AGENDA

BOARD OF RETIREMENT **February 22, 2022**
Boardroom **1:30 p.m.**
832 12th Street Suite 600 Modesto, CA 95353

The Board of Retirement welcomes you to its meetings, which are regularly held on the fourth Tuesday of each month. Your interest is encouraged and appreciated.

CONSENT/ACTION ITEMS: Consent matters include routine administrative actions and are identified under the Consent Items heading. All other items are considered to be action items "Action" means that the Board may dispose of any item by any action, including but not limited to the following acts: approve, disapprove, authorize, modify, defer, table, take no action, or receive and file.

BOARD AGENDAS & MINUTES: Board agendas, minutes and copies of items to be considered by the Board of Retirement are customarily posted on the Internet by Friday afternoon preceding a meeting at the following website: www.stancera.org.

AUDIO/VIDEO: All Board of Retirement regular meetings are audio and visually recorded. Audio/Video recordings of the meetings are available after the meetings at http://www.stancera.org/agenda.

NOTICE REGARDING NON-ENGLISH SPEAKERS: Board of Retirement meetings are conducted in English and translation to other languages is not provided. Please make arrangements for an interpreter if necessary.

Pursuant to California Government Code section 54953, the StanCERA Board of Retirement ("Board") is authorized to conduct its meetings via teleconference during the COVID-19 public health emergency.

Because of the COVID-19 public health emergency, StanCERA's offices, including the StanCERA boardroom, are currently closed to public access. Members of the public who wish to attend Board meetings may do so by teleconference, by calling (209) 689-0007. The access code is 414752.

If you wish to make a general public comment during the Public Comment section of the meeting, or if you wish to comment on a specific agenda item, please press 5* on your phone to alert the Chair that you wish to speak. As permitted by Gov. Code § 54954.3(b)(1), each public comment is limited to three minutes.

You may also submit public comments in writing. If you wish to make a general public comment or a comment on a specific agenda item in writing, please submit your comment via email or fax no later than 4:30 p.m. on the day before a Board meeting. Comments can be submitted via email at gomesk@stancera.org or via fax at (209) 558-4976. If your comment pertains to a specific agenda item, please include the agenda item number in the subject line. As permitted by Gov. Code § 54954.3(b)(1), each public comment is limited to 400 words. Comments submitted in writing will be read aloud during the meeting.

In compliance with the Americans with Disabilities Act, if you require an accommodation, auxiliary aid, or service in order to participate in this meeting, please contact StanCERA at (209) 525-6393 as far in advance as possible but no later than 48 hours before the scheduled event.

Agendas and minutes are on our website at www.stancera.org.

1. Call Meeting to Order

2. Pledge of Allegiance

3. Roll Call

4. Announcements

5. Public Comment

6. Emergency Declaration

   a. Emergency Declaration - AB-361
   Agenda Item View Attachment 1 View

7. Consent Items

   a. Approval of the January 25, 2022 Meeting Minutes View

   b. Applications for Service Retirement(s) – Government Code Sections 31499.14, 31670, 31662.2 & 31810 See attachment for details. View

   c. Application for Service-Connected Reciprocal Disability – Government Code 31837
      1. Peter Danielski – City of Ceres – Effective 6/28/2020

   d. Application for Non-Service-Connected Disability – Government Code 31724
      1. Lahallion Ahmed – Stanislaus County – Effective 3/9/21

   e. Application of Death Benefit – Government Code Section 31781, 31781.1, 31781.3 1.
      1. Elizabeth Martin – Stanislaus County – Non-Service Connected – Effective 02.05.2022 – Active Member

   f. Legislative Update
   Agenda Item View Attachment 1 View

   g. 2022 Cost of Living
   Agenda Item View Attachment 1 View

   h. Investment Matrix View

   i. Private Market Commitment Notice:
   Great Hill Equity Partners VIII View

   j. Fiscal Year 2021-2022 Mid-Year Budget Review
   Agenda Item View Attachment 1 View

   k. Information Technology Solutions (ITS) Project View

8. NEPC – Investment Consultant

   a. January Flash Report View

   b. Investment Performance Quarter 4 View

9. Investment

   NONE

10. Administrative

   a. June 30, 2021 Actuarial Valuation and 2018-2021 Experience Study
      Agenda Item View Attachment 1 View Attachment 2 View

   b. StanCERA Recruitment View

   c. Ad-Hoc Committee Assignment for the Recruitment of the Position of Executive Director View

11. Closed Session

   a. Government Code Section 54956.9(d)(2) – Anticipated Litigation
      Significant Exposure to Litigation
      One (1) Case

   b. Conference with Legal Counsel – Pending Litigation – One Case:
      O'Neal et al v. Stanislaus County Employees' Retirement Association
      Stanislaus County Superior Court Case No. 648469
      Government Code Section 54956.9(d)(1)

   c. Conference with Legal Counsel – Pending Litigation – One (1) Case:
      Stanislaus County Employees' Retirement Association v. Buck Consultants, LLC, Mediation Pursuant to Evidence Code Sections 1115, 1119, 1152
      Government Code Section 54956.9d)(4)

12. Members' Forum (Information and Future Agenda Requests Only)

13. Adjournment

February 22, 2022

Retirement Board Agenda Item

TO: Retirement Board

FROM: Fred Silva, StanCERA General Counsel
Rick Santos, Executive Director

I. **SUBJECT:** A Resolution of the Board of the Stanislaus County Employees' Retirement Association Acknowledging the Proclamation of a State of Emergency and Authorizing Remote Teleconference Meetings of the Stanislaus County Employees' Retirement Association for the Period of February 22, 2022 to March 18, 2022.

II. **ITEM NUMBER:** 6.a

III. **ITEM TYPE:** Discussion and Action

IV. **STAFF RECOMMENDATION:** Approve Resolution of the Board of the Stanislaus County Employees' Retirement Association acknowledging the proclamation of a state of emergency by Executive Order N-15-20 issued on March 4, 2020, as extended by Executive Order N-21-21 on November 10, 2021 and acknowledged by the Stanislaus County Public Health Officer's recommendation issued on September 22, 2021, which together permit the legislative bodies of Stanislaus County Employees' Retirement Association to conduct remote teleconference meetings pursuant to Assembly Bill 361 (AB 361) during the period of February 22, 2022 through March 18, 2022.

MEETINGS VIA TELECONFERENCE

AB-361 allows local government entities to conduct meetings via teleconference without complying with certain Brown Act requirements when the following conditions are in place:

Condition 1: The Governor has proclaimed a state of emergency; and
Condition 2: State or local officials have imposed or recommended measures to promote social distancing.

The first condition is satisfied by the Governor's March 4, 2020 state of emergency proclamation, which has now been extended three times, including most recently on November 10, 2021 (Executive Order N-21-21, extending state of emergency provisions through March 31, 2022).

The second condition is satisfied by the Stanislaus County Public Health Officer's September 22, 2021 recommendation issued in response to AB-361, stating "I recommend that physical/social distancing measures be practiced throughout our Stanislaus County communities to minimize the spread of COVID-19, including implementation of the newly enacted AB 361 to maintain social distancing by legislative bodies of our local agencies. This recommendation is made due to the continued threat of COVID-19 in the community."

AB-361 was signed on September 17, 2021 and went into effect on October 1, 2021. AB 361 replaced some aspects of Executive Order N-29-20, which allowed local legislative bodies to hold remote teleconference meetings while the COVID-19 public health crisis is in effect.

Since the size of StanCERA's Board room prevents compliance with social distancing measures if the public were to attend meetings in person, attendance by the public in a county with high transmission rates creates potential health issues for StanCERA employees and the public. Therefore, to continue remote teleconference meetings, AB-361 requires that the Board consider the circumstances of the state of emergency and make findings via resolution by majority vote to hold remote teleconference meetings. If such findings are made, a resolution must be passed by a majority of the Board citing these circumstances. The Board will need to complete such recertification every 30 days or at each Board meeting following adoption of this Resolution, until Government Code section 54953 sunsets by operation of law on January 1, 2024 or there is no longer a state of emergency in effect.

SOCIAL DISTANCING / ATTENDING IN PERSON

Given the size of the StanCERA Board room and the continued risk of transmission of the COVID virus, in-person attendance at StanCERA meetings is limited to eight people at this time. **Anyone who desires to attend the February 22, 2022 meeting in person, including StanCERA Board Trustees, staff members, and members of the public, must inform Board Clerk Kellie Gomes of that desire as soon as possible and no later than 10:00 a.m. on February 22, 2022.**

If, by 10:00 a.m. on February 22, 2022, more than eight people have notified Clerk Gomes that they desire to attend the February 22, 2022 meeting in person, Ms. Gomes will communicate that information to StanCERA Executive Director Rick Santos. Executive Director Santos will then determine, in his sole discretion, which eight people may attend the February 22, 2022 meeting in person in order to best facilitate the accomplishment of that day's StanCERA Board business. Ms. Gomes will then inform the others no later than 11:00 a.m. that they will need to attend via teleconference.

MASK MANDATE

Effective February 16, 2022, California's indoor mask mandate has expired for vaccinated persons. Unvaccinated persons must continue to wear a face mask at all times while in the StanCERA Board room. Face masks should be of the type designed to reduce the likelihood of transmission of the COVID virus. All attendees are asked to socially distance while in the Board room by maintaining at least six feet of distance from other persons whenever possible.

V. **RISK:** NONE

VI. **STRATEGIC PLAN:** N/A

VII. **ADMINISTRATIVE BUDGET IMPACT:** NONE

RESOLUTION NO. 2022-___

A RESOLUTION OF THE BOARD OF THE STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION ACKNOWLEDGING THE PROCLAMATION OF A STATE OF EMERGENCY BY GOVERNOR GAVIN NEWSOM ON MARCH 4, 2020 AND ADDITIONAL ORDERS AND RECOMMENDATIONS ISSUED BY THE STANISLAUS COUNTY PUBLIC HEALTH OFFICER, AND AUTHORIZING REMOTE TELECONFERENCE MEETINGS OF THE LEGISLATIVE BODIES OF THE STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION FOR THE PERIOD OF FEBRUARY 22, 2022 TO MARCH 18, 2022, PURSUANT TO BROWN ACT PROVISIONS

WHEREAS, the Board of Retirement ("Board") for the Stanislaus County Employees' Retirement Association ("StanCERA") is committed to preserving and promoting public access and encouraging participation in meetings of the Board and its legislative bodies; and

WHEREAS, all meetings of the Board and its legislative bodies are open and public, as required by the Ralph M. Brown Act (Gov. Code §§ 54950-54963), so that any member of the public may attend meetings and observe and participate in the conducting of business by the Board and its legislative bodies; and

WHEREAS, Government Code section 54953(e) allows local government entities such as the Board and its legislative bodies to conduct meetings via teleconference without complying with the requirements of Government Code section 54953(b)(3) when the following conditions are in place:

- A state of emergency proclaimed by the Governor pursuant to Government Code section 8625 is in effect; and

- State or local officials have imposed or recommended measures to promote social distancing.

WHEREAS, such conditions are currently in place for the Board and its legislative bodies, which operate in Stanislaus County:

- On March 4, 2020, Governor Gavin Newsom proclaimed a State of Emergency for the State of California pursuant to the California Emergency Services Act (Gov. Code § 8625) based on an outbreak of respiratory and other illness due to the novel coronavirus known as COVID-19. That State of Emergency has been extended three times, including by Executive Order N-21-21 signed by Governor Newson on November 10, 2021, which extends emergency provisions through March 31, 2022.

- On September 22, 2021, the Public Health Officer for Stanislaus County issued a recommendation stating: "I recommend that physical/social distancing measures be practiced throughout our Stanislaus County communities to minimize the spread of COVID-19, including implementation of the newly enacted AB 361 to maintain social distancing by legislative bodies of our local agencies. This recommendation is made due to the continued threat of COVID-19 in the community. I will continue to evaluate this recommendation on an ongoing basis and will communicate when there is no longer such a recommendation."

WHEREAS, Government Code section 54953(e) allows local government entities such as the Board and its legislative bodies to conduct meetings when a state of emergency is in place without complying with the requirements of Government Code section 54953(b)(3), as long as such entities instead comply with the requirements of Government Code section 54953(e)(2);

WHEREAS, StanCERA's offices, including its boardroom, are not large enough to accommodate the COVID-19 social distancing measures recommended by the Centers for Disease Control and others if members of the public were to attend StanCERA Board and/or committee meetings in person; and

WHEREAS, to ensure that the public retains access to StanCERA Board and committee meetings during this state of emergency, StanCERA will post each Board or committee agenda on the StanCERA website and at its business office location at least 72 hours prior to the meeting, and such agenda will describe the means by which members of the public may access the meeting and offer public comment. In addition, persons requiring accommodations are asked to contact StanCERA prior to the meeting.

NOW, THEREFORE, BE IT RESOLVED that:

Section 1. Recitals. The Recitals set forth above are true and correct and are incorporated into this Resolution by this reference.

Section 2. Acknowledgment of Proclamation of Emergency and Local Orders. The Board hereby acknowledges that a state of emergency has been proclaimed by the Governor of the State of California effective as of its issuance date of March 4, 2020, that the state of emergency has been extended through at least March 31, 2022, and that on September 22, 2021 the Stanislaus County Public Health Office recommended that physical and social distancing measures, including holding meetings via teleconference pursuant to AB-931, be practiced throughout the County.

Section 3. Remote Teleconference Meetings. The StanCERA Retirement Administrator and his designee(s) and the legislative bodies of StanCERA are hereby authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution, including conducting open and public meetings in accordance with Government Code section 54953(e) and other applicable provisions of the Brown Act.

Section 4. Effective Date of Resolution. This Resolution shall take effect immediately upon its adoption and shall be effective until March 18, 2022.

Section 5. Reconsideration of Circumstances Every 30 Days. Government Code section 54953(e)(3) requires that the Board periodically recertify its decision to continue to hold remote teleconference meetings; in order to do so, the Board must reconsider the circumstances of the state of emergency and make findings by majority vote as are necessary to continue to hold remote teleconference meetings. The Board will complete such recertification every 30 days or at each Board meeting following adoption of this Resolution, until Government Code section 54953 sunsets by operation of law on January 1, 2024 or there is no longer a state of emergency in effect.

The foregoing Resolution was adopted by the Board of Retirement upon motion of Board member ______________________, seconded by Board member __________________, at a regular meeting of this Board held on February 22, 2022, by the following vote:

Ayes:

Nays:

Absent:

Abstain:

STANISLAUS COUNTY EMPLOYEE RETIREMENT ASSOCIATION

________________________________	________________________________
Donna Riley, Chair of the Board of Retirement	Kellie Gomes, Clerk of the Board of Retirement
APPROVED AS TO FORM:	APPROVED AS TO CONTENT:
________________________________	________________________________
Fred A. Silva, General Counsel	Rick Santos, Executive Director

BOARD OF RETIREMENT MINUTES
January 25, 2022

1. Call Meeting to Order
2. Pledge of Allegiance
3. Roll Call

Trustees Present
Donna Riley - Chair
Mike Lynch,

Present by Conference Call:
Mandip Dhillon - Vice Chair
Rhonda Biesemeier
Darin Gharat,
Joshua Clayton,
Sam Sharpe,
Michael O'Neal,

Trustees Absent:
Jeff Grover
Terry Withrow

Others Present by Conference Call:
Rick Santos, Executive Director
Stan Conwell, Retirement Investment Officer
Lisa Fraser, Benefits Manager
Brittany Atkins-Smith, Fiscal Services Manager
Daniel Hennessy, NEPC Investment Consultant
Harvey Lederman, Fiduciary Legal Counsel

Others Present:
Fred Silva, General Legal Counsel
Kellie Gomes, Executive Board Assistant

4. Announcements

Chair- Donna Riley announced due to the COVID-19 Pandemic, we are meeting today virtually and in person to accommodate the pandemic guidelines for this meeting. If you are joining the meeting today by teleconference as a member of the public your phone will be muted. When directed to do so please press 5* on your phone to alert the Chair you wish to make a public comment.

Kellie Gomes announced the Rotation of Officers: - Pursuant to Bylaws Section 1.5, Trustee Donna Riley is the Chair of the 2022 Board of Retirement and Trustee Mandip Dhillon is Vice-Chair.

Kellie Gomes announced a correction to the date of the minutes on the agenda for approval. The date of the titles is for the year 2021 not 2020. Approval of the December 15, 2021 Meeting Minutes

5. Public Comment

NONE

6. Emergency Declaration

a. AB-361

Motion was made by Trustee Lynch and seconded by Trustee O'Neal to approve the emergency Declaration as presented.

Roll Call Vote was as follows:

Trustee Riley	YES
Trustee Dhillon	YES
Trustee O'Neal	YES
Trustee Sharpe	YES
Trustee Clayton	YES
Trustee Lynch	YES
Trustee Gharat	YES

Motion carried unanimously

7. Consent Items

a. Approval of the December 15, 2021 Meeting Minutes

b. Applications for Service Retirement(s) – **Government Code Sections 31499.14, 31670, 31662.2 & 31810** See attachment for details.

c. Application for Service Connected Disability Retirement – **Government Code Section 31724**
   1. Allinson, Cheryl – Stanislaus County – Effective 04-06-2021
   2. Kelly, Annette – Stanislaus County – Effective 08-14-21

d. 2021 Qtr. 4 Executive Director Goals Update

e. Investment Matrix

f. Private Market Commitment Notice:
Melody Communications Infrastructure Fund II (Melody II).

g. Auxiliary Investment Report as of 9/30/21
   1. AB2833 Auxiliary Report
   2. Investment Fee Summary, Value Added Reports

Motion was made by Trustee Sharpe and seconded by Trustee O'Neal to approve all the consent items as presented with the exception of item 7.c. Item 7.c was pulled for the recusal of Trustee Sharpe

Roll Call Vote was as follows:

Trustee Riley	YES	Trustee Clayton	YES
Trustee Dhillon	YES	Trustee Lynch	YES
Trustee O'Neal	YES	Trustee Gharat	YES
Trustee Sharpe	YES		

Motion carried unanimously

Motion was made by Trustee Gharat and seconded by Trustee Lynch. to approve item 7.c. as presented on consent, pulled for the recusal of Trustee Sharpe.

Roll Call Vote was as follows:

Trustee Riley	YES	Trustee Clayton	YES
Trustee Dhillon	YES	Trustee Lynch	YES
Trustee O'Neal	YES	Trustee Gharat	YES
Trustee Sharpe	Recused		

Motion passes 6 yes 1 recusal

8. NEPC – Investment Consultant

   a. December Flash
   b. November Flash

9. Investment

   None

10. Administrative

   a. Quarterly Staff Update
   b. Executive Director Goals for 2022

Motion was made by Trustee Sharpe and seconded by Trustee Lynch to accept Executive Director Goals for 2022 as presented.

Roll Call Vote was as follows:

Trustee Riley	YES	Trustee Lynch	YES
Trustee Dhillon	YES	Trustee Gharat	YES
Trustee O'Neal	YES		
Trustee Sharpe	YES		
Trustee Clayton	YES		

Motion carried unanimously

Motion was made by Trustee Gharat and seconded by Trustee Dhillon to go into closed session at 2:52pm

Roll Call Vote was as follows:

Trustee Riley	YES	Trustee Clayton	YES
Trustee Dhillon	YES	Trustee Lynch	YES
Trustee O'Neal	YES	Trustee Gharat	YES
Trustee Sharpe	YES		

Motion carried unanimously

10. Closed Session

   a. Government Code Section 54956.9(d)(2) – Anticipated Litigation
   Significant Exposure to Litigation
   One (1) Case Conference with Legal Counsel – Pending Litigation – One (1) Case:

   b. O'Neal et al v. Stanislaus County Employees' Retirement Association

Stanislaus County Superior Court Case No. 648469
Government Code Section 54956.9(d)(1)

c. Conference with Legal Counsel – Pending Litigation – One (1) Case:
Stanislaus County Employees' Retirement Association v. Buck Consultants, LLC, Mediation Pursuant to Evidence Code Sections 1115, 1119, 1152
Government Code Section 54956.9d)(4)

Motion was made by Trustee Lynch and seconded by Trustee Sharpe to go into open session at 2:52pm
Roll Call Vote was as follows:

Trustee Riley	YES	Trustee Sharpe	YES
Trustee Dhillon	YES	Trustee Clayton	YES
Trustee O'Neal	recused from portions of the closed session.	Trustee Lynch	YES
		Trustee Gharat	YES

Motion passed 6 yes 1 recusal

No reportable action from closed session.

12. Members' Forum (Information and Future Agenda Requests Only)

None

13. Adjournment

Meeting adjourned at p.m.

Respectfully submitted,

Rick Santos, Executive

APPROVED AS TO FORM

By

Fred Silva, GENERAL LEGAL COUNSEL

StanCERA Applications for Service Retirement(s) Government Code Sections 31499.14, 31670, 31662.2, 31810 & 31700

1. Bedsworth, Annette - Stanislaus County - Effective 02/28/2022
2. Bravo, Margie - Stanislaus County - Effective 02/12/2022
3. Connors, John - Stanislaus County - Effective 02/11/2022
4. Delgado, Richard - Stanislaus County - Effective 02/11/2022
5. HAMRICK, IRENE - City of Ceres - Effective 02/01/2022
6. Henley, Joann - Stanislaus County - Effective 02/12/2022
7. Moeller, Ken - Hills Ferry Cemetery District - Effective 02/11/2022
8. Quadra, Susan - Stanislaus County - Effective 02/25/2022
9. Sharp, Rhonda - Stanislaus Superior Court - Effective 01/05/2022
10. Ward, Walter - Stanislaus County - Effective 02/09/2022
11. Woolsey, Colleen - Stanislaus County - Effective 01/10/2022
12. Yosif, Waleed - Stanislaus County - Effective 01/15/2022

February 22, 2022
Retirement Board Agenda Item

TO: Retirement Board

FROM: Lisa Frazer, Member and Employer Services Manager

I. SUBJECT: Legislation Update

II. ITEM: 7.f.

III. ITEM TYPE: Consent

IV. RECOMMENDATION: None

V. ANALYSIS:

SB 1824: *Act to amend Government Code Sections 314527.7, 31641.4, 31663.25, 31663.26, 31726, 31726.5, 31761, 31762, 31763, 31764, and 31781*
Introduced by Committee on Public Employment and Retirement – February 7, 2022

- 314527.7: Section (c) added: *For purposes of this section, "beneficiary" includes, but is not limited to, a corporation, a trust, or an estate.*
- 31641.4: Section (2) added: *Nothing in this subdivision prohibits a member from receiving credit for a period of federal public service if federal law expressly permits the credit even though the member is already entitled to receive a pension or retirement allowance from that service. It is intended that this section be consistent with the holdings in Cantwell v. San Mateo County (1980) 631 F.2d 631.*
- 31663.25: Additional language added: *The effective retirement date shall not be either of the following: (1) Earlier than the date the application is filed with the board. (2) More than 60 days after the date of filing the application or more than a number of days that has been approved by the board.*
- 31663.26: Additional language added: *The effective retirement date shall not be either of the following: (1) Earlier than the date the application is filed with the board. (2) More than 60 days after the date of filing the application or more than a number of days that has been approved by the board.*
- 31726: Language clean-up
- 31726.5: Language clean-up
- 31761: Language clean-up
- 31762: Language clean-up
- 31763: Language clean-up
- 31764: Language clean-up
- 31781: Additional language added: *The computation for any absence shall be based on the compensation of the position held by the member at the beginning of the absence.*

SB 1971: *Act to amend Government Code Sections 31525, 31646, 31725.7, 31730, 31760 and 31838.5 and add Sections 31646.2 and 31680.16*
Introduced by Assembly Member Cooper – February 10, 2022

- 31525: Amended to read: The board may make regulations not inconsistent with this chapter. The regulations become effective when approved by the board of supervisors. *chapter, the California Public Employees' Pension Reform Act of 2013 (Article 4 (commencing with Section 7522) of Chapter 21 of Division 7 of Title 1), and any other provisions of law applicable to county retirement systems.*
- 31646: Section (c)(1) and (2) added: *(c) (1) A member who returns to active service following an uncompensated leave of absence on account of the serious illness of a family member when the absence is eligible for coverage under the federal Family and Medical Leave Act of 1993 (29 U.S.C. Sec. 2601 et seq.) or the Moore-Brown-Roberti Family Rights Act, commonly referred to as the California Family Rights Act, as described in Section 12945, may receive service credit for the period of the absence upon the payment of the contributions that the member and the employer would have paid during that period, together with the interest that the contributions would have earned had the contributions been on deposit, if the member was not absent. For purposes of this subdivision, "leave of absence on account of illness of a family member" means any time, up to one year, during which a member is granted an approved leave to care for a seriously ill family member and returns to employment at the end of the approved leave for a period of time at least equal to that leave. The contributions required to receive the service credit may be paid in a lump sum or may be paid on a monthly basis for a period of not more than the length of the period for which service credit is claimed. Credit shall not be received for any period of such an absence in excess of 12 consecutive months.*
  (2) This subdivision shall not be operative until the board of supervisors, by resolution adopted by majority vote, makes the provisions applicable to that county and applies it to leave that commences after the adoption by the board of supervisors
- 31646.2: Section (a) and (b) added: *(a) The board may grant a member who is subject to a temporary mandatory furlough the same service credit and compensation earnable or pensionable compensation to which the member would have been entitled in the absence of the temporary mandatory furlough. The board may condition this grant on the receipt of additional member or employer contributions, or both as applicable, that the board determines are necessary to fund any benefits granted under this section on an actuarially sound basis.*
  (b) For the purposes of this section, "temporary mandatory furlough" means the time during which a member is directed to be absent from work without pay for up to one quarter of the member's normal working hours, provided that these reduced working hours shall not be in place for longer than two years.
- 31680.16: New code added: *A person who is retired under this chapter may serve without reinstatement from retirement or loss or interruption of benefits under this chapter or the California Public Employees' Pension Reform Act of 2013 (Article 4 (commencing with Section 7522) of Chapter 21 of Division 7 of Title 1), provided the service is on a part-time state, county, city, district, or other political subdivision board or commission. A retired person whose employment without reinstatement is authorized by this subdivision shall not acquire benefits, service credit, or retirement rights with respect to the employment. Part-time service authorized by this section is limited to less than 20 hours per week, and any salary or stipend for the part-time service shall not exceed sixty thousand dollars ($60,000) annually.*
- 31725.7: Section (b) added: *(b) Notwithstanding subdivision (a), this section shall also apply to a member retired for service who subsequently files an application for disability retirement with the board. If the member retired for service is found to be eligible for disability retirement, appropriate adjustments shall be made in their*

retirement allowance retroactive to the effective date of their disability retirement, as provided in Section 31724.

- 31730: Section (b) added: *(b) If the board determines that the beneficiary is not incapacitated, and their employer does not offer to reinstate that beneficiary, notwithstanding any requirement of this chapter regarding eligibility therefor, the beneficiary's retirement allowance shall be reclassified to a service retirement in the same amount and subject to any applicable future cost of living adjustments. The optional or unmodified type of allowance selected by the beneficiary at the time of retirement for disability shall be binding as to the service retirement.*
- 31760: Section (c) added: *c) Notwithstanding subdivision (a), a member retired for service who applies for, and is subsequently granted, a disability retirement may change the type of optional or unmodified allowance that was elected at the time the service retirement was granted, subject to the provisions of Section 31725.7.*
- 31838.5: Additional language added: *If, however, another entity does not reduce the amount it pays the member, an entity subject to this section shall reduce the allowance it pays the member by as much as necessary to ensure that the member does not receive a disability allowance greater than the amount the member would have received had all the member's service been with only one entity.*

See attachment for full Bill details.

VI. RISK: None

VII. STRATEGIC PLAN: None

VIII. BUDGET IMPACT: None

CALIFORNIA LEGISLATURE— 2021–2022 REGULAR SESSION

ASSEMBLY BILL

NO. 1824

Introduced by Committee on Public Employment and Retirement (Assembly Members Cooper (Chair), Voepel (Vice Chair), Calderon, Cooley, O'Donnell, and Seyarto)

February 07, 2022

An act to amend Sections 24602, 26113, 26803, 27100, and 27201 of, and to add Section 27100.5 to, the Education Code, and to amend Sections 21400, 31452.7, 31641.4, 31663.25, 31663.26, 31726, 31726.5, 31761, 31762, 31763, 31764, and 31781 of the Government Code, relating to public employees' retirement, and making an appropriation therefor.

Section 31452.7 of the Government Code is amended to read:
31452.7.

(a) Upon the death of any member after retirement, any retirement allowance earned but not yet paid to the member shall, notwithstanding any other provision of law, be paid to the member's designated beneficiary.

(b) Upon the death of any person receiving a survivor's allowance under this chapter, any allowance earned but not yet paid to the survivor shall, notwithstanding any other provision of law, be paid to the survivor's designated beneficiary.

(c) For purposes of this section, "beneficiary" includes, but is not limited to, a corporation, a trust, or an estate.

Section 31641.4 of the Government Code is amended to read:
31641.4.

~~A~~ *(a) (1) Except as provided in paragraph (2), a* member shall receive credit for employment in public service only for such service as ~~he~~ *the member* is not entitled to receive a pension or retirement allowance from such public agency. The service for which ~~he~~ *the member* elects to contribute and the fact that no pension or retirement allowance will accrue to such member by virtue of ~~his~~ *the member's* employment in ~~such~~ *the* public agency ~~must~~ *shall* be certified to by an officer of the public agency where ~~he~~ *the member* rendered such public service or ~~must~~ *shall* be established to the satisfaction of the board.

(2) Nothing in this subdivision prohibits a member from receiving credit for a period of federal public service if federal law expressly permits the credit even though the member is already entitled to receive a pension or retirement allowance from that service. It is intended that this section be consistent with the holdings in Cantwell v. San Mateo County (1980) 631 F.2d 631.

~~Notwithstanding~~

(b) Notwithstanding any other provision of law, a safety member who receives credit for prior employment in public service, the principal duties of which consisted of active law enforcement or active fire suppression, or active service in the armed services of the United States during time of war or national emergency, shall have ~~his~~ *the member's* pension or retirement allowance for ~~such~~ *this* service calculated on the same basis as the calculation of the retirement allowance ~~such~~ *the* member would receive as a safety member under Section 31664.

~~A~~

(c) A safety member who entered the service as a peace officer prior to the establishment of the safety membership provisions in ~~his~~ *the member's* county shall be considered a safety member

from ~~his~~ *the member's* initial hiring date, for the purposes of this section, notwithstanding any other provision of law.

Section 31663.25 of the Government Code is amended to read:

31663.25.

(a) Except as provided in Section 31663.26, a safety member who has reached the applicable compulsory age of retirement, if any, or a safety member who has completed 10 years of continuous service and who has reached the age of 50, or a safety member who has completed 20 years of service regardless of age, may be retired upon filing with the board a written application setting forth the date upon which the member desires ~~his or her~~ *the member's* retirement to become ~~effective which shall be not more than 60 days after the date of filing the application.~~ *effective. The effective retirement date shall not be either of the following:*

(1) Earlier than the date the application is filed with the board.

(2) More than 60 days after the date of filing the application or more than a number of days that has been approved by the board.

(b) This section shall not apply to a member who is subject to the provisions of the California Public Employees' Pension Reform Act of 2013 (Article 4 (commencing with Section 7522) of Chapter 21 of Division 7 of Title 1) for all or any portion of that member's membership in the county retirement system.

Section 31663.26 of the Government Code is amended to read:

31663.26.

(a) Notwithstanding Section 31663.25, a safety member who has reached the applicable compulsory age of retirement, if any, or a safety member who is a full-time employee, has completed 10 years of service, has reached the age of 50, and has no service break which exceeds 12 months, or a safety member who has completed 20 years of service regardless of age, may be retired upon filing with the board a written application setting forth the date upon which the member desires ~~his or her~~ *the member's* retirement to become ~~effective which shall be not more than 60 days after the date of filing the application.~~ *effective. The effective retirement date shall not be either of the following:*

(1) Earlier than the date the application is filed with the board.

(2) More than 60 days after the date of filing the application or more than a number of days that has been approved by the board.

(b) This section shall not be operative in any county until such time as the board of supervisors shall, by ordinance, make this section applicable in the county.

(c) This section shall not apply to a member who is subject to the provisions of the California Public Employees' Pension Reform Act of 2013 for all or any portion of ~~his or her~~ *their* membership in the county retirement system.

Section 31726 of the Government Code is amended to read:

31726.

(a) Upon retirement for ~~non-service-connected~~ *nonservice-connected* disability a member who has attained age 65 shall receive ~~his or her~~ *their* service retirement allowance.

~~Every~~

(b) Every member under age 65 who is retired for ~~non-service-connected~~ *nonservice-connected* disability and who is not simultaneously retired as a member on deferred retirement of the ~~State~~ *Public* Employees' Retirement System or a retirement system established under this chapter in another county shall receive a disability retirement allowance which shall be the greater of the following:

~~(a)~~

(1) The sum to which ~~he or she~~ *the member* would be entitled as service ~~retirement.~~ *retirement; or*

~~(b)~~

(2) A sum which shall consist ~~of any of the following:~~ *of:*

~~(1)~~
(A) An annuity which is the actuarial equivalent of ~~his or her~~ *the member's* accumulated contributions at the time of ~~his or her~~ retirement.
~~(2)~~
(B) If, in the opinion of the board, ~~his or her~~ *the member's* disability is not due to intemperate use of alcoholic liquor or drugs, willful misconduct, or violation of law on ~~his or her~~ *the member's* part, a disability retirement pension purchased by contributions of the county or district.
~~(3)~~
(C) If, in the opinion of the board, ~~his or her~~ *the member's* disability is not due to conviction of a felony or criminal activity which caused or resulted in the member's disability, a disability retirement pension purchased by contributions of the county or district. This paragraph shall only apply to a person who becomes a member of the system on or after January 1, 1988.

Section 31726.5 of the Government Code is amended to read:

31726.5.

(a) Upon retirement for nonservice-connected disability a safety member who has attained age 55 shall receive ~~his or her~~ *their* service retirement allowance. ~~Every~~
(b) Every safety member under age 55 who is retired for nonservice-connected disability and who is not simultaneously retired as a member on deferred retirement of the Public Employees' Retirement System or a retirement system established under this chapter in another county shall receive a disability retirement allowance which shall be the greater of:
~~(a)~~
(1) The sum to which ~~he or she~~ *the member* would be entitled to as service retirement; or
~~(b)~~
(2) A sum which shall consist of:
~~(1)~~
(A) An annuity which is the actuarial equivalent of ~~his or her~~ *the member's* accumulated contributions at the time of ~~his or her~~ retirement.
~~(2)~~
(B) If, in the opinion of the board, ~~his or her~~ *the member's* disability is not due to intemperate use of alcoholic liquor or drugs, willful misconduct, or violation of law on ~~his or her~~ *the member's* part, a disability retirement pension purchased by contributions of the county or district.
~~(3)~~
(C) If, in the opinion of the board, ~~his or her~~ *the member's* disability is not due to conviction of a felony or criminal activity which caused or resulted in the member's disability, a disability retirement pension purchased by contributions of the county or district.
~~Paragraph (3)~~
This subparagraph shall only apply to a person who becomes a member of the association on or after January 1, 1988.

Section 31761 of the Government Code is amended to read:

31761.

Optional settlement 1 consists of the right to elect in writing to have a retirement allowance paid ~~him or her until his or her~~ *to the member until the member's* death and, if ~~he or she~~ *the member* dies before ~~he or she receives~~ *receiving* in annuity payments the amount of ~~his or her~~ *the member's* accumulated contributions at retirement, to have the balance at death paid to ~~his or her~~ *the member's* estate or to the *natural* person, having an insurable interest in ~~his or her~~ *the member's* life, as ~~he or she~~ *the member* nominates by written designation duly executed and filed with the board.

Section 31762 of the Government Code is amended to read:

31762.

Optional settlement 2 consists of the right to elect in writing to have a retirement allowance paid to ~~him or her until his or her~~ *the member until the member's* death, and thereafter to the *natural* person, having an insurable interest in ~~his or her~~ *the member's* life, as ~~he or she~~ *the member* nominates by written designation duly executed and filed with the board at the time of ~~his or her~~ *the member's* retirement.

Section 31763 of the Government Code is amended to read:

31763.

Optional settlement 3 consists of the right to elect in writing to have a retirement allowance paid ~~him or her until his or her~~ *to the member until the member's* death, and thereafter to have one-half of ~~his or her~~ *the member's* retirement allowance paid to the *natural* person, having an insurable interest in ~~his or her~~ *the member's* life, as ~~he or she~~ *the member* nominates by written designation duly executed and filed with the board at the time of ~~his or her~~ *the member's* retirement.

Section 31764 of the Government Code is amended to read:

31764.

Optional settlement 4 consists of the right to elect in writing to have a retirement allowance paid ~~him or her until his or her death~~ *to the member until the member's* and thereafter to have other benefits as are approved by the board, upon the advice of the actuary, continued throughout the life of and paid to the persons, having an insurable interest in ~~his or her~~ *the member's* life, as ~~he or she~~ *the member* nominates by written designation duly executed and filed with the board at the time of ~~his or her~~ retirement. The designation shall not, in the opinion of the board and the actuary, place any additional burden upon the retirement system.

Section 31781 of the Government Code is amended to read:

31781.

The death benefit shall consist of:

(a) The member's accumulated contributions.

(b) An amount, provided from contributions by the county or district, equal to one-twelfth of the annual compensation earnable or pensionable compensation as defined in Section 7522.34, whichever is applicable, by the deceased during the 12 months immediately preceding ~~his~~ *the member's* death, multiplied by the number of completed years of service under the system, but not to exceed 50 percent of such annual compensation. *The computation for any absence shall be based on the compensation of the position held by the member at the beginning of the absence.*

ASSEMBLY BILL

NO. 1971

Introduced by Assembly Member Cooper

February 10, 2022

An act to amend Sections 31525, 31646, 31725.7, 31730, 31760, and 31838.5 of, and to add Sections 31646.2 and 31680.16 to, the Government Code, relating to public employees' retirement.

Section 31525 of the Government Code is amended to read:
31525.

The board may make regulations not inconsistent with this ~~chapter. The regulations become effective when approved by the board of supervisors.~~ *chapter, the California Public Employees' Pension Reform Act of 2013 (Article 4 (commencing with Section 7522) of Chapter 21 of Division 7 of Title 1), and any other provisions of law applicable to county retirement systems.*

Section 31646 of the Government Code is amended to read:
31646.

(a) A member who returns to active service following an uncompensated leave of absence on account of illness may receive service credit for the period of the absence upon the payment of the contributions that the member would have paid during that period, together with the interest that the contributions would have earned had they been on deposit, if the member was not absent. The contributions may be paid in a lump sum or may be paid on a monthly basis for a period of not more than the length of the period for which service credit is claimed. Credit shall not be received for any period of such an absence in excess of 12 consecutive months.

(b) (1) A member who returns to active service following an uncompensated leave of absence on account of parental leave may receive service credit for the period of the absence upon the payment of the contributions that the member and the employer would have paid during that period, together with the interest that the contributions would have earned had they been on deposit, if the member was not absent. For purposes of this subdivision, parental leave is defined as any time, up to one year, during which a member is granted an approved maternity or paternity leave and returns to employment at the end of the approved leave for a period of time at least equal to that leave. The contributions may be paid in a lump sum or may be paid on a monthly basis for a period of not more than the length of the period for which service credit is claimed. Credit shall not be received for any period of such an absence in excess of 12 consecutive months.

(2) This subdivision shall not be operative until the board of supervisors, by resolution adopted by majority vote, makes the provisions applicable to that county and applies it to parental leave that commences after the adoption by the board of supervisors.

(c) (1) A member who returns to active service following an uncompensated leave of absence on account of the serious illness of a family member when the absence is eligible for coverage under the federal Family and Medical Leave Act of 1993 (29 U.S.C. Sec. 2601 et seq.) or the Moore-Brown-Roberti Family Rights Act, commonly referred to as the California Family Rights Act, as

described in Section 12945, may receive service credit for the period of the absence upon the payment of the contributions that the member and the employer would have paid during that period, together with the interest that the contributions would have earned had the contributions been on deposit, if the member was not absent. For purposes of this subdivision, "leave of absence on account of illness of a family member" means any time, up to one year, during which a member is granted an approved leave to care for a seriously ill family member and returns to employment at the end of the approved leave for a period of time at least equal to that leave. The contributions required to receive the service credit may be paid in a lump sum or may be paid on a monthly basis for a period of not more than the length of the period for which service credit is claimed. Credit shall not be received for any period of such an absence in excess of 12 consecutive months.
(2) This subdivision shall not be operative until the board of supervisors, by resolution adopted by majority vote, makes the provisions applicable to that county and applies it to leave that commences after the adoption by the board of supervisors

Section 31646.2 is added to the Government Code, to read:
31646.2.
(a) The board may grant a member who is subject to a temporary mandatory furlough the same service credit and compensation earnable or pensionable compensation to which the member would have been entitled in the absence of the temporary mandatory furlough. The board may condition this grant on the receipt of additional member or employer contributions, or both as applicable, that the board determines are necessary to fund any benefits granted under this section on an actuarially sound basis.
(b) For the purposes of this section, "temporary mandatory furlough" means the time during which a member is directed to be absent from work without pay for up to one quarter of the member's normal working hours, provided that these reduced working hours shall not be in place for longer than two years.

Section 31680.16 is added to the Government Code, to read:
31680.16.
A person who is retired under this chapter may serve without reinstatement from retirement or loss or interruption of benefits under this chapter or the California Public Employees' Pension Reform Act of 2013 (Article 4 (commencing with Section 7522) of Chapter 21 of Division 7 of Title 1), provided the service is on a part-time state, county, city, district, or other political subdivision board or commission. A retired person whose employment without reinstatement is authorized by this subdivision shall not acquire benefits, service credit, or retirement rights with respect to the employment. Part-time service authorized by this section is limited to less than 20 hours per week, and any salary or stipend for the part-time service shall not exceed sixty thousand dollars ($60,000) annually.

Section 31725.7 of the Government Code is amended to read:
31725.7.
(a) ~~At~~ *Except as provided in subdivision (a), at* any time after filing an application for disability retirement with the board, the member may, if eligible, apply for, and the board in its discretion may grant, a service retirement allowance pending the determination of ~~his or her~~ *their* entitlement to disability retirement. If ~~he or she~~ *the member* is found to be eligible for disability retirement, appropriate adjustments shall be made in ~~his or her~~ *their* retirement allowance retroactive to the effective date of ~~his or her~~ *their* disability retirement as provided in Section 31724.
(b) Notwithstanding subdivision (a), this section shall also apply to a member retired for service who subsequently files an application for disability retirement with the board. If the member retired for service is found to be eligible for disability retirement, appropriate adjustments shall be made

in their retirement allowance retroactive to the effective date of their disability retirement, as provided in Section 31724.
~~(b)~~
(c) This section shall not be construed to authorize a member to receive more than one type of retirement allowance for the same period of time nor to entitle any beneficiary to receive benefits which the beneficiary would not otherwise have been entitled to receive under the type of retirement which the member is finally determined to have been entitled. In the event a member retired for service is found not to be entitled to disability ~~retirement he or she~~ *retirement, they* shall not be entitled to return to ~~his or her~~ *their* job as provided in Section 31725.
~~(c)~~
(d) If the retired member should die before a final determination is made concerning entitlement to disability retirement, the rights of the beneficiary shall be as selected by the member at the time of retirement for service. The optional or unmodified type of allowance selected by the member at the time of retirement for service shall also be binding as to the type of allowance the member receives if the member is awarded a disability retirement.
~~(d)~~
(e) Notwithstanding subdivision ~~(c),~~ *(d),* if the retired member should die before a final determination is made concerning entitlement to disability retirement, the rights of the beneficiary may be as selected by the member at the time of retirement for service, or as if the member had selected an unmodified allowance. The optional or unmodified type of allowance selected by the member at the time of retirement for service shall not be binding as to the type of allowance the member receives if the member is awarded a disability retirement. A change to the optional or unmodified type of allowance shall be made only at the time a member is awarded a disability retirement and the change shall be retroactive to the service retirement date and benefits previously paid shall be adjusted. If a change to the optional or unmodified type of allowance is not made, the benefit shall be adjusted to reflect the differences in retirement benefits previously received. This paragraph shall only apply to members who retire on or after January 1, 1999.

