0	0	0	0	0	3	217,604	72,535
40 - 44	1	0	0	0	0	0	0	1	64,631	64,631
45 - 49	1	0	0	0	0	0	0	1	73,530	73,530
50 - 54	0	0	0	0	0	0	0	0	0	0
55 - 59	0	0	0	0	0	0	0	0	0	0
60 - 64	0	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0	0
Total	13	0	0	0	0	0	0	13	915,483	70,422

VI. ACTUARIAL ASSUMPTIONS AND METHODS

Interest Rate

This is the assumed earnings rate on System assets, compounded annually, net of investment and administrative expenses.

Tiers 1 & 2:
7.30% per year.

Tier 3:
7.00% per year.

Salary Increases

See table below. This is an annual increase for individual member's salary. These rates, which are based on a 2017 experience study using actual plan experience, consist of 3.5% for wage inflation with the remaining portion for merit / seniority increases.

Age	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
20	7.50%	7.50%	7.50%	7.50%	7.50%	7.20%
25	7.14%	6.24%	6.60%	7.35%	6.36%	6.60%
30	6.00%	5.16%	5.25%	6.74%	5.48%	5.60%
35	4.77%	4.55%	4.15%	5.56%	4.83%	4.96%
40	3.90%	3.89%	3.60%	4.46%	4.03%	4.44%
45	3.54%	3.56%	3.50%	3.74%	3.60%	3.78%
50+	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%

Inflation

2.50%.

Tier 3 Compensation Limit

$110,000 for calendar 2020. Assumed increases of 2.00% per year thereafter.

Cost-of-Living Adjustment

1.75%.

Mortality Rates

These rates are used to project future decrements from the population due to death.

Active Lives:
PubS-2010 Employee mortality, loaded 110% for males and females, projected with future mortality improvements reflected generationally using 75% of scale MP-2019. 100% of active deaths are assumed to be in the line of duty.

Inactive Lives
PubS-2010 Healthy Retiree mortality, loaded 110% for males and females, projected with future mortality improvements reflected

generationally using 75% of scale MP-2019.

Beneficiaries:
PubS-2010 Survivor mortality, projected with future mortality improvements reflected generationally using 75% of scale MP-2019.

Disabled Lives:
PubS-2010 Disabled mortality, projected with future mortality improvements reflected generationally using 75% of scale MP-2019.

The mortality assumptions sufficiently accommodate anticipated future mortality improvements.

Retirement / DROP Rates

These rates are used to project future decrements from the active population due to retirement. The rates below are based on a 2017 experience study using actual plan experience.

Tier 1 – reaching age 62 before attaining 20 years of service:
Age-related rates based on age at retirement: 60% assumed at age 62, 50% assumed at ages 63 – 69, and 100% assumed at age 70. Rates are the same for all employers.

Tier 1 – reaching age 62 after attaining 20 years of service:
Service-related rates based on service at retirement:

Service	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
20	27%	24%	35%	14%	18%	23%
21	18%	19%	30%	14%	18%	18%
22	14%	14%	23%	7%	11%	11%
23	10%	10%	10%	7%	7%	8%
24	8%	7%	10%	7%	7%	5%
25	38%	32%	36%	22%	22%	30%
26	36%	32%	30%	26%	26%	30%
27	29%	22%	30%	19%	19%	30%
28	29%	22%	30%	32%	25%	25%
29	29%	22%	30%	30%	25%	16%
30	34%	35%	30%	30%	30%	32%
31	34%	35%	30%	30%	30%	35%
32	65%	65%	70%	55%	55%	60%
33	65%	65%	70%	55%	55%	60%
34+	100%	100%	100%	100%	100%	100%

60% are assumed to enter the DROP program while the remaining 40% are assumed to retire and commence benefits immediately.