Section 31730 of the Government Code is amended to read:
31730.
(a) If the board determines that the beneficiary is not incapacitated, and ~~his or her~~ *their* employer offers to reinstate that beneficiary, ~~his or her~~ *their* retirement allowance shall be canceled forthwith, and ~~he or she~~ *the beneficiary* shall be reinstated in the county service pursuant to the regulations of the county or district for reemployment of personnel.
(b) If the board determines that the beneficiary is not incapacitated, and their employer does not offer to reinstate that beneficiary, notwithstanding any requirement of this chapter regarding eligibility therefor, the beneficiary's retirement allowance shall be reclassified to a service retirement in the same amount and subject to any applicable future cost of living adjustments. The optional or unmodified type of allowance selected by the beneficiary at the time of retirement for disability shall be binding as to the service retirement.

Section 31760 of the Government Code is amended to read:
31760.
(a) Except as provided in ~~subdivision (b),~~ *subdivisions (b) and (c),* until the first payment of any retirement allowance is made, a member or retired member, in lieu of the retirement allowance for the member's life alone, may elect to have the actuarial equivalent of ~~his or her~~ *their* retirement allowance as of the date of retirement applied to a lesser retirement allowance payable throughout life in accordance with one of the optional settlements specified in this article.
(b) Notwithstanding subdivision (a), a member who applies for disability and is subsequently granted a service retirement pending a determination of entitlement to disability may change the

type of optional or unmodified allowance that ~~he or she~~ *they* elected at the time the service retirement was granted, subject to the provisions of Section 31725.7.

(c) Notwithstanding subdivision (a), a member retired for service who applies for, and is subsequently granted, a disability retirement may change the type of optional or unmodified allowance that was elected at the time the service retirement was granted, subject to the provisions of Section 31725.7.

Section 31838.5 of the Government Code is amended to read:
31838.5.

No provision of this chapter shall be construed to authorize any member, credited with service in more than one entity and who is eligible for a disability allowance, whether service connected or nonservice connected to receive an amount from one county that, when combined with any amount from other counties or the Public Employees' Retirement System, results in a disability allowance greater than the amount the member would have received had all the member's service been with only one entity.

In cases of service-connected disability allowances only, the limitation on disability allowances provided for in this section shall apply to service-connected disability allowances payable to those who, after being employed with another county or an entity within the Public Employees' Retirement System, become employed by a second public entity on or after January 1, 1984.

Each entity shall calculate its respective obligations based upon the member's service with that entity and each shall adjust its payment on a pro rata basis. *If, however, another entity does not reduce the amount it pays the member, an entity subject to this section shall reduce the allowance it pays the member by as much as necessary to ensure that the member does not receive a disability allowance greater than the amount the member would have received had all the member's service been with only one entity.*

February 22, 2022

Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

I. SUBJECT: 2022 Cost of Living Adjustment

II. ITEM NUMBER: 7.g

III. ITEM TYPE: Consent

IV. STAFF RECOMMENDATION: Approve Cheiron's recommendation for a 3% Cost of Living Adjustment (COLA) for all StanCERA's non-tier 3 retired member's monthly benefit beginning April 1, 2022 for those that retired prior to April 2, 2022. For those non-tier 3 members that retired prior to April 2, 2022, increase the carry-over allowances by 1.0%.

V. EXECUTIVE SUMMARY: Attachment 1 contains Cheiron's recommendation for the Cost of Living Adjustments referenced in staff's recommendation.

Currently, StanCERA bases its COLA increases on the All Urban Consumer Index for the San Francisco/Oakland/Hayward (previously San Francisco/Oakland/San Jose) area. The COLA change for retirees' 2022 benefit is based on the change in the December over December measures (2020 to 2021). The 2020 and 2021 measures turned out to be 302.948 and 315.805, respectively. This equates to an increase of 4.244%, which when rounded, results in a final value of 4.0%.

However, based on Code Section 31870.1 which StanCERA and its employers adhere to, members are to receive the lesser of 3% or the actual year over year change in the index. Whenever the change is greater than 3%, the overage is banked for use in future years when the change is less than 3%. Consequently, all non-tier 3 members that retired prior to April 2, 2022 should receive a 3% cost of living adjustment to their benefit and an increase of 1.0% in their accumulated bank.

VI. RISK: None

VII. STRATEGIC PLAN: N/A

ADMINISTRATIVE BUDGET IMPACT: None

January 25, 2022

Mr. Rick Santos

Executive Director
Stanislaus County Employees' Retirement Association
832 12th Street, Suite 600
Modesto, CA 95354

Re: Cost of Living Adjustment (COLA) as of April 1, 2022

Dear Rick:

Pursuant to the scope of retainer services under Cheiron's agreement to provide actuarial services to the Stanislaus County Employees' Retirement Association (StanCERA), we have computed the Cost of Living Adjustment (COLA) percentages to be used as of April 1, 2022. The calculations outlined herein have been performed in accordance with 31870.1 of the County Employees Retirement Law of 1937.

Background

The cost of living adjustment (COLA) is determined annually based on increases in the December Consumer Price Index (CPI) for All Urban Consumers in the San Francisco-Oakland-Hayward (previously San Francisco-Oakland-San Jose) area, using a base period of 1982-1984. The ratio is calculated and rounded to the nearest one-half percent.

COLA Calculations

The CPIs described above were 315.805 and 302.948 for December 2021 and December 2020, respectively. This represents an increase of 4.244%, which is rounded to 4.00%. As a point of comparison, the U.S. City CPI increased by 7.04% over the same time period.

Retirees – other than members of Tier 3 – are subject to the provisions of Section 31870.1, which limits annual COLA increases to 3.0% annually. Therefore, these members should receive an increase in benefits of 3.0%, based on the current year change in the CPI. The carry-over balances will increase by 1.0%, based on the difference of the rounded CPI increase versus the current year COLA adjustment. The enclosed exhibit summarizes the COLA calculations and carry-over balances for these Tiers. Tier 3 members do not receive an automatic COLA from the Association.

Please contact us if you have any questions regarding these calculations.

Sincerely,
Cheiron

Graham A. Schmidt, ASA, FCA, MAAA, EA
Consulting Actuary

Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary

COST OF LIVING ADJUSTMENTS (COLA) - Section 31870.1
As of April 1, 2022

Maximum Annual COLA: 3.0%

Initial Retirement Date			April 1, 2021 Accumulated Carry-Over (A)	Increase in the Annual Average CPI [1] Actual (B)	Increase in the Annual Average CPI [1] Rounded (C)	April 1, 2022 **COLA** **(D)**	April 1, 2022 Accumulated Carry-Over (E)
On or Before 4/1/1970			67.0%	4.24%	4.0%	**3.0%**	68.0%
04/02/1970	to	04/01/1971	64.5%	4.24%	4.0%	**3.0%**	65.5%
04/02/1971	to	04/01/1972	62.5%	4.24%	4.0%	**3.0%**	63.5%
04/02/1972	to	04/01/1973	61.5%	4.24%	4.0%	**3.0%**	62.5%
04/02/1973	to	04/01/1974	61.0%	4.24%	4.0%	**3.0%**	62.0%
04/02/1974	to	04/01/1975	58.0%	4.24%	4.0%	**3.0%**	59.0%
04/02/1975	to	04/01/1976	51.0%	4.24%	4.0%	**3.0%**	52.0%
04/02/1976	to	04/01/1977	44.0%	4.24%	4.0%	**3.0%**	45.0%
04/02/1977	to	04/01/1978	41.5%	4.24%	4.0%	**3.0%**	42.5%
04/02/1978	to	04/01/1979	37.0%	4.24%	4.0%	**3.0%**	38.0%
04/02/1979	to	04/01/1980	30.5%	4.24%	4.0%	**3.0%**	31.5%
04/02/1980	to	04/01/1981	25.0%	4.24%	4.0%	**3.0%**	26.0%
04/02/1981	to	04/01/1982	13.0%	4.24%	4.0%	**3.0%**	14.0%
04/02/1982	to	04/01/1983	3.0%	4.24%	4.0%	**3.0%**	4.0%
04/02/1983	to	04/01/2017	0.5%	4.24%	4.0%	**3.0%**	1.5%
04/02/2017	to	04/01/2021	0.0%	4.24%	4.0%	**3.0%**	1.0%
04/02/2021	to	04/01/2022	0.0%	4.24%	4.0%	**3.0%**	1.0%

[1] All Urban Consumers, San Francisco-Oakland-Hayward Area (1982-84 base). (G.C. 31870.1)

February 22, 2022

Retirement Board Agenda Item

TO: Retirement Board

FROM: Stan Conwell, Retirement Investment Officer

I. SUBJECT: Investment Matrix

II. ITEM NUMBER: 7.h

III. ITEM TYPE: Information Only

IV. STAFF RECOMMENDATION: N/A

V. ANALYSIS:

a) *Investment Program Activities:*

In December and January staff completed the legal due diligence on the Great Hill Equity Partners VIII fund and the recommended commitment from Verus was approved by staff. Great Hill is a private equity firm that employs a growth-oriented strategy and targets rapidly growing middle-market companies with established products/services and a proven customer base. Given the recent market volatility, staff increased the monitoring of the portfolio allocation against the strategic targets. A deep review of the private equity and private credit pipeline was also completed, and several potential managers were compared and contrasted from an optimal portfolio construction point of view. Various small investment related projects were also started January.

b) *Money Transfer Report:*

January

From			To		
Manager	Asset Class	Amount	Manager	Asset Class	Amount
StanCERA Cash	Cash	$-1,021,935.00	Grandview II	Real Estate	$1,021,935.00
StanCERA Cash	Cash	$-8,802,366.88	Melody Communications Fund II	Infrastructure	$8,802,366.88

c) *Manager Meeting Notes:*

Graham Capital Management

Graham is a relatively recent addition to StanCERA's portfolio, so staff with NEPC set up a year-end review call to kick off the relationship and to lay out the monitoring and reporting expectations. StanCERA invests in the Proprietary Matrix fund which provides clients with exposure to Graham's systematic global macro strategies. The Proprietary Matrix fund is a blend of both quantitative and discretionary strategies resulting in a diversified portfolio that is expected to provide strong risk-adjusted returns in a variety of market environments. A large portion of the meeting was spent reviewing the investment process in more detail including a walkthrough of the capital allocation and risk assessment processes that are in place. Graham provides a large amount of resources and timely reports on their website which should aid in the ongoing monitoring of this new addition to StanCERA's portfolio.

Fidelity Institutional Asset Management (FIAM)

Staff with NEPC scheduled an update call with representatives from Fidelity including the lead portfolio manager. FIAM manages an international equity portfolio that utilizes a growth style. The portfolio is divided up by geographic regions and each region is managed by a dedicated sub-portfolio manager with the necessary experience and expertise to specialize in that market. The regional PMs are supported by a large global research team. The FIAM team has remained stable during the pandemic. The most recent material change took place in February 2020 when the emerging markets portfolio manager was replaced. Performance of the emerging markets sub-portfolio has improved since that change. The market outlook for 2022 and current portfolio positioning was also discussed.

VI. RISK: None

VII. STRATEGIC PLAN: N/A

VIII. ADMINISTRATIVE BUDGET IMPACT: None

StanCERA

Stanislaus County Employees' Retirement Association

February 22, 2022

Retirement Board Agenda Item

TO: Retirement Board

FROM: Stan Conwell, Retirement Investment Officer

I. SUBJECT: Private Markets Commitment Notice

II. ITEM NUMBER:7.i.

III. ITEM TYPE: Information Only

IV. STAFF RECOMMENDATION: N/A

V. Executive Summary:

On January 31, 2022 StanCERA committed $20 million to the Great Hill Equity Partners VIII fund. Great Hill is a private equity firm that targets high growth companies across the software, digital commerce, financial technology, healthcare, and digital infrastructure sectors. The typical Great Hill investment is a rapidly growing middle-market company with a scalable and proven business model. The current managing partners have worked together since 2002 and have demonstrated an excellent track record during that time. The managing partners are supported by a team of over 45 investment professionals. Great Hill was founded in 1998 in Boston, MA and follows a one fund one office approach. Since its founding Great Hill has raised $12 Billion in commitments and invested in over 90 companies.

StanCERA has a 5.0% target allocation to the private equity asset class with a sub-asset class target allocation of 3.5% to buyouts and 1.5% to venture capital. The commitment to Great Hill VIII will be allocated to the venture capital sub-asset class and is in compliance with StanCERA's Private Markets Investment Policy Statement. For each private market investment, several due diligence reports, including a comprehensive executive summary, are completed by the investment consultant and staff. These reports contain confidential and proprietary information and are available to Trustees upon request.

VI. RISK: None

VII. STRATEGIC PLAN: N/A

VIII. ADMINISTRATIVE BUDGET IMPACT: NONE

February 22, 2022
Retirement Board Agenda Item

TO: Retirement Board

FROM: Brittany Smith-Atkins, Fiscal Services Manager

I. SUBJECT: Fiscal Year 2021-2022 Mid-Year Budget Review

II. ITEM NUMBER: 7.j

III. ITEM TYPE: Consent

IV. STAFF RECOMMENDATION: Accept Mid-Year Administrative Budget Review for Fiscal Year 2021-2022 (Attachment 1)

V. EXECUTIVE SUMMARY: Each year staff prepares a budget of general operating expenses for review and approval by the Board of Retirement (Board). The Fiscal Year 2021-2022 budget of $5,527,401 was approved on May 25, 2021. On November 23, 2021 the Board approved an increase of $312,000 allocated to the 6th Floor Lobby Upgrade and Cubicle Redesign. The revised 2021-2022 budget is $5,839,401. The formal mid-year review with Fiscal Year 2021-2022 expenses as of December 31, 2021 is shown below.

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
FISCAL YEAR 2021-2022
MID YEAR BUDGET REVIEW

	Fiscal Year 2021-2022 Final Budget (1)(2)	Fiscal Year 2021-2022 Budget Adjustments (3)	Fiscal Year 2021-2022 Revised Budget	Fiscal Year 2021-2022 Mid Year Expenditures	Expenditures as a Percent of 2021-2022 Budget
Salaries & Benefits	2,302,507	-	2,302,507	978,882	43%
Technology	452,881	-	452,881	163,313	36%
Legal & Other Professional Services	577,895	-	577,895	237,749	41%
General Operations	60,850	-	60,850	19,495	32%
Communications & Printing	60,000	-	60,000	17,491	29%
County Support Services	242,824	-	242,824	82,343	34%
Fiduciary Education & Travel	185,700	-	185,700	129,114	70%
Total Administrative Expenses	**3,882,656**	**-**	**3,882,656**	**1,628,386**	**42%**
12th St Lobby Upgrade	50,000	-	50,000	-	0%
6th Floor Lobby Upgrade	150,000	147,000	297,000	5,475	2%
Cubicle Redesign	50,000	165,000	215,000	-	0%
Formax Folding Machine	25,000	-	25,000	-	0%
PAS Project Management & Oversite	237,000	-	237,000	194,281	82%
Pension Administration System	663,606	-	663,606	230,016	35%
Total Capital Expenses	**1,175,606**	**312,000**	**1,487,606**	**429,772**	**29%**
Capital Depreciation	575,000	-	575,000	271,081	47%
6th Floor Lease Revenue	(105,862)	-	(105,862)	(44,109)	42%
TOTAL BUDGET	**5,527,401**	**312,000**	**5,839,401**	**2,285,130**	**39%**

Notes
(1) 2020 - 2021 Budget Adopted by the Board
(2) Includes Technology Adjustment §31580.2(b)
(3) Approved Budget Adjustments: Approved after May 2021

VI. ANALYSIS: StanCERA's budget is within range for mid-year and expected to stay within budget by year's end. Salary and benefits are tracking as expected with two budgeted positions not filled as of December 31, 2021. Expenditures are projected to stay within budget.

The Technology budget includes the maintenance, support, and disaster recovery for the prior and current pension software system as well as County Information Technology (I.T.) services, computers and other I.T. related equipment used by StanCERA staff and is within range of approved funding. Overall, it is expected that the Technology expenditures will remain within budget.

StanCERA contracts with several specialized legal service providers which are utilized as needed, (fiduciary, litigation, real estate, information technology, disability administration, tax, domestic relations and general governance). It is expected that Legal Counsel & Services will stay within budget.

County Support Services includes building maintenance utilities, security, and mailroom services as well as some administrative services provided by the County, such as purchasing, some insurances, auditor, and personnel. StanCERA is well within budget in these areas.

Communication & Printing are funds set aside for postage and trustee elections, mass production of annual reports, member statements, and retiree payroll. These expenditures are projected to stay within budget.

General Operation funds are used for office supplies, 6th floor building expenses and other professional services such as our financial auditor or other professional consultants. These expenditures are expected to stay within budget.

Fiduciary Education & Travel includes fiduciary insurance, education, and educational travel for trustees, executive, and general staff. It is important to note that the expense for StanCERA's fiduciary insurance exceeded the expected cost for 2021-2022. Upon inquiry with the insurance provider, it was noted that this increase was not exclusive to StanCERA but has been realized industry wide. The increase is a result of external conditions and the increased cyber security breaches worldwide. Overall, it is expected that Fiduciary Education & Travel will stay within budget.

The 6th floor lobby upgrade, office redesign, pension software budget, project consulting services budget, and Formax folding machine budget approved by the Board are listed as capital expenditures and will be depreciated accordingly.

Non- Administrative Expenses

Section 31596.1 of the CERL states: The following expenses shall not be considered a cost of administration to the retirement system but shall be considered as a reduction in earnings from those investments or a charge against the assets of the retirement system as determined by the Board. These expenses are governed by individual agreements and are reported in the audited financial statements presented to the Board of Retirement in the Comprehensive Annual Financial Report. The Other Investment Fees consist of mainly other professional fees and interest expense for the alternative assets, and Northern Trust sweep fees. The un-audited mid-year expenses are listed below.

	Mid Year Expenditures
Actuarial Fees	37,726
Investment Consultant Fees	148,073
Attorney Fees - Directly Related to Investments	62,498
Investment Manager Fees	3,784,004
Custodial Bank Fees	69,760
Other Investment Fees	796,309

VII. RISK: Government Code section 31580.2 allows for expenditures for administrative services (other than software, hardware and computer technology consulting services) to be the greater of 0.21% of the accrued actuarial liability or $2,000,000.

As of the most recent valuation, StanCERA's accrued liability is $3.153B which suggests StanCERA's administrative budget to not exceed $6,621,300. Upon the completion of this midyear analysis, StanCERA is well within the parameters of this government code and will continue to exercise prudence in budgeting administrative expenses as well as continued review of expenditures.

VIII. STRATEGIC PLAN: N/A

IX. ADMINISTRATIVE BUDGET IMPACT: A total of $5,839,401 was approved for the Fiscal Year 2021-2022 Administrative budget. No additional administrative funds are being requested at this time.

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
FISCAL YEAR 2021-2022
MID YEAR BUDGET REVIEW

	Fiscal Year 2021-2022 Final Budget (1)(2)	Fiscal Year 2021-2022 Budget Adjustments (3)	Fiscal Year 2021-2022 Revised Budget	Fiscal Year 2021-2022 Mid Year Expenditures	Expenditures as a Percent of 2021-2022 Budget
SALARIES & BENEFITS					
Salary and Wages	1,384,861		1,384,861	618,914	44.7%
Project Help Wages	108,563		108,563	28,256	26.0%
Employee Benefits	809,082		809,082	331,712	41.0%
Information Technology Wages & Benefits	-		-	-	n/a
Salaries & Benefits	**2,302,507**	**-**	**2,302,507**	**978,882**	**42.5%**
TECHNOLOGY					
Computers & Office Equipment	13,000		13,000	118	0.9%
Copier Lease & Maint	16,000		16,000	2,907	18.2%
I.T. Consulting Services	24,000		24,000	4,530	18.9%
SBT - Data Processing Services	145,660		145,660	23,610	16.2%
SBT - Embedded Employees	-		-	-	n/a
SBT - Telecommunications	8,521		8,521	2,384	28.0%
Software Licenses & Fees	35,000		35,000	18,500	52.9%
StanCERA Website	2,500		2,500	263	10.5%
Tegrit Hosting Fees	78,000		78,000	39,000	50.0%
Tegrit Software Maintenance	130,200		130,200	72,000	55.3%
Tyler Disaster Maint	-		-	-	n/a
Tyler Software Maint	-		-	-	n/a
Technology	**452,881**	**-**	**452,881**	**163,313**	**36.1%**
LEGAL & OTHER PROFESSIONAL SERVICES					
Auditing Services	47,895		47,895	37,148	77.6%
Legal Counsel - Disability	165,000		165,000	46,770	28.3%
Legal Counsel - Domestic Relation Orders	90,000		90,000	23,845	26.5%
Legal Counsel - General	100,000		100,000	84,501	84.5%
Legal Counsel - Amicus Brief	-		-	-	n/a
Legal Counsel - O'Neal vs StanCERA	100,000		100,000	49,120	49.1%
Reimbursement from Travelers Ins	(20,000)		(20,000)	(18,075)	90.4%
Legal Counsel - Nasrawi vs StanCERA	-		-	-	n/a
Legal Counsel - StanCERA vs Buck	45,000		45,000	5,830	13.0%
Medical Exams, Reviews, Hearings	40,000		40,000	6,000	15.0%
Other Professional Services	10,000		10,000	2,610	26.1%
Legal & Other Professional & Services	**577,895**	**-**	**577,895**	**237,749**	**41.1%**
GENERAL OPERATIONS					
Office Supplies	7,500		7,500	1,031	13.7%
Other Office Expense	12,250		12,250	5,238	42.8%
6th Floor Maint	12,000		12,000	2,567	21.4%
6th Floor Janitorial & Supplies	26,750		26,750	9,128	34.1%
6th Floor Security	600		600	263	43.8%
6th Floor Taxes (Downtown Redevelopment)	1,750		1,750	1,267	72.4%
General Operations	**60,850**	**-**	**60,850**	**19,495**	**32.0%**
COMMUNICATION & PRINTING					
Member Statements, Trustee Elections	20,000		20,000	4,489	22.4%
Postage	40,000		40,000	13,001	32.5%
Communication & Printing	**60,000**	**-**	**60,000**	**17,491**	**29.2%**

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
FISCAL YEAR 2021-2022
MID YEAR BUDGET REVIEW

	Fiscal Year 2021-2022 Final Budget (1)(2)	Fiscal Year 2021-2022 Budget Adjustments (3)	Fiscal Year 2021-2022 Revised Budget	Fiscal Year 2021-2022 Mid Year Expenditures	Expenditures as a Percent of 2021-2022 Budget
COUNTY SUPPORT & BUILDING SERVICES					
Auditor	12,986		12,986	3,005	23.1%
Building Janitorial	10,300		10,300	1,296	12.6%
Building Maintenance	40,000		40,000	13,910	34.8%
Building Security	75,000		75,000	18,409	24.5%
Building Utilities	41,200		41,200	17,590	42.7%
Central Services & Mail Room	9,380		9,380	5,963	63.6%
CEO/Personnel (true up)	21,515		21,515	10,796	50.2%
GSA - ADA Compliance	719		719	259	36.0%
Insurance (General Liability & Auto)	26,479		26,479	10,716	40.5%
Purchasing	1,000		1,000	182	18.2%
Risk Management	3,245		3,245	-	0.0%
Salvage & Disposal	1,000		1,000	217	21.7%
County Support Services & Building Services	**242,824**	**-**	**242,824**	**82,343**	**33.9%**
FIDUCIARY EDUCATION & TRAVEL					
Insurance (Fiduciary)	90,000		90,000	105,155	116.8%
Professional Memberships	12,100		12,100	9,621	79.5%
Professional Publications & Subscriptions	6,600		6,600	1,339	20.3%
Staff Education & Travel	35,000		35,000	8,465	24.2%
Trustee Education & Travel	30,000		30,000	1,934	6.4%
Trustee Meeting Allowance	12,000		12,000	2,600	21.7%
Fiduciary Education & Travel	**185,700**	**-**	**185,700**	**129,114**	**69.5%**
CAPITAL EXPENDITURES					
12th St Lobby Upgrade	50,000		50,000	-	0.0%
6th Floor Lobby Upgrade	150,000	147,000	297,000	5,475	1.8%
Cubicle Redesign	50,000	165,000	215,000	-	0.0%
Formax Folding Machine	25,000		25,000	-	0.0%
HVAC VAV Upgrade	-		-	-	n/a
PAS Project Management & Oversite	237,000		237,000	194,281	82.0%
Pension Administration System	663,606		663,606	230,016	34.7%
Website/Logo Redesign & Implementation	-		-	-	n/a
Capital Expenditures	**1,175,606**	**312,000**	**1,487,606**	**429,772**	**28.9%**
Capital Depreciation	**575,000**		**575,000**	**271,081**	**47.1%**
6th Floor Lease Revenue	**(105,862)**		**(105,862)**	**(44,109)**	**41.7%**
TOTAL BUDGET	**5,527,401**	**312,000**	**5,839,401**	**2,285,130**	**39.1%**

Notes

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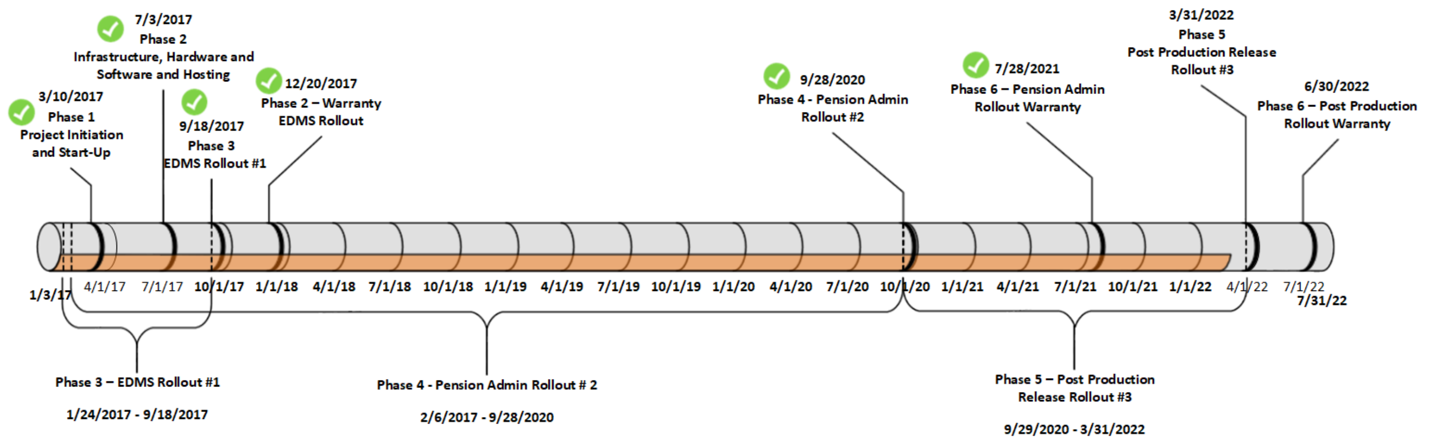
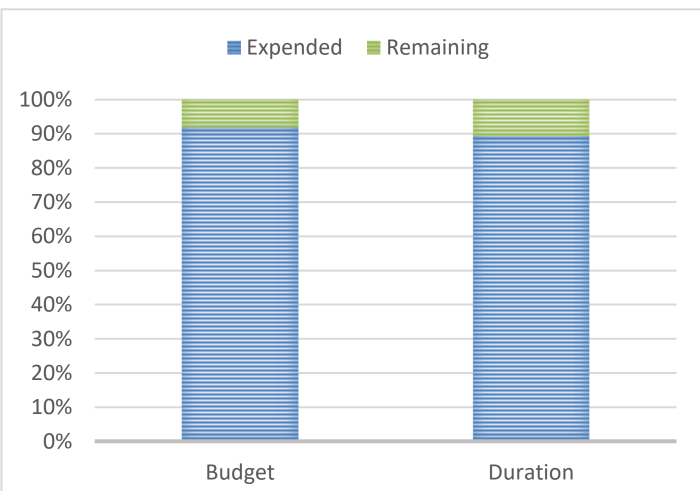
(2) Includes Technology Adjustment §31580.2(b)
(3) Approved Budget Adjustments: Approved after May 2021

PAS IMPLEMENTATION
LINEA BI-WEEKLY STATUS UPDATE

SPONSOR:	Rick Santos	REPORT DATE:	02-18-2022



Baseline 12/01/2016 STATUS



Linea Budget as of 01/31/2022

Risks & Issues:

There are currently not any significant project risks or issues.

The project team continues monitoring the following:

- Requirements for custodial bank change.
- City of Ceres transmittal file changes.
- Final IRS W-4P changes, if any.

The City of Ceres has not progressed toward testing a new transmittal upload file.

The project team is targeting implementation of the custodial bank change in time for the 05/01/2022 retiree payroll run.

StanCERA plans to implement the new IRS W-4P as of 07/01/2022.

Accomplishments:

- The project team continued work on functionality to be delivered in R28, scheduled for release to testing on 03/14/2022.
- The Project Planning Working Group made significant progress to review and close remaining technical and functional requirements.
- The project team worked to implement changes for custodial bank transition and adjusted the R28 release schedule to accommodate it.

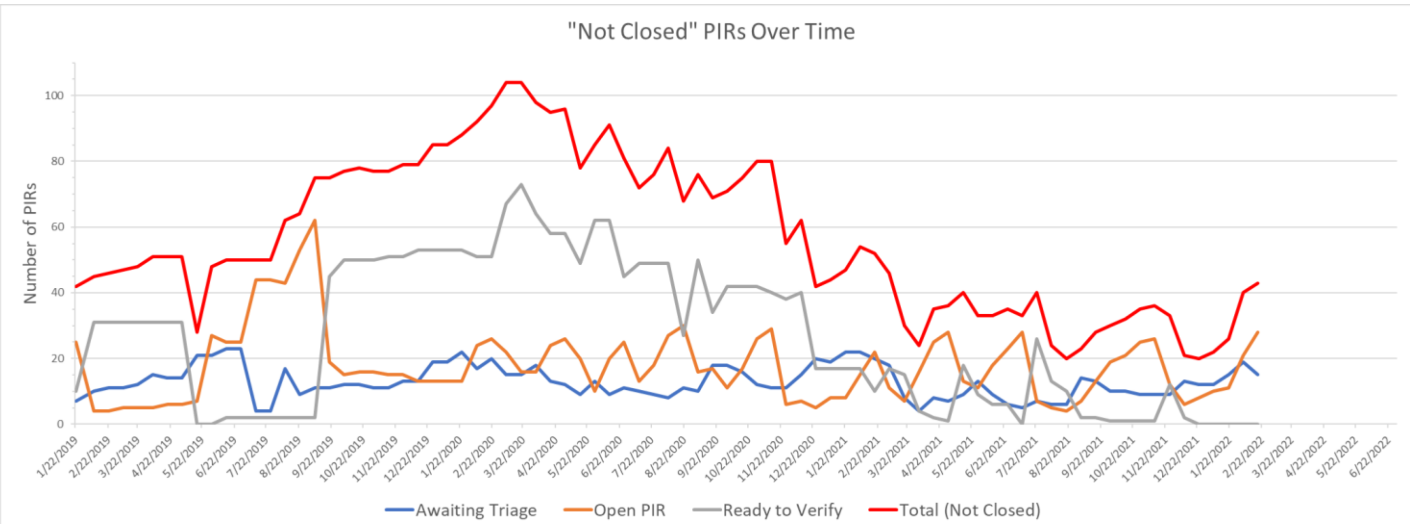
Upcoming:

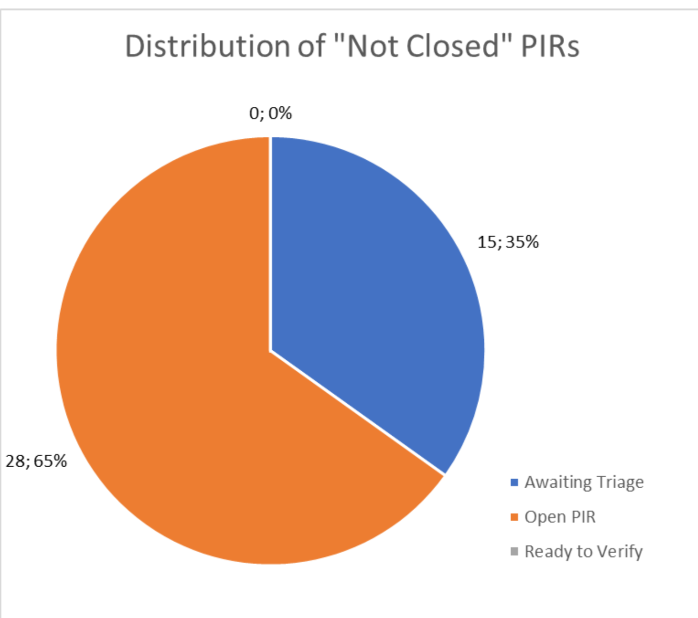
- Further testing of new Member Web Portal features and planning for Portal rollout process and user registrations.
- R28 release to UAT scheduled for 03/14/2022, followed by release to production on 04/11/2022.
- Planning for final project releases, closeout activities, and future enhancements.

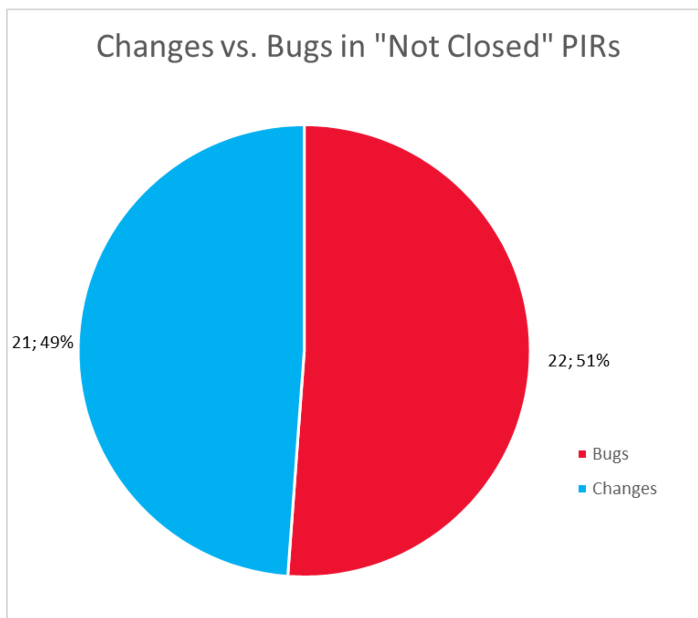
Ongoing Project Contributions

- Facilitate weekly Project Manager's meetings and create meeting minutes.
- Facilitate monthly Steering Committee Meetings and create meeting minutes.
- Participate in Tegrit work sessions, review meeting minutes, and compile resulting decision logs and action items.
- Regularly review action items for follow up and completion.
- Review and hold group review sessions for BSRD deliverables made by Tegrit.
- Track requirements, as discussed in work sessions and BSRDs, using the RTM and meet with StanCERA PM to update requirements confirmation.
- Manage and participate in system testing efforts, including review of test scripts, compiling of results, input of PIRs, and tracking of issue resolution.

Current PIR Summary







StanCERA

MONTHLY PERFORMANCE REPORT

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

JANUARY 31, 2022

Dan Hennessy, CFA, CAIA, Senior Consultant

NEPC

CALENDAR YEAR INDEX PERFORMANCE

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Jan	YTD
S&P 500	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	18.4%	28.7%	-5.2%	-5.2%
Russell 1000	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	21.0%	26.5%	-5.6%	-5.6%
Russell 2000	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	20.0%	14.8%	-9.6%	-9.6%
Russell 2500	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	20.0%	18.2%	-8.3%	-8.3%
MSCI EAFE	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	7.8%	11.3%	-4.8%	-4.8%
MSCI EM	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	18.3%	-2.5%	-1.9%	-1.9%
MSCI ACWI	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	16.3%	18.5%	-4.9%	-4.9%
Private Equity	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	17.2%	23.2%	-	-
BBG TIPS	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	11.0%	6.0%	-2.0%	-2.0%
BBG Municipal	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	5.2%	1.5%	-2.7%	-2.7%
BBG Muni High Yield	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	4.9%	7.8%	-2.8%	-2.8%
BBG US Corporate HY	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	7.1%	5.3%	-2.7%	-2.7%
BBG US Agg Bond	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	7.5%	-1.5%	-2.2%	-2.2%
BBG Global Agg	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	9.2%	-4.7%	-2.0%	-2.0%
BBG Long Treasuries	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	17.7%	-4.6%	-4.1%	-4.1%
BBG US Long Credit	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	13.3%	-1.2%	-5.5%	-5.5%
BBG US STRIPS 20+ Yr	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	24.0%	-5.2%	-5.4%	-5.4%
JPM GBI-EM Global Div	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	2.7%	-8.7%	0.0%	0.0%
JPM EMBI Glob Div	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	5.3%	-1.8%	-2.8%	-2.8%
CS Hedge Fund	5.9%	10.0%	5.4%	0.2%	-0.6%	7.2%	-1.1%	6.3%	4.1%	8.2%	-	-
BBG Commodity	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	-3.1%	27.1%	8.8%	8.8%
Alerian Midstream	-	-	16.4%	-37.3%	33.8%	-2.4%	-13.3%	24.0%	-23.4%	38.4%	9.8%	9.8%
FTSE NAREIT Equity REITs	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	-8.0%	43.2%	-6.8%	-6.8%

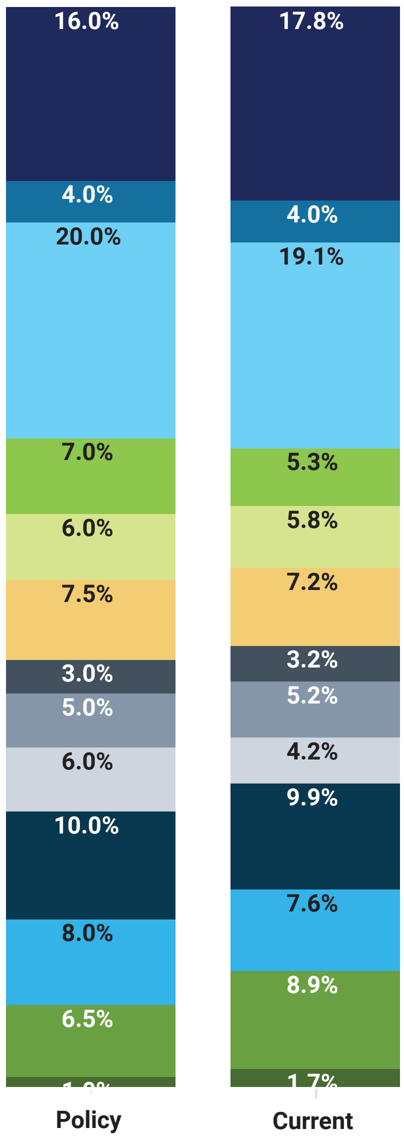
*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag
Source: FactSet, Barclays, Thomson One

Stanislaus County ERA

January 31, 2022

ASSET ALLOCATION VS. POLICY

Asset Allocation vs. Target



	Current ($)	Current (%)	Policy (%)	Differences* (%)	Policy Range (%)	Within Range
Large Cap Equity	488,208,131	17.8	16.0	1.8	12.0 - 20.0	Yes
Small Cap Equity	108,777,688	4.0	4.0	0.0	0.0 - 7.0	Yes
International Equity	521,928,785	19.1	20.0	-0.9	14.0 - 26.0	Yes
Intermediate	145,081,681	5.3	7.0	-1.7	4.0 - 10.0	Yes
Treasury	159,417,990	5.8	6.0	-0.2	4.0 - 8.0	Yes
Infrastructure	196,985,561	7.2	7.5	-0.3	0.0 - 12.0	Yes
Absolute Return	88,760,503	3.2	3.0	0.2	0.0 - 5.0	Yes
Private Equity	143,053,884	5.2	5.0	0.2	0.0 - 8.0	Yes
Real Estate	114,301,853	4.2	6.0	-1.8	0.0 - 10.0	Yes
Risk Parity	269,947,282	9.9	10.0	-0.1	6.0 - 14.0	Yes
Private Credit	207,712,415	7.6	8.0	-0.4	0.0 - 10.0	Yes
Real Estate - Core	244,233,318	8.9	6.5	2.4	0.0 - 10.0	Yes
Cash	47,216,079	1.7	1.0	0.7	0.0 - 4.0	Yes
Total	**2,735,625,169**	**100.0**	**100.0**	**0.0**		

*Difference between Policy and Current Allocation

Stanislaus County ERA

January 31, 2022

TOTAL FUND PERFORMANCE DETAIL

	Allocation		Performance (%)							
	Market Value ($)	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	**2,735,625,169**	**100.0**	**-2.4**	**11.3**	**10.8**	**9.2**	**8.0**	**8.9**	**9.1**	**Jan-95**
Policy Index			*-2.8*	*9.1*	*10.8*	*9.1*	*7.9*	*8.6*	*8.3*	
Allocation Index			*-3.1*	*9.4*						
Liquidity Sub-Portfolio	**192,297,759**	**7.0**	**-0.7**	**-0.9**	**4.0**	**2.8**	**2.3**	**-241.4**	**-238.6**	**Apr-11**
StanCERA Liquidity Blended BM			*-1.6*	*-2.3*	*3.7*	*2.7*	*2.2*	*1.8*	*1.8*	
Cash	**47,216,078**	**1.7**	**0.0**	**2.9**	**2.0**	**1.7**	**1.5**	**-240.6**	**-237.8**	**Apr-11**
FTSE 1 Month T-Bill			*0.0*	*0.0*	*0.8*	*1.1*	*0.8*	*0.6*	*0.5*	
Cashflow-Matched Bonds	**145,081,681**	**5.3**	**-1.0**	**-1.9**	**3.9**				**3.1**	**Jul-17**
Blmbg. Intermed. U.S. Government/Credit			*-1.5*	*-2.6*	*3.1*				*2.5*	
Insight	145,081,681	5.3	-1.0	-1.9	3.9				3.1	Jul-17
Blmbg. Intermed. U.S. Government/Credit			*-1.5*	*-2.6*	*3.1*				*2.5*	
Growth Sub-Portfolio	**2,034,004,001**	**74.4**	**-2.5**	**15.9**	**13.2**	**11.1**	**9.7**	**11.2**	**8.6**	**Jan-04**
StanCERA Growth Blended BM			*-3.7*	*10.3*						
US Equities	**596,985,818**	**21.8**	**-4.6**	**22.8**	**19.5**	**15.1**	**13.3**	**14.6**	**10.5**	**Jan-04**
Russell 3000 Index			*-5.9*	*18.8*	*19.9*	*16.1*	*14.0*	*15.0*	*10.3*	
US Large Equity	**488,208,131**	**17.8**	**-4.6**	**22.7**	**21.1**	**17.0**	**14.6**	**15.7**	**13.2**	**Jan-95**
Russell 1000 Index			*-5.6*	*20.3*	*20.5*	*16.6*	*14.3*	*15.3*	*11.0*	
BlackRock Russell 1000 Growth	240,148,600	8.8	-8.6	17.5	26.4	22.3	18.3	18.0	18.1	Aug-10
Russell 1000 Growth Index			*-8.6*	*17.5*	*26.4*	*22.3*	*18.3*	*18.0*	*18.0*	
BlackRock Russell 1000 Value	115,445,657	4.2	-2.3	23.3	13.9	10.6	10.1	12.4	12.6	Aug-09
Russell 1000 Value Index			*-2.3*	*23.4*	*13.8*	*10.5*	*10.0*	*12.3*	*12.5*	
Dodge & Cox-Equity	132,613,873	4.8	1.2	33.6	17.3	13.3	13.0	14.7	12.4	Jan-95
Russell 1000 Value Index			*-2.3*	*23.4*	*13.8*	*10.5*	*10.0*	*12.3*	*10.2*	
US Small Equity	**108,777,688**	**4.0**	**-4.5**	**23.1**	**13.6**	**9.0**	**8.7**	**11.1**	**12.8**	**Jan-09**
Russell 2000 Index			*-9.6*	*-1.2*	*12.0*	*9.7*	*9.7*	*11.3*	*12.8*	
Attucks Small Cap	**108,777,688**	**4.0**	**-4.5**	**23.1**	**13.6**	**9.1**	**9.7**	**11.6**	**13.1**	**Jan-09**
Russell 2000 Value Index			*-5.8*	*14.8*	*11.7*	*7.9*	*9.2*	*10.6*	*11.5*	
International Equity	**521,928,785**	**19.1**	**-1.3**	**9.3**	**10.6**	**8.6**	**6.8**	**7.1**	**6.8**	**Oct-04**
MSCI AC World ex USA (Net)			*-3.7*	*3.6*	*9.1*	*8.0*	*6.0*	*6.2*	*6.2*	
LSV Int'l Large Cap Value	265,336,465	9.7	0.2	13.3	8.2	7.1	6.0	6.4	6.4	Oct-04
MSCI AC World ex USA Value (Net)			*0.9*	*11.6*	*6.0*	*5.5*	*4.2*	*4.7*	*5.3*	
Fidelity Int'l Growth	256,592,320	9.4	-2.8	5.7	12.8	10.0	7.4	7.6	4.9	May-06
MSCI AC World ex USA Growth (Net)			*-8.1*	*-4.0*	*11.8*	*10.3*	*7.6*	*7.5*	*4.9*	

- Allocation Index is estimated as of 01/31/2022, and is subject to change once finalized.
- Cash Composite includes the Transaction Account Value

TOTAL FUND PERFORMANCE DETAIL

	Allocation		Performance (%)							
	Market Value ($)	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Real Estate	**244,233,318**	**8.9**	**-2.6**	**19.7**	**8.4**	**7.0**	**4.6**	**6.6**	**3.4**	**Apr-08**
NCREIF Property Index			*0.0*	*17.7*	*8.4*	*7.8*	*8.6*	*9.3*	*6.6*	
Prime Property Fund	88,108,597	3.2	0.0	21.5	9.3	8.9			9.0	Oct-15
NCREIF ODCE			*0.0*	*22.2*	*9.2*	*8.7*			*8.8*	
BlackRock Real Estate Securities	92,590,952	3.4	-6.5	36.6	10.1	8.3	6.4		9.1	Oct-12
Dow Jones U.S. Select RESI			*-6.5*	*36.8*	*10.2*	*8.4*	*6.4*		*9.1*	
PGIM Real Estate US Debt Fund	63,533,768	2.3	0.0	5.3	5.3				5.1	Sep-18
Blmbg. U.S. Investment Grade: CMBS Index			*-1.6*	*-2.5*	*4.0*				*4.2*	
Value-Add Real Estate	**114,301,853**	**4.2**	**0.0**	**17.5**	**12.5**	**12.0**	**12.6**		**11.4**	**Aug-14**
NCREIF Property Index +2%			*0.2*	*20.0*	*10.5*	*9.9*	*10.7*		*11.0*	
American Strategic Value Realty	82,616,313	3.0	0.0	19.1	9.9	9.8	11.3		11.1	Jan-15
NCREIF Property Index			*0.0*	*17.7*	*8.4*	*7.8*	*8.6*		*8.5*	
Grandview Property Partners I	821,396	0.0	0.0	-2.8	7.6	9.7	11.1		10.1	Aug-14
NCREIF-ODCE +1%			*0.1*	*23.4*	*10.3*	*9.8*	*10.7*		*11.0*	
Grandview Property Partners II	30,864,144	1.1	0.0	19.4	21.3				22.3	Apr-18
NCREIF-ODCE +1%			*0.1*	*23.4*	*10.3*				*9.9*	
Infrastructure	**205,787,928**	**7.5**	**0.0**	**1.8**	**4.8**	**9.9**			**5.9**	**Jun-15**
CPI + 5% (Unadjusted)			*1.3*	*12.9*	*8.9*	*8.1*			*7.7*	
MS Infrastructure Partners II	25,180,168	0.9	0.0	4.3	5.7	10.4			6.3	Jun-15
CPI + 5% (Unadjusted)			*1.3*	*12.9*	*8.9*	*8.1*			*7.7*	
Northern Trust Infrastructure Fund	171,805,393	6.3	0.0						2.4	Jul-21
67% STOXX Global Broad Infra / 33% Bloomberg US TIPS			*0.0*						*2.7*	
Melody Infrastructure II	8,802,367	0.3								Jan-22
CPI + 5% (Unadjusted)			*1.3*						*1.3*	

- 67% STOXX Global Broad Infra / 33% Bloomberg US TIPS, NCREIF Property Index, and NCREIF ODCE are estimated as of 01/31/2022, and are subject to change once finalized.
- Melody Infrastructure II funded 01/2022.

TOTAL FUND PERFORMANCE DETAIL

	Allocation		Performance (%)							
	Market Value ($)	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Private Equity	**143,053,884**	**5.2**	**-4.1**	**19.3**	**20.0**				**20.0**	**Dec-18**
Russell 3000 + 3%			*-5.7*	*22.4*	*23.5*				*21.8*	
Private Equity	**43,998,312**	**1.6**	**0.0**	**26.0**					**21.1**	**Apr-20**
Russell 3000 + 3%			*-5.7*	*22.4*					*42.3*	
Private Equity Proxy	**99,055,572**	**3.6**	**-5.9**	**18.9**	**19.9**	**17.3**	**14.9**	**15.7**	**10.6**	**Dec-03**
Russell 3000 Index			*-5.9*	*18.8*	*19.9*	*16.1*	*14.0*	*15.0*	*10.5*	
Total Private Credit	**207,712,415**	**7.6**	**-1.6**	**6.2**	**-2.0**	**0.4**	**1.1**		**2.1**	**Jun-13**
S&P/LSTA Leveraged Loan Index +2%			*0.5*	*6.4*	*7.0*	*6.3*	*6.5*		*6.1*	
Private Credit	**86,492,099**	**3.2**	**0.0**	**8.2**	**-1.3**	**0.7**	**1.4**		**2.4**	**Jun-13**
S&P/LSTA Leveraged Loan Index +2%			*0.5*	*6.4*	*7.0*	*6.3*	*6.5*		*6.1*	
Private Credit Proxy	**121,220,316**	**4.4**	**-2.8**						**-1.2**	**Jul-21**
ICE BofA US High Yield Master II Constrained			*-2.7*						*-1.2*	
Risk-Diversifying Sub-Portfolio	**509,323,408**	**18.6**	**-2.9**	**2.4**	**4.0**	**3.4**	**3.0**	**3.5**	**4.7**	**Dec-03**
StanCERA Risk-Diversifying Blended BM			*-1.2*	*-2.1*	*2.5*	*2.1*	*1.6*	*1.6*		
Risk Parity	**269,947,282**	**9.9**	**-3.7**	**5.1**	**9.8**				**6.9**	**Dec-17**
60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg			*-3.8*	*5.3*	*10.3*				*7.4*	
HFR Risk Parity Vol 10 Institutional Index			*-3.7*	*5.2*	*7.6*				*5.5*	
AQR Global Risk Premium - EL	135,634,669	5.0	-3.4	6.4	9.1				7.4	Apr-18
60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg			*-3.8*	*5.3*	*10.3*				*7.7*	
PanAgora Risk Parity Multi Asset	134,312,613	4.9	-4.1	3.9	10.5				7.3	Dec-17
60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg			*-3.8*	*5.3*	*10.3*				*7.4*	
US Treasury Bonds	**159,417,990**	**5.8**	**-2.2**	**-3.5**	**3.6**	**3.3**	**2.9**	**3.4**	**4.6**	**Dec-03**
Blmbg. U.S. Treasury: 7-10 Year			*-2.4*	*-4.3*	*3.9*	*3.1*	*2.1*	*2.4*	*4.4*	
Northern Trust Intermediate Gov't Bond	105,903,576	3.9	-1.3	-2.7	2.4				1.9	Aug-17
Blmbg. U.S. Government: Intermediate			*-1.3*	*-2.7*	*2.4*				*1.9*	
Northern Trust Long Term Gov't Bond	53,514,414	2.0	-4.1	-4.9	7.0				5.1	Aug-17
Blmbg. U.S. Government: Long Term Bond Index			*-4.1*	*-5.1*	*7.0*				*5.2*	
Liquid Absolute Return	**79,958,136**	**2.9**	**-1.0**						**0.7**	**Oct-21**
30 Day T-Bill + 4%			*0.3*						*1.3*	
Graham Global Investment Fund I SPC LTD	53,382,253	2.0	0.0						-2.9	Nov-21
HFRI Macro (Total) Index			*1.0*						*-0.5*	
Invesco Trust Company	26,575,883	1.0	-3.0						-0.3	Dec-21
30 Day T-Bill + 4%			*0.3*						*0.7*	

NOTES

- All performance is shown net of investment management fees.

- Performance history is provided by Verus through June 2020. As of July 1, 2020 performance is calculated and reported by NEPC. Policy Index History:

- Policy Index makeup history:

  - **Inception - 6/30/2017:** 14.4% Russell 1000 Value, 11.3% Russell 1000 Growth, 4.8% S&P 500, 4% Russell 2000 Value, 3.7% Russell 2000 Growth, 18% MSCI ACWI ex USA Gross, 29.8%Bloomberg US Aggregate TR, 3.5% DJ US Select RESI TR USD, 7.5% 9% Annual, 3% CPI + 4%
  - **7/1/2017 - 8/31/2018:** 18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex USA Gross, 19% Bloomberg US Govt/Credit 1-3 Yr. TR, 1% FTSE T-Bill 1 Month TR, 3% Bloomberg US Treasury 7-10 Yr TR, 7.7% NCREIF Property Index, 1.7% NCREIF Property Index +2%, 0.6% CPI + 5%, 5% Bloomberg US High Yield + 2%, 14% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate
  - **9/1/2018 - 5/30/2019:** 10% Russell 1000, 3% Russell 2000, 6% Russell 3000 +3%, 27% MSCI ACWI ex USA Gross, 20% Bloomberg US Govt/Credit 1-3 Yr. TR, 1% FTSE T-Bill 1 Month TR, 3%Bloomberg US Treasury 7-10 Yr TR, 5% NCREIF Property Index, 5% NCREIF Property Index +2%, 1% CPI + 5%, 6% S&P/LSTA Leveraged Loan Index+2%, 13% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate
  - **6/1/2019 - 6/30/2020**: 14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 19% Bloomberg US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 3% Bloomberg US Treasury 7-10 Yr, 5% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 6% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% Bloomberg Global Aggregate
  - **7/1/2020 - 12/31/2020**: 14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 8% Bloomberg US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 3% Bloomberg US Treasury 7-10 Yr, 5% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 6% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% Bloomberg Global Aggregate, 11%Bloomberg US Intermediate.
  - **1/1/2021 - 06/30/2021**: 16% Russell 1000, 3.5% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 8% Bloomberg US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 5% Bloomberg US Treasury 7-10 Yr, 6% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 4.5% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% Bloomberg Global Aggregate, 7%Bloomberg US Intermediate.
  - **07/01/2021 - Present:** 16% Russell 1000, 4% Russell 2000, 5% Russell 3000 + 3%, 20% MSCI ACWI ex USA Gross, 6.5% NCREIF Property Index, 6% NCREIF Property Index + 2%, 7.5% CPI + 5%

  (Unadjusted), 8% S&P/LSTA Leveraged Loan Index +2%, 6% Bloomberg US Treasury 7-10 Yr TR, 10% 60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg, 3% 30 Day T-Bill + 4%, 1% FTSE T-Bill 1 Month TR, 7% Bloomberg US Govt/Credit Int TR.

- Starting July 1, 2020, the small Capital Prospects transition cash balance is moved from the Cash composite to the Capital Prospects account. Historical performance for Capital Prospects, US Small, US Equities, Growth Sub-Portfolio, Cash, and Liquidity Sub-Portfolio prior to July 1, 2020 reflects performance of these composites before this change.

- Private Equity investments are valued one quarter lagged and adjusted for capital calls and distributions between quarter-end months.

- Value-Add Real Estate managers are valued quarterly adjusted for current cash flows.

DISCLAIMERS & DISCLOSURES

Past performance is no guarantee of future results.

Returns for pooled funds, e.g. mutual funds and collective investment trusts, are collected from third parties; they are not generally calculated by NEPC. Returns for separate accounts, with some exceptions, are calculated by NEPC. Returns are reported net of manager fees unless otherwise noted.

A “since inception” return, if reported, begins with the first full month after funding, although actual inception dates (e.g. the middle of a month) and the timing of cash flows are taken into account in Composite return calculations.

NEPC’s preferred data source is the plan’s custodian bank or record-keeper. If data cannot be obtained from one of the preferred data sources, data provided by investment managers may be used. Information on market indices and security characteristics is received from additional providers. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within. In addition, some index returns displayed in this report or used in calculation of a policy index, allocation index or other custom benchmark may be preliminary and subject to change.

All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.

The opinions presented herein represent the good faith views of NEPC as of the date of this presentation and are subject to change at any time. Neither fund performance nor universe rankings contained in this report should be considered a recommendation by NEPC.

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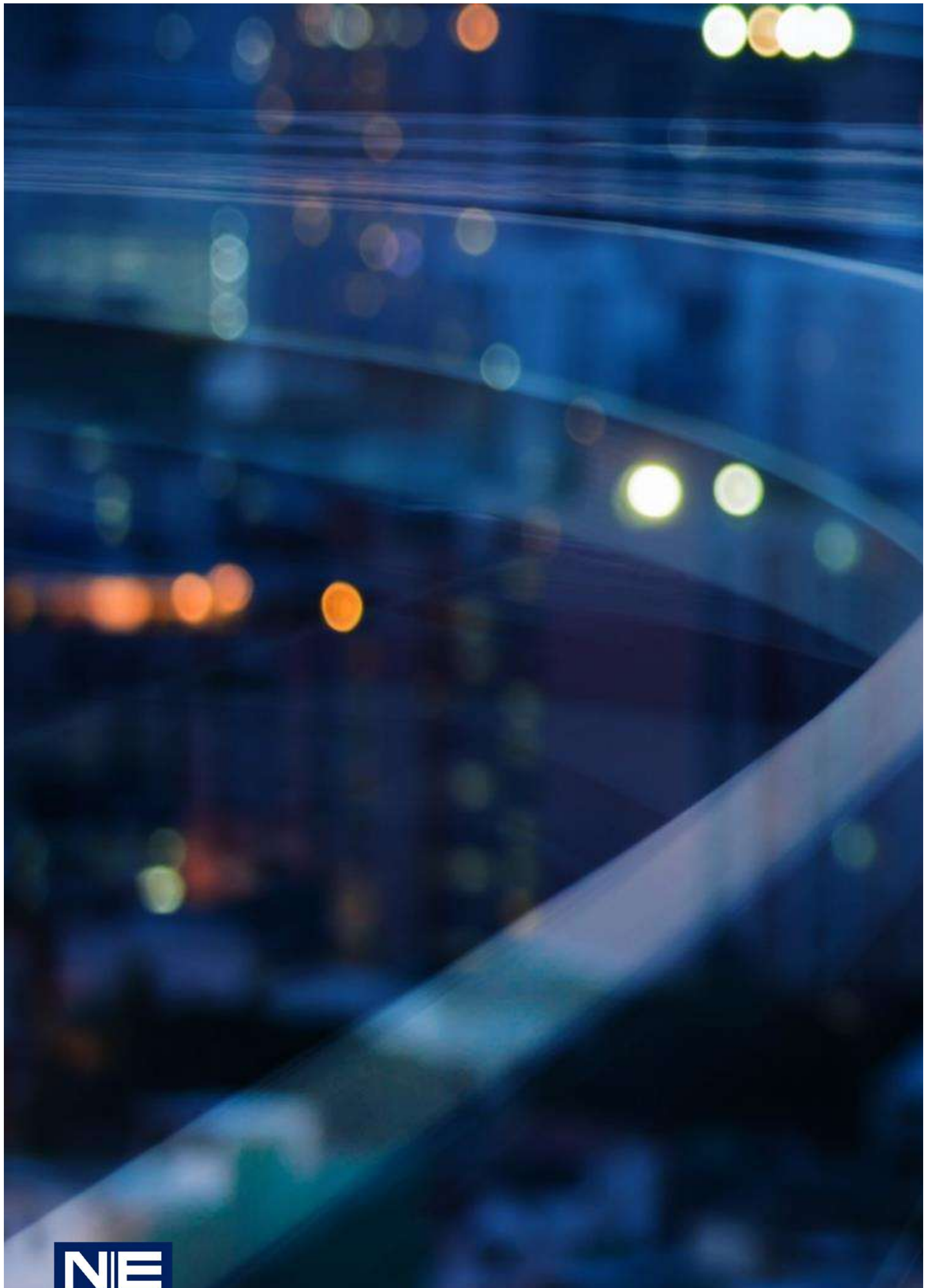
Source of private fund performance benchmark data: Cambridge Associates, via Refinitiv

QUARTERLY PERFORMANCE REPORT

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

DECEMBER 31, 2021

Dan Hennessy, CFA, CAIA, Senior Consultant



MARKET ENVIRONMENT

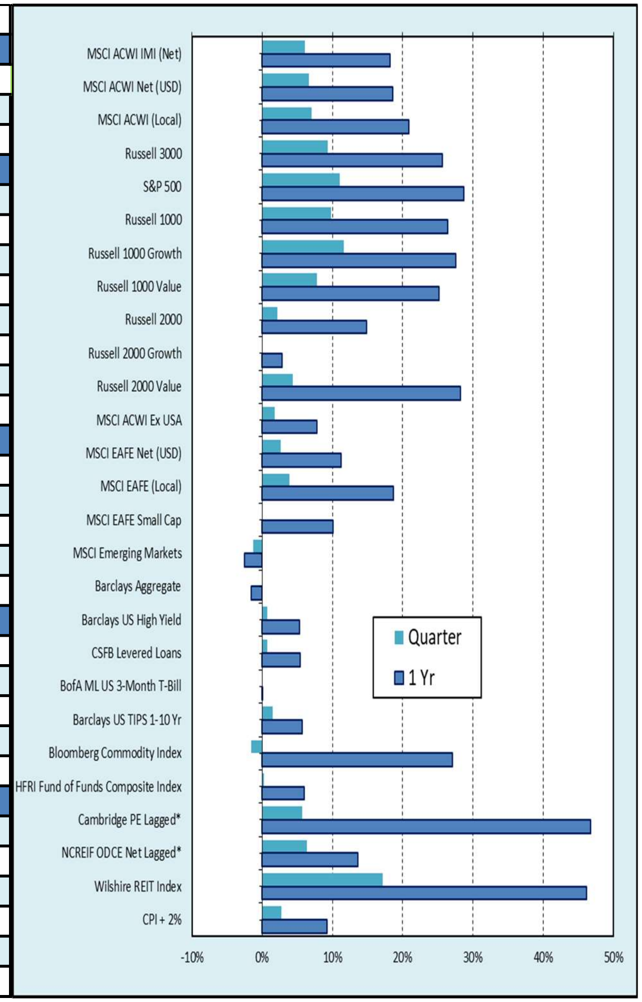
ECONOMIC ENVIRONMENT

- **Q4 Real GDP (advanced estimate) grew at an annual rate of +6.9%.**
  - Retail sales ended November at +16.8% on a YoY basis. In the same period last year the YoY growth rate was +6.3%.
  - Corporate profits as a percent of GDP ended Q2 2021 at 11.7%, up from 8.9% on a YoY basis and remain elevated relative to historical levels.
  - The inventory-to-sales ratio ended November was 1.3. Levels have remained relatively constant since early 2010 with a spike to 1.7 in April 2020.
  - The U.S. trade deficit widened sharply on record imports; the trade gap jumped 19.4% in November.
- **The unemployment rate was 3.9% in Q4, down from 4.7% in Q3; U-6, a broader measure of unemployment, decreased to 7.3% in Q4 from 8.5% in Q3.**
  - The labor force participation rate ended Q4 at 61.9%, up from Q3 at 61.6% after declining to 60.2% in April 2020 and is at levels below the 10 year pre-pandemic average of 63.0%.
- **The Case-Shiller Home Price Index (ended November) increased to 276.12 from 271.44 (in September) and remains at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally-adjusted CPI spiked to 7.12% in Q4 from 5.44% in Q3, in the same period last year it was 1.29%; Capacity Utilization increased to 76.5% in Q4 from 75.2% in Q3.**
- **Fed Funds rate remains at a targeted range of 0.00%-to-0.25%. The 10-year Treasury Yield (constant maturity) finished Q4 at 1.5% up from Q3 at 1.4%.**
- **The Fed has begun scaling back asset purchases in November. The Fed's balance sheet continues to grow in the wake of the pandemic.**
- **S&P valuations increased in Q4 to 38.66 from 37.62 in Q3 and remains higher than the 10-year average of 27.97x.**
  - Cyclically adjusted Shiller PE ratio remains above the long-term average of 16.9x.

MARKET ENVIRONMENT

Q4 2021 OVERVIEW

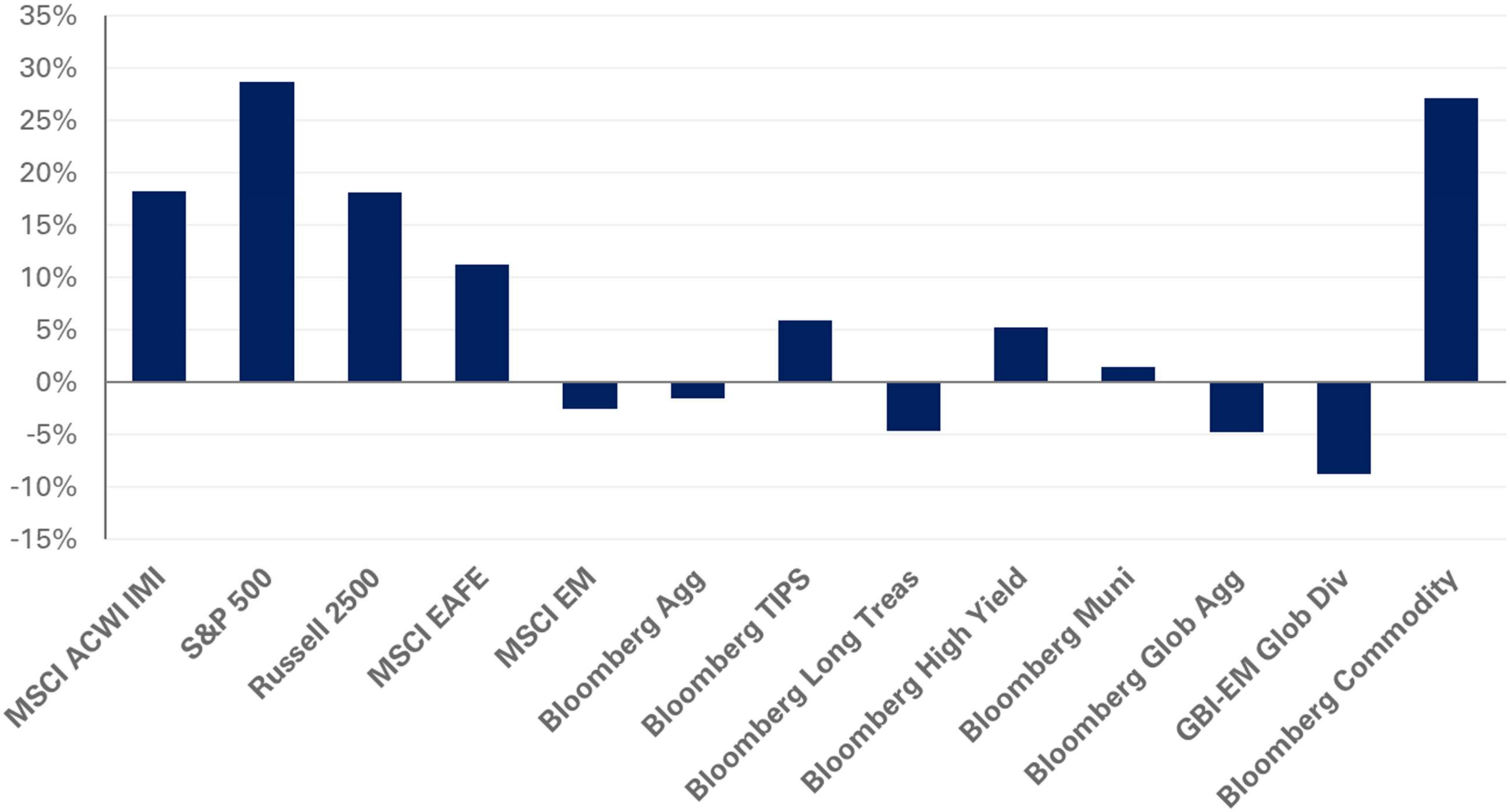
		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI IMI (Net)	World with Small Cap	6.10%	18.22%	20.20%	14.12%	11.84%
MSCI ACWI Net (USD)	World W/O Small Cap	6.68%	18.54%	20.38%	14.40%	11.85%
MSCI ACWI (Local)	World (Local Currency)	7.03%	20.90%	20.65%	13.90%	12.90%
Domestic Equity Benchmarks						
Russell 3000	Domestic All Cap	9.28%	25.66%	25.79%	17.97%	16.30%
S&P 500	Large Core	11.03%	28.70%	26.07%	18.47%	16.55%
Russell 1000	Large Core	9.78%	26.45%	26.21%	18.43%	16.54%
Russell 1000 Growth	Large Growth	11.64%	27.60%	34.08%	25.32%	19.79%
Russell 1000 Value	Large Value	7.77%	25.16%	17.64%	11.16%	12.97%
Russell 2000	Small Core	2.14%	14.82%	20.02%	12.02%	13.23%
Russell 2000 Growth	Small Growth	0.01%	2.83%	21.16%	14.53%	14.14%
Russell 2000 Value	Small Value	4.36%	28.27%	17.99%	9.07%	12.03%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	1.82%	7.82%	13.18%	9.61%	7.28%
MSCI EAFE Net (USD)	Int'l Developed	2.69%	11.26%	13.54%	9.55%	8.03%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	3.91%	18.70%	13.35%	8.36%	10.09%
MSCI EAFE Small Cap	Small Cap Int'l	0.07%	10.10%	15.62%	11.04%	10.80%
MSCI Emerging Markets	Emerging Equity	-1.31%	-2.54%	10.94%	9.87%	5.49%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	0.01%	-1.54%	4.79%	3.57%	2.90%
Barclays US High Yield	High Yield	0.71%	5.28%	8.83%	6.30%	6.83%
CSFB Levered Loans	Bank Loans	0.71%	5.40%	5.43%	4.32%	4.83%
BofA ML US 3-Month T-Bill	Cash	0.01%	0.05%	0.99%	1.14%	0.63%
Barclays US TIPS 1-10 Yr	Inflation	1.54%	5.68%	6.97%	4.46%	2.57%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	-1.56%	27.11%	9.86%	3.66%	-2.85%
HFRI Fund of Funds Composite Index	Fund of Hedge Funds	0.29%	6.03%	8.41%	5.68%	4.54%
Cambridge PE Lagged*	Private Equity	5.73%	46.76%	21.33%	19.78%	16.40%
NCREIF ODCE Net Lagged*	Real Estate	6.41%	13.65%	6.13%	6.56%	8.92%
Wilshire REIT Index	REIT	17.14%	46.19%	19.19%	10.92%	11.47%
CPI + 2%	Inflation/Real Assets	2.71%	9.25%	5.60%	4.98%	4.17%



* As of 9/30/2021

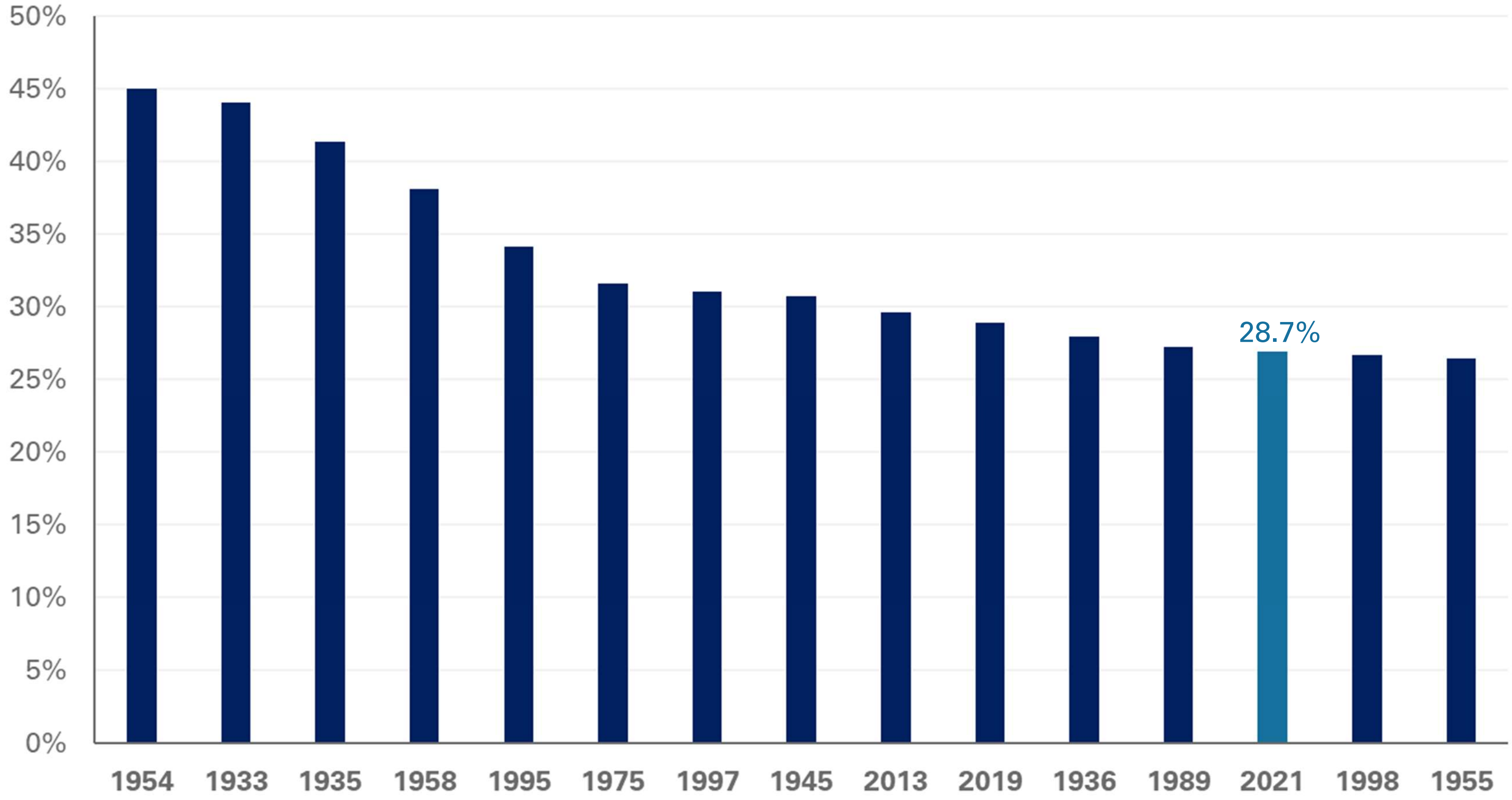
RISK ASSETS OUTPERFORMED

ANNUAL TOTAL RETURNS



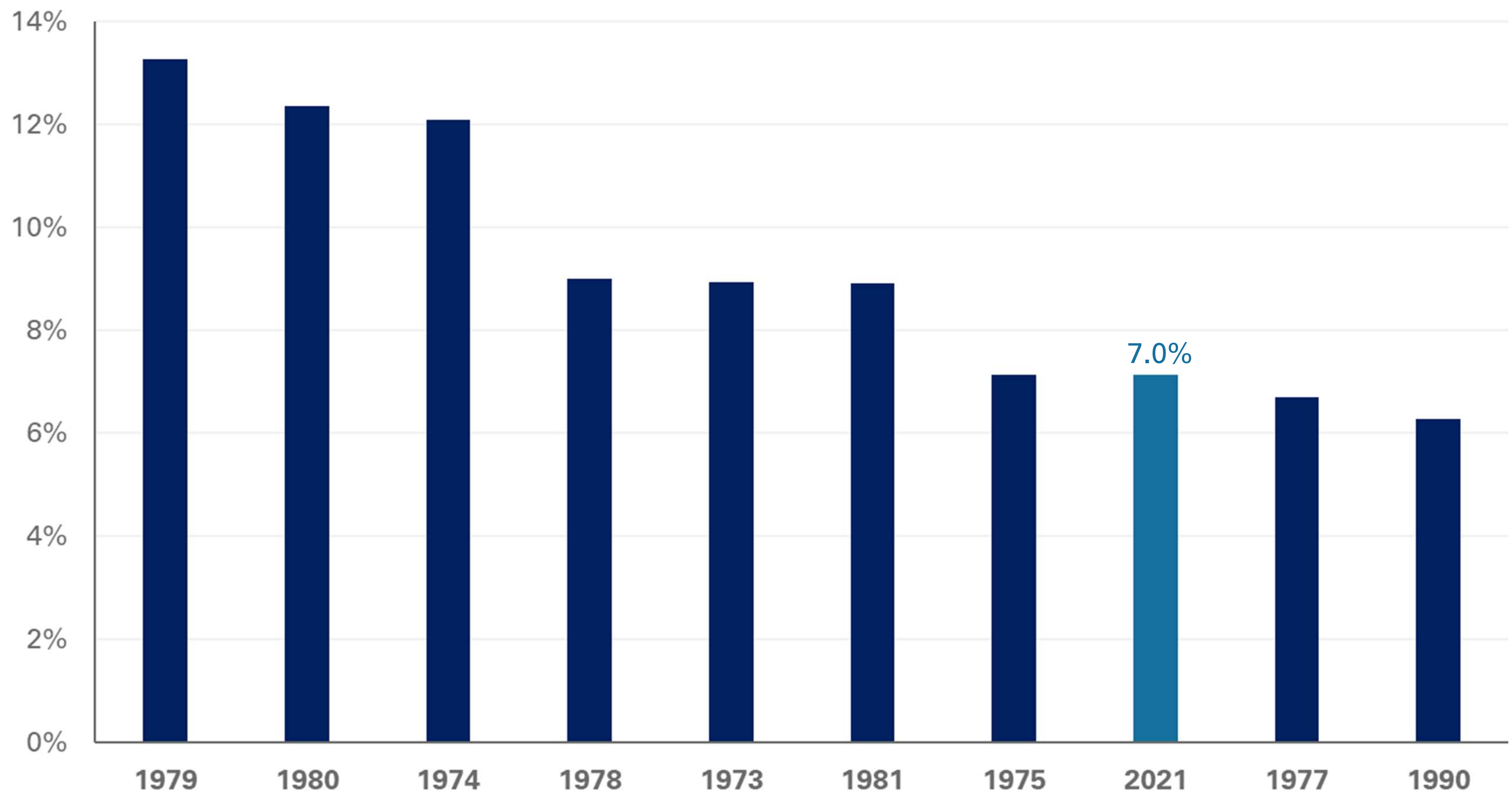
2021 EQUITY RETURNS WERE HISTORICALLY HIGH

TOP 15 S&P 500 CALENDAR YEAR RETURNS



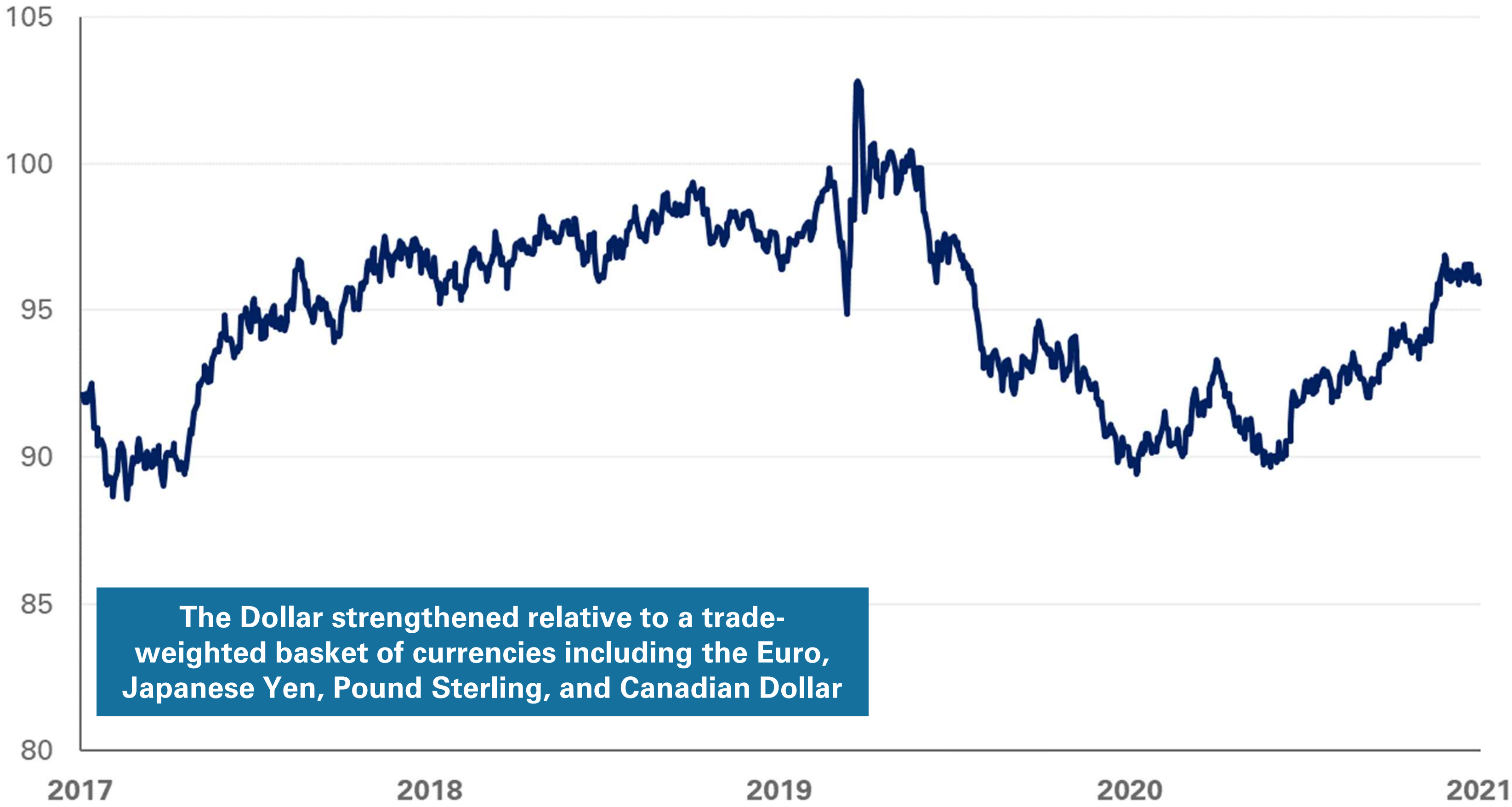
INFLATION ROSE AT HIGHEST LEVEL SINCE 1981