Tiers 2 & 3:

Age-related rates based on age at retirement:

Age	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
53	38%	32%	36%	22%	22%	30%
54	36%	32%	30%	26%	26%	30%
55	29%	22%	30%	19%	19%	30%
56	29%	22%	30%	32%	25%	25%
57	29%	22%	30%	30%	25%	16%
58	34%	35%	30%	30%	30%	32%
59	34%	35%	30%	30%	30%	35%
60-63	65%	65%	70%	55%	55%	60%
64+	100%	100%	100%	100%	100%	100%

Termination Rate

These rates are used to project future decrements from the active population due to termination. Service-related rates based on service at termination are shown below. The rates below apply to members prior to retirement eligibility and are based on a 2017 experience study using actual plan experience.

Service	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
1	14.00%	16.00%	16.00%	7.00%	10.00%	9.50%
2	8.50%	9.00%	12.50%	4.50%	5.00%	9.00%
3	6.50%	7.50%	11.50%	3.70%	5.00%	7.50%
4	4.50%	6.00%	9.00%	3.00%	4.00%	7.50%
5	3.60%	6.00%	8.00%	2.50%	4.00%	6.50%
6	3.30%	4.50%	8.00%	1.70%	3.50%	4.50%
7	3.30%	4.50%	7.00%	1.70%	3.00%	4.00%
8	3.30%	3.20%	7.00%	1.70%	2.40%	3.50%
9	2.70%	3.20%	6.50%	1.70%	2.40%	3.50%
10	2.70%	3.20%	6.00%	1.50%	2.40%	3.00%
11	2.70%	3.20%	5.00%	1.10%	2.40%	2.70%
12	1.80%	1.40%	4.00%	0.70%	1.00%	2.00%
13	1.30%	1.40%	3.50%	0.70%	1.00%	2.00%
14	1.30%	1.40%	3.00%	0.70%	1.00%	1.70%
15	1.30%	1.00%	3.00%	0.60%	1.00%	1.20%
16	0.70%	1.00%	2.00%	0.50%	1.00%	1.20%
17	0.70%	1.00%	1.75%	0.50%	0.50%	1.20%
18	0.70%	1.00%	1.75%	0.40%	0.50%	1.20%
19	0.50%	1.00%	1.75%	0.40%	0.50%	1.20%
20+	0.50%	1.00%	1.75%	0.40%	0.50%	0.50%

Disability Rate

These rates are used to project future decrements from the active population due to disability. Sample age-related rates based on age at disability are provided below. These rates are based on a 2017 experience study using actual plan experience. 100% of disablements are assumed to be duty-related.

Age	Maricopa County Police	Pima County Police	Other Police	Maricopa County Fire	Pima County Fire	Other Fire
20	0.08%	0.08%	0.10%	0.03%	0.03%	0.03%
25	0.08%	0.08%	0.10%	0.03%	0.03%	0.03%
30	0.17%	0.16%	0.20%	0.04%	0.03%	0.03%
35	0.22%	0.21%	0.26%	0.09%	0.07%	0.08%
40	0.36%	0.35%	0.44%	0.17%	0.16%	0.17%
45	0.51%	0.49%	0.62%	0.17%	0.43%	0.48%
50	0.78%	0.75%	0.95%	0.43%	0.59%	0.65%
55	1.02%	0.98%	1.23%	1.00%	1.01%	1.13%

Marital Status

For active members, 85% of males and 60% of females are assumed to be married. Actual marital status is used, where applicable, for inactive members.

Spouse's Age

Males are assumed to be three years older than females.

Health Care Utilization

For active members, 70% of retirees are expected to utilize retiree health care. Actual utilization is used for inactive members.

Funding Method

Entry Age Normal Cost Method.

Actuarial Asset Method

Method described below. Note that during periods when investment performance exceeds (falls short) of the assumed rate, the actuarial value of assets will tend to be less (greater) than the market value of assets.

Tiers 1 & 2:
Each year the assumed investment income is recognized in full while the difference between actual and assumed investment income are smoothed over a 7-year period subject to a 20% corridor around the market value.

Tier 3:
Each year the assumed investment income is recognized in full while the difference between actual and assumed investment income are smoothed over a 5-year period subject to a 20% corridor around the market value.

Funding Policy Amortization Method	***Tiers 1 & 2:*** Any positive UAAL (assets less than liabilities) is amortized using a layered approach beginning with the June 30, 2020 valuation, with new amounts determined according to a Level Dollar method over a closed period of 15 years (phased into from current period of at most 30 years). Initial layer from June 30, 2019 valuation continues to be amortized according to a Level Percentage of Payroll method. Any negative UAAL (assets greater than liabilities) is amortized according to a Level Dollar method over an open period of 20 years. ***Tier 3:*** Any positive UAAL (assets less than liabilities) is amortized according to a Level Dollar method over a closed period of 10 years. No amortization is made of any negative UAAL (assets greater than liabilities).
Payroll Growth	3.50% per year. This is annual increase for total employer payroll.
Stabilization Reserve	Beginning with the June 30, 2007 valuation and with each subsequent valuation, if the actuarial value of assets exceeds the actuarial accrued liability, one half of this excess in each year is allocated to a Stabilization Reserve. This Reserve is excluded from the calculation of the employer contribution rates. The Reserve accumulates as long as the plan is overfunded. Once the plan becomes underfunded, the Stabilization Reserve will be used to dampen increases in the employer contribution rates.

Changes to Actuarial Assumptions and Methods Since the Prior Valuation
The amortization method was changed for Tiers 1 and 2 to use a layered amortization approach.

VII. DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined under various assumption scenarios. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. Whenever possible, the recommended assumptions in this report reflect conservatism to allow for some margin of unfavorable future plan experience. However, it is still possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- Investment Return: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- Salary Increases: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- Payroll Growth: The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.
- Demographic Assumptions: Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment

produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

- Contribution risk: This risk results from the potential that actual employer contributions may deviate from actuarially determined contributions, which are determined in accordance with the Board's funding policy. The funding policy is intended to result in contribution requirements that if paid when due, will result in a reasonable expectation that assets will accumulate to be sufficient to pay plan benefits when due. Contribution deficits, particularly large deficits and those that occur repeatedly, increase future contribution requirements and put the plan at risk for not being able to pay plan benefits when due.

Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the overall risk characteristics of the plan. For example, plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature plans with a substantial inactive liability. Similarly, mature plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided some relevant metrics in the table following titled "Plan Maturity Measures and Other Risk Metrics." For a better understanding of the overall Plan and the impact of these risks, please refer to the consolidated PSPRS valuation report.

Plan Maturity Measures and Other Risk Metrics

	Tiers 1 & 2			Tier 3 [1]		
	06/30/2018	06/30/2019	06/30/2020	06/30/2018	06/30/2019	06/30/2020
Support Ratio						
Total Actives	45	47	47	419	944	1,408
Total Inactives	4	4	4	23	57	130
Actives / Inactives	1,125.0%	1,175.0%	1,175.0%	1,821.7%	1,656.1%	1,083.1%
Asset Volatility Ratio						
Market Value of Assets (MVA)		11,227,863	13,294,434		9,392,896	22,964,925
Total Annual Payroll		4,464,356	4,858,290		50,420,565	84,448,996
MVA / Total Annual Payroll		251.5%	273.6%		18.6%	27.2%
Accrued Liability (AL) Ratio						
Inactive Accrued Liability	1,866,471	1,962,647	1,987,344		203,244	1,173,104
Total Accrued Liability	9,642,918	11,913,400	15,046,406		7,956,725	23,239,599
Inactive AL / Total AL	19.4%	16.5%	13.2%		2.6%	5.0%
Funded Ratio						
Actuarial Value of Assets (AVA)	9,775,210	11,613,169	14,313,947	1,635,349	9,305,220	23,570,444
Total Accrued Liability	9,642,918	11,913,400	15,046,406	1,831,715	7,956,725	23,239,599
AVA / Total Accrued Liability	101.4%	97.5%	95.1%	89.3%	116.9%	101.4%
Net Cash Flow Ratio						
Net Cash Flow [2]		1,120,258	1,960,680		7,281,178	13,192,598
Market Value of Assets (MVA)		11,227,863	13,294,434		9,392,896	22,964,925
Net Cash Flow / MVA		10.0%	14.7%		77.5%	57.4%

[1] *Tier 3 results are shown for the Risk Sharing group, where applicable.*

[2] *Determined as total contributions minus benefit payments. Administrative expenses are typically included but are considered part of the net interest rate assumption for this plan.*

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VIII. SUMMARY OF CURRENT PLAN

The following is a summary of the benefit provisions provided in Title 38, Chapter 5, Article 4 of the Arizona Revised Statutes.