TOP 10 ANNUAL U.S. CPI-U CHANGES



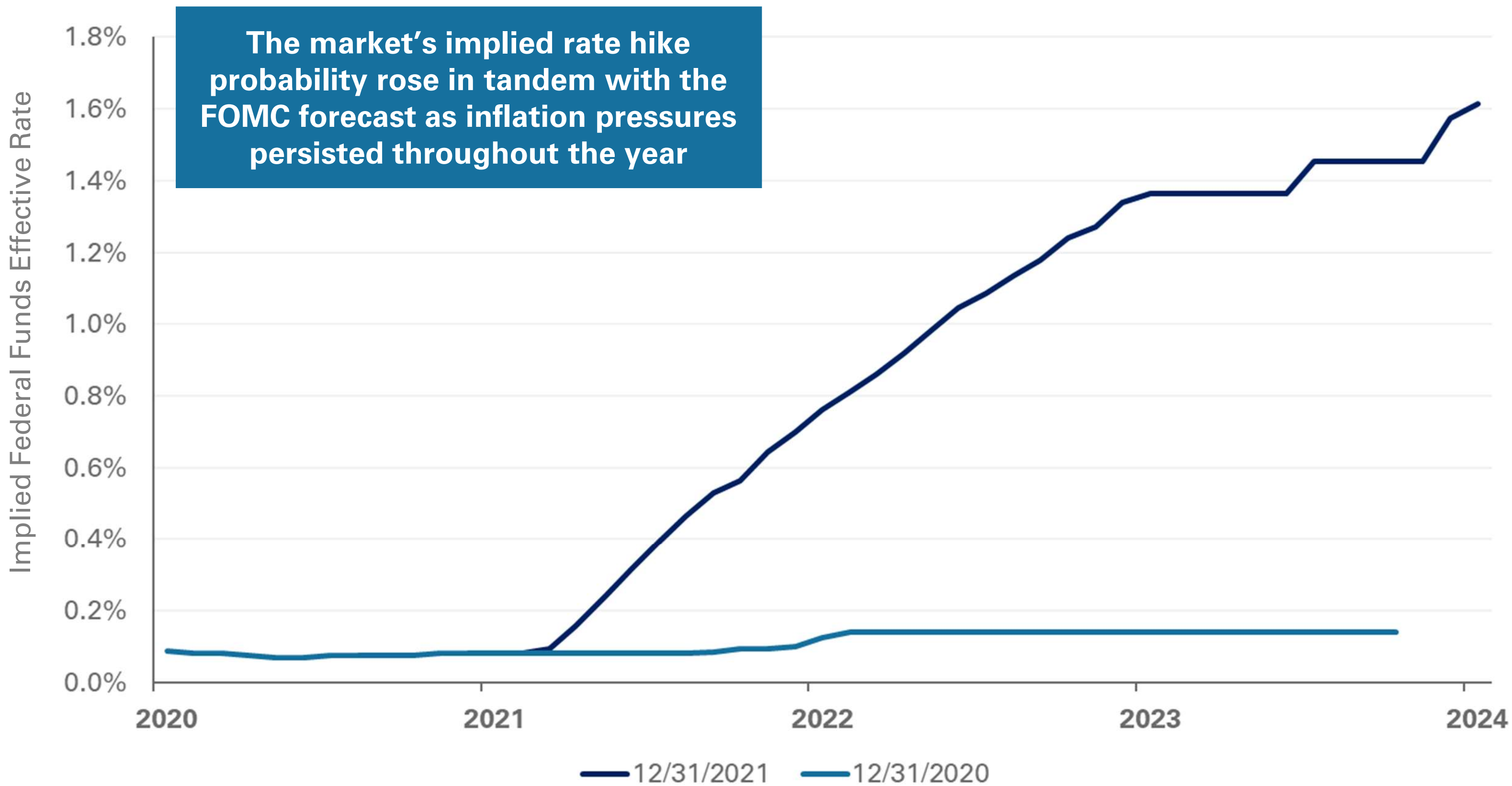
THE U.S. DOLLAR STRENGTHENED IN 2021

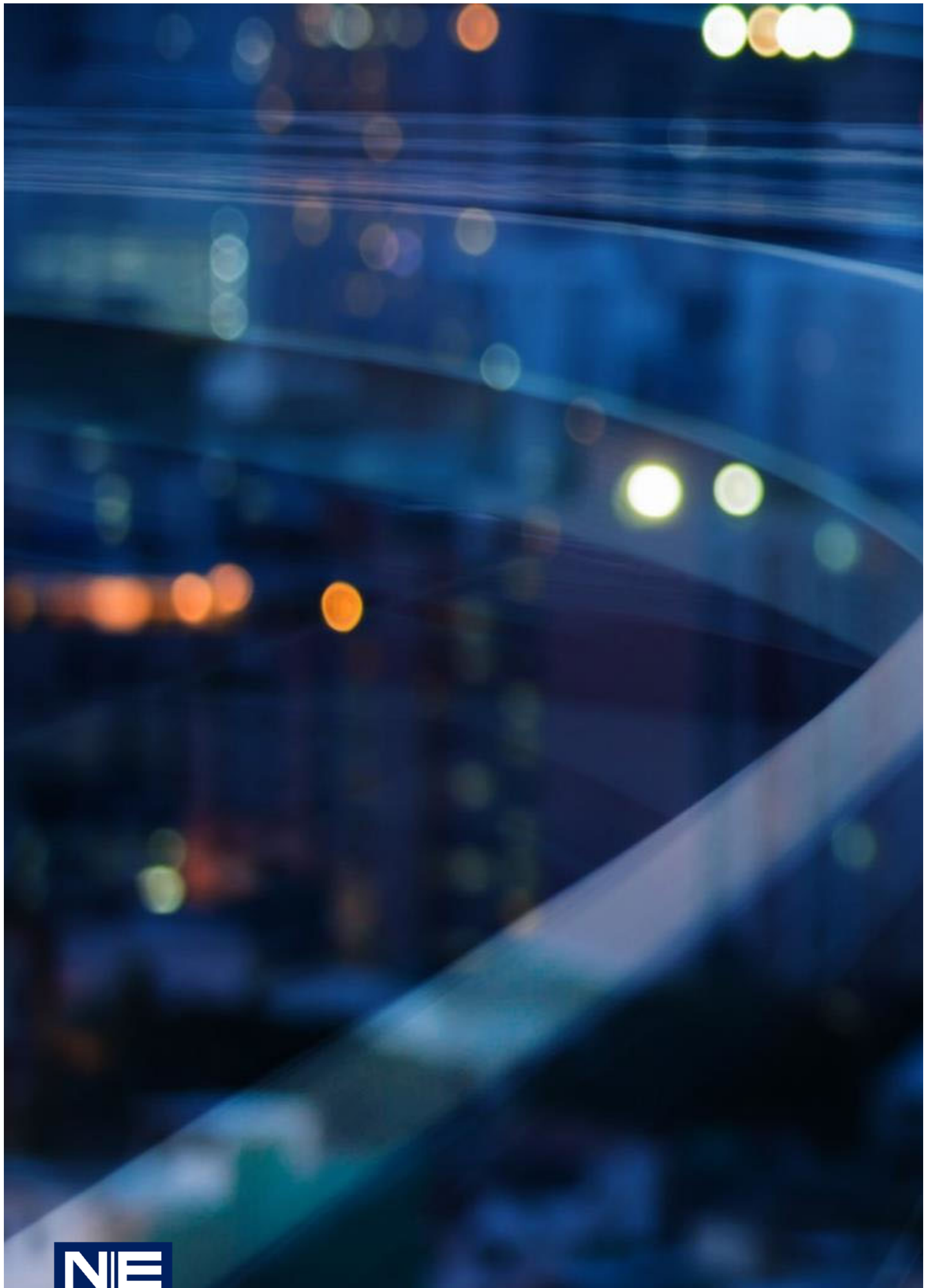
U.S. DOLLAR INDEX



AT LEAST TWO RATE HIKES PRICED IN FOR 2022

FEDERAL FUNDS FUTURES

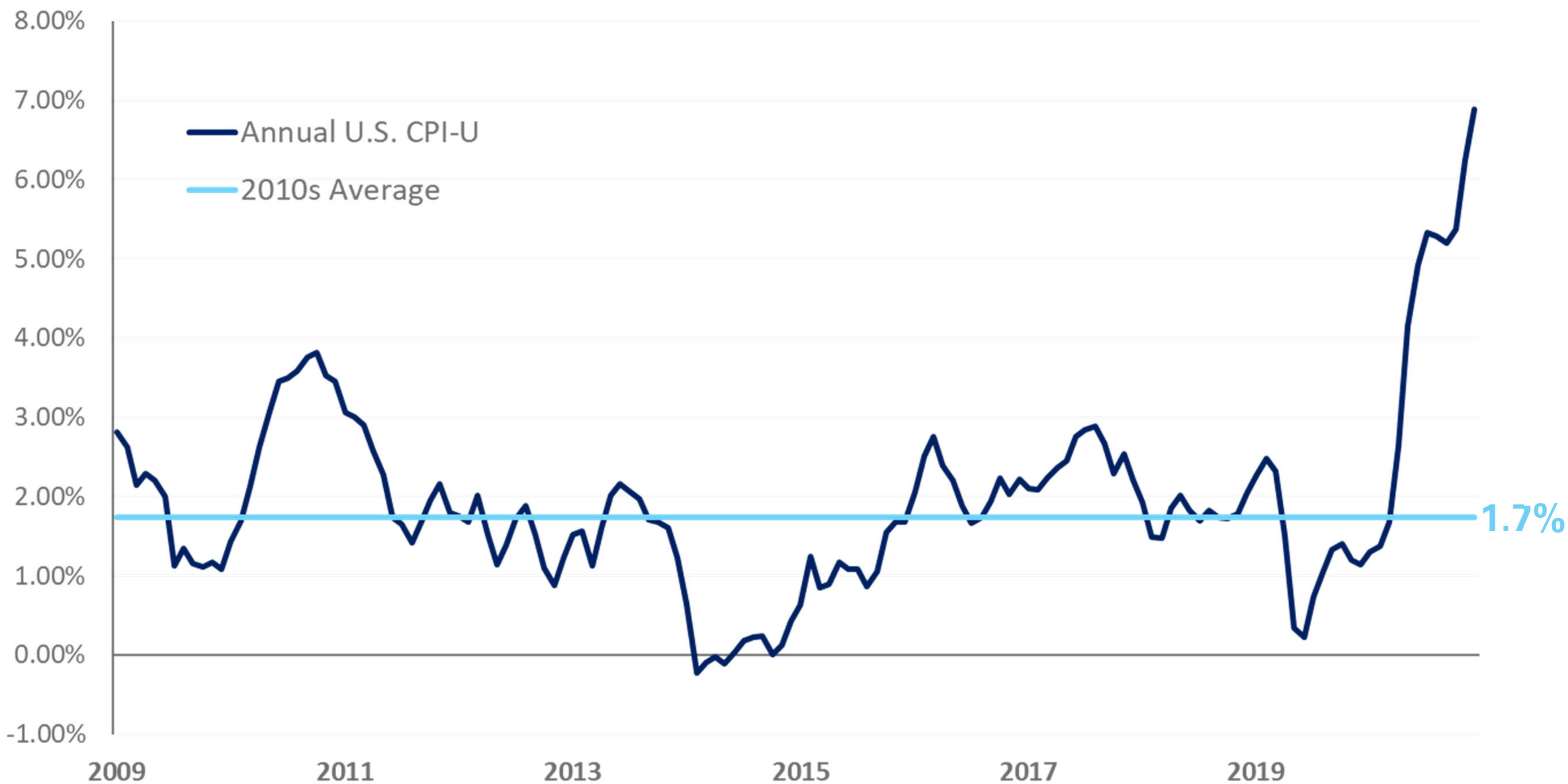




INFLATION

HEADLINE INFLATION INCREASED DURING 2021

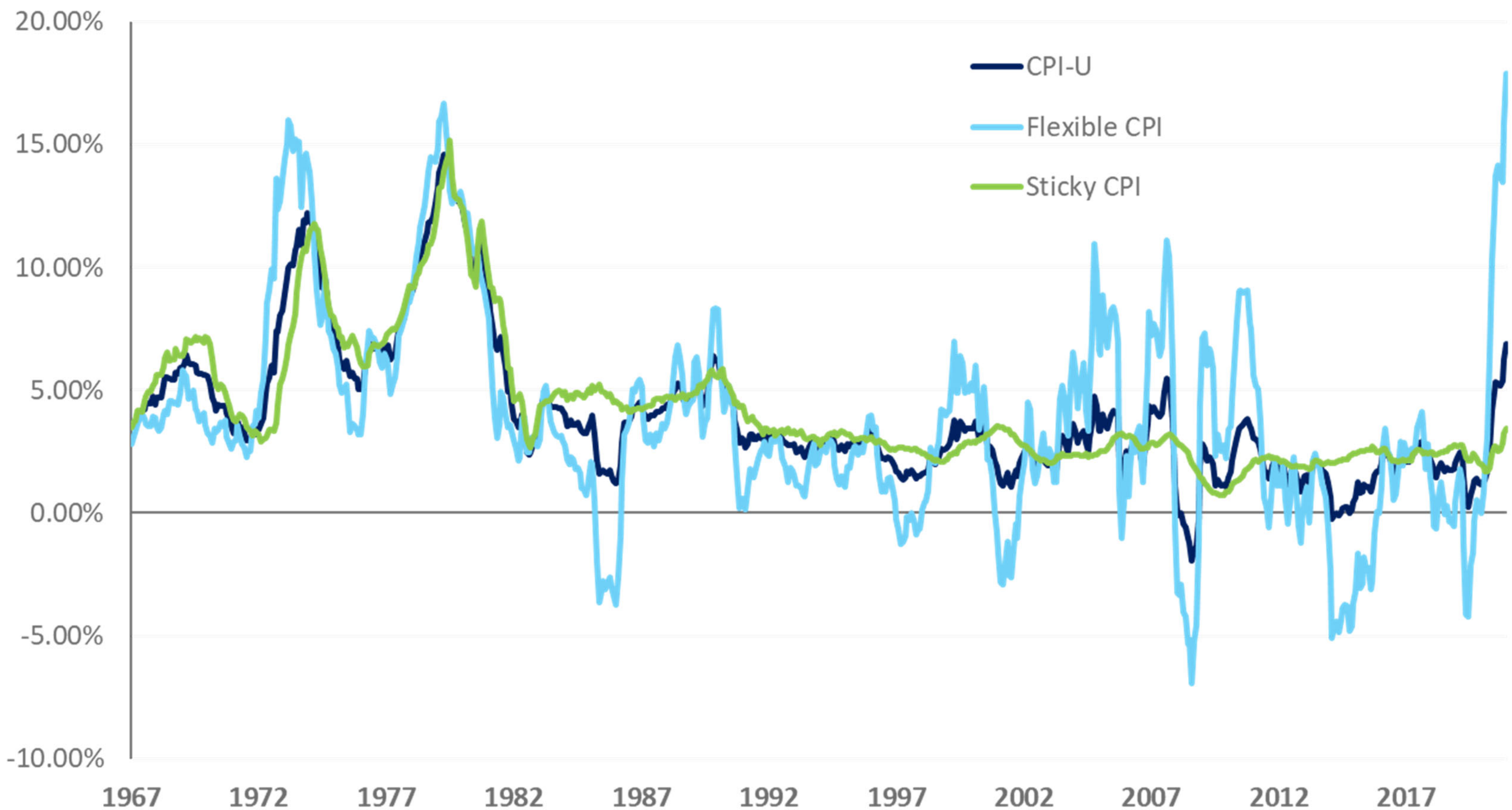
ANNUAL U.S. CPI-U



Notes: Data as of 11/30/2021
Sources: Bureau of Labor Statistics, FactSet

STICKY AND FLEXIBLE CPI METRICS ARE ELEVATED

TRAILING 12-MONTH CPI METRICS

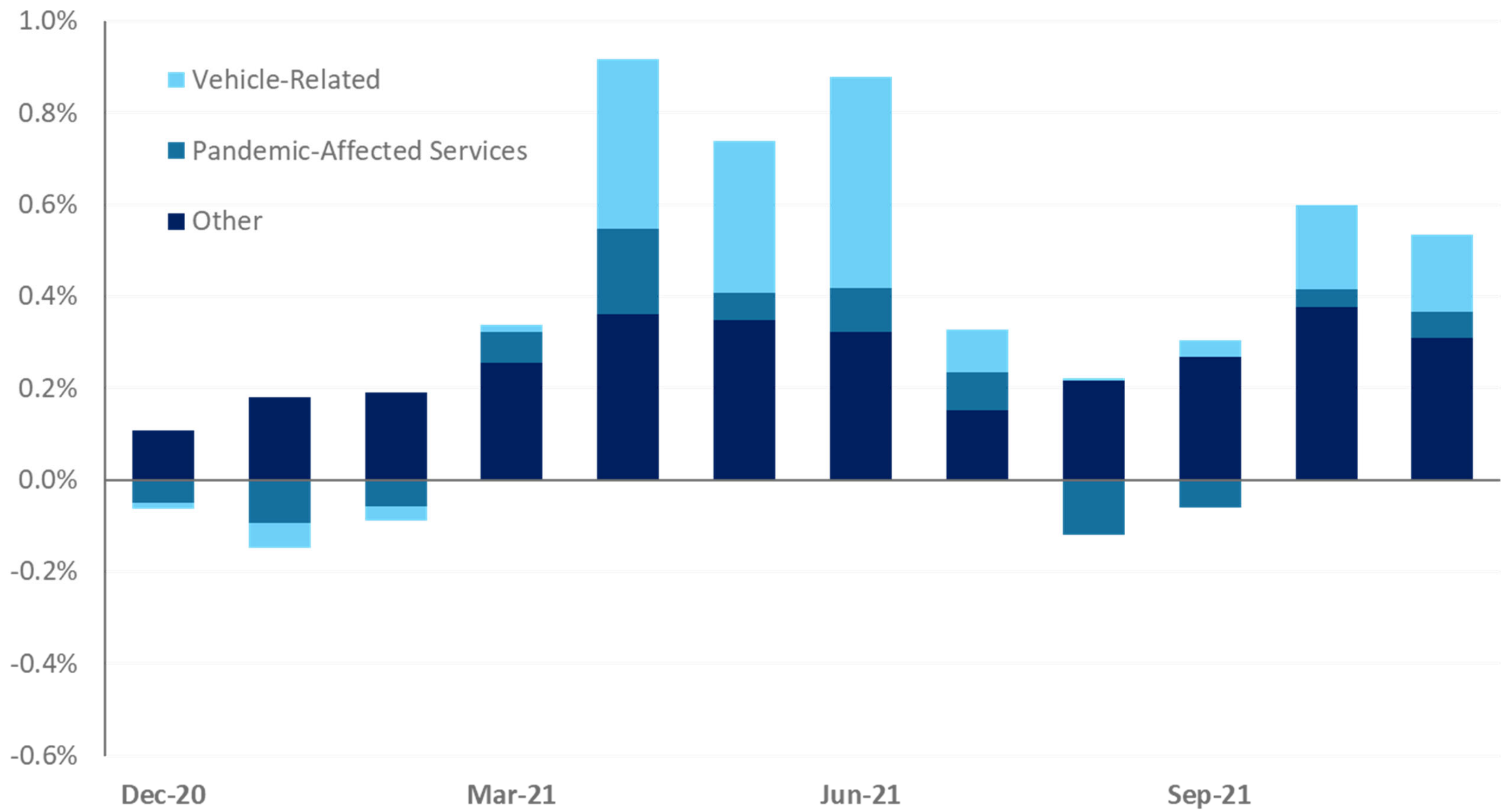


Notes: Flexible CPI represents a weighted basket of items that change price relatively frequently. Sticky CPI represents a weighted basket of items that change price relatively slowly. Data as of 11/30/2021.

Sources: Atlanta Fed, Bureau of Labor Statistics, FactSet

SOME TRANSITORY FACTORS HAVE WANED…

CONTRIBUTION TO MONTHLY CORE CPI-U

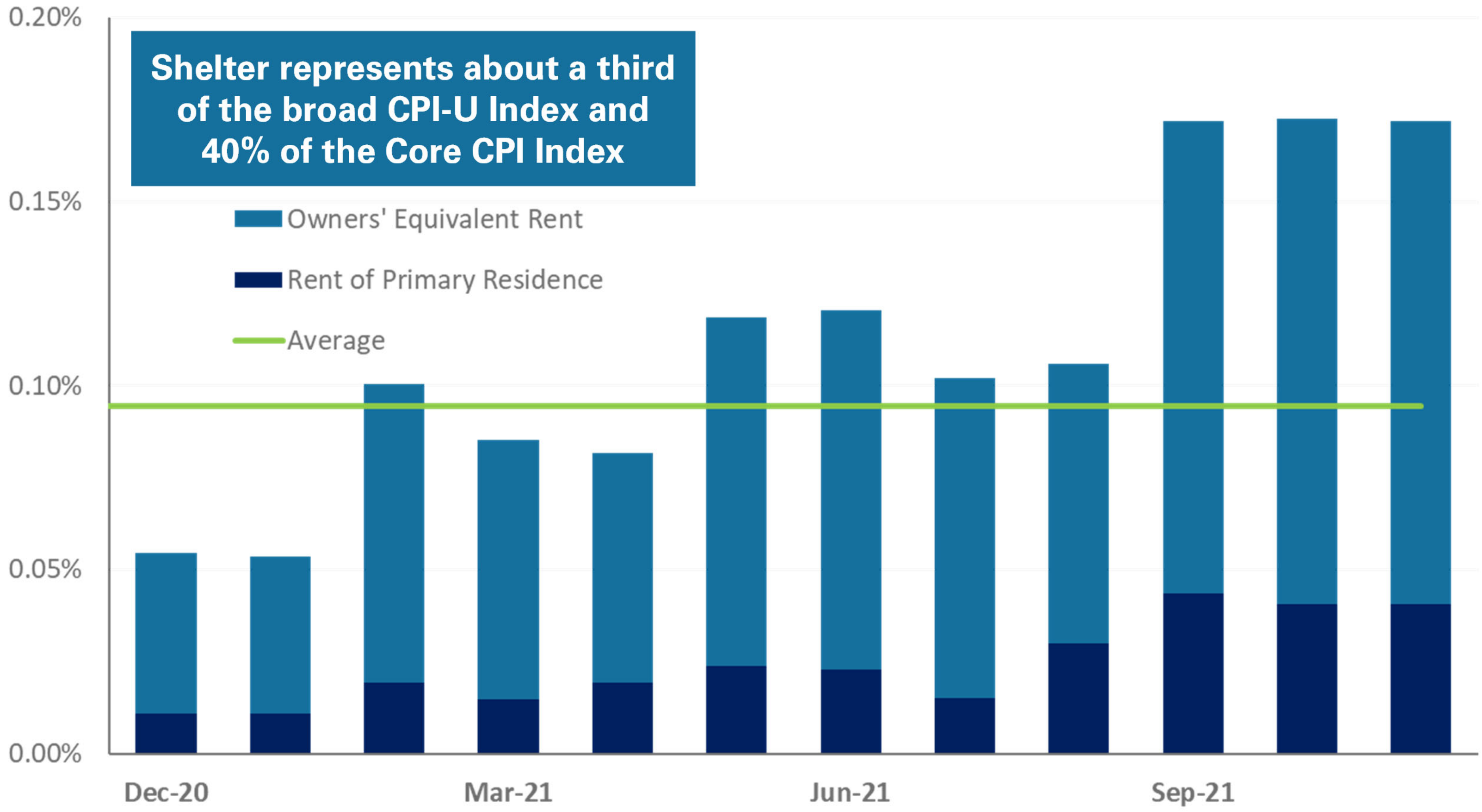


Notes: Vehicle-Related includes New Vehicles, Used Cars & Trucks, and Motor Vehicle Parts. Pandemic-Affected Services includes Airfare, Hotels, and Admissions to Events. As of 11/30/2021

Source: Bureau of Labor Statistics, FactSet, NEPC

…WHILE STICKIER FACTORS MAY BE ON THE RISE

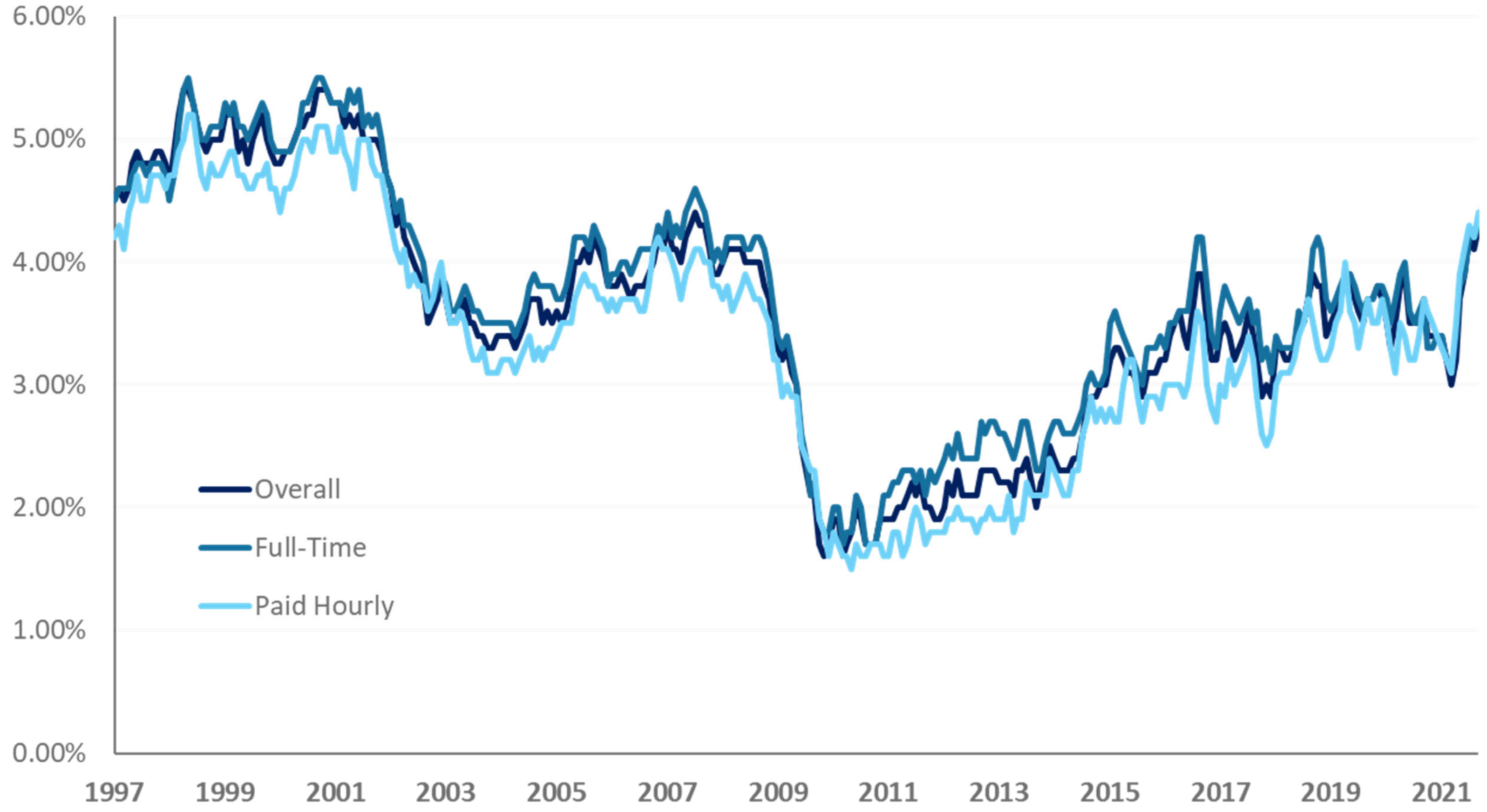
CONTRIBUTION OF SHELTER TO MONTHLY CORE CPI-U



Notes: Average calculated 12/31/2019-11/30/2021
Sources: Bureau of Labor Statistics, FactSet, NEPC

WAGES ARE AN OUTSTANDING QUESTION

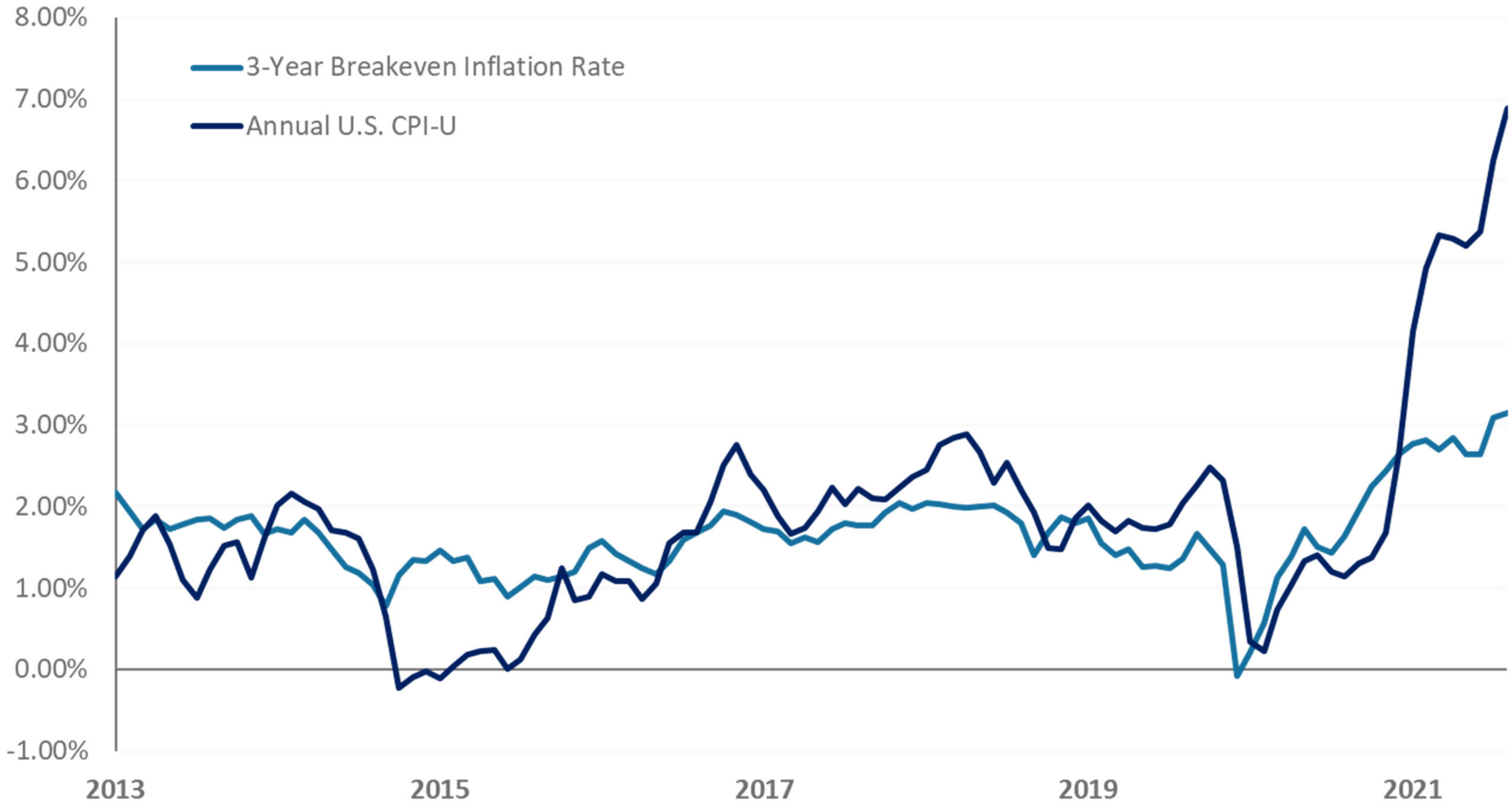
THREE-MONTH MOVING AVERAGE OF MEDIAN WAGE GROWTH



Notes: Represents hourly data; https://www.atlantafed.org/chcs/wage-growth-tracker; As of 11/30/2021
Sources: Current Population Survey, Bureau of Labor Statistics, and Federal Reserve Bank of Atlanta Calculations

MARKETS HAVE NOT PRICED IN HIGHER INFLATION

U.S. BREAKEVEN INFLATION RATES VERSUS REALIZED INFLATION



Sources: U.S. Department of Labor, FactSet

NEPC INFLATION OUTLOOK

Current market pricing and break-even inflation expectations do not reflect the **potential for ~3% inflation** over the next 3 years or more

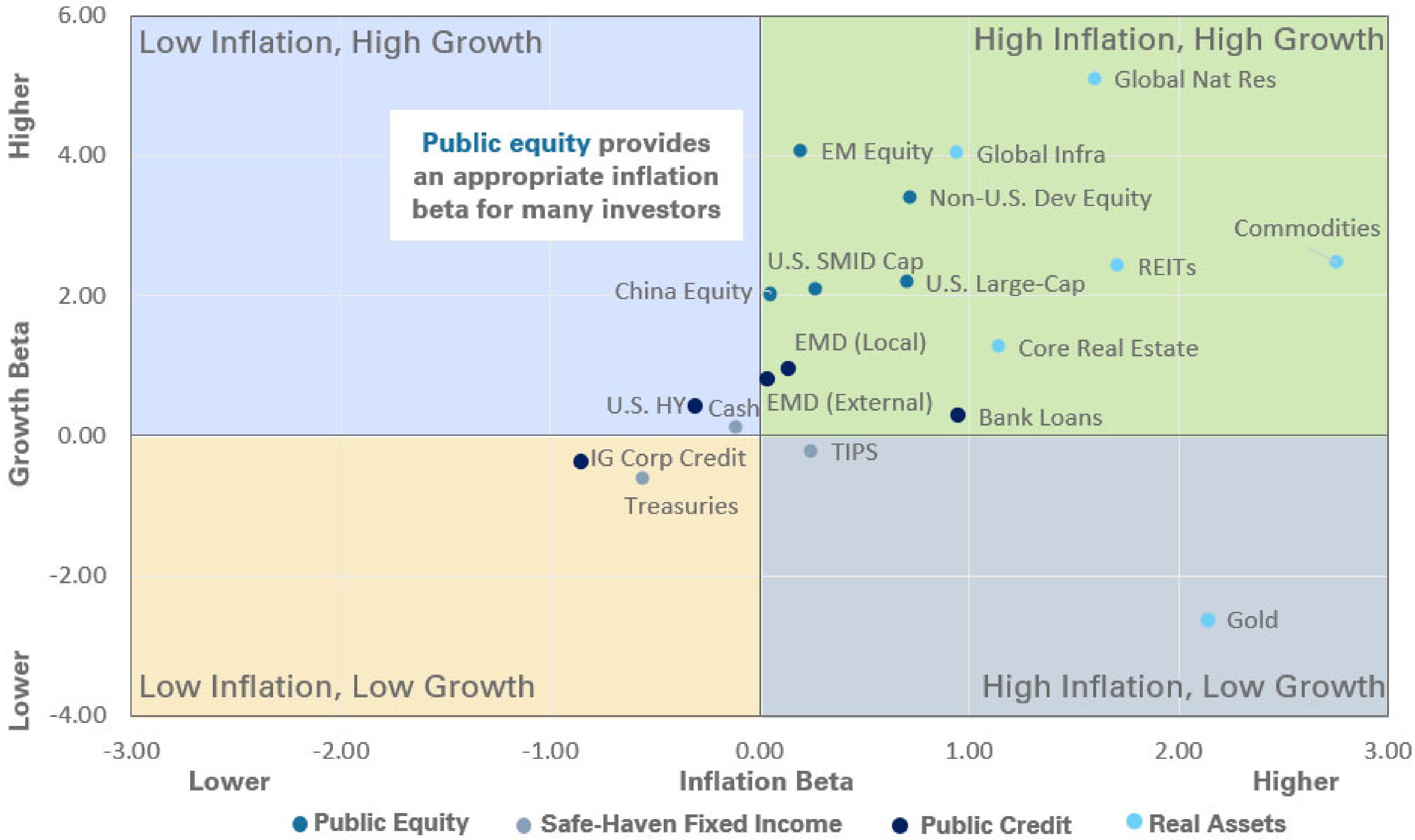
We are concerned U.S. equities and the portfolio could see more price volatility should we see **"stickier" inflation and higher interest rates**

TIPS may be negatively impacted relative to nominal Treasuries as real rates increase due to surprises in Fed policy tightening

We believe that **deflationary pressures**, such as demographics and technology, will overwhelm inflationary pressures in the long-run

Be mindful of adding public real assets in the current environment as tactically increasing portfolio inflation sensitivity is very difficult

ASSET CLASS INFLATION & GROWTH SENSITIVITY



Notes: Growth and Inflation Beta calculations reflect sensitivity to trends in U.S. CPI-U and U.S. Real GDP growth since asset class inception date. EM and China Equity betas reflect sensitivity to a blend of 50% U.S. and 50% global metrics.

Sources: S&P, Russell, MSCI, Bloomberg, JPM, NAREIT, NCREIF, FactSet

MARKET CONSIDERATIONS

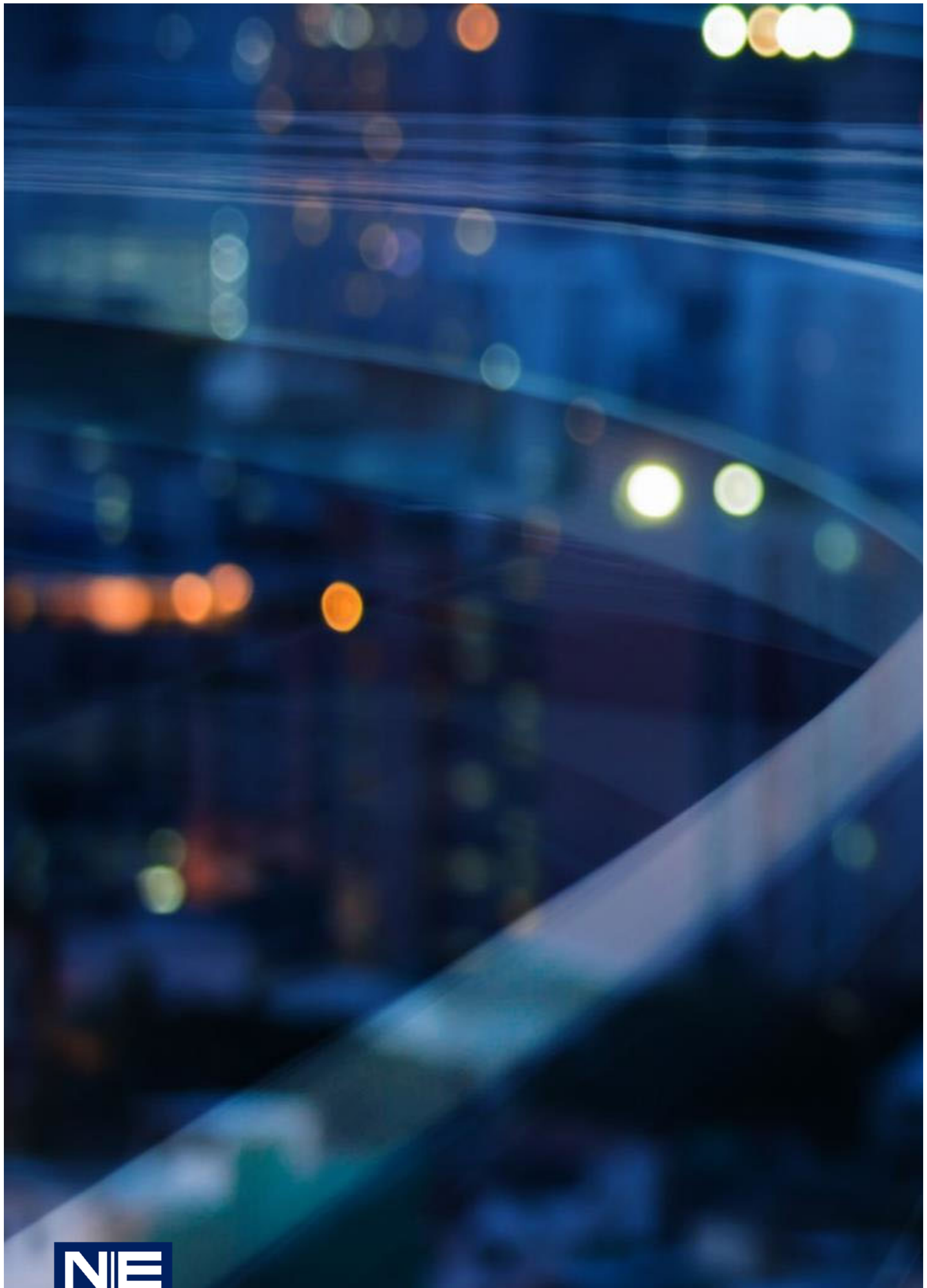
- **Over the long-term, public market investments have offered adequate inflation protection for most investment portfolios**
  - Moderate inflation rates have generally been associated with supportive risk asset sentiment and a positive economic backdrop
- **Inflation impacts many different aspects of public market companies – the balance between these factors will determine the path for returns**
  - The positive impact on revenues and earnings may be offset by changes in valuation multiples resulting from higher nominal rates

POTENTIAL POLICY AND ECONOMIC OUTCOMES

		Policy Response	
		Accommodative	**Tight**
Inflation Outcome	High	Fed lets the economy "run hot" Growth and liquidity flourish Bullish, but potential for **asset bubbles**	Inflation is winning the battle Rates rise, potential for **stagflation** Rising rates/inflation hurt risk assets
	Low	**Transitory** inflation was real Rates stay low as inflation subsides Bullish for growth and risk assets	Fed fights inflation successfully Tighter liquidity challenges growth Most analogs end in **recession**

INFLATION PLAYBOOK

		Policy Response	
		Accommodative	**Tight**
Inflation Outcome	**High**	Preferred Investment Characteristics: - Inflation and growth sensitivity - Businesses with operating leverage **Global Equity, Commodities, Listed Real Assets, Real Estate**	Preferred Investment Characteristics: - Inflation sensitivity - Lower growth beta - Shorter duration **Value Equity, Gold, Inflation-Linked Bonds, Floating-Rate Bonds**
	Low	Preferred Investment Characteristics: - Higher growth beta - Overweight risk assets **U.S. Equity, Lower-Quality Credit**	Preferred Investment Characteristics: - Lower inflation and growth betas - Dry powder and safe-haven **Cash, U.S. Dollar**



THEMES & OPPORTUNITIES

NEPC KEY MARKET THEMES

- Key Market Themes influence global markets and may remain relevant for an extended period with significant implications for capital markets
- Themes can be disrupted and incite outsized market volatility
- The introduction of a theme looks to identify the unique implications for asset allocation and portfolio implementation
- The conclusion of a theme alters market dynamics and NEPC's outlook

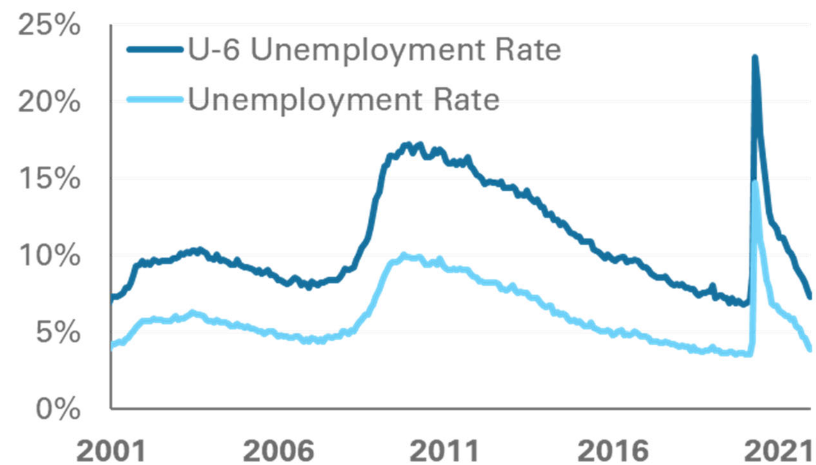
NEPC CURRENTLY HAS FOUR KEY MARKET THEMES:

1. Economic Crossroads
2. Permanent Interventions
3. Globalization Backlash
4. China Transitions

CONCLUSION OF A KEY MARKET THEME

VIRUS TRAJECTORY

- **The Virus Trajectory theme sought to identify how the path of the COVID-19 pandemic and global economic activity would interact**
  - The core of the theme assessed the impact and scope of virus containment efforts relative to economic and capital market disruption
  - The distribution of COVID-19 vaccines shortened the timeline of the theme
- **The improvement in economic data, labor markets, and risk assets highlights the diminishing impact of Virus Trajectory on capital markets**



Sources: U.S. Department of Labor, OECD, FactSet

ASSESSING THE KEY MARKET THEMES

AS OF 12/31/21

Theme	DORMANT	FADED	NEUTRAL	PREVALENT	DOMINANT
Economic Crossroads **Change in Status:** -			**NEUTRAL**		
Permanent Interventions **Change in Status:** *Prevalent to Faded*		**FADED**			
Globalization Backlash **Change in Status:** *Prevalent to Neutral*			**NEUTRAL**		
China Transitions **Change in Status:** -				**PREVALENT**	

Economic Crossroads

- Diminishing policy support and higher levels of inflation/growth are driving a transition from Fed policy as the dominant input for capital markets to economic fundamentals
- This transition will dramatically influence the pricing of risk premia across capital markets and the economic outcome may track a wide regime spectrum

Permanent Interventions

- Permanent Interventions enhances investor sentiment but is cyclically fading as monetary policy shifts to a less accommodative stance
- The Federal Reserve has begun tapering asset purchases and recent commentary suggests rate liftoff may happen sooner than anticipated given the economic and inflation backdrop

Globalization Backlash

- The importance of this theme may increase as supply-chain disruptions and inflationary pressures strain the electorate and geopolitical relationships
- The world will likely be faced with an amplified wealth divide given economic and labor market conditions, which has historically driven more volatile political outcomes

China Transitions

- The “regulatory reset” highlights the potential for economic and capital market volatility on the country’s long transition path
- While in-line with the longer-term economic goals, these regulations have negatively impacted market sentiment; creating a tail-risk for market and economic contagion

ECONOMIC CROSSROADS

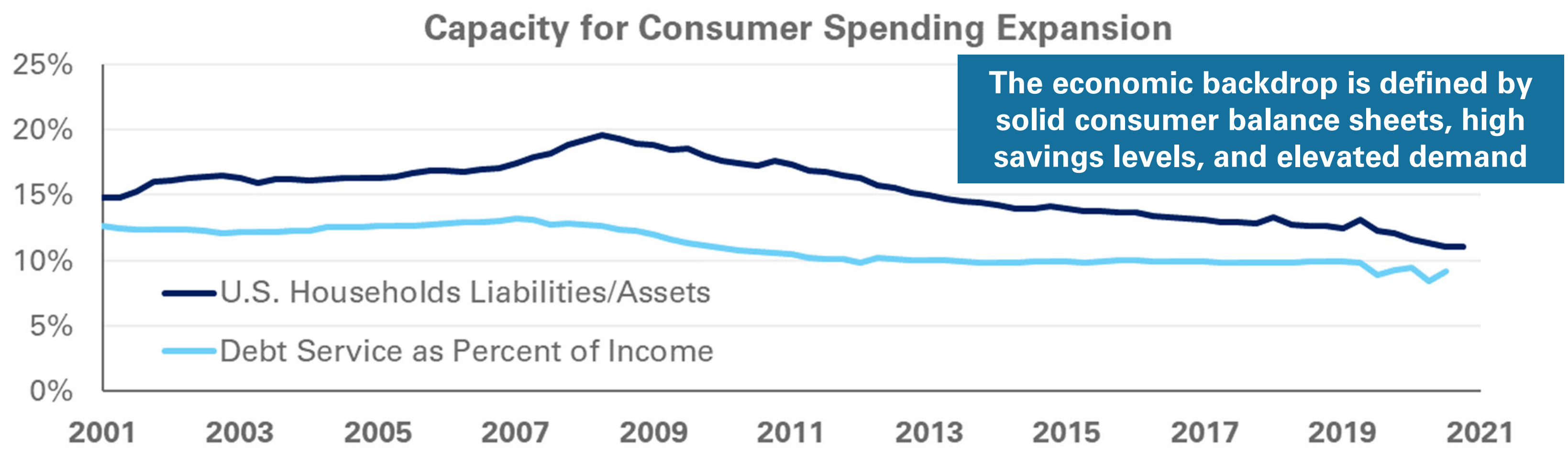
DEFINING THE THEME

- **Central bank activity and monetary policy have been the driving force behind economic and market momentum since the 2008 Financial Crisis**
- **Market sentiment and asset pricing have derived from central bank support and abundant liquidity instead of economic fundamentals**
- **The pendulum is swinging from Fed policy as the dominant input for capital markets to growth and inflation forces driving market dynamics**
  - Transition is occurring due to both diminishing policy support (and potential tightening) with higher levels of inflation and growth
  - Moving across this spectrum from Fed Policy to economic fundamentals will dramatically influence the pricing of risk premia across capital markets

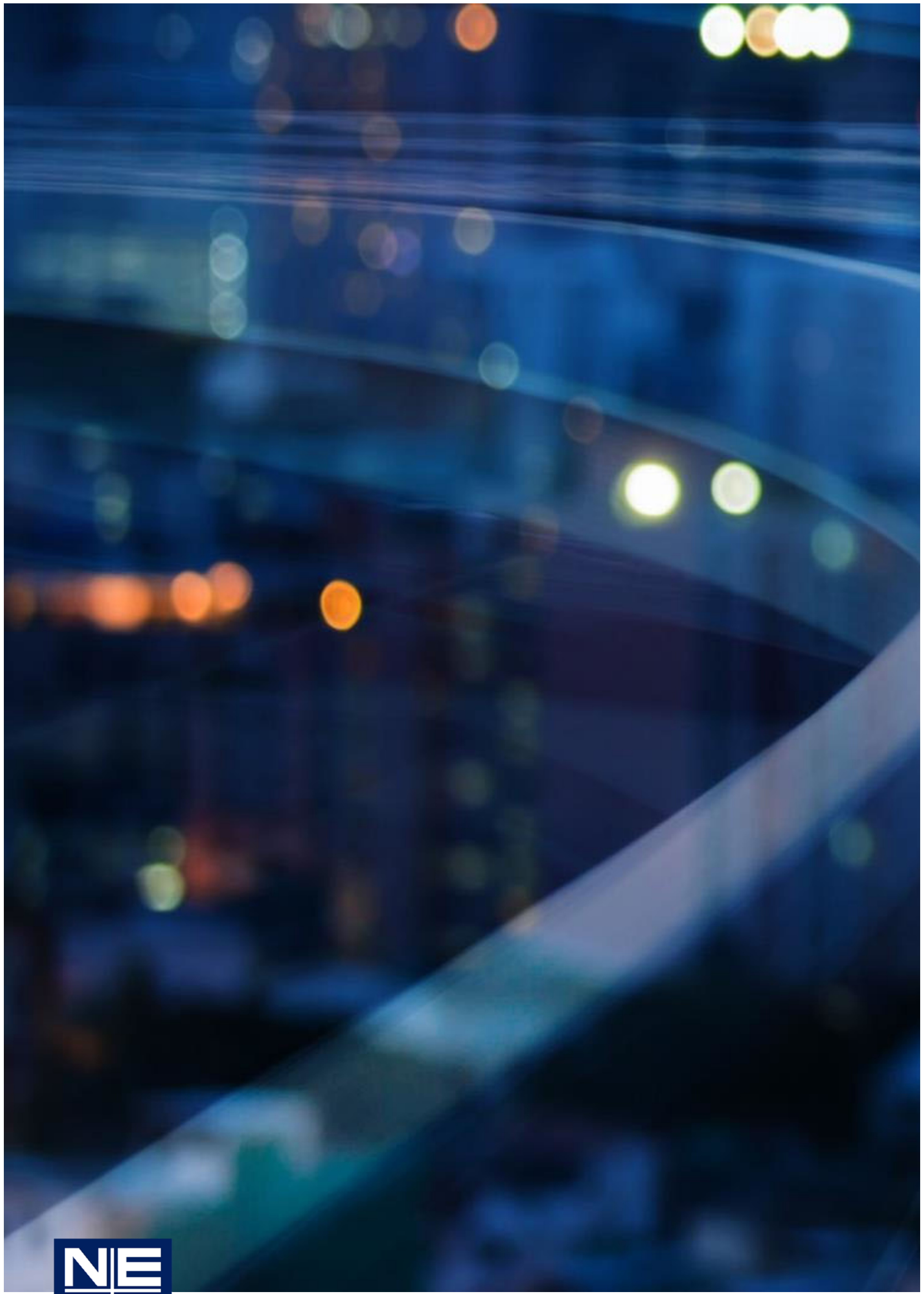
ECONOMIC CROSSROADS

DEFINING THE THEME

- **The pandemic was a watershed moment – the extraordinary levels of stimulus reset the trajectory of the U.S. economy**
  - Unprecedented stimulus engineered a reboot of the system and the economy skipped the slow rebuild of the recovery phase that follows a recession
- **The astonishing stimulus levels have incited a powerful upward trend in U.S. economic growth and inflation forces**
  - The U.S. economy is now positioned to potentially move beyond the secular stagnation of the last decade



Sources: Federal Reserve System, FactSet

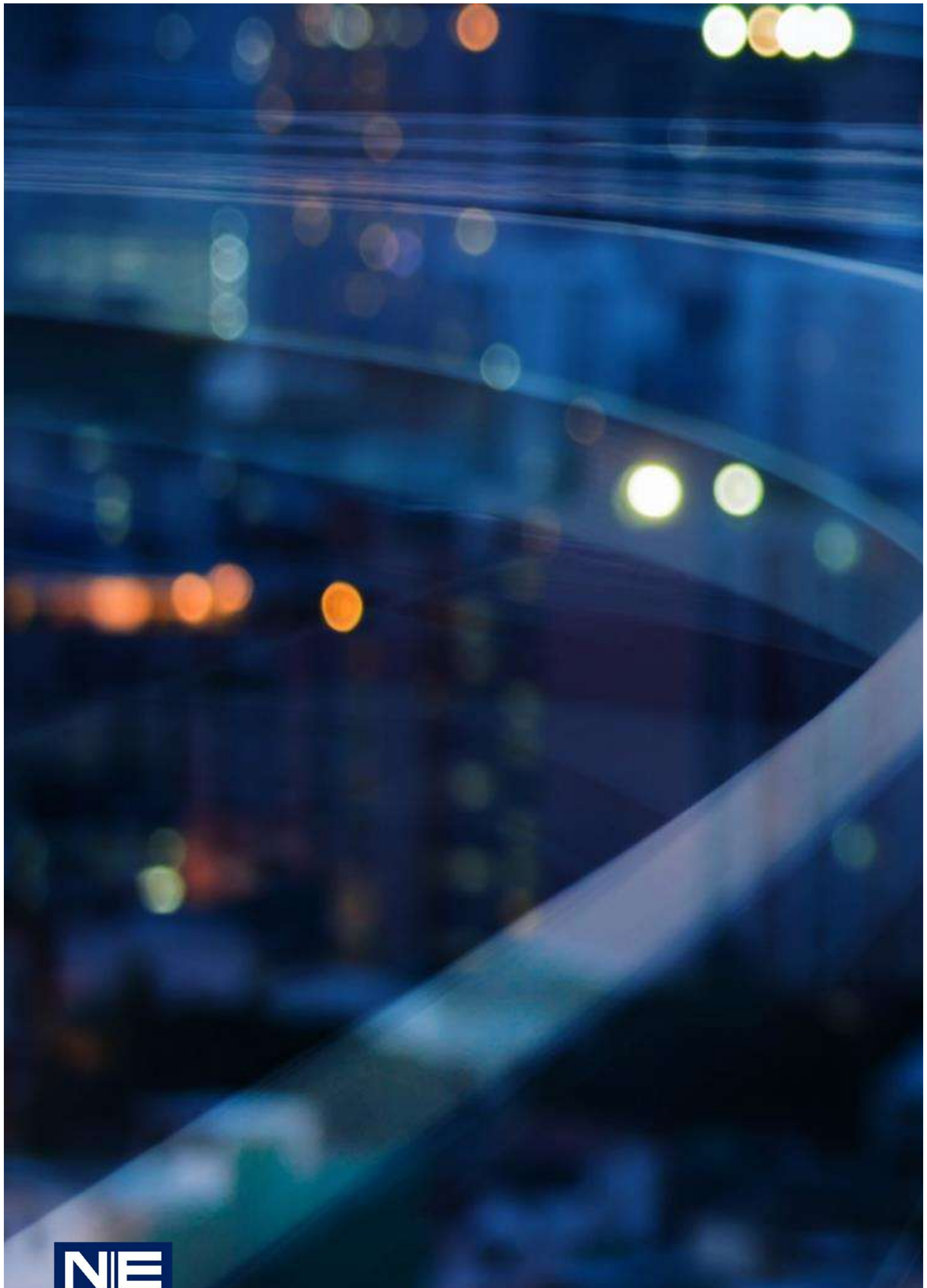


NEPC INVESTMENT CONFERENCE

NEPC'S ANNUAL INVESTMENT CONFERENCE

SAVE THE DATE

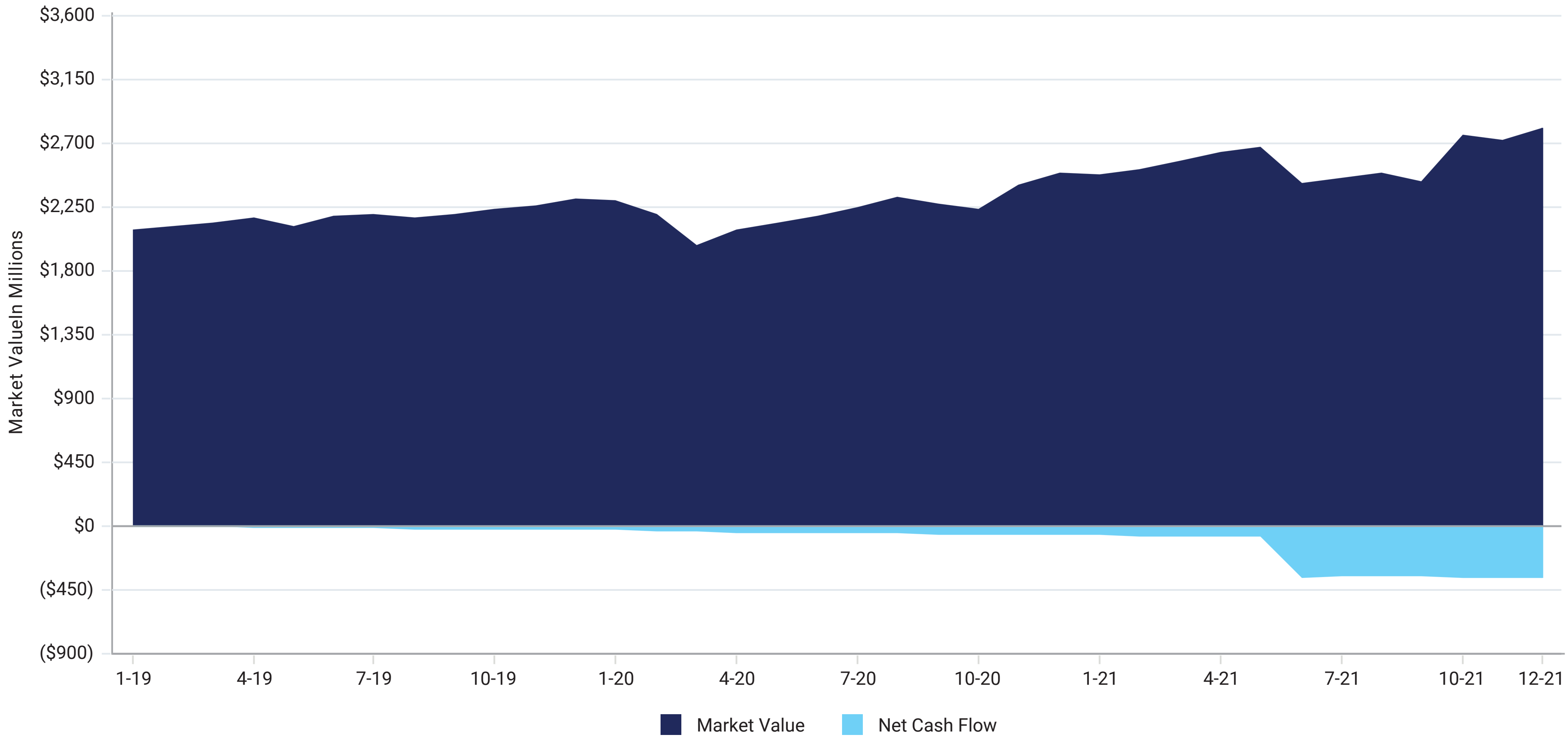
- **Please save the date for our Investment Conference on Tuesday, May 17 and Wednesday, May 18**
- **We are thrilled to welcome you back to Boston this year at The Westin Copley Place. Book your room with the Conference Group Rate**
- **In addition to our dynamic speakers and breakout sessions, there will also be plenty of opportunities to network with your peers**
- **Registration and additional details will follow in the coming weeks. Please reach out to Sarah Winrow: swinrow@nepc.com with any questions**



TOTAL FUND PERFORMANCE

ASSET GROWTH SUMMARY

3 Years Ending December 31, 2021



	Last Three Months	1 Year	3 Years
Beginning Market Value	2,426,660,722	2,490,365,345	1,989,872,398
Net Cash Flow	-5,558,177	-299,934,315	-363,734,054
Net Investment Change	385,194,933	615,866,448	1,180,186,914
Ending Market Value	**2,806,297,479**	**2,806,297,479**	**2,806,297,479**
Net Change	379,636,756	315,932,133	816,425,080

Stanislaus County ERA

December 31, 2021

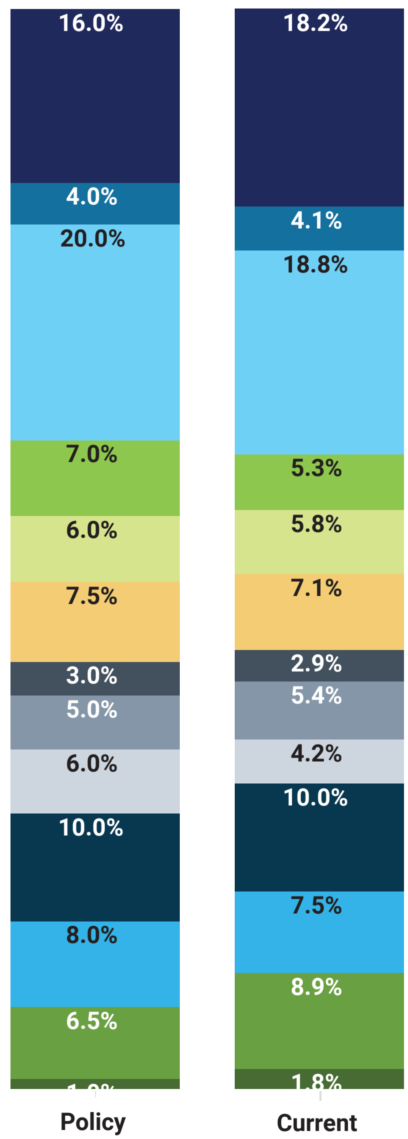
ASSET ALLOCATION VS. POLICY

	Current ($)	Current (%)	Policy $	Policy (%)	Policy Range (%)	Within Range
Liquidity Sub-Portfolio	198,889,658	7.1	224,503,798	8.0	4.0 - 14.0	Yes
Growth Sub-Portfolio	2,083,185,907	74.2	2,048,597,159	73.0	60.0 - 80.0	Yes
Risk-Diversifying Sub-Portfolio	524,221,914	18.7	533,196,521	19.0	15.0 - 24.0	Yes
Total Fund	**2,806,297,479**	**100.0**	**2,806,297,479**	**100.0**		

*Difference between Policy and Current Allocation

TOTAL FUND ASSET ALLOCATION VS. POLICY

Asset Allocation vs. Target



	Current ($)	Current (%)	Policy (%)	Policy $	Policy Range (%)	Within Range
Large Cap Equity	511,904,799	18.2	16.0	449,007,597	12.0 - 20.0	Yes
Small Cap Equity	113,853,685	4.1	4.0	112,251,899	0.0 - 7.0	Yes
International Equity	528,824,231	18.8	20.0	561,259,496	14.0 - 26.0	Yes
Intermediate	149,131,164	5.3	7.0	196,440,824	4.0 - 10.0	Yes
Treasury	163,057,469	5.8	6.0	168,377,849	4.0 - 8.0	Yes
Infrastructure	199,041,016	7.1	7.5	210,472,311	0.0 - 12.0	Yes
Absolute Return	80,771,600	2.9	3.0	84,188,924	0.0 - 5.0	Yes
Private Equity	150,280,398	5.4	5.0	140,314,874	0.0 - 8.0	Yes
Real Estate	117,049,074	4.2	6.0	168,377,849	0.0 - 10.0	Yes
Risk Parity	280,392,845	10.0	10.0	280,629,748	6.0 - 14.0	Yes
Private Credit	211,591,808	7.5	8.0	224,503,798	0.0 - 10.0	Yes
Real Estate - Core	250,640,896	8.9	6.5	182,409,336	0.0 - 10.0	Yes
Cash	49,758,494	1.8	1.0	28,062,975	0.0 - 4.0	Yes
Total	**2,806,297,479**	**100.0**	**100.0**	**2,806,297,479**		

*Difference between Policy and Current Allocation

PERFORMANCE DETAIL

	Allocation		Performance (%)							
	Market Value ($)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	**2,806,297,479**	**100.0**	**4.2**	**13.9**	**13.6**	**10.1**	**8.2**	**9.6**	**9.2**	**Jan-95**
Policy Index			*4.0*	*12.2*	*13.6*	*10.0*	*8.3*	*9.3*	*8.4*	
InvMetrics Public DB > $1 Billion Rank			41	64	74	72	73	45	3	
Liquidity Sub-Portfolio	**198,889,658**	**7.1**	**-0.6**	**-0.2**	**4.6**	**3.0**	**2.5**	**-242.7**	**-239.0**	**Apr-11**
StanCERA Liquidity Blended BM			*-0.5*	*-0.9*	*4.4*	*3.1*	*2.5*	*2.0*	*2.0*	
Cash	**49,758,494**	**1.8**	**0.4**	**3.0**	**2.0**	**1.7**	**1.5**	**-241.8**	**-238.2**	**Apr-11**
FTSE 1 Month T-Bill			*0.0*	*0.0*	*0.9*	*1.1*	*0.8*	*0.6*	*0.5*	
Cashflow-Matched Bonds	**149,131,164**	**5.3**	**-0.7**	**-0.9**	**4.7**				**3.4**	**Jul-17**
Blmbg. Intermed. U.S. Government/Credit			*-0.6*	*-1.4*	*3.9*				*2.8*	
eV US Government Fixed Inc Rank			88	17	3				9	
Insight	149,131,164	5.3	-0.7	-0.9	4.7				3.4	Jul-17
Blmbg. Intermed. U.S. Government/Credit			*-0.6*	*-1.4*	*3.9*				*2.8*	
eV US Government Fixed Inc Rank			88	17	3				9	
Growth Sub-Portfolio	**2,083,185,907**	**74.2**	**5.1**	**18.6**	**16.5**	**12.1**	**9.7**	**12.0**	**8.8**	**Jan-04**
StanCERA Growth Blended BM			*4.6*	*14.6*						
US Equities	**625,758,485**	**22.3**	**8.9**	**28.3**	**25.1**	**16.7**	**13.4**	**15.8**	**10.9**	**Jan-04**
Russell 3000 Index			*9.3*	*25.7*	*25.8*	*18.0*	*14.5*	*16.3*	*10.7*	
US Large Equity	**511,904,799**	**18.2**	**9.3**	**27.8**	**26.5**	**18.6**	**14.7**	**16.8**	**13.4**	**Jan-95**
Russell 1000 Index			*9.8*	*26.5*	*26.2*	*18.4*	*14.8*	*16.5*	*11.3*	
eV US Large Cap Equity Rank			41	33	34	35	31	28	7	
BlackRock Russell 1000 Growth	262,680,204	9.4	11.6	27.5	34.0	25.3	19.6	19.8	19.1	Aug-10
Russell 1000 Growth Index			*11.6*	*27.6*	*34.1*	*25.3*	*19.6*	*19.8*	*19.1*	
eV US Large Cap Growth Equity Rank			17	21	14	27	12	16	10	
BlackRock Russell 1000 Value	118,218,437	4.2	7.8	25.1	17.7	11.3	9.8	13.0	12.9	Aug-09
Russell 1000 Value Index			*7.8*	*25.2*	*17.6*	*11.2*	*9.7*	*13.0*	*12.8*	
eV US Large Cap Value Equity Rank			57	64	59	66	58	53	48	
Dodge & Cox-Equity	131,006,158	4.7	5.9	31.5	19.9	13.5	11.9	15.2	12.4	Jan-95
Russell 1000 Value Index			*7.8*	*25.2*	*17.6*	*11.2*	*9.7*	*13.0*	*10.3*	
eV US Large Cap Value Equity Rank			84	10	34	31	17	9	6	

PERFORMANCE DETAIL

	Allocation		Performance (%)							
	Market Value ($)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
US Small Equity	**113,853,685**	**4.1**	**7.1**	**31.0**	**19.7**	**10.4**	**8.9**	**12.2**	**13.3**	**Jan-09**
Russell 2000 Index			*2.1*	*14.8*	*20.0*	*12.0*	*10.8*	*13.2*	*13.8*	
eV US Small Cap Value Equity Rank			41	40	41	41	62	56	60	
Attucks Small Cap	**113,853,685**	**4.1**	**7.1**	**31.0**	**19.7**	**10.3**	**9.8**	**12.8**	**13.5**	**Jan-09**
Russell 2000 Value Index			*4.4*	*28.3*	*18.0*	*9.1*	*9.5*	*12.0*	*12.1*	
eV US Small Cap Value Equity Rank			41	40	41	42	45	42	53	
International Equity	**528,824,231**	**18.8**	**1.7**	**10.6**	**13.7**	**9.6**	**6.9**	**7.9**	**6.9**	**Oct-04**
MSCI AC World ex USA (Net)			*1.8*	*7.8*	*13.2*	*9.6*	*6.6*	*7.3*	*6.5*	
eV ACWI ex-US Large Cap Equity Rank			59	52	72	68	56	60	61	
LSV Int'l Large Cap Value	264,776,818	9.4	1.4	12.8	11.2	7.8	5.9	7.1	6.4	Oct-04
MSCI AC World ex USA Value (Net)			*1.2*	*10.5*	*8.2*	*6.0*	*3.9*	*5.3*	*5.3*	
eV ACWI ex-US Large Cap Equity Rank			63	25	87	86	75	80	77	
Fidelity Int'l Growth	264,047,413	9.4	2.0	8.5	16.2	11.2	7.8	8.6	5.1	May-06
MSCI AC World ex USA Growth (Net)			*2.4*	*5.1*	*17.8*	*13.1*	*9.0*	*9.1*	*5.5*	
eV ACWI ex-US Large Cap Equity Rank			55	58	49	49	44	49	44	

PERFORMANCE DETAIL

	Allocation		Performance (%)							
	Market Value ($)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Real Estate	**250,640,896**	**8.9**	**10.7**	**22.8**	**10.3**	**7.5**	**5.9**	**7.2**	**3.6**	**Apr-08**
NCREIF Property Index			*6.1*	*17.7*	*8.4*	*7.8*	*8.6*	*9.3*	*6.6*	
Prime Property Fund	88,108,597	3.1	9.6	21.5	9.3	8.9			9.1	Oct-15
NCREIF ODCE			*8.0*	*22.2*	*9.2*	*8.7*			*8.9*	
BlackRock Real Estate Securities	98,998,530	3.5	17.2	45.7	16.7	9.6	8.4		9.9	Oct-12
Dow Jones U.S. Select RESI			*17.2*	*45.9*	*16.8*	*9.7*	*8.5*		*10.0*	
PGIM Real Estate US Debt Fund	63,533,768	2.3	1.1	5.3	5.3				5.3	Sep-18
Blmbg. U.S. Investment Grade: CMBS Index			*-0.7*	*-0.9*	*4.9*				*4.8*	
Value-Add Real Estate	**117,049,074**	**4.2**	**3.4**	**17.5**	**12.9**	**12.5**	**12.8**		**11.6**	**Aug-14**
NCREIF Property Index +2%			*6.7*	*20.0*	*10.5*	*9.9*	*10.7*		*11.1*	
American Strategic Value Realty	82,616,313	2.9	5.2	19.1	9.9	9.8	11.3		11.3	Jan-15
NCREIF Property Index			*6.1*	*17.7*	*8.4*	*7.8*	*8.6*		*8.6*	
Grandview Property Partners I	2,927,571	0.1	0.0	-2.8	9.0	10.9	11.4		10.2	Aug-14
NCREIF-ODCE +1%			*8.2*	*23.4*	*10.3*	*9.8*	*10.7*		*11.1*	
Grandview Property Partners II	31,505,190	1.1	0.0	19.4	22.0				22.9	Apr-18
NCREIF-ODCE +1%			*8.2*	*23.4*	*10.3*				*10.1*	
Infrastructure	**199,041,016**	**7.1**	**0.6**	**1.8**	**6.0**	**9.3**			**6.0**	**Jun-15**
CPI + 5% (Unadjusted)			*2.9*	*12.4*	*8.7*	*8.1*			*7.6*	
eV Infrastructure Rank			88	89	91	67			60	
MS Infrastructure Partners II	25,180,168	0.9	0.0	4.3	6.9	9.8			6.4	Jun-15
CPI + 5% (Unadjusted)			*2.9*	*12.4*	*8.7*	*8.1*			*7.6*	
eV Infrastructure Rank			89	84	90	64			55	
Northern Trust Infrastructure Fund	173,860,848	6.2	3.3						2.4	Jul-21
67% STOXX Global Broad Infra / 33% Bloomberg US TIPS			*3.3*						*2.7*	

PERFORMANCE DETAIL

	Allocation		Performance (%)							
	Market Value ($)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Private Equity	**150,280,398**	**5.4**	**6.7**	**23.9**	**25.1**				**22.3**	**Dec-18**
Russell 3000 + 3%			10.1	29.4	29.6				24.7	
Private Equity	**45,032,065**	**1.6**	**0.0**	**26.0**					**22.2**	**Apr-20**
Russell 3000 + 3%			10.1	29.4					49.5	
Private Equity Proxy	**105,248,332**	**3.8**	**9.3**	**25.7**	**25.8**	**19.2**	**15.4**	**16.9**	**11.1**	**Dec-03**
Russell 3000 Index			9.3	25.7	25.8	18.0	14.5	16.3	10.9	
eV US Large Cap Equity Rank			41	50	37	32	27	27	39	
Total Private Credit	**211,591,808**	**7.5**	**0.9**	**8.0**	**-0.8**	**0.3**	**1.2**		**2.4**	**Jun-13**
S&P/LSTA Leveraged Loan Index +2%			1.2	7.3	7.7	6.4	6.5		6.1	
Private Credit	**86,896,919**	**3.1**	**1.2**	**8.2**	**-0.7**	**0.3**	**1.3**		**2.4**	**Jun-13**
S&P/LSTA Leveraged Loan Index +2%			1.2	7.3	7.7	6.4	6.5		6.1	
Private Credit Proxy	**124,694,889**	**4.4**	**0.7**						**2.8**	**Jun-21**
ICE BofA US High Yield Master II Constrained			0.6						3.0	
Risk-Diversifying Sub-Portfolio	**524,221,914**	**18.7**	**2.2**	**5.2**	**5.2**	**4.1**	**3.7**	**4.0**	**4.9**	**Dec-03**
StanCERA Risk-Diversifying Blended BM			-0.3	-1.2	3.0	2.4	2.0	1.8		
Risk Parity	**280,392,845**	**10.0**	**2.8**	**9.1**	**13.3**				**8.0**	**Dec-17**
60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg			3.7	8.8	13.7				8.5	
AQR Global Risk Premium - EL	140,405,970	5.0	3.1	10.3	12.4				8.6	Apr-18
60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg			3.7	8.8	13.7				9.0	
PanAgora Risk Parity Multi Asset	139,986,875	5.0	2.5	7.9	14.3				8.5	Dec-17
60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg			3.7	8.8	13.7				8.5	

PERFORMANCE DETAIL

	Allocation		Performance (%)							
	Market Value ($)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
US Treasury Bonds	**163,057,469**	**5.8**	**0.6**	**-2.5**	**4.5**	**3.8**	**3.5**	**3.8**	**4.8**	**Dec-03**
Blmbg. U.S. Treasury: 7-10 Year			0.3	-3.1	5.0	3.7	3.0	2.7	4.6	
eV US Government Fixed Inc Rank			1	91	7	1	5	1	1	
Northern Trust Intermediate Gov't Bond	107,266,796	3.8	-0.6	-1.7	3.0				2.3	Aug-17
Blmbg. U.S. Government: Intermediate			-0.6	-1.7	3.0				2.3	
eV US Government Fixed Inc Rank			71	58	83				75	
Northern Trust Long Term Gov't Bond	55,790,674	2.0	3.0	-4.6	8.7				6.2	Aug-17
Blmbg. U.S. Government: Long Term Bond Index			3.0	-4.6	8.8				6.3	
eV US Long Duration Fixed Inc Rank			1	95	92				91	
Liquid Absolute Return	**80,771,600**	**2.9**								**Nov-21**
30 Day T-Bill + 4%										

RISK STATISTICS

December 31, 2021

3 Years Ending December 31, 2021	Return	Excess Return	Standard Deviation	Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
American Strategic Value Realty	9.9	8.6	5.3	1.2	1.0	1.2	1.0	1.6	1.2	114.1	31.3
NCREIF Property Index	*8.4*	*7.2*	*5.1*	*0.0*	*1.0*	*0.0*	*1.0*	*1.4*		*100.0*	*100.0*
AQR Global Risk Premium - EL	12.4	11.1	9.0	2.6	0.7	5.5	0.8	1.2	-0.3	78.4	61.0
60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg	*13.7*	*12.5*	*11.0*	*0.0*	*1.0*	*0.0*	*1.0*	*1.1*		*100.0*	*100.0*
BlackRock Real Estate Securities	16.7	16.8	20.3	-0.1	1.0	0.0	1.0	0.8	-2.2	99.8	100.2
Dow Jones U.S. Select RESI	*16.8*	*16.9*	*20.3*	*0.0*	*1.0*	*0.0*	*1.0*	*0.8*		*100.0*	*100.0*
BlackRock Russell 1000 Growth	34.0	30.3	18.2	0.0	1.0	0.0	1.0	1.7	-0.9	99.9	99.9
Russell 1000 Growth Index	*34.1*	*30.3*	*18.2*	*0.0*	*1.0*	*0.0*	*1.0*	*1.7*		*100.0*	*100.0*
BlackRock Russell 1000 Value	17.7	17.3	19.0	0.1	1.0	0.1	1.0	0.9	1.3	100.1	99.7
Russell 1000 Value Index	*17.6*	*17.2*	*19.1*	*0.0*	*1.0*	*0.0*	*1.0*	*0.9*		*100.0*	*100.0*
Capital Prospects Transition	0.0	-1.0	0.0	0.0	0.0	25.0		-3.1	-0.8	0.0	0.0
Russell 2000 Value Index	*18.0*	*18.9*	*25.0*	*0.0*	*1.0*	*0.0*	*1.0*	*0.8*		*100.0*	*100.0*
Channing	20.5	21.3	26.1	2.3	1.0	7.5	0.9	0.8	0.3	105.7	100.6
Russell 2000 Value Index	*18.0*	*18.9*	*25.0*	*0.0*	*1.0*	*0.0*	*1.0*	*0.8*		*100.0*	*100.0*
Dodge & Cox-Equity	19.9	19.7	21.7	0.3	1.1	4.8	1.0	0.9	0.5	109.8	106.0
Russell 1000 Value Index	*17.6*	*17.2*	*19.1*	*0.0*	*1.0*	*0.0*	*1.0*	*0.9*		*100.0*	*100.0*
Fidelity Int'l Growth	16.2	15.6	16.9	-2.6	1.1	4.4	0.9	0.9	-0.2	100.1	108.5
MSCI AC World ex USA Growth (Net)	*17.8*	*16.6*	*15.0*	*0.0*	*1.0*	*0.0*	*1.0*	*1.1*		*100.0*	*100.0*
Grandview Property Partners I	9.0	8.1	9.7	11.1	-0.1	12.1	0.0	0.8	-0.1	86.3	0.0
NCREIF-ODCE +1%	*10.3*	*9.0*	*6.3*	*0.0*	*1.0*	*0.0*	*1.0*	*1.4*		*100.0*	*100.0*
Grandview Property Partners II	22.0	20.1	14.8	20.4	0.2	15.5	0.0	1.4	0.7	200.2	0.0
NCREIF-ODCE +1%	*10.3*	*9.0*	*6.3*	*0.0*	*1.0*	*0.0*	*1.0*	*1.4*		*100.0*	*100.0*
Medley Capital	-8.9	-9.7	10.3	-7.1	-0.2	14.3	0.0	-0.9	-1.2	-53.0	45.8
S&P/LSTA Leveraged Loan Index +2%	*7.7*	*6.9*	*8.5*	*0.0*	*1.0*	*0.0*	*1.0*	*0.8*		*100.0*	*100.0*
MS Infrastructure Partners II	6.9	5.9	6.5	-5.6	1.5	6.3	0.1	0.9	-0.2	89.0	760.7
CPI + 5% (Unadjusted)	*8.7*	*7.4*	*1.1*	*0.0*	*1.0*	*0.0*	*1.0*	*5.8*		*100.0*	*100.0*

RISK STATISTICS

December 31, 2021

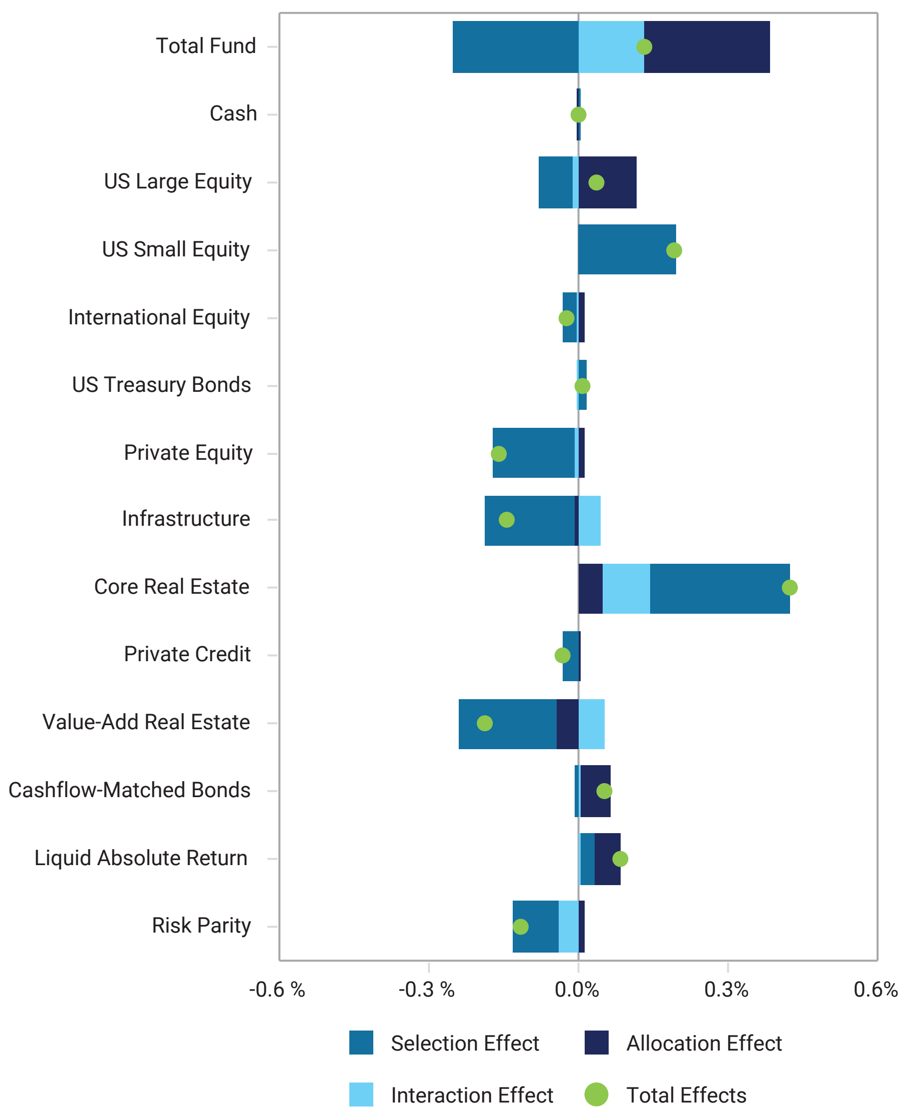
	Return	Excess Return	Standard Deviation	Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
Northern Trust Intermediate Gov't Bond	3.0	2.0	2.5	-0.1	1.0	0.2	1.0	0.9	-0.1	99.3	99.6
Blmbg. U.S. Government: Intermediate	*3.0*	*2.0*	*2.4*	*0.0*	*1.0*	*0.0*	*1.0*	*0.9*		*100.0*	*100.0*
Northern Trust Long Term Gov't Bond	8.7	8.2	12.9	-0.2	1.0	1.2	1.0	0.6	0.0	100.7	101.6
Blmbg. U.S. Government: Long Term Bond Index	*8.8*	*8.2*	*12.6*	*0.0*	*1.0*	*0.0*	*1.0*	*0.7*		*100.0*	*100.0*
Pacific Ridge	18.8	20.8	28.5	-1.0	1.0	9.1	0.9	0.7	-0.1	100.2	102.3
Russell Microcap Value Index	*20.3*	*21.2*	*26.4*	*0.0*	*1.0*	*0.0*	*1.0*	*0.8*		*100.0*	*100.0*
Prime Property Fund	9.3	8.2	6.7	-0.2	1.0	1.4	1.0	1.2	0.1	102.3	119.1
NCREIF ODCE	*9.2*	*8.0*	*6.3*	*0.0*	*1.0*	*0.0*	*1.0*	*1.3*		*100.0*	*100.0*
Raven Opportunity I	-25.2	-20.8	36.2	-17.9	0.0	37.2	0.0	-0.6	-0.7	-161.8	-7.7
S&P/LSTA Leveraged Loan Index +2%	*7.7*	*6.9*	*8.5*	*0.0*	*1.0*	*0.0*	*1.0*	*0.8*		*100.0*	*100.0*
Raven Opportunity III	5.4	4.4	5.4	5.1	0.1	9.7	0.0	0.8	-0.3	36.7	-18.1
S&P/LSTA Leveraged Loan Index +2%	*7.7*	*6.9*	*8.5*	*0.0*	*1.0*	*0.0*	*1.0*	*0.8*		*100.0*	*100.0*
Walthausen	19.3	19.9	24.4	1.9	1.0	5.6	1.0	0.8	0.2	101.3	98.3
Russell 2000 Value Index	*18.0*	*18.9*	*25.0*	*0.0*	*1.0*	*0.0*	*1.0*	*0.8*		*100.0*	*100.0*
White Oak Pinnacle	3.1	2.6	10.4	5.8	-0.3	14.8	0.0	0.3	-0.3	23.9	-13.3
S&P/LSTA Leveraged Loan Index +2%	*7.7*	*6.9*	*8.5*	*0.0*	*1.0*	*0.0*	*1.0*	*0.8*		*100.0*	*100.0*

Stanislaus County ERA

December 31, 2021

ATTRIBUTION ANALYSIS

Attribution Effects
1 Quarter Ending December 31, 2021



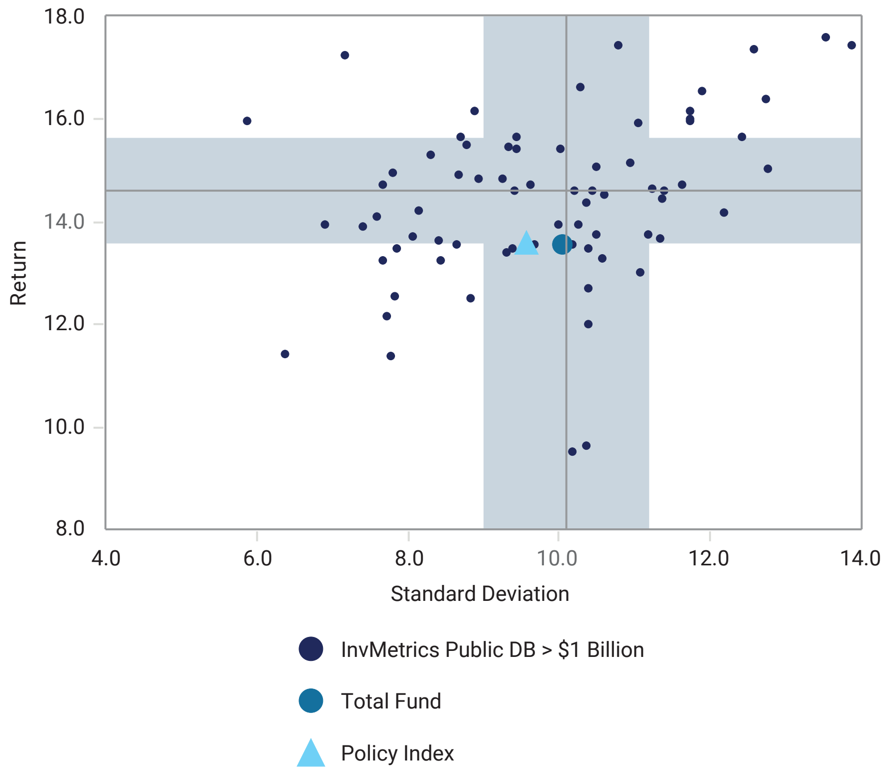
Attribution Summary
1 Quarter Ending December 31, 2021

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Interaction Effects (%)	Total Effects (%)
Cash	0.4	0.0	0.3	0.0	0.0	0.0	0.0
US Large Equity	9.3	9.8	-0.4	-0.1	0.1	0.0	0.0
US Small Equity	7.1	2.1	4.9	0.2	0.0	0.0	0.2
International Equity	1.7	1.9	-0.2	0.0	0.0	0.0	0.0
US Treasury Bonds	0.6	0.3	0.2	0.0	0.0	0.0	0.0
Private Equity	6.7	10.1	-3.4	-0.2	0.0	0.0	-0.2
Infrastructure	0.6	2.9	-2.3	-0.1	0.0	0.0	-0.1
Core Real Estate	10.7	6.1	4.5	0.4	0.0	0.1	0.4
Private Credit	0.9	1.2	-0.4	0.0	0.0	0.0	0.0
Value-Add Real Estate	3.4	6.7	-3.2	-0.1	0.0	0.1	-0.2
Cashflow-Matched Bonds	-0.7	-0.6	-0.1	0.0	0.1	0.0	0.1
Liquid Absolute Return	1.7	1.0	0.7	0.0	0.1	0.0	0.1
Risk Parity	2.8	3.7	-0.9	-0.1	0.0	0.0	-0.1
Total Fund	**4.2**	**4.0**	**0.1**	**-0.1**	**0.3**	**0.1**	**0.1**

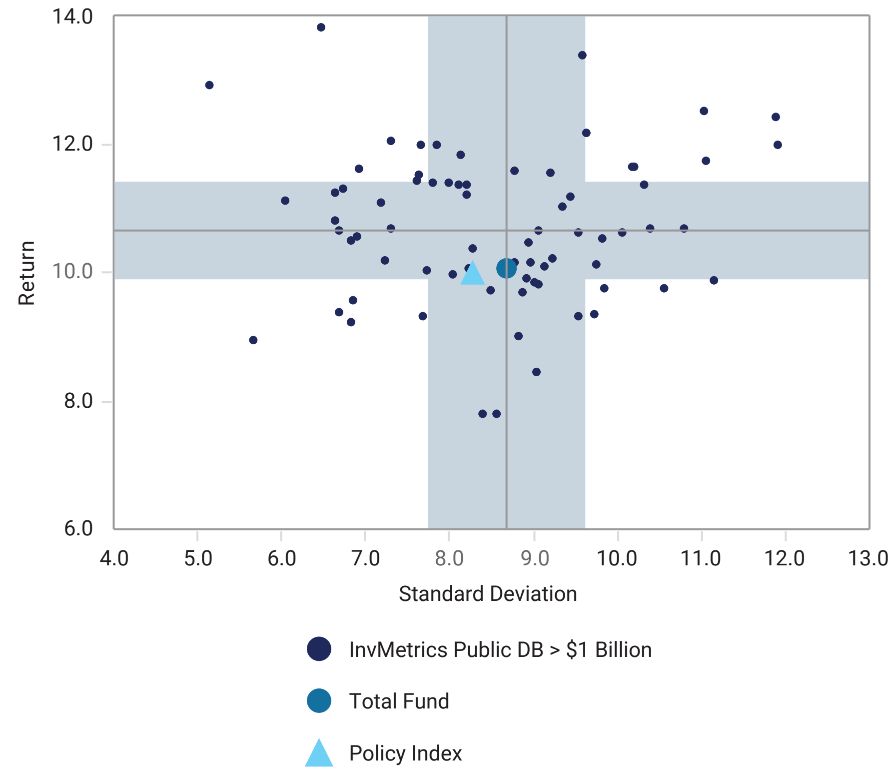
*Total Actual and Index returns are weighted average calculations.