Membership	Full-time employees of an eligible group, prior to attaining age 65, who are engaged to work for more than six months in a calendar year.
Benefit Tiers	Benefits differ for members based on their hire date: Tier — Hire Date 1 — Hired before January 1, 2012 2 — Hired on or after January 1, 2012 but before July 1, 2017 3 — Hired on or after July 1, 2017
Compensation	Compensation is the amount including base salary, overtime pay, shift and military differential pay, compensatory time used in lieu of overtime pay, and holiday pay, paid to an employee on a regular payroll basis and longevity pay paid at least every six months for which contributions are made to the System. For Tier 3 members, compensation is limited by statutory cap ($110,000 with adjustments by the Board).
Average Monthly Benefit Compensation	***Tier 1:*** The highest compensation paid to member during three consecutive years out of the last 20 years of Credited Service, divided by months. ***Tier 2:*** The highest compensation paid to member during five consecutive years out of the last 20 years of Credited Service, divided by months. ***Tier 3:*** The highest compensation paid to member during five consecutive years out of the last 15 years of Credited Service, divided by months.
Credited Service	Total periods of service, both before and after the member's date of participation, for which the member made contributions to the fund.
Normal Retirement Date	***Tier 1:*** First day of month following attainment of 1) 20 years of service or 2) 62nd birthday and completion of 15 years of service.

Tier 2:
First day of month following the attainment of age 52.5 and completion of 15 years of service.

Tier 3:
First day of month following the attainment of age 55 and completion of 15 years of service.

Benefit

Tier 1:
50% of Average Monthly Benefit Compensation, adjusted based on Credited Service as follows (maximum benefit of 80% of Average Monthly Benefit Compensation):

Credited Service	Benefit Adjustment
15 years, but less than 20	Reduced 4% per year less than 20
20 years, but less than 25	Plus 2% per year between 20 and 25
25+ years	Plus 2.5% per year above 20

Tier 2:
Benefit multiplier (below) times Average Monthly Benefit Compensation times Credited Service (maximum benefit of 80% of Average Monthly Benefit Compensation):

Credited Service	Benefit Multiplier
15 years, but less than 17	1.50%
17 years, but less than 19	1.75%
19 years, but less than 22	2.00%
22 years, but less than 25	2.25%
25+ years	2.50%

Tier 3:
Benefit multiplier (below) times Average Monthly Benefit Compensation times Credited Service (maximum benefit of 80% of Average Monthly Benefit Compensation):

Credited Service	Benefit Multiplier
15 years, but less than 17	1.50%
17 years, but less than 19	1.75%
19 years, but less than 22	2.00%
22 years, but less than 25	2.25%
25+ years	2.50%

Form of Benefit

For married retirees, an annuity payable for the life of the member with 80% continuing to the eligible spouse upon death. For unmarried retirees, the normal form is a single life annuity.

Early Retirement	***Only applicable to Tier 3 members:***
Date	Attainment of age 52.5 and 15 years of Credited Service.
Benefit	Actuarial equivalent of Normal Retirement benefit.
Disability Benefit – Accidental (duty-related)	
Eligibility	Total and permanent disability incurred in performance of duty.
Benefit Amount	A maximum of: a.) 50% of Average Monthly Benefit Compensation, and; b.) The monthly Normal Retirement pension that the member is entitled to receive if he or she retired immediately.
Disability Benefit – Ordinary (not duty-related)	
Eligibility	Total and permanent disability not incurred in performance of duty.
Benefit Amount	Normal Retirement pension that the member is entitled to receive prorated on Credited Service (maximum 20 years) over 20.
Disability Benefit – Other	
Temporary	Benefit equals 1/12 of 50% of compensation during year preceding date of disability. Payments terminate after 12 months.
Catastrophic	Benefit equals 90% of Average Monthly Benefit Compensation. After 60 months member receives greater of 62.5% Average Monthly Benefit Compensation and accrued normal pension.
Pre-Retirement Death Benefit	
Service Incurred	100% of Average Monthly Benefit Compensation, reduced by child's pension.
Non-Service Incurred	80% of benefit based on calculation for accidental disability retirement.
Child's Pension	10% of pension for each child (maximum 20% paid) based on calculation for accidental disability retirement. Payable to dependent child under age 18 (23, if full-time student).
Guardian's Pension	Same as spouse's pension. Payable (along with child's pension) when no spouse is being paid and there is at least one child under 18 (23, if full-time student).
Vesting (Termination)	
Vesting Service Requirement	***Tier 1*:** 10 years of Credited Service.