RISK VS. RETURN

3 Years Ending December 31, 2021



5 Years Ending December 31, 2021



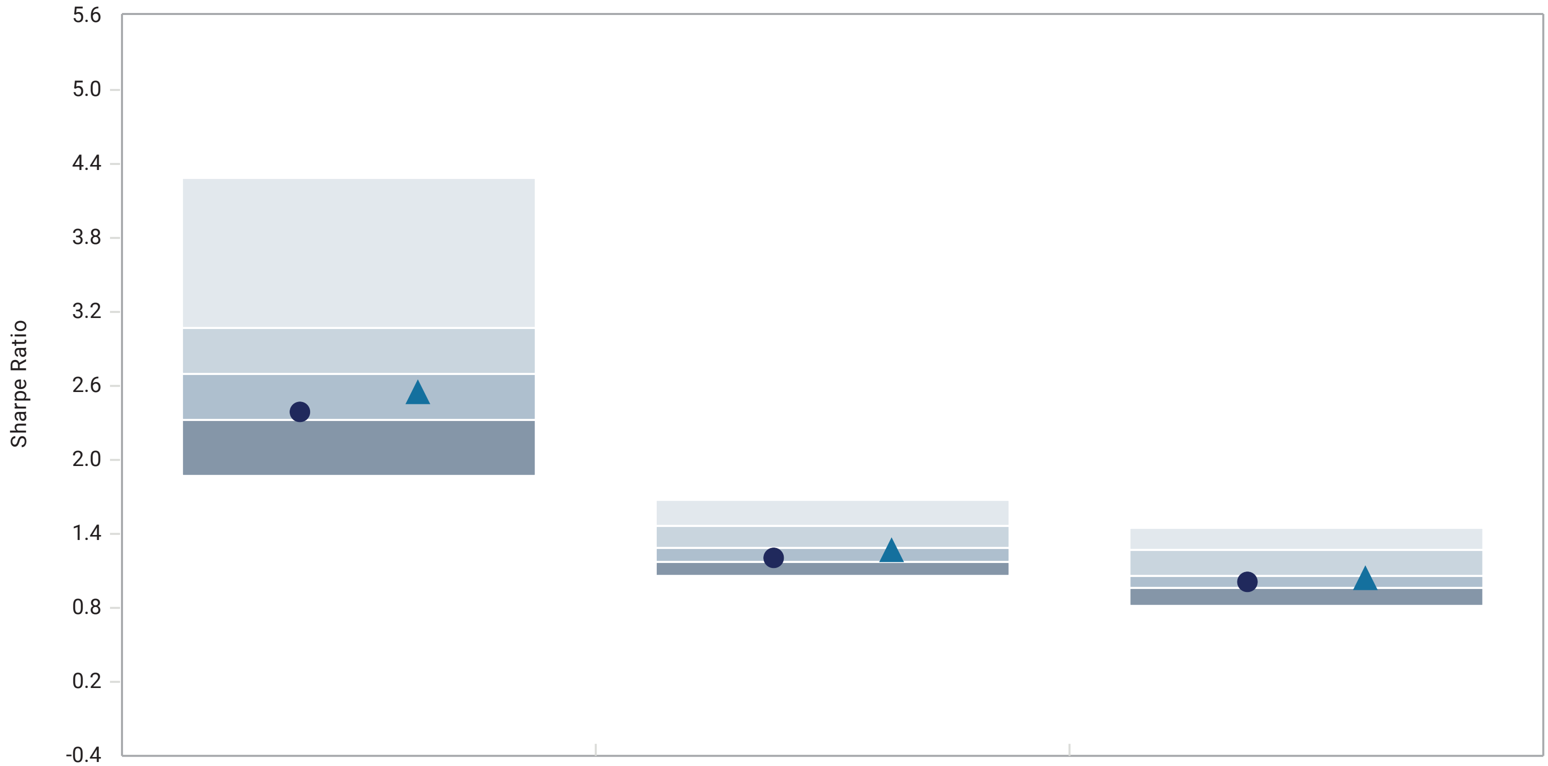
3 Years Ending December 31, 2021

	Return	Standard Deviation	Sharpe Ratio
Total Fund	13.6 (74)	10.0 (49)	1.2 (71)
Policy Index	*13.6 (73)*	*9.6 (44)*	*1.3 (53)*
Population	72	72	72

5 Years Ending December 31, 2021

	Return	Standard Deviation	Sharpe Ratio
Total Fund	10.1 (72)	8.7 (50)	1.0 (63)
Policy Index	*10.0 (73)*	*8.3 (45)*	*1.0 (51)*
Population	72	72	72

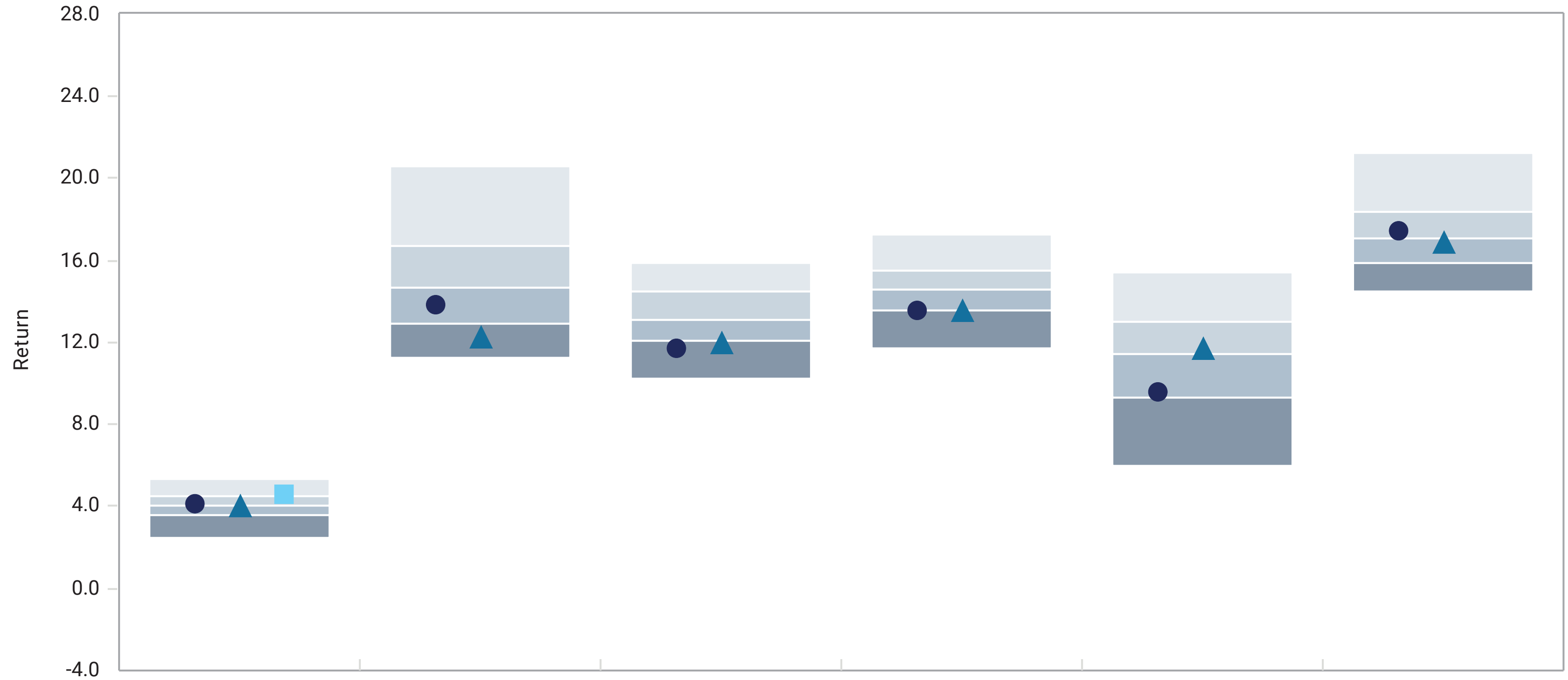
TOTAL FUND SHARPE RATIO RANKINGS



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
● Total Fund	2.4 (70)	1.2 (71)	1.0 (63)
▲ Policy Index	2.6 (58)	1.3 (53)	1.0 (51)
5th Percentile	4.3	1.7	1.4
1st Quartile	3.1	1.5	1.3
Median	2.7	1.3	1.1
3rd Quartile	2.3	1.2	1.0
95th Percentile	1.9	1.1	0.8
Population	72	72	72

RETURN SUMMARY VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > $1 Billion



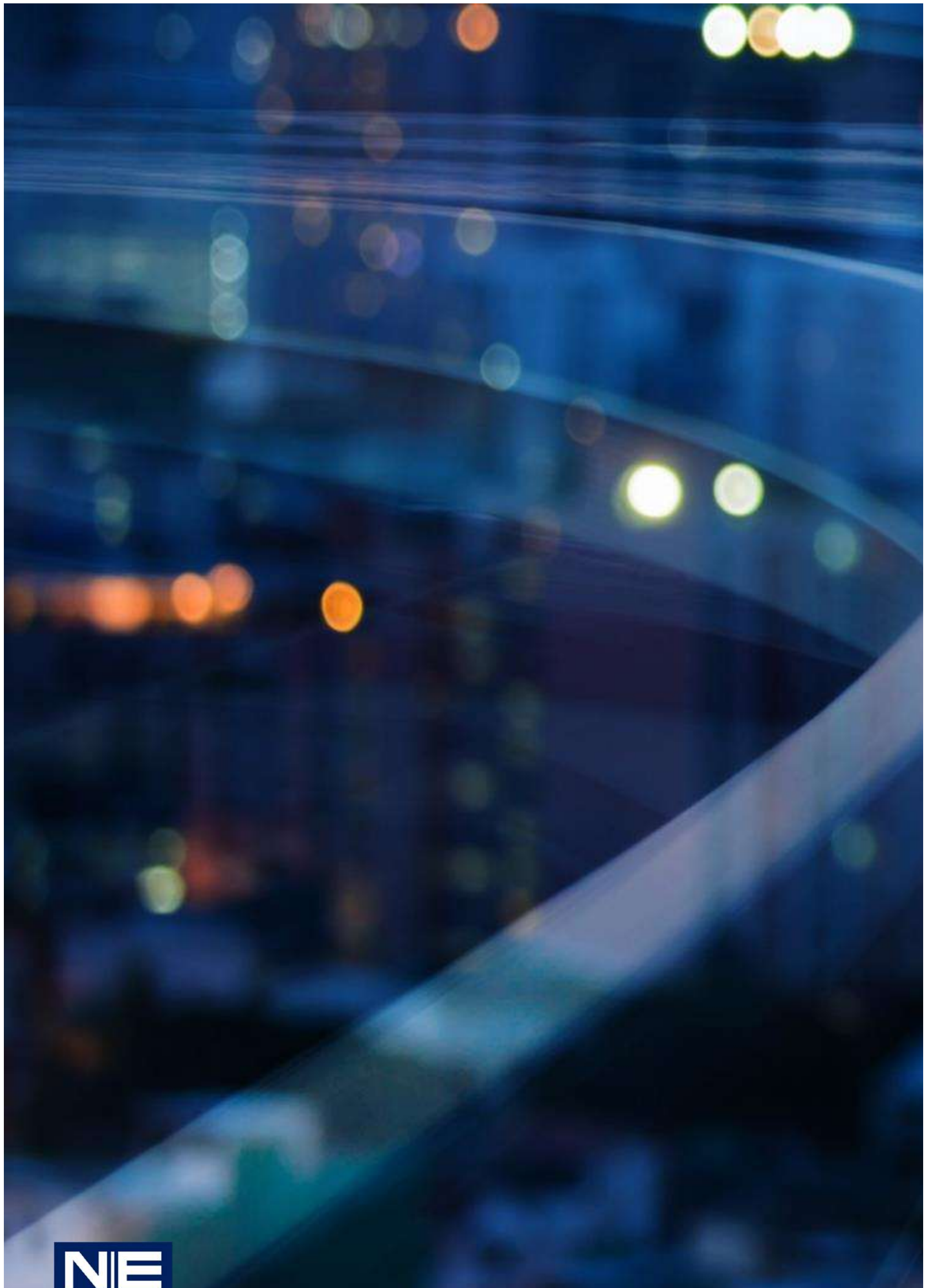
	3 Mo	1 Year	2 Years	3 Years	2020	2019
● Total Fund	4.2 (41)	13.9 (64)	11.7 (85)	13.6 (74)	9.6 (74)	17.4 (42)
▲ *Policy Index*	*4.0 (48)*	*12.2 (87)*	*12.0 (79)*	*13.6 (73)*	*11.7 (47)*	*16.9 (57)*
Allocation Index	*4.6 (23)*					
5th Percentile	5.3	20.6	15.9	17.3	15.4	21.2
1st Quartile	4.5	16.7	14.5	15.5	13.0	18.4
Median	4.0	14.7	13.1	14.6	11.4	17.1
3rd Quartile	3.6	12.9	12.1	13.6	9.3	15.9
95th Percentile	2.5	11.3	10.2	11.7	6.0	14.5
Population	73	72	72	72	126	107

FEE SCHEDULE

Account Name	Fee Schedule	Market Value ($)	% of Portfolio	Estimated Annual Fee ($)	Estimated Annual Fee (%)
Total Fund		2,806,297,479	100.0	4,845,845	0.2
Cash Account	0.1 % of Assets	49,591,984	1.8	49,592	0.1
Transition Account		166,510	0.0		
Insight	0.1 % of Assets	149,131,164	5.3	178,957	0.1
BlackRock Russell 1000 Growth	0.0 % of Assets	262,680,204	9.4	52,536	0.0
BlackRock Russell 1000 Value	0.0 % of Assets	118,218,437	4.2	23,644	0.0
Dodge & Cox-Equity	0.4 % of First $10 M 0.2 % of Next $90 M 0.2 % Thereafter	131,006,158	4.7	266,509	0.2
Channing	0.5 % of Assets	31,945,215	1.1	159,726	0.5
Pacific Ridge	0.6 % of Assets	20,253,982	0.7	121,524	0.6
Walthausen	0.5 % of Assets	27,938,101	1.0	139,691	0.5
Capital Prospects Transition			0.0		
Seizert		33,716,387	1.2		
LSV Int'l Large Cap Value	0.3 % of Assets	264,776,818	9.4	661,942	0.3
Fidelity Int'l Growth	0.3 % of Assets	264,047,413	9.4	660,119	0.3
Prime Property Fund	0.8 % of Assets	88,108,597	3.1	740,112	0.8
BlackRock Real Estate Securities	0.1 % of First $100 M 0.1 % Thereafter	98,998,530	3.5	89,099	0.1
PGIM Real Estate US Debt Fund		63,533,768	2.3		
American Strategic Value Realty	0.8 % of First $25 M 0.7 % of Next $25 M 0.6 % of Next $50 M 0.5 % Thereafter	82,616,313	2.9	529,390	0.6
Grandview Property Partners I		2,927,571	0.1		
Grandview Property Partners II		31,505,190	1.1		
MS Infrastructure Partners II		25,180,168	0.9		
Northern Trust Infrastructure Fund		173,860,848	6.2		
Vista Foundation Fund IV		7,390,184	0.3		
Insight Partners XI[CE]		19,092,167	0.7		
Gryphon Partners VI LP	0.0 % of Assets	8,070,089	0.3	1,614	0.0

FEE SCHEDULE

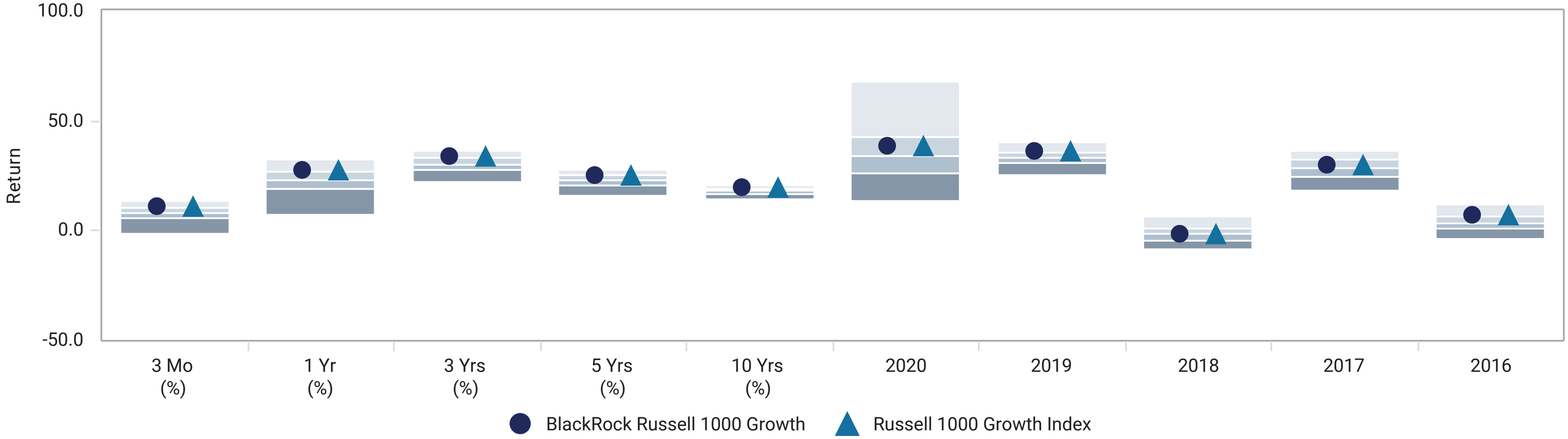
Account Name	Fee Schedule	Market Value ($)	% of Portfolio	Estimated Annual Fee ($)	Estimated Annual Fee (%)
Clayton, Dublier, & Rice		5,927,365	0.2		
Genstar Capital Partners X		1,670,422	0.1		
Sole Source Capital Partners II		2,881,838	0.1		
Northern Trust Russell 3000	0.0 % of Assets	105,248,332	3.8	21,050	0.0
Medley Capital		3,135,083	0.1		
Owl Rock First Lien Fund	0.7 % of Assets	8,088,755	0.3	56,621	0.7
Raven Opportunity I		1	0.0		
Raven Opportunity III		47,282,175	1.7		
White Oak Pinnacle		25,890,905	0.9		
Strategic Values Special Situations Fund V, L.P.		2,500,000	0.1		
Blackrock High Yield Fund		124,694,889	4.4		
AQR Global Risk Premium - EL	0.4 % of Assets	140,405,970	5.0	533,543	0.4
PanAgora Risk Parity Multi Asset	0.4 % of Assets	139,986,875	5.0	489,954	0.4
Northern Trust Intermediate Gov't Bond	0.1 % of First $25 M 0.0 % Thereafter	107,266,796	3.8	45,407	0.0
Northern Trust Long Term Gov't Bond	0.1 % of First $25 M 0.0 % Thereafter	55,790,674	2.0	24,816	0.0
Graham Global Investment Fund I SPC LTD		53,382,253	1.9		
Invesco Trust Company		27,389,347	1.0		



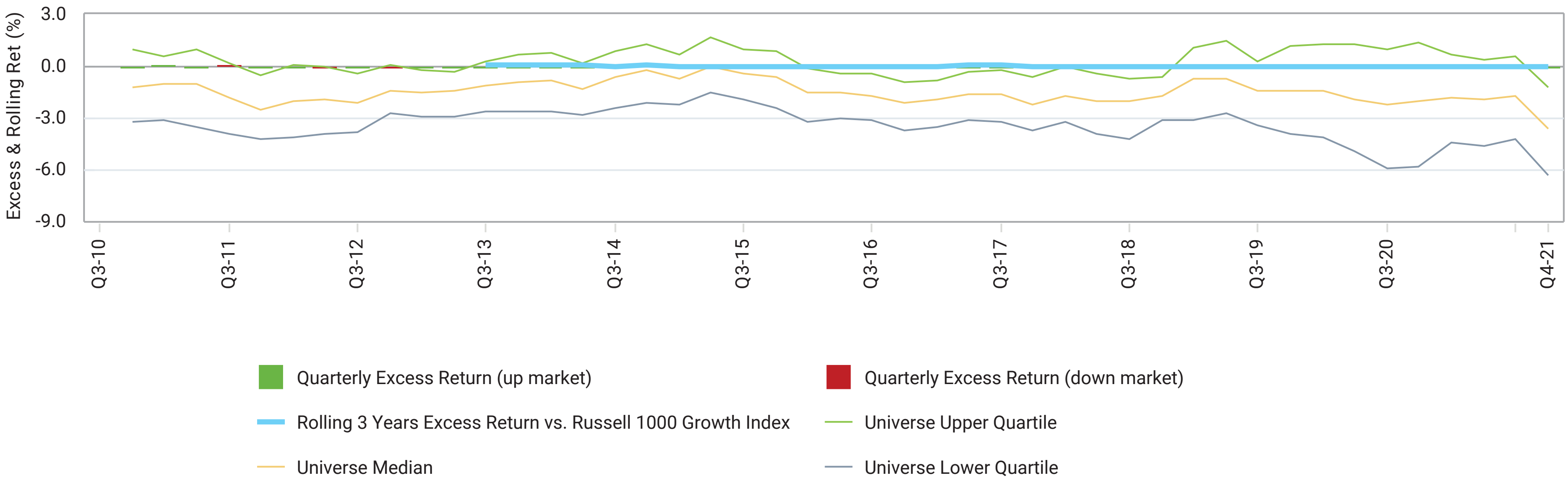
DOMESTIC EQUITY MANAGERS

BLACKROCK RUSSELL 1000 GROWTH

eV US Large Cap Growth Equity (net of fees)

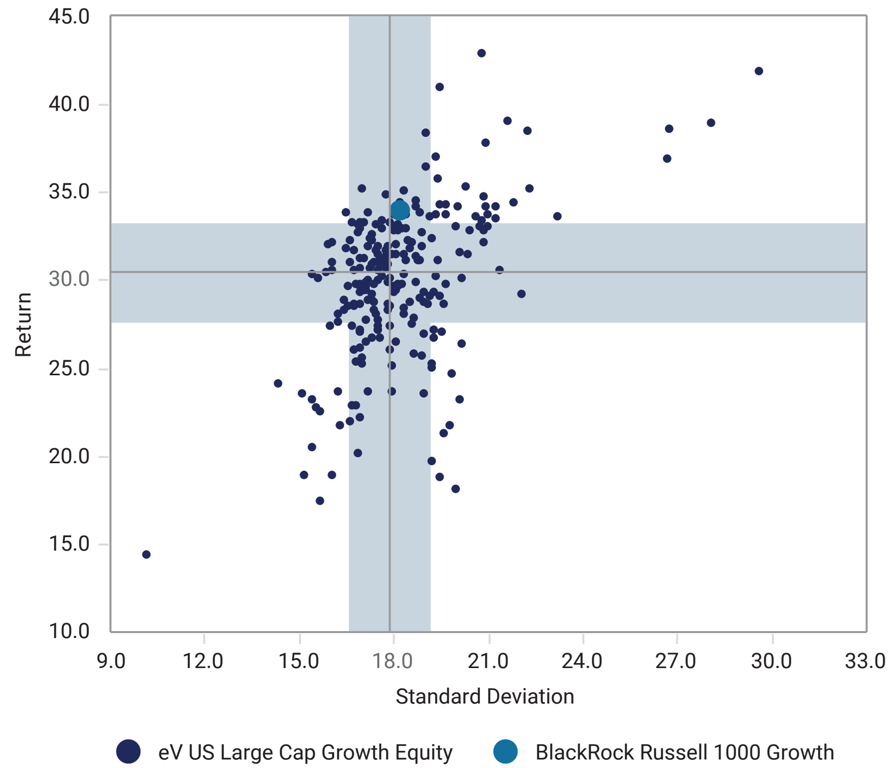


Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2021

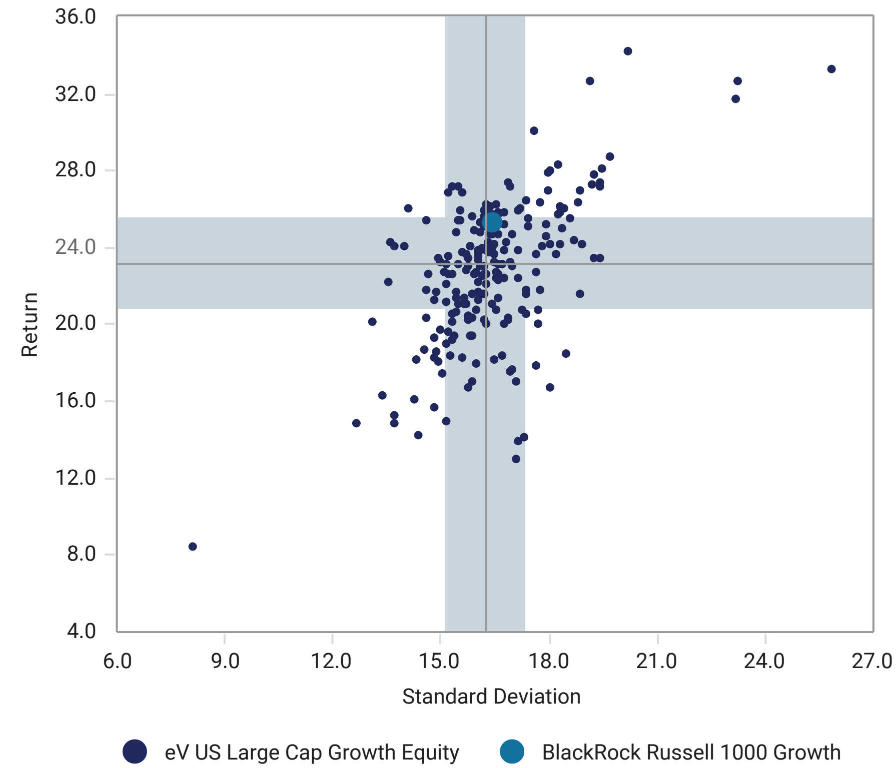


RISK VS. RETURN

3 Years Ending December 31, 2021



5 Years Ending December 31, 2021



3 Years Ending December 31, 2021

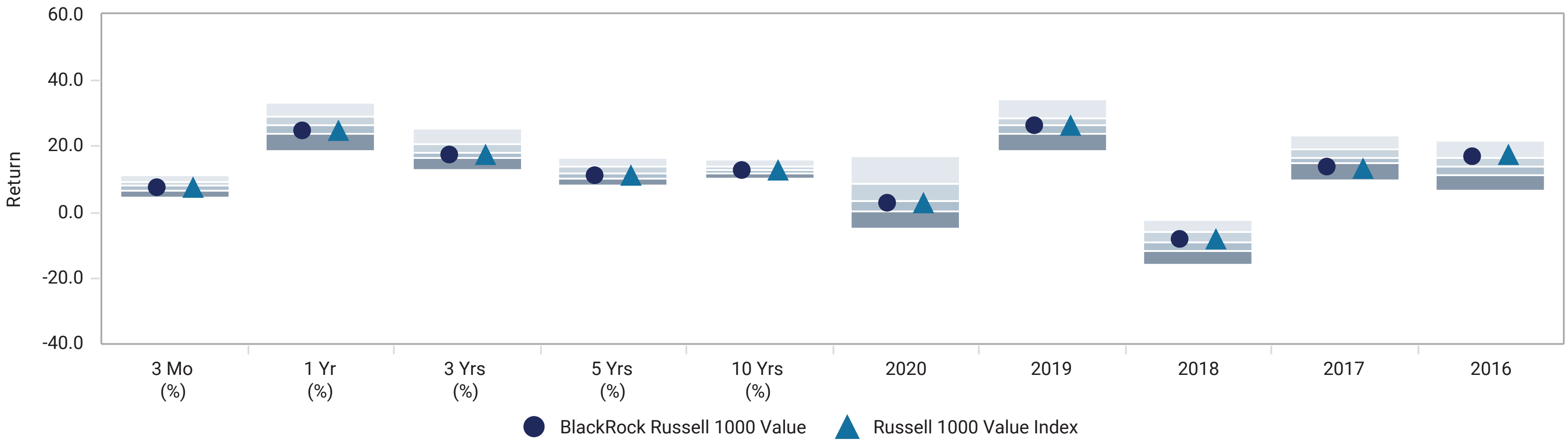
	Return		Standard Deviation		Sharpe Ratio	
BlackRock Russell 1000 Growth	34.0	(13)	18.2	(58)	1.7	(15)
Russell 1000 Growth Index	*34.1*	*(13)*	*18.2*	*(58)*	*1.7*	*(15)*
eV US Large Cap Growth Equity Median	*30.5*		*17.9*		*1.5*	
Population	232		232		232	

5 Years Ending December 31, 2021

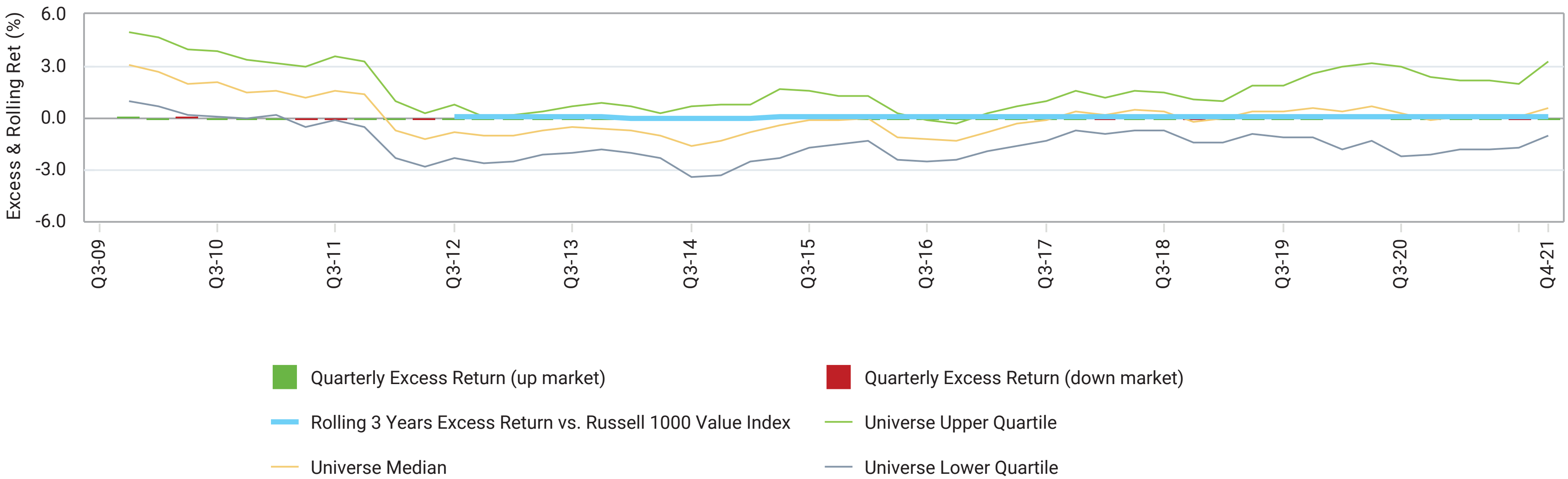
	Return		Standard Deviation		Sharpe Ratio	
BlackRock Russell 1000 Growth	25.3	(25)	16.4	(56)	1.4	(20)
Russell 1000 Growth Index	*25.3*	*(25)*	*16.4*	*(56)*	*1.4*	*(20)*
eV US Large Cap Growth Equity Median	*23.2*		*16.2*		*1.3*	
Population	219		219		219	

BLACKROCK RUSSELL 1000 VALUE

eV US Large Cap Value Equity (net of fees)

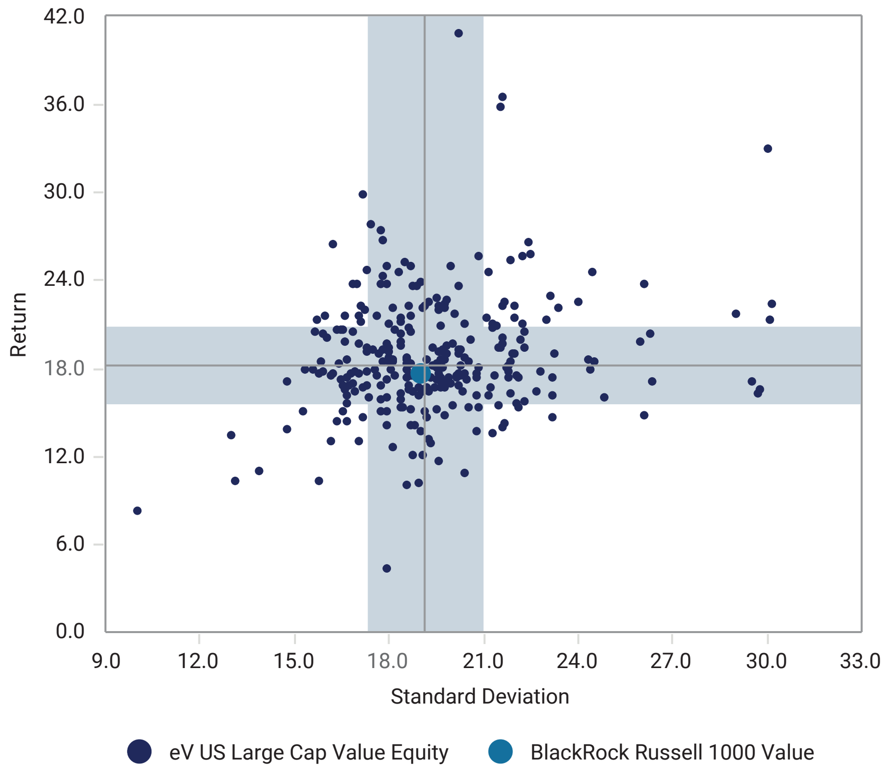


Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2021

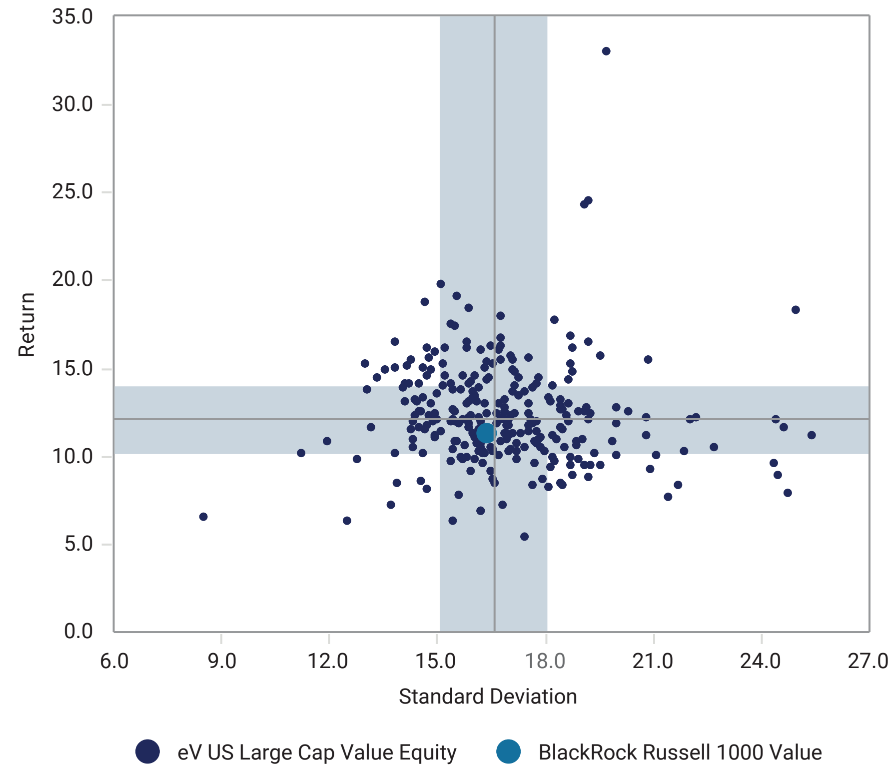


RISK VS. RETURN

3 Years Ending December 31, 2021



5 Years Ending December 31, 2021



3 Years Ending December 31, 2021

	Return		Standard Deviation		Sharpe Ratio	
BlackRock Russell 1000 Value	17.7	(56)	19.0	(48)	0.9	(56)
Russell 1000 Value Index	*17.6*	*(58)*	*19.1*	*(48)*	*0.9*	*(56)*
eV US Large Cap Value Equity Median	*18.2*		*19.1*		*0.9*	
Population	288		288		288	

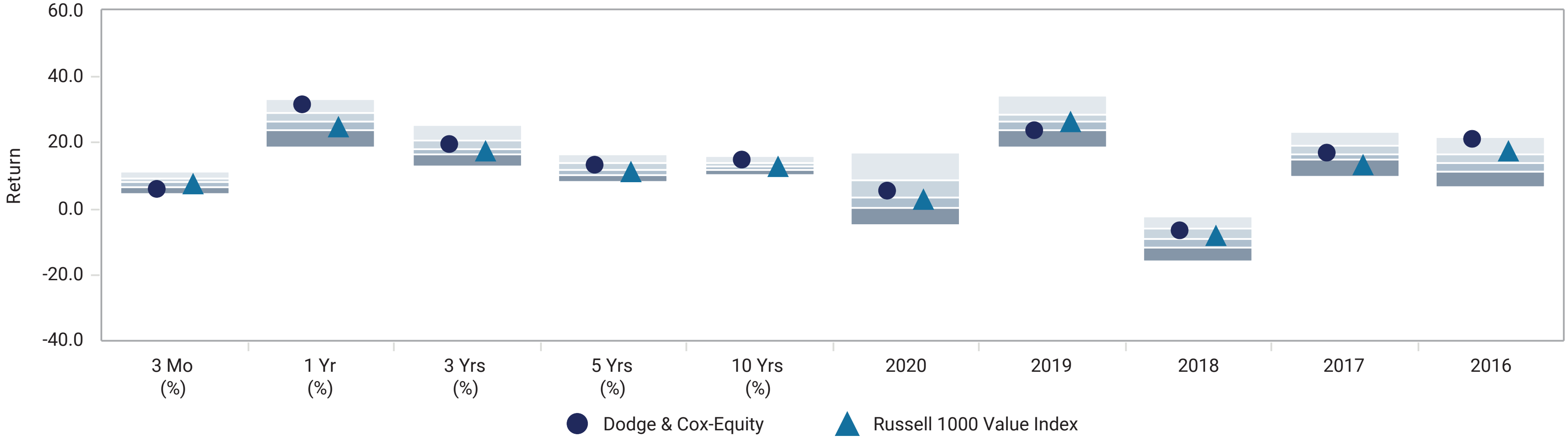
5 Years Ending December 31, 2021

	Return		Standard Deviation		Sharpe Ratio	
BlackRock Russell 1000 Value	11.3	(65)	16.4	(46)	0.7	(59)
Russell 1000 Value Index	*11.2*	*(66)*	*16.4*	*(46)*	*0.7*	*(61)*
eV US Large Cap Value Equity Median	*12.1*		*16.6*		*0.7*	
Population	277		277		277	

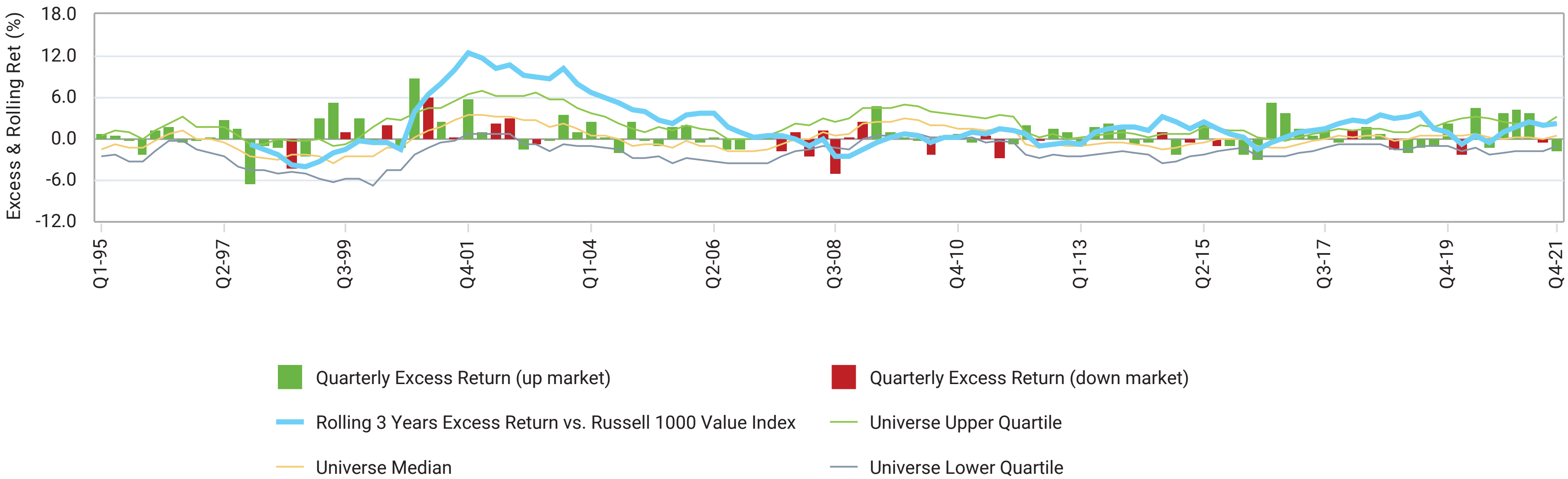
DODGE & COX - EQUITY

December 31, 2021

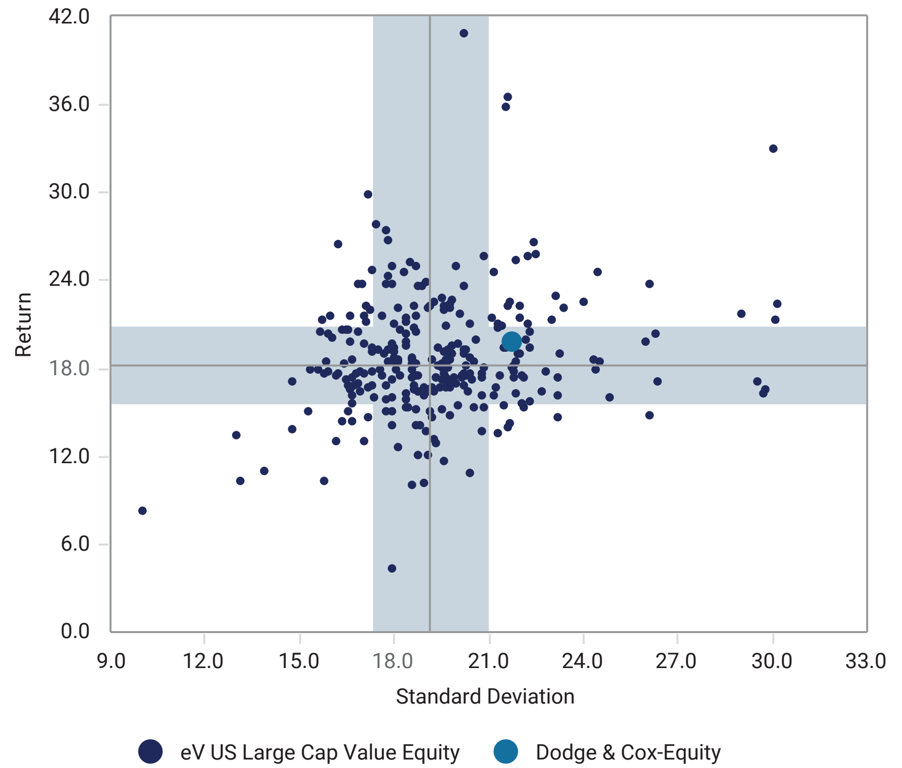
eV US Large Cap Value Equity (net of fees)

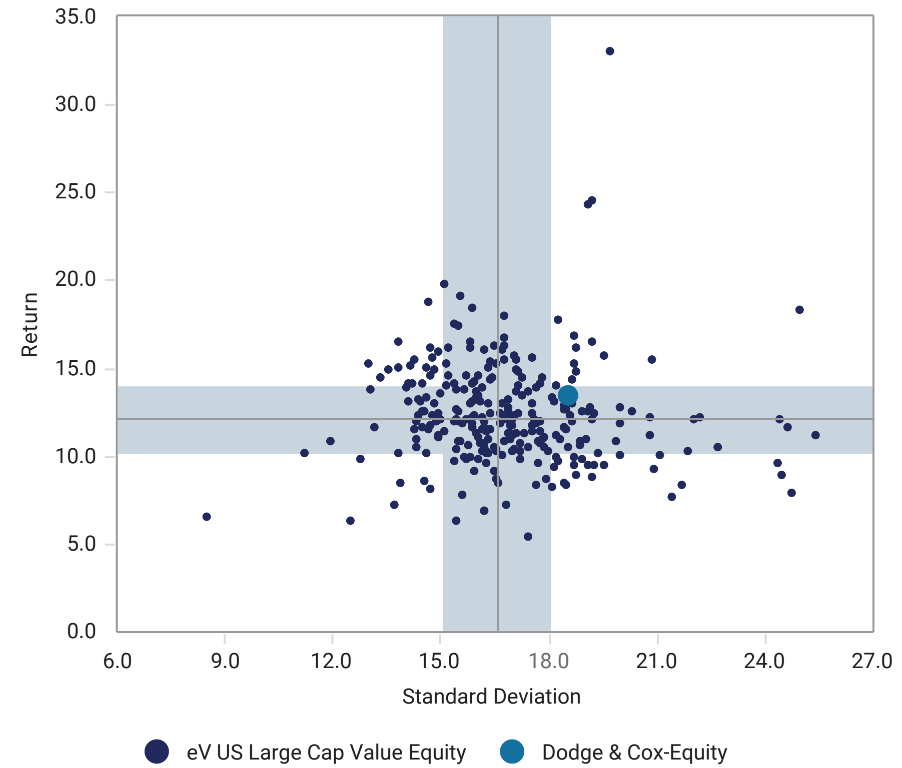


Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2021



RISK VS. RETURN





3 Years Ending December 31, 2021

	Return		Standard Deviation		Sharpe Ratio	
Dodge & Cox-Equity	19.9	(32)	21.7	(82)	0.9	(56)
Russell 1000 Value Index	*17.6*	*(58)*	*19.1*	*(48)*	*0.9*	*(56)*
eV US Large Cap Value Equity Median	*18.2*		*19.1*		*0.9*	
Population	288		288		288	

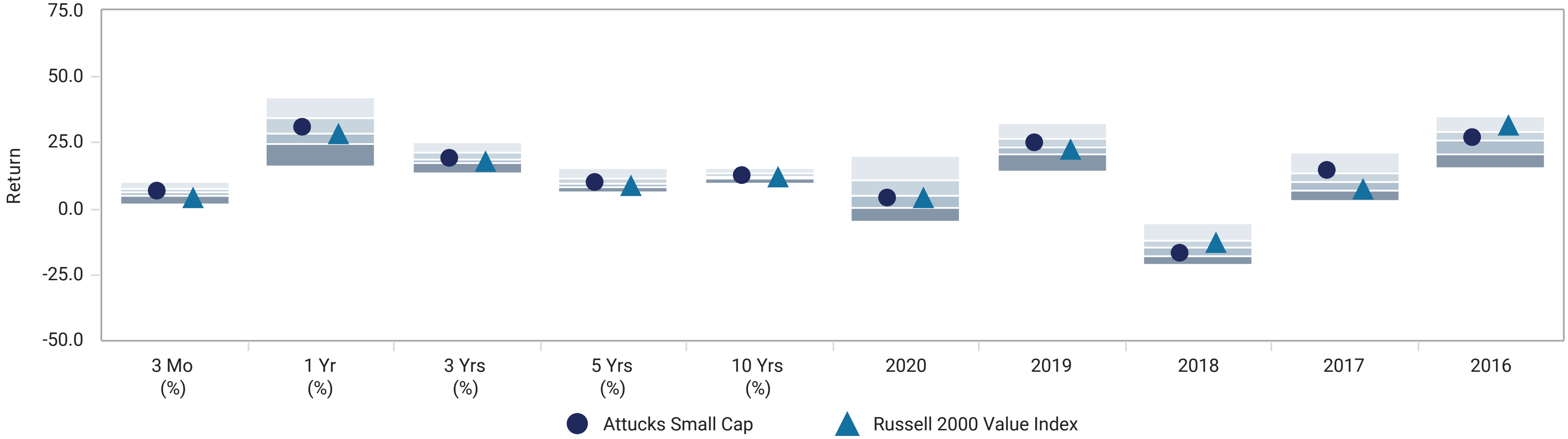
5 Years Ending December 31, 2021

	Return		Standard Deviation		Sharpe Ratio	
Dodge & Cox-Equity	13.5	(29)	18.5	(80)	0.7	(46)
Russell 1000 Value Index	*11.2*	*(66)*	*16.4*	*(46)*	*0.7*	*(61)*
eV US Large Cap Value Equity Median	*12.1*		*16.6*		*0.7*	
Population	277		277		277	

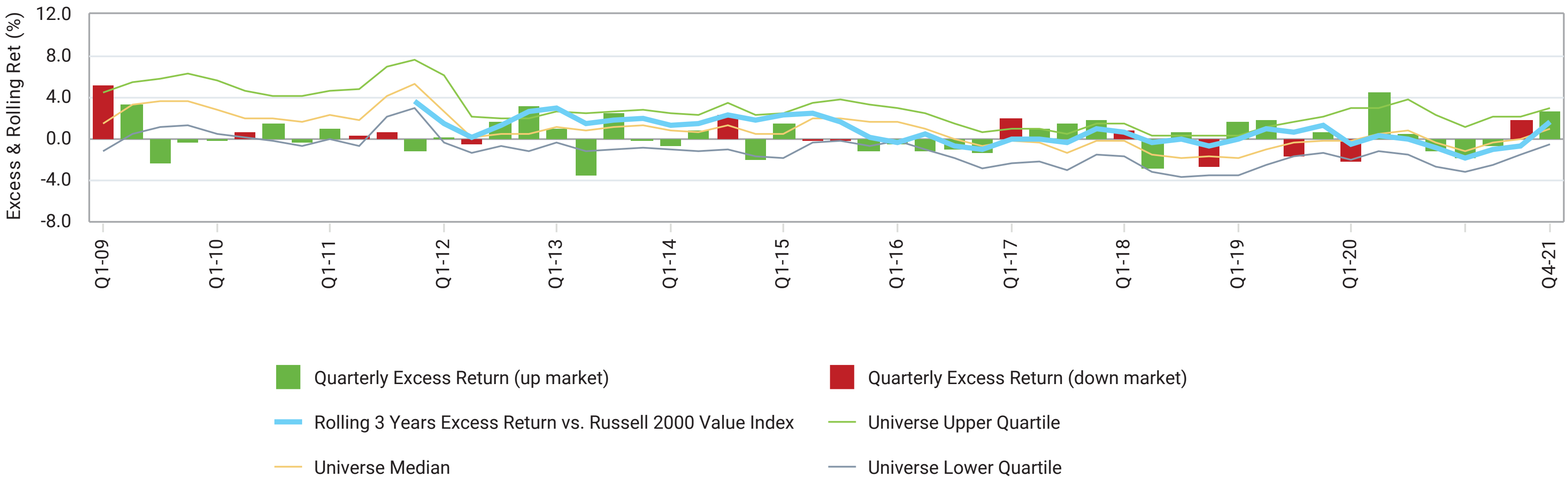
December 31, 2021

ATTUCKS SMALL CAP

eV US Small Cap Value Equity (net of fees)

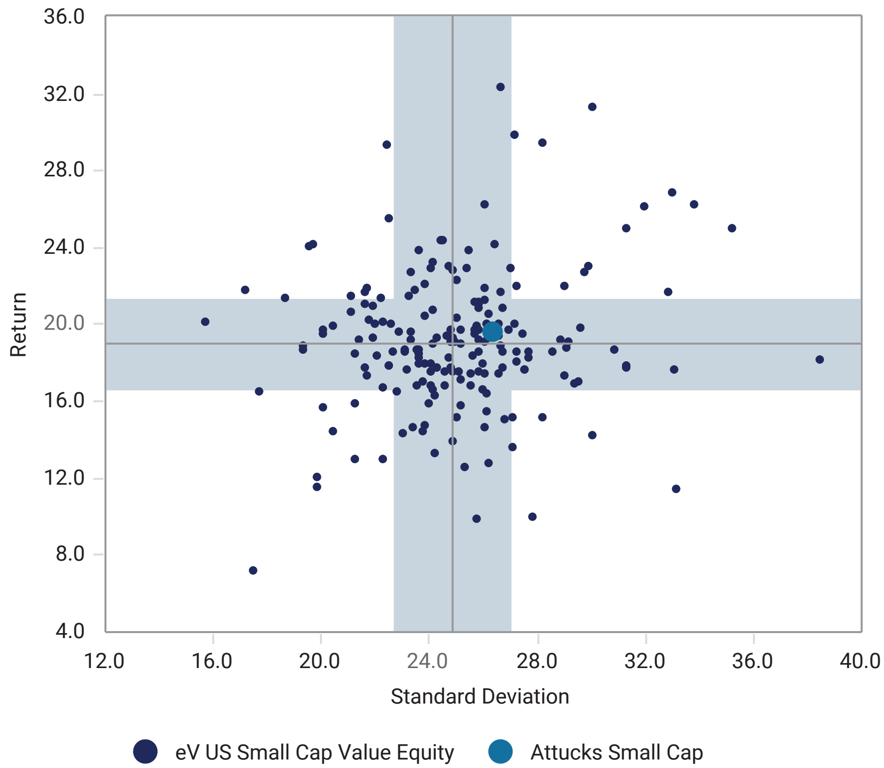


Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2021

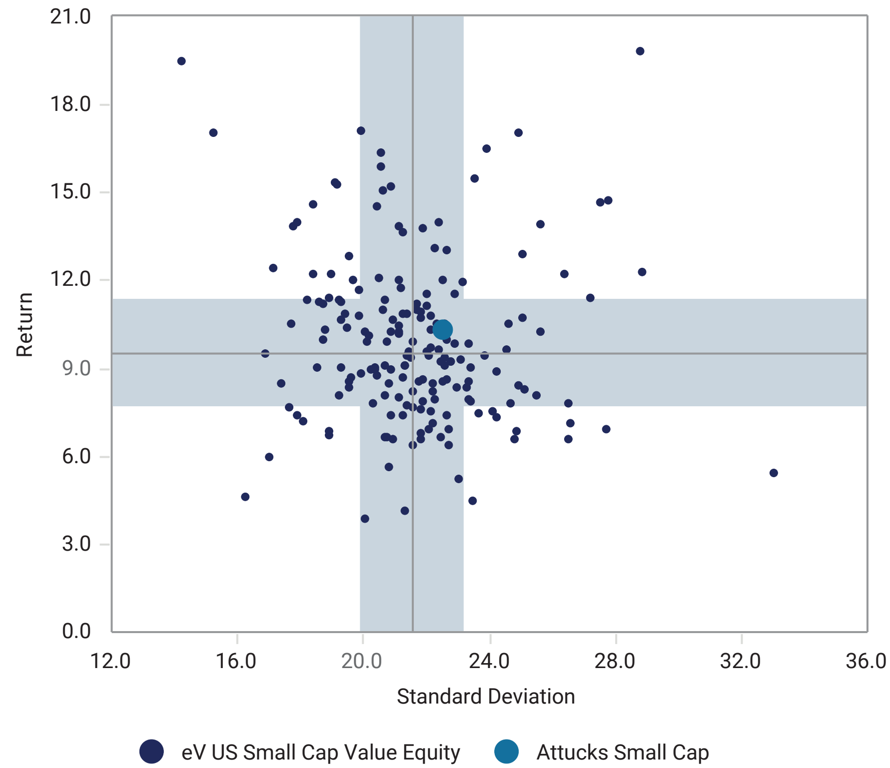


RISK VS. RETURN

3 Years Ending December 31, 2021



5 Years Ending December 31, 2021

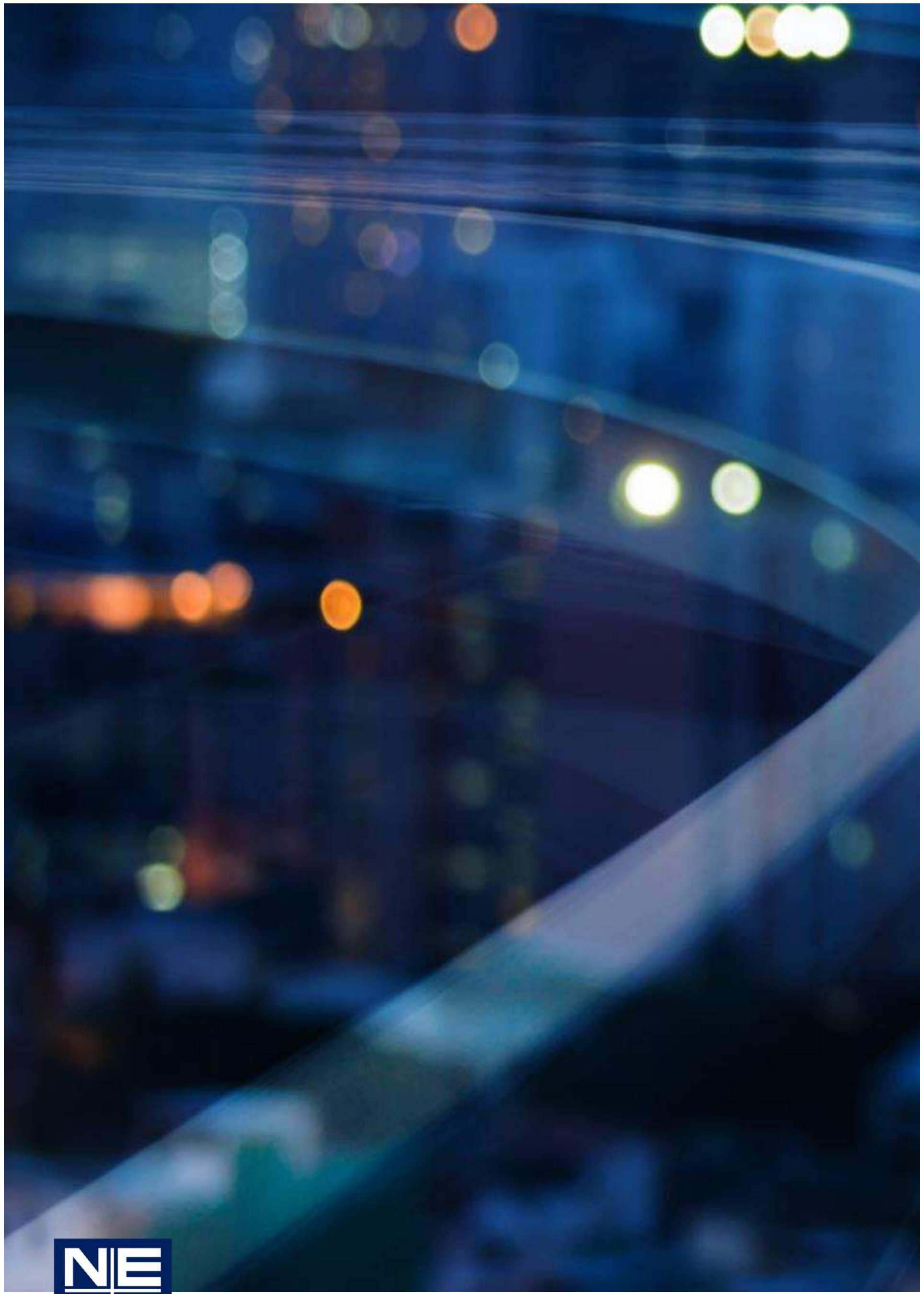


3 Years Ending December 31, 2021

	Return	Standard Deviation	Sharpe Ratio
Attucks Small Cap	19.7 (39)	26.3 (72)	0.8 (52)
Russell 2000 Value Index	*18.0 (65)*	*25.0 (52)*	*0.8 (64)*
eV US Small Cap Value Equity Median	*19.0*	*24.9*	*0.8*
Population	190	190	190

5 Years Ending December 31, 2021

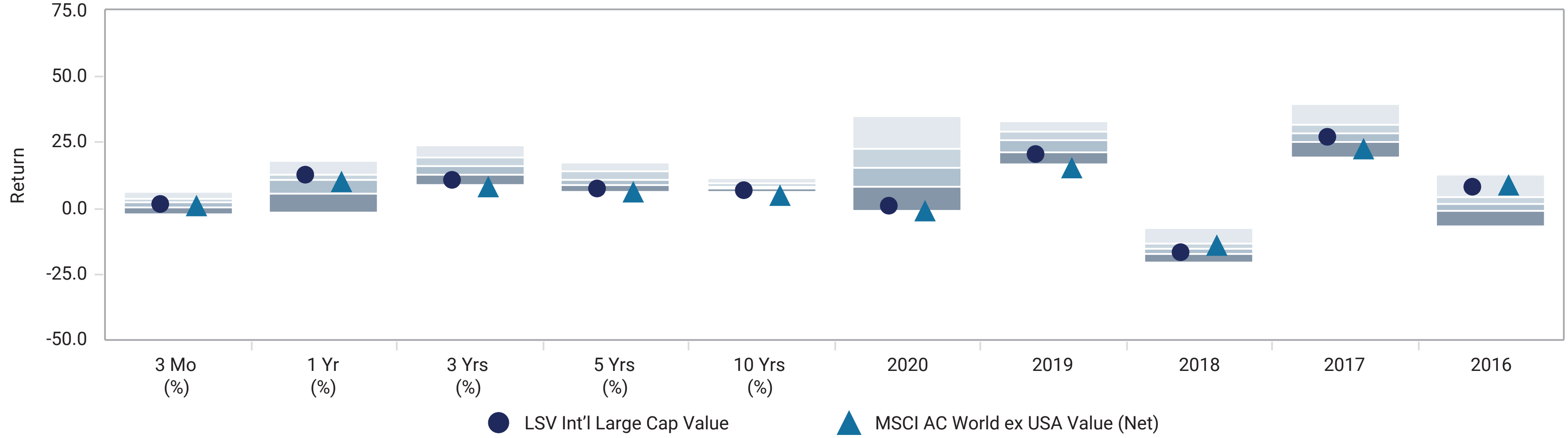
	Return	Standard Deviation	Sharpe Ratio
Attucks Small Cap	10.3 (40)	22.5 (69)	0.5 (43)
Russell 2000 Value Index	*9.1 (58)*	*21.6 (51)*	*0.5 (61)*
eV US Small Cap Value Equity Median	*9.5*	*21.5*	*0.5*
Population	184	184	184



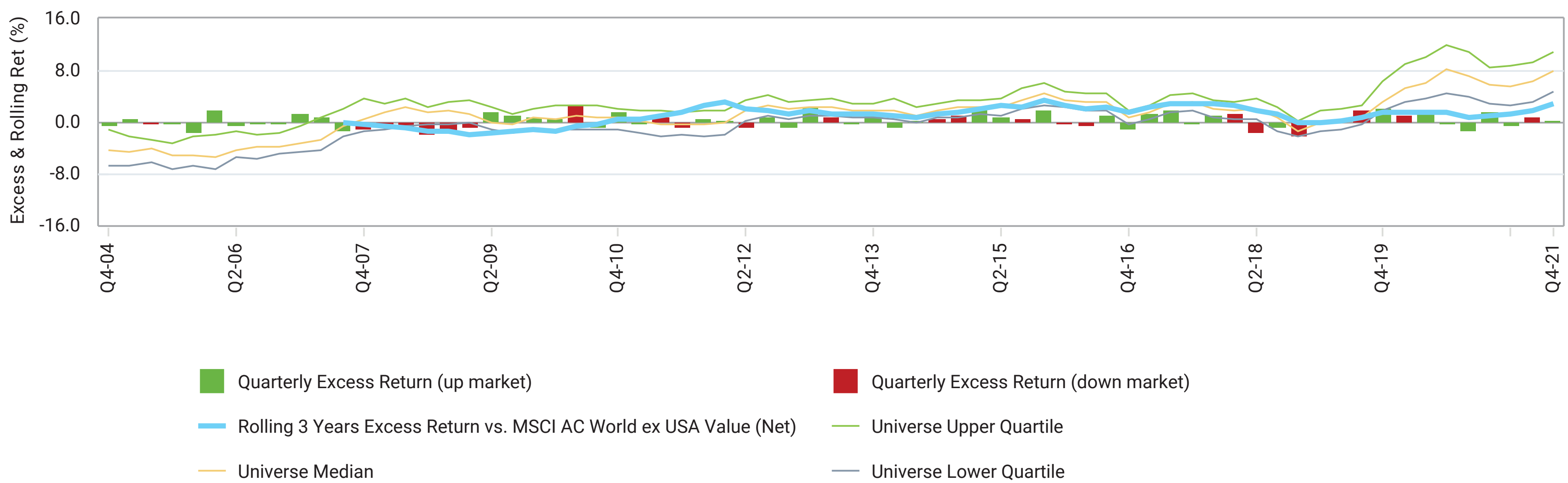
INTERNATIONAL EQUITY MANAGERS

LSV INTERNATIONAL LARGE CAP VALUE

eV ACWI ex-US Large Cap Equity (net of fees)

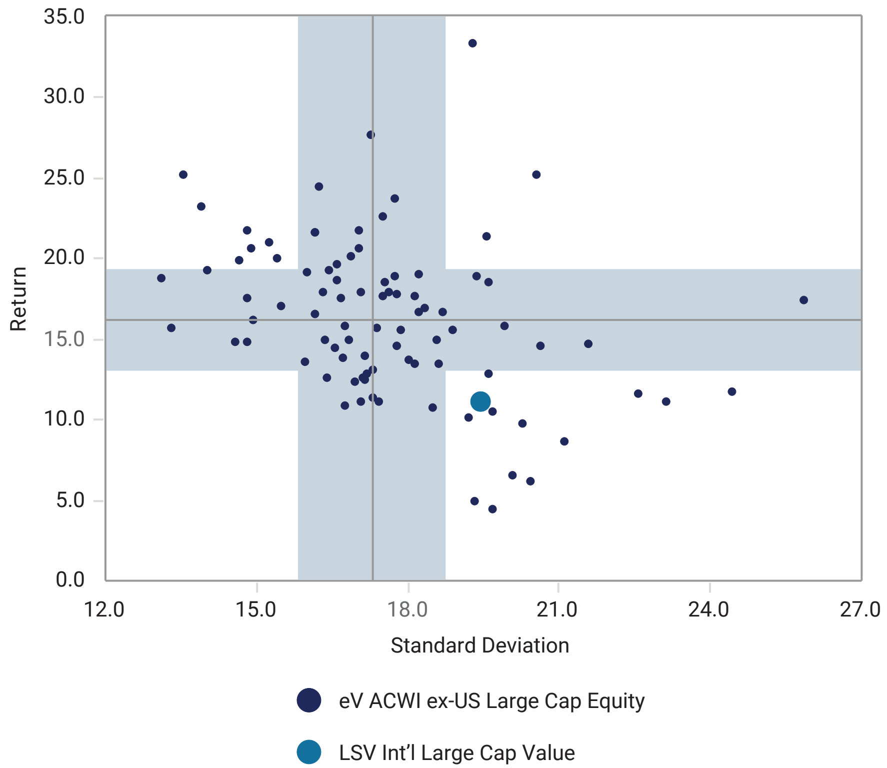


Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2021

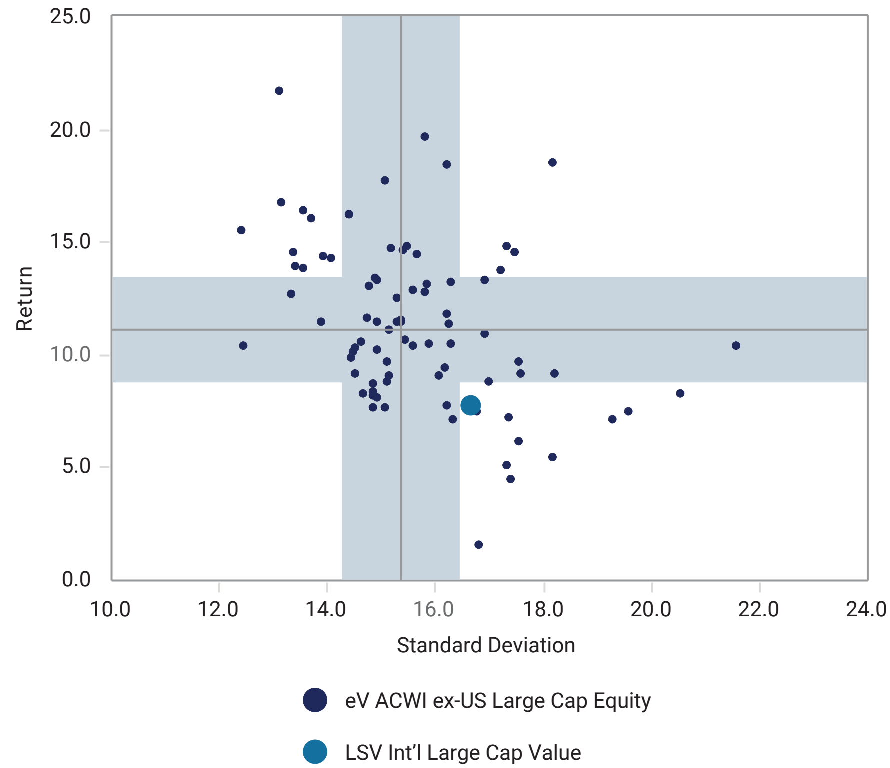


RISK VS. RETURN

3 Years Ending December 31, 2021



5 Years Ending December 31, 2021



3 Years Ending December 31, 2021

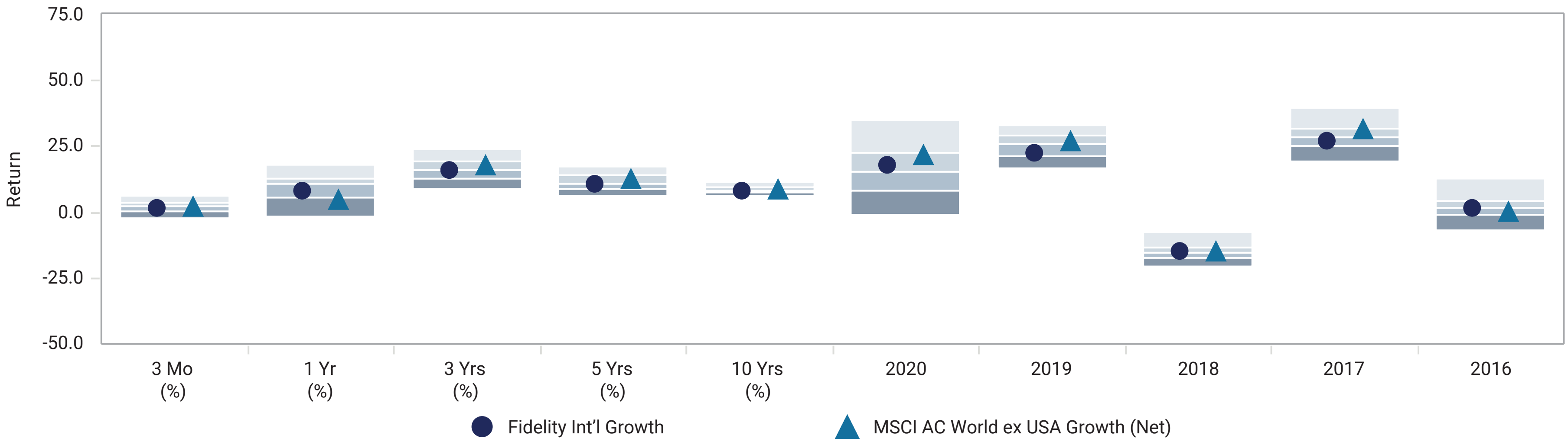
	Return		Standard Deviation		Sharpe Ratio	
LSV Int'l Large Cap Value	11.2	(87)	19.4	(81)	0.6	(88)
MSCI AC World ex USA Value (Net)	*8.2*	*(96)*	*19.6*	*(82)*	*0.5*	*(96)*
eV ACWI ex-US Large Cap Equity Median	*16.2*		*17.3*		*0.9*	
Population	89		89		89	

5 Years Ending December 31, 2021

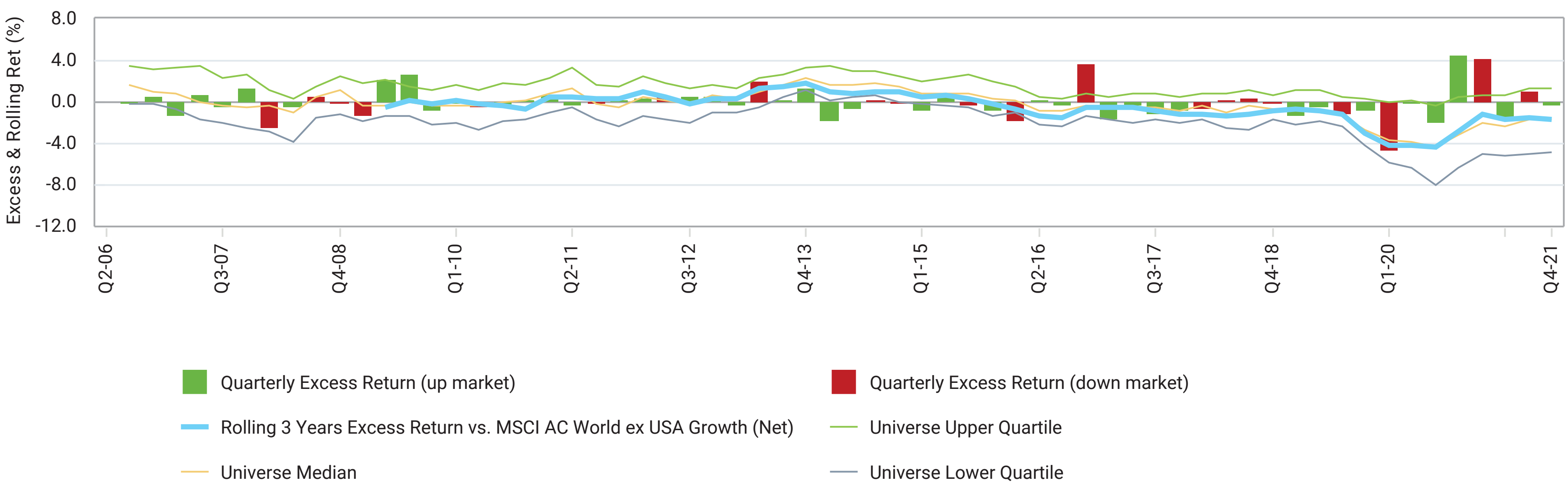
	Return		Standard Deviation		Sharpe Ratio	
LSV Int'l Large Cap Value	7.8	(86)	16.7	(75)	0.5	(87)
MSCI AC World ex USA Value (Net)	*6.0*	*(96)*	*16.6*	*(75)*	*0.4*	*(96)*
eV ACWI ex-US Large Cap Equity Median	*11.1*		*15.4*		*0.7*	
Population	83		83		83	

FIDELITY INTERNATIONAL GROWTH

eV ACWI ex-US Large Cap Equity (net of fees)

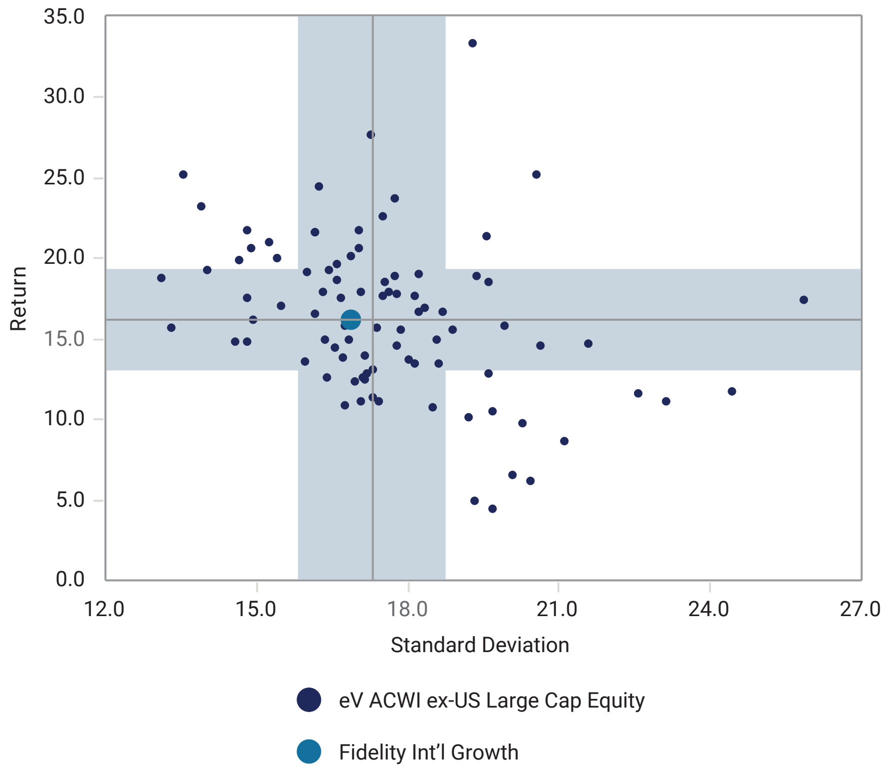


Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2021

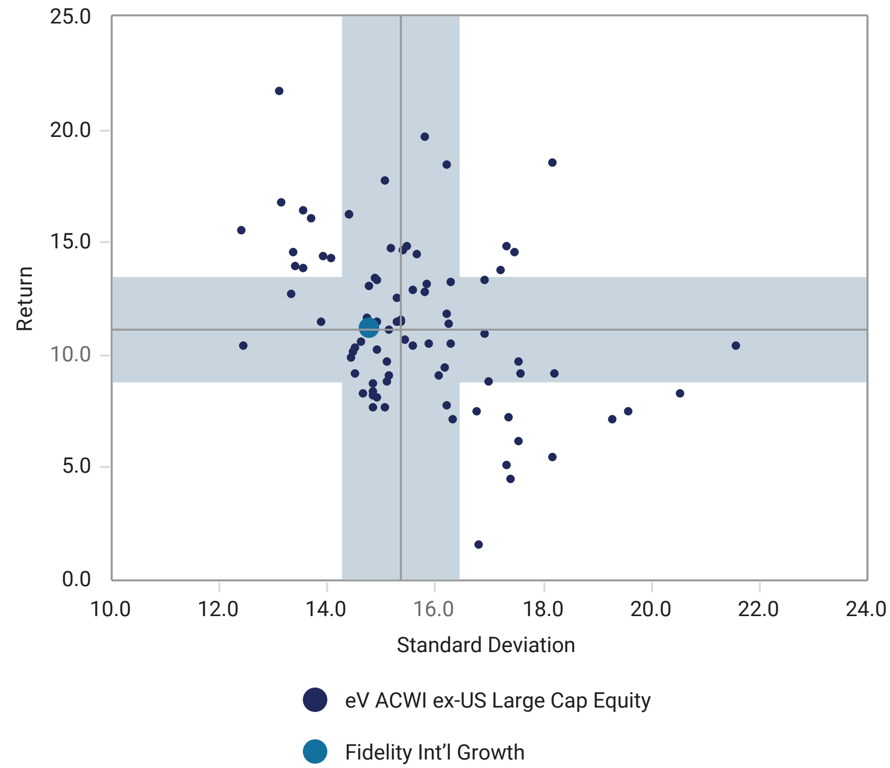


RISK VS. RETURN

3 Years Ending December 31, 2021



5 Years Ending December 31, 2021

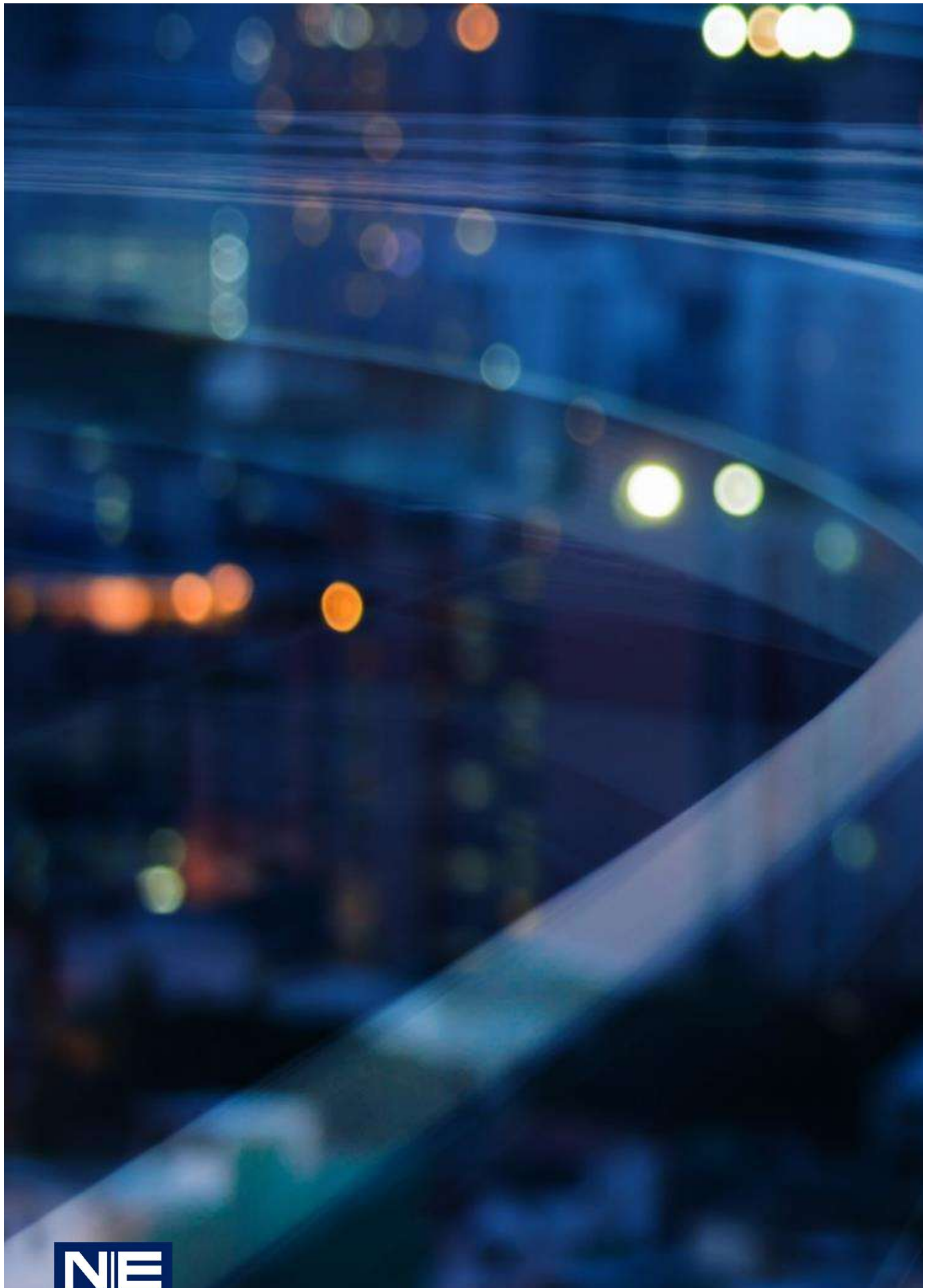


3 Years Ending December 31, 2021

	Return		Standard Deviation		Sharpe Ratio	
Fidelity Int'l Growth	16.2	(50)	16.9	(37)	0.9	(50)
MSCI AC World ex USA Growth (Net)	*17.8*	*(37)*	*15.0*	*(12)*	*1.1*	*(25)*
eV ACWI ex-US Large Cap Equity Median	*16.2*		*17.3*		*0.9*	
Population	89		89		89	