Tiers 2 & 3:
15 years of Credited Service.

Non-Vested Benefit

Tier 1:
Lump sum payment of accumulated contributions, plus additional amount based on years of Credited Service.

Service	Additional % of Contributions
Less than 5 years	0%
5 years	25%
6 years	40%
7 years	55%
8 years	70%
9 years	85%
10+ years	100%

Tiers 2 & 3:
Lump sum payment of accumulated contributions, with interest at rate determined by the Board.

Vested Benefit

Tier 1:
Deferred retirement annuity based on two times member's accumulated contributions, deferred to age 62. Member is not entitled to survivor benefits, benefit increases, or group health insurance subsidy.

Tiers 2 & 3:
Calculated same as normal retirement pension. Payable if contributions left in fund until reach age requirement. Member is entitled to survivor benefits, benefit increases, and group health insurance subsidy.

Cost-of-Living Adjustment

Payable to retired member or survivor of retired member

Tiers 1 & 2:
Compound cost-of-living adjustment on base benefit. First payment is made on July 1, 2018, with annual adjustments effective every July 1 thereafter.

Cost-of-living adjustment will be based on the average annual percentage change in the Metropolitan Phoenix-Mesa Consumer Price Index published by the United States Department of Labor, Bureau of Statistics. Maximum increase of 2%.

Tier 3:
Compound cost-of-living adjustment on base benefit beginning earlier of first calendar year after the 7th anniversary of retirement or when the retired member reaches 60 years of age.

A cost-of-living adjustment shall be paid on July 1 each year that the funded ratio for members hired on or after July 1, 2017 is 70% or more.

The cost-of-living adjustment will be based on the average annual percentage change in the Metropolitan Phoenix-Mesa Consumer Price Index published by the United States Department of Labor, Bureau of Statistics. The cost-of-living adjustment will not exceed:

- 2%, if funded ratio for members who are hired on or after July 1, 2017 is 90% or more;
- 1.5%, if funded ratio for members who are hired on or after July 1, 2017 is 80-90%;
- 1%, if funded ratio for members who are hired on or after July 1, 2017 is 70-80%.

<u>Deferred Retirement Option Plan (DROP):</u>

Eligibility	Tier 1 and 20 years of Credited Service.
DROP Period	Maximum 60 months.
Member Contributions	Cease upon DROP entry.
Benefit Amount	Calculated based on Credited Service and average monthly compensation as of the beginning of the DROP period, credited to DROP participation account for DROP period.

Interest on DROP Participation Account

Beginning Year	Interest Rate
July 1, 2015	7.50%
July 1, 2016	7.40%
July 1, 2017	7.40%
July 1, 2018	7.30%
July 1, 2019	7.30%

Payment of DROP Participation Account	Payable as lump sum distribution to Public Safety Personnel Defined Contribution Retirement Plan at end of DROP period or at termination.
Payment Monthly Benefit	System commences payment of benefit amount at the earlier of 1) the end of the DROP period and 2) at termination.

Post-Retirement Health Insurance Subsidy

Eligibility: Retired member or survivor who elect health coverage provided by the state or participating employer.

Maximum Subsidy Amounts (monthly)

	Member Only	With Dependents
Medicare Eligible	$100	$170
One w/ Medicare	N/A	$215
Not Medicare Eligible	$150	$260

Employee Contributions

Members hired before July 20, 2011:
7.65%

Members hired on/after July 20, 2011, but before July 1, 2017:
11.65%. Amounts in excess of 7.65% are not used to reduce the employer contribution ("maintenance of effort").

Tier 3:
50% of total contribution, which is Normal Cost plus a level-dollar amortization of unfunded actuarial accrued liability over a closed period not to exceed 10 years.

Employer Contributions

Tiers 1 & 2:
Normal Cost plus amortization of unfunded actuarial accrued liability over a closed period not to exceed 20 years (subject to one-time election to extend to closed period not to exceed 30 years). Contribution will never be less than 8% of payroll.

Tier 3:
50% of total contribution, which is Normal Cost plus a level-dollar amortization of unfunded actuarial accrued liability over a closed period not to exceed 10 years.

Changes to Benefit Provisions Since the Prior Valuation

None.

IX. ACTUARIAL FUNDING POLICY

The purpose of this Actuarial Funding Policy is to record the funding objectives and policy set by the Board for the Arizona Public Safety Personnel Retirement System (PSPRS). The Board establishes this Funding Policy to help ensure the systematic funding of future benefit payments for members of the Retirement System.

This funding policy was reviewed by the Board annually for several years following initial adoption until the 2017 experience study. Subsequently, it shall be reviewed every five years in conjunction with the experience study, although some adjustments may be warranted sooner to properly reflect Tier 3 benefits and changes to amortization methodology.

Funding Objectives

1. Maintain adequate assets so that current plan assets plus future contributions and investment earnings are sufficient to fund all benefits expected to be paid to members and their beneficiaries.

2. Maintain stability of employer contribution rates, consistent with other funding objectives.

3. Maintain public policy goals of accountability and transparency. Each policy element is clear in intent and effect, and each should allow an assessment of whether, how and when the funding requirements of the plan will be met.

4. Promote intergenerational equity. Each generation of members and employers should incur the cost of benefits for the employees who provides services to them, rather than deferring those costs to future members and employers.

5. Provide a reasonable margin for adverse experience to help offset risks.

6. Continue progress of systematic reduction of the Unfunded Actuarial Accrued Liability (UAAL).

Elements of Actuarial Funding Policy

1. Actuarial Cost Method

   a. The Entry Age Normal level percent of pay actuarial cost method of valuation shall be used in determining the Actuarial Accrued Liability (AAL) and Normal Cost. Differences in the past between assumed experience and actual experience ("actuarial gains and losses") shall become part of the AAL. The Normal Cost shall be determined on an individual basis for each active member.

2. Asset Smoothing Method

   a. The investment gains or losses of each valuation period, resulting from the difference between the actual investment return and assumed investment return, shall be recognized annually in level amounts over seven years in calculating the Actuarial Value of Assets.

   b. The Actuarial Value of Assets so determined shall be subject to a 20% corridor relative to the Market Value of Assets.

3. Amortization Method

a. The Actuarial Value of Assets are subtracted from the computed AAL. Any unfunded amount is amortized as a level percent of payroll over a closed period. If the Actuarial Value of Assets exceeds the AAL, the excess is amortized over an open period of 20 years and applied as a credit to reduce the Normal Cost otherwise payable.

4. Funding Target

a. The targeted funded ratio shall be 100%.

b. The maximum amortization period shall be 30 years.

c. If the funding ratio is between 100% and 120%, a minimum contribution equal to the Normal Cost will be made.

5. Risk Management

a. Assumption Changes

i. The actuarial assumptions used shall be those last adopted by the PSPRS Board based on the most recent experience study and upon the advice and recommendation of the actuary. In accordance with best practices, the actuary shall conduct an experience study every five years. The results of the study shall be the basis for the actuarial assumption changes recommended to the PSPRS Board.

ii. The actuarial assumptions can be updated during the five-year period if significant plan design changes or other significant events occur, as advised by the actuary.

b. Amortization Method

i. The amortization method, Level Percent Closed, will ensure full payment of the UAAL over a finite, systematically decreasing period not to exceed 30 years. The amortization period will be reviewed once the period reaches 15 years.

c. Risk Measures

i. The following risk measures will be annually determined to provide quantifiable measurements of risk and their movement over time.

1. Classic measures currently determined
   - Funded ratio (assets / liability)
2. UAAL / Total Payroll
   - Measures the risk associated with contribution decreases relative impact on the ability to fund the UAAL. An increase in this measure indicates an increase in contribution risk.
3. Total Liability / Total Payroll
   - Measures the risk associated with the ability to respond to liability experience through adjustments in contributions. An increase in this measure indicates an increase in experience risk.

X. GLOSSARY

Actuarial Accrued Liability – Computed differently under different funding methods, the actuarial accrued liability generally represents the portion of the actuarial present value of benefits attributable to service credit earned (or accrued) as of the valuation date.

Actuarial Present Value of Benefits – Amount which, together with future interest, is expected to be sufficient to pay all benefits to be paid in the future, regardless of when earned, as determined by the application of a particular set of actuarial assumptions; equivalent to the actuarial accrued liability plus the present value of future normal costs attributable to the members.

Actuarial Assumptions – Assumptions as to the occurrence of future events affecting pension costs. These assumptions include rates of investment earnings, changes in salary, rates of mortality, withdrawal, disablement, and retirement as well as statistics related to marriage and family composition.

Actuarial Cost Method – A method of determining the portion of the cost of a pension plan to be allocated to each year; sometimes referred to as the "actuarial funding method." Each cost method allocates a certain portion of the actuarial present value of benefits between the actuarial accrued liability and future normal costs.

Actuarial Equivalence – Series of payments with equal actuarial present values on a given date when valued using the same set of actuarial assumptions.

Actuarial Present Value - The amount of funds required as of a specified date to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payments between the specified date and the expected date of payment.

Actuarial Value of Assets – The value of cash, investments, and other property belonging to the pension plan as used by the actuary for the purpose of the actuarial valuation. This may correspond to market value of assets, or some modification using an asset valuation method to reduce the volatility of asset values.

Asset Gain (Loss) – That portion of the actuarial gain attributable to investment performance above (below) the expected rate of return in the actuarial assumptions.

Amortization – Paying off an interest-discounted amount with periodic payments of interest and (generally) principal, as opposed to paying off with a lump sum payment.

Amortization Payment – That portion of the pension plan contribution designated to pay interest and reduce the outstanding principal balance of unfunded actuarial accrued liability. If the amortization payment is less than the accrued interest on the unfunded actuarial accrued liability the outstanding principal balance will increase.

Assumed Earnings Rate – The interest rate used in developing present values to reflect the time value of money.

Decrements – Events which result in the termination of membership in the system such as retirement, disability, withdrawal, or death.

Entry Age Normal (EAN) Funding Method – A standard actuarial funding method whereby each member's normal costs (service costs) are generally level as a percentage of pay from entry age until retirement. The annual cost of benefits is comprised of the normal cost plus an amortization payment to reduce the UAL.

Experience Gain (Loss) – The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities during the period between two valuation dates. It is a measurement of the difference between actual and expected experience, and may be related to investment earnings above (or below) those expected or changes in the liability due to fewer (or greater) than expected numbers of retirements, deaths, disabilities, or withdrawals, or variances in pay increases relative to assumed pay increases. The effect of such gains (or losses) is to decrease (or increase) future costs.

Funded Ratio – A measure of the ratio of the actuarial value of assets to liabilities of the system. Typically, the assets used in the measure are the actuarial value of assets as determined by the asset valuation method. The funded ratio depends not only on the financial strength of the plan but also on the asset valuation method used to determine the assets and on the funding method used to determine the liabilities.

Market Value of Assets (MVA) – The value of assets as they would trade on an open market.

Normal Cost – Computed differently under different funding methods, generally that portion of the actuarial present value of benefits allocated to the current plan year.

Unfunded Actuarial Accrued Liability (UAAL) – The excess of the actuarial accrued liability over the valuation assets; sometimes referred to as "unfunded past service liability". UAL increases each time an actuarial loss occurs and when new benefits are added without being fully funded initially and decreases when actuarial gains occur.