5 Years Ending December 31, 2021

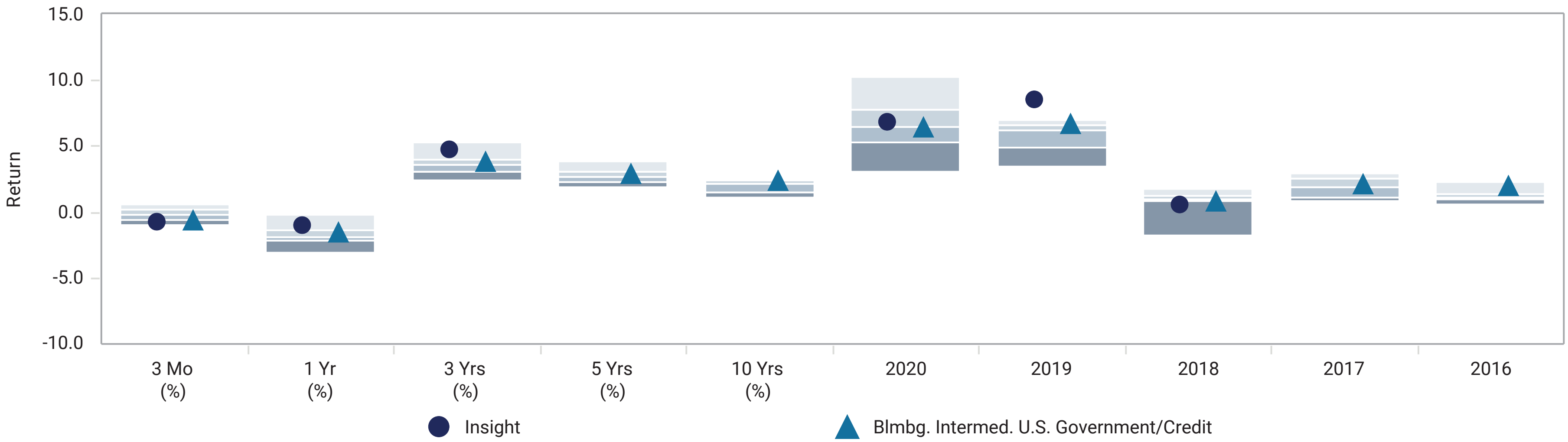
	Return		Standard Deviation		Sharpe Ratio	
Fidelity Int'l Growth	11.2	(50)	14.8	(26)	0.7	(46)
MSCI AC World ex USA Growth (Net)	*13.1*	*(35)*	*13.7*	*(10)*	*0.9*	*(23)*
eV ACWI ex-US Large Cap Equity Median	*11.1*		*15.4*		*0.7*	
Population	83		83		83	



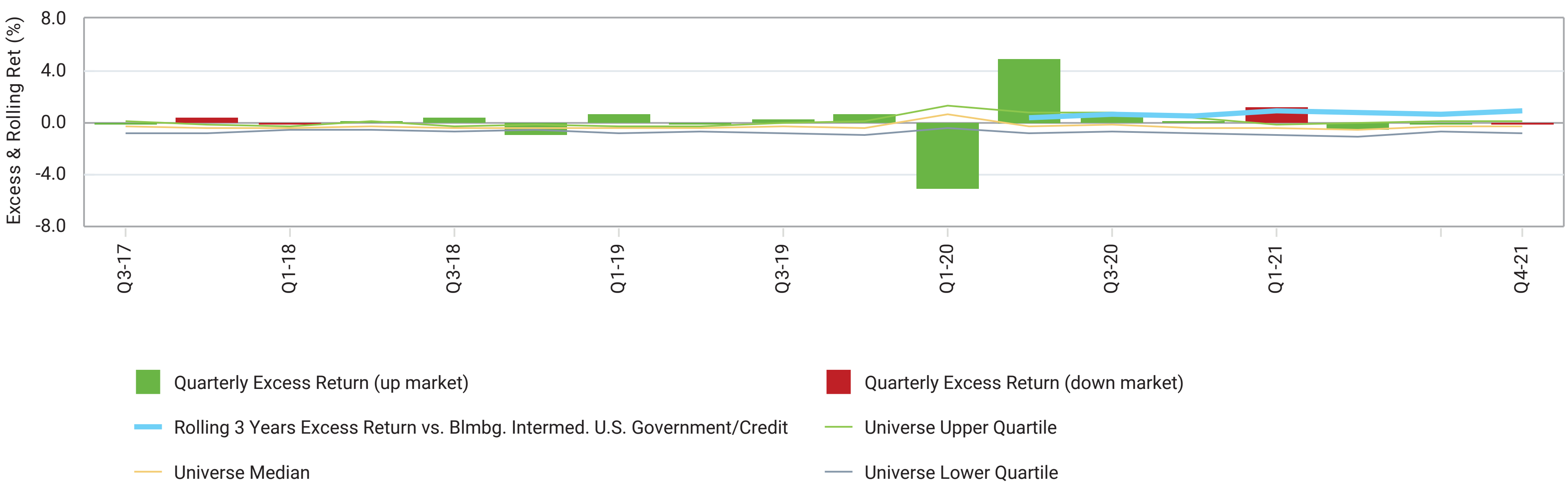
DOMESTIC FIXED INCOME MANAGERS

INSIGHT

eV US Government Fixed Inc (net of fees)



Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2021

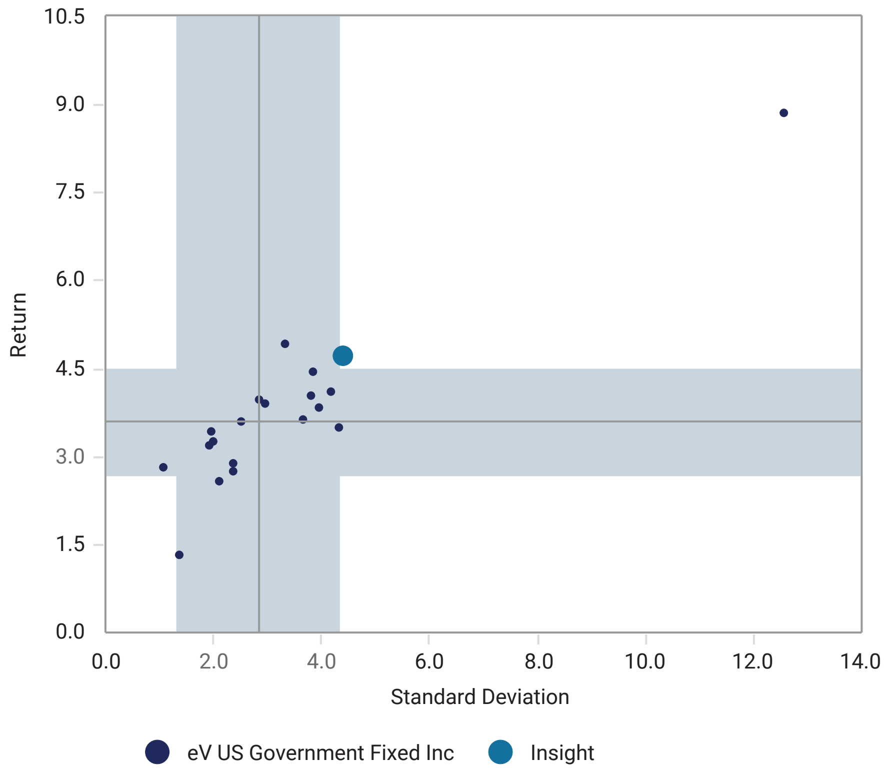


Stanislaus County ERA

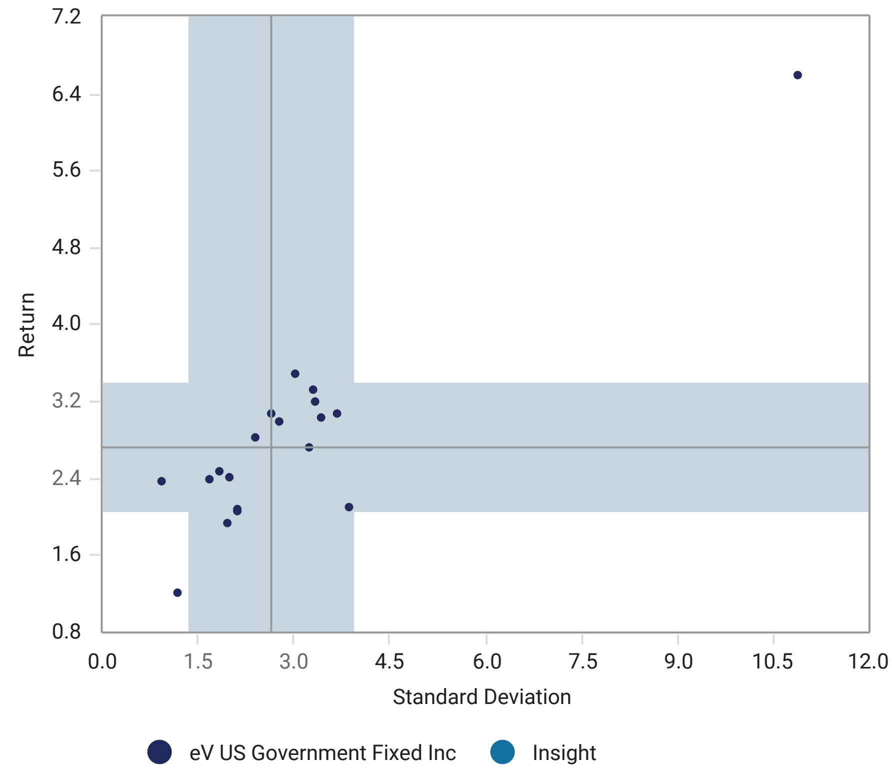
December 31, 2021

RISK VS. RETURN

3 Years Ending December 31, 2021



5 Years Ending December 31, 2021



3 Years Ending December 31, 2021

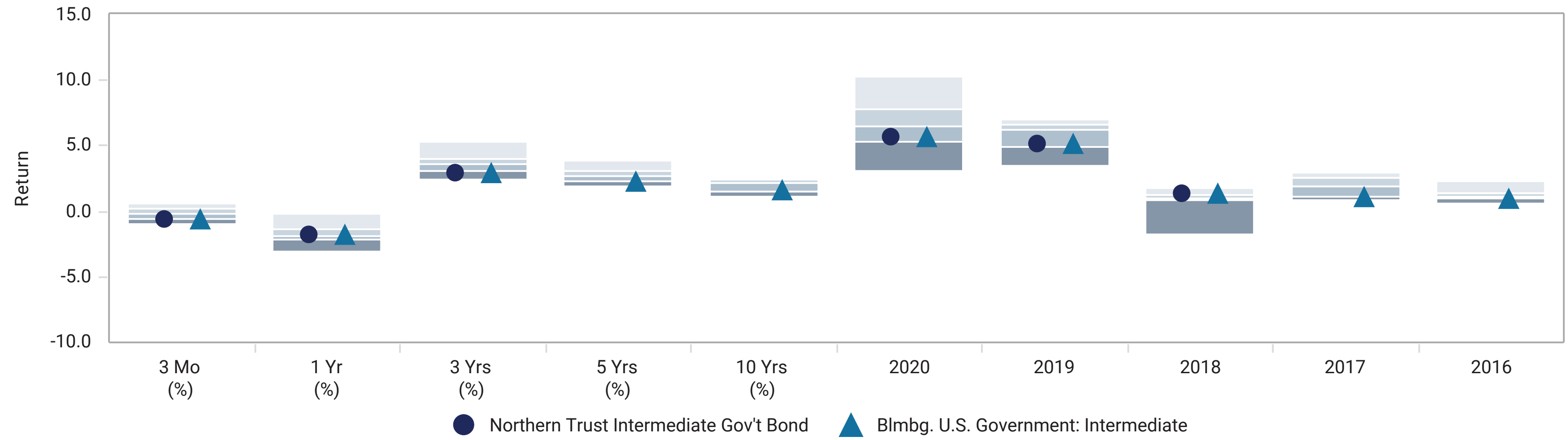
	Return		Standard Deviation		Sharpe Ratio	
Insight	4.7	(8)	4.4	(94)	0.8	(56)
Blmbg. Intermed. U.S. Government/Credit	*3.9*	*(38)*	*2.3*	*(33)*	*1.3*	*(8)*
eV US Government Fixed Inc Median	*3.6*		*2.8*		*0.9*	
Population	19		19		19	

5 Years Ending December 31, 2021

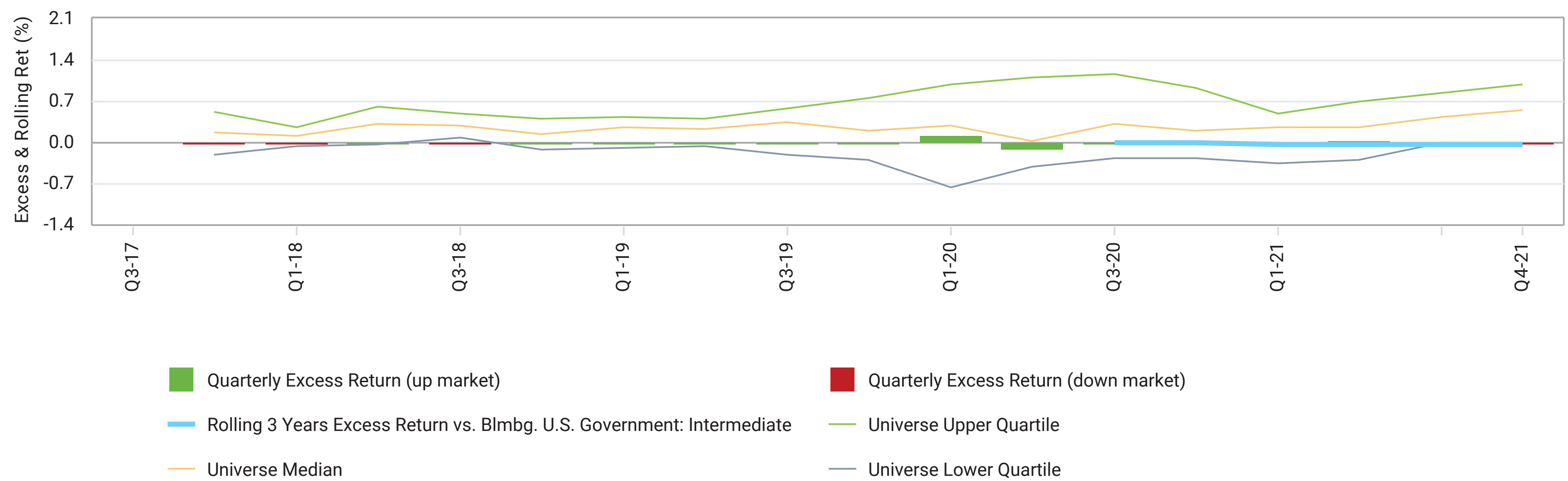
	Return		Standard Deviation		Sharpe Ratio	
Insight						
Blmbg. Intermed. U.S. Government/Credit	*2.9*	*(42)*	*2.1*	*(36)*	*0.8*	*(5)*
eV US Government Fixed Inc Median	*2.7*		*2.7*		*0.6*	
Population	19		19		19	

NORTHERN TRUST INTERMEDIATE GOVT BOND

eV US Government Fixed Inc (net of fees)

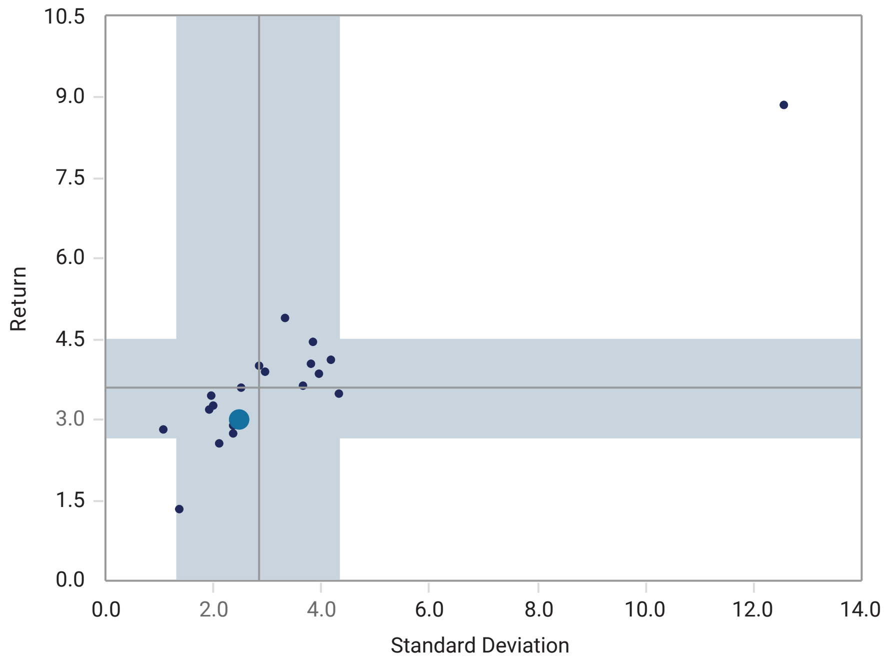


Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2021



RISK VS. RETURN

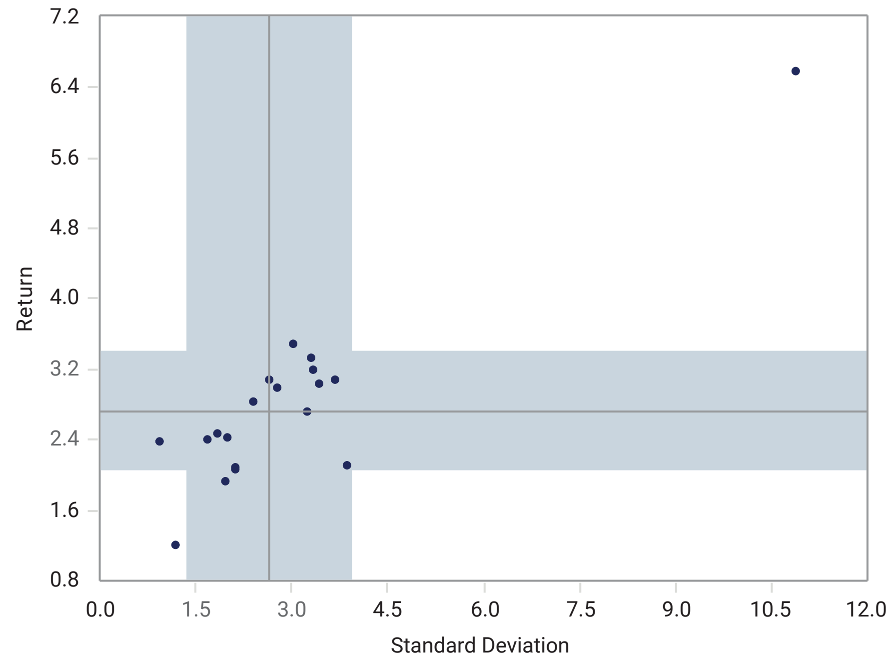
3 Years Ending December 31, 2021



eV US Government Fixed Inc

Northern Trust Intermediate Gov't Bond

5 Years Ending December 31, 2021



eV US Government Fixed Inc

Northern Trust Intermediate Gov't Bond

3 Years Ending December 31, 2021

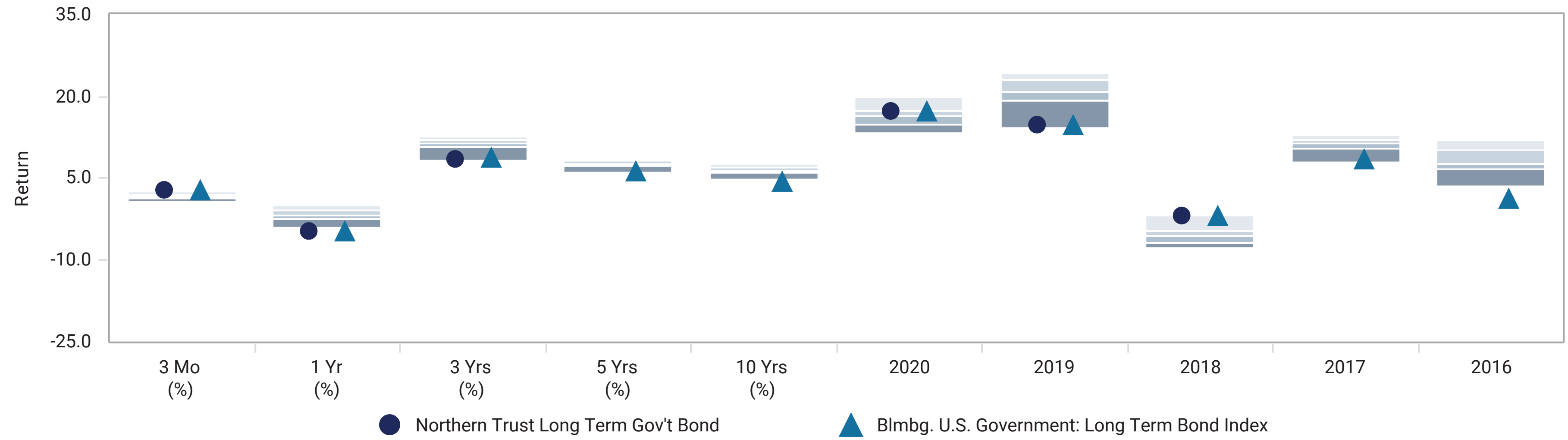
	Return		Standard Deviation		Sharpe Ratio	
Northern Trust Intermediate Gov't Bond	3.0	(76)	2.5	(43)	0.9	(50)
Blmbg. U.S. Government: Intermediate	*3.0*	*(76)*	*2.4*	*(41)*	*0.9*	*(48)*
eV US Government Fixed Inc Median	*3.6*		*2.8*		*0.9*	
Population	19		19		19	

5 Years Ending December 31, 2021

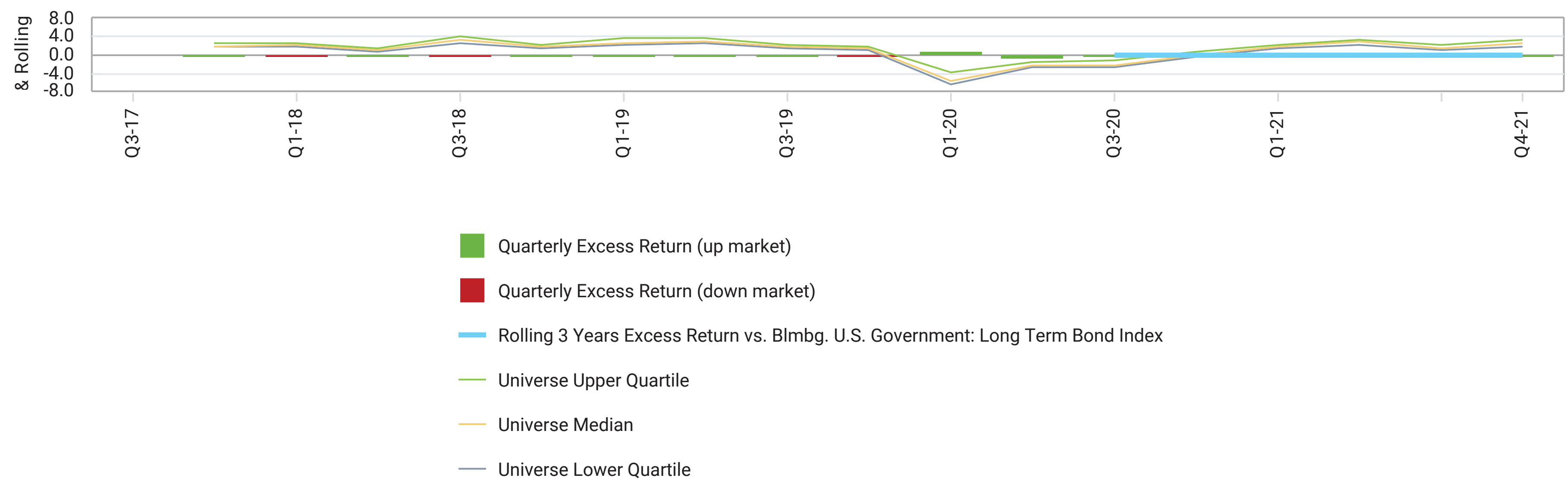
	Return		Standard Deviation		Sharpe Ratio	
Northern Trust Intermediate Gov't Bond						
Blmbg. U.S. Government: Intermediate	*2.3*	*(74)*	*2.2*	*(40)*	*0.6*	*(59)*
eV US Government Fixed Inc Median	*2.7*		*2.7*		*0.6*	
Population	19		19		19	

NORTHERN TRUST LONG TERM GOVT BOND

eV US Long Duration Fixed Inc (net of fees)

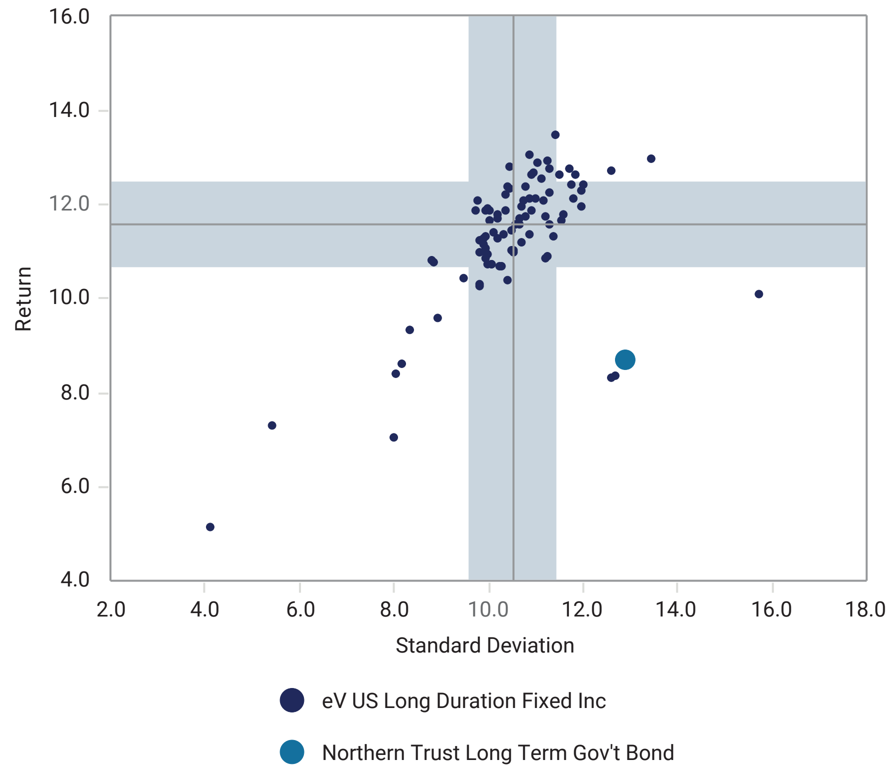


Quarter Excess Return with a Rolling 3 Years Excess Return over Since Inception Ending December 31, 2021

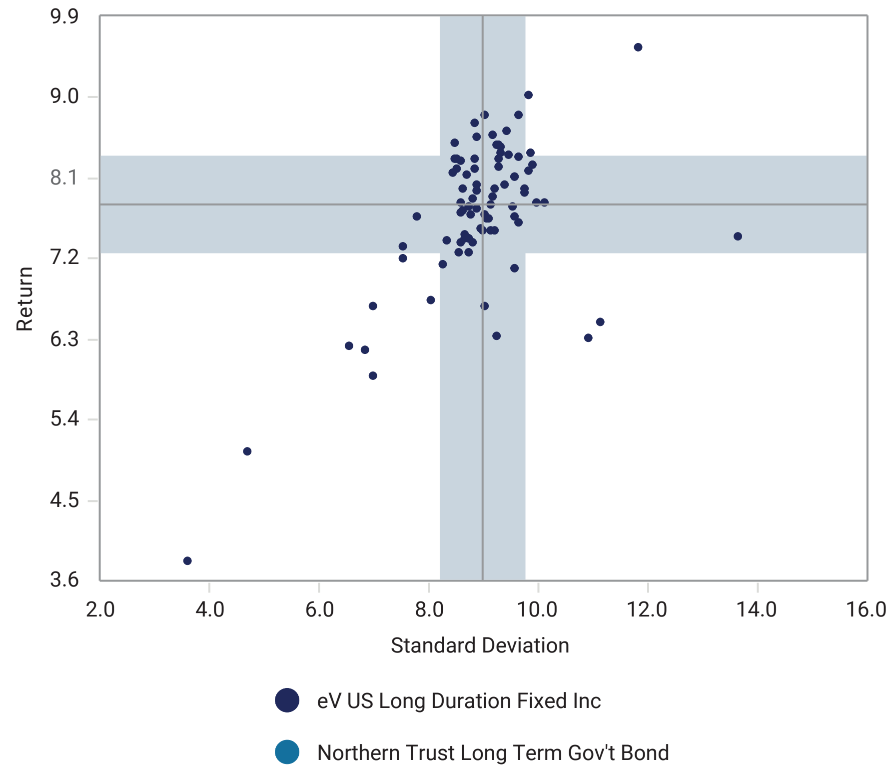


RISK VS. RETURN

3 Years Ending December 31, 2021



5 Years Ending December 31, 2021



3 Years Ending December 31, 2021

	Return		Standard Deviation		Sharpe Ratio	
Northern Trust Long Term Gov't Bond	8.7	(93)	12.9	(97)	0.6	(97)
Blmbg. U.S. Government: Long Term Bond Index	*8.8*	*(93)*	*12.6*	*(95)*	*0.7*	*(97)*
eV US Long Duration Fixed Inc Median	*11.6*		*10.5*		*1.0*	
Population	90		90		90	

5 Years Ending December 31, 2021

	Return		Standard Deviation		Sharpe Ratio	
Northern Trust Long Term Gov't Bond						
Blmbg. U.S. Government: Long Term Bond Index	*6.5*	*(92)*	*10.9*	*(96)*	*0.5*	*(98)*
eV US Long Duration Fixed Inc Median	*7.8*		*9.0*		*0.8*	
Population	84		84		84	

NOTES

- All performance is shown net of investment management fees.

- Performance history is provided by Verus through June 2020. As of July 1, 2020 performance is calculated and reported by NEPC. Policy Index History:

- Policy Index makeup history:

- **Inception - 6/30/2017:** 14.4% Russell 1000 Value, 11.3% Russell 1000 Growth, 4.8% S&P 500, 4% Russell 2000 Value, 3.7% Russell 2000 Growth, 18% MSCI ACWI ex USA Gross, 29.8%Bloomberg US Aggregate TR, 3.5% DJ US Select RESI TR USD, 7.5% 9% Annual, 3% CPI + 4%
- **7/1/2017 - 8/31/2018:** 18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex USA Gross, 19% Bloomberg US Govt/Credit 1-3 Yr. TR, 1% FTSE T-Bill 1 Month TR, 3% Bloomberg US Treasury 7-10 Yr TR, 7.7% NCREIF Property Index, 1.7% NCREIF Property Index +2%, 0.6% CPI + 5%, 5% Bloomberg US High Yield + 2%, 14% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate
- **9/1/2018 - 5/30/2019:** 10% Russell 1000, 3% Russell 2000, 6% Russell 3000 +3%, 27% MSCI ACWI ex USA Gross, 20% Bloomberg US Govt/Credit 1-3 Yr. TR, 1% FTSE T-Bill 1 Month TR, 3%Bloomberg US Treasury 7-10 Yr TR, 5% NCREIF Property Index, 5% NCREIF Property Index +2%, 1% CPI + 5%, 6% S&P/LSTA Leveraged Loan Index+2%, 13% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate
- **6/1/2019 - 6/30/2020**: 14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 19% Bloomberg US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 3% Bloomberg US Treasury 7-10 Yr, 5% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 6% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% Bloomberg Global Aggregate
- **7/1/2020 - 12/31/2020**: 14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 8% Bloomberg US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 3% Bloomberg US Treasury 7-10 Yr, 5% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 6% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% Bloomberg Global Aggregate, 11%Bloomberg US Intermediate.
- **1/1/2021 - 06/30/2021**: 16% Russell 1000, 3.5% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 8% Bloomberg US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 5% Bloomberg US Treasury 7-10 Yr, 6% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 4.5% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% Bloomberg Global Aggregate, 7%Bloomberg US Intermediate.
- **07/01/2021 - Present:** 16% Russell 1000, 4% Russell 2000, 5% Russell 3000 + 3%, 20% MSCI ACWI ex USA Gross, 6.5% NCREIF Property Index, 6% NCREIF Property Index + 2%, 7.5% CPI + 5%
(Unadjusted), 8% S&P/LSTA Leveraged Loan Index +2%, 6% Bloomberg US Treasury 7-10 Yr TR, 10% 60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg, 3% 30 Day T-Bill + 4%, 1% FTSE T-Bill 1 Month TR, 7% Bloomberg US Govt/Credit Int TR.

- Starting July 1, 2020, the small Capital Prospects transition cash balance is moved from the Cash composite to the Capital Prospects account. Historical performance for Capital Prospects, US Small, US Equities, Growth Sub-Portfolio, Cash, and Liquidity Sub-Portfolio prior to July 1, 2020 reflects performance of these composites before this change.

- Private Equity investments are valued one quarter lagged and adjusted for capital calls and distributions between quarter-end months.

- Value-Add Real Estate managers are valued quarterly adjusted for current cash flows.

DISCLAIMERS & DISCLOSURES

Past performance is no guarantee of future results.

Returns for pooled funds, e.g. mutual funds and collective investment trusts, are collected from third parties; they are not generally calculated by NEPC. Returns for separate accounts, with some exceptions, are calculated by NEPC. Returns are reported net of manager fees unless otherwise noted.

A "since inception" return, if reported, begins with the first full month after funding, although actual inception dates (e.g. the middle of a month) and the timing of cash flows are taken into account in Composite return calculations.

NEPC's preferred data source is the plan's custodian bank or record-keeper. If data cannot be obtained from one of the preferred data sources, data provided by investment managers may be used. Information on market indices and security characteristics is received from additional providers. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within. In addition, some index returns displayed in this report or used in calculation of a policy index, allocation index or other custom benchmark may be preliminary and subject to change.

All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.

The opinions presented herein represent the good faith views of NEPC as of the date of this presentation and are subject to change at any time. Neither fund performance nor universe rankings contained in this report should be considered a recommendation by NEPC.

This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Source of private fund performance benchmark data: Cambridge Associates, via Refinitiv

Stanislaus County Employees' Retirement Association
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February 22, 2022
Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

I. SUBJECT: June 30, 2021 Actuarial Valuation and 2018-2021 Experience Study

II. ITEM NUMBER: 10.a

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION: Accept the June 30, 2021 Actuarial Valuation and 2018-2021 Triennial Experience Study as presented

V. ANALYSIS: This is the presentation of the final June 30, 2021 Actuarial Valuation (Attachment 1) and the 2018-2021 Actuarial Experience Study (Attachment 2). The actuarial valuation sets funded status for the plan as of June 30, 2021 and sets employer and employee contribution rates for fiscal year 2022-2023.

The Actuarial Experience Study takes a look at demographic data from the past several years and uses this data to make inferences for the plan's future regarding such things as mortality, salary increases, retirement and termination patterns. The experience study will set assumptions for the next 3 years and the calculation of funded status and employer and employee contribution rates will be based on those assumptions.

VI. RISK: None

VII. STRATEGIC PLAN: N/A

VIII. ADMINISTRATIVE BUDGET IMPACT: NONE

Rick Santos, Executive Director

Celebrating 20 years

CHEIRON

Classic Values, Innovative Advice

Stanislaus County Employees' Retirement Association

Actuarial Valuation as of June 30, 2021

Produced by Cheiron

February 2022

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February 15, 2022

Board of Retirement
Stanislaus County Employees' Retirement Association
832 12th Street, Suite 600
Modesto, CA 95353

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Stanislaus County Employees' Retirement Association (StanCERA, the Fund, the Plan) as of June 30, 2021. This report contains information on the Plan's assets and liabilities. This report also discloses employer contribution levels and required disclosures for the Plan's Annual Comprehensive Financial Report (ACFR). Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the annual actuarial valuation of StanCERA. This report is for the use of StanCERA and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

Cheiron's report was prepared solely for StanCERA for the purposes described herein, except that the Plan auditor may rely on this report solely for completing an audit related to the matters herein. It is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

Graham A. Schmidt, ASA, FCA, MAAA, EA
Consulting Actuary

Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary

FOREWORD

Cheiron has performed the actuarial valuation of the Stanislaus County Employees' Retirement Association as of June 30, 2021. The valuation is organized as follows:

- In Section I, the **Executive Summary,** we describe the purpose of an actuarial valuation, summarize the key results found in this valuation, and disclose important trends;

- The **Main Body** of the report presents details on the Plan's

    - Section II – Identification and Assessment of Risks
    - Section III - Assets
    - Section IV - Liabilities
    - Section V - Contributions
    - Section VI - Required ACFR Exhibits

- In the **Appendices** we conclude our report with detailed information describing Plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent Plan provisions (Appendix C), a glossary of key actuarial terms (Appendix D), and tables containing member contribution rates (Appendix E).

Future results may differ significantly from the current projections presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

In preparing our report, we relied on information (some oral and some written) supplied by the StanCERA staff. This information includes, but is not limited to, Plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Cheiron utilizes ProVal, an actuarial valuation application leased from Winklevoss Technologies (WinTech), to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal, have a basic understanding of it, and have used it in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this report. The deterministic and stochastic projections shown in this report were developed using R-scan, our proprietary stochastic projection tool for assessing probabilities of different outcomes. We have relied on Cheiron colleagues who developed the tool, and we have used the tool in accordance with its purpose.

SECTION I – EXECUTIVE SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The funded status of the Plan,
- Past and expected trends in the funding progress of the Plan,
- Employer and employee contribution rates for Plan Year 2022-2023, and
- An assessment and disclosure of key risks.

In the balance of this Executive Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key results, (C) an examination of the historical trends, and (D) the projected outlook for the Plan.

A. Valuation Basis

This valuation determines the employer contributions required for the employers' fiscal years beginning July 1, 2022. The employers include the County of Stanislaus and related employers, the City of Ceres, and other participating Special Districts.

The Plan's funding policy is to collect contributions from the employers and employees equal to the sum of:

- The Normal Cost under the Entry Age Normal Cost Method,
- Amortization of the Unfunded Actuarial Liability (UAL), and
- The Fund's expected administrative expenses.

The UAL payment is determined as the amount needed to fund the outstanding UAL as of June 30, 2021 over a period of 15 years as a level percentage of pay. At the April 27, 2021 board meeting, the StanCERA Board of Retirement made a change to the funding policy, choosing to amortize any future unexpected changes in the UAL from actuarial gains or losses or assumptions changes over a period of 20 years as a level percentage of payroll, with new amortization layers established each year, beginning with changes emerging after June 30, 2021. Any future changes in the UAL due to plan amendments or other plan provision changes will be amortized over shorter period, based on the lesser of 15 years or the average future working lifetime for changes affecting active members, or the lesser of 10 years or the average remaining life expectancy for changes affective inactive members.

This valuation was prepared based on the Plan provisions shown in Appendix C.

Actuarial experience studies are performed every three years. This valuation was performed based on the economic and demographic assumptions that were determined in the Actuarial Experience Study performed by Cheiron as of June 30, 2021 and reviewed by the Board on December 14, 2021. This valuation is the first to use the assumptions determined in the above experience study. A summary of the assumptions and methods used in the current valuation is shown in Appendix B.

B. Key Findings of this Valuation

The key results of the June 30, 2021 actuarial valuation are as follows:

- The actuarially determined employer contribution rate decreased from 33.20% of payroll to 31.59% of payroll for the current valuation.

- The Plan's funded ratio, the ratio of Actuarial Assets over Actuarial Liability, increased from 75.6% to 78.8%. Likewise, the Plan's funded ratio on a market value basis increased from 72.1% to 85.9%.

- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced a decrease in the UAL from $738.4 million to $669.3 million as of June 30, 2021. This decrease in UAL was largely due to investment gains and the assumption changes.

- During the year ending June 30, 2021, the return on Plan assets was 25.40% on a market value basis net of investment (but not administrative) expenses, as compared to the 7.00% assumption. The Actuarial Value of Assets recognizes 20% of the difference between the expected and actual return on the Market Value of Assets (MVA). This method of smoothing the asset gains and losses returned 9.76% on the smoothed value of assets, an actuarial asset gain of $65.7 million. The gain in the Actuarial Value of Assets reflects the continued recognition of past investment gains and losses, with past investment losses offsetting the impact of the gain for the current year and leading to a lower actuarial value return than market value return.

- During the 2020-21 Plan Year, the actuarial liabilities of the Plan increased more than expected, with key factors being losses associated with new retirements, larger Cost of Living Adjustments (COLAs) than expected for members in pay status, and higher pay increases than expected for continuing actives. These and other unexpected changes resulted in a liability loss of $33.0 million.

- Overall participant membership increased from 9,793 to 9,904 total members compared to last year. There were 350 new hires and rehires during 2020-2021 but the total active population decreased 3.07%, from 4,458 to 4,321. Total projected pensionable payroll increased from $300,575,911 to $306,344,007, or 1.92%.

- The Actuarial Experience Study as of June 30, 2021 recommended changes to many of the actuarial assumptions used in this valuation, including a reduction in the discount rate from 7.00% to 6.75% and the use of less conservative assumptions related to future mortality improvement. The Retirement Board provided direction at its December 14, 2021 meeting to use the assumptions as summarized at that meeting for the June 30, 2021 valuation. The net impact of the updates to the assumptions was a $30.1 million reduction in the actuarial liability, mostly due to the mortality changes.

SECTION I – EXECUTIVE SUMMARY

- The changes in the assumptions will also impact the member contribution rates, as shown in Appendix E. Some General members will experience increases and others will experience reductions in their member rates as a result of the changes, while all Safety members will experience an increase, based on the different impact of the various assumption changes for the different groups.

In Tables I-1 and I-2 below, we summarize the key results of the valuation with respect to assets and liabilities, contributions and membership. The results are presented and compared for both the current and prior Plan year.

Table I-1
Stanislaus County Employees' Retirement Association
Summary of Key Valuation Results
(in millions)

Valuation Date Fiscal Year End	June 30, 2020 2022	June 30, 2021 2023	Absolute Change
Actuarial Liability	$ 3,028.6	$ 3,153.0	$ 124.4
Actuarial Value of Assets[1]	2,290.3	2,483.7	193.4
Unfunded Actuarial Liability (Actuarial Value)	$ 738.4	$ 669.3	$ (69.1)
Funding Ratio (Actuarial Value)	75.6%	78.8%	3.2%
Market Value of Assets[1]	2,182.2	2,707.3	525.1
Unfunded Actuarial Liability (Market Value)	$ 846.5	$ 445.7	$ (400.8)
Funding Ratio (Market Value)	72.1%	85.9%	13.8%
Net Employer Contribution Rate	33.20%	31.59%	-1.61%

[1] Net of non-valuation reserves.

Table I-2
Membership Total

Item	June 30, 2020	June 30, 2021	% Change
Actives	4,458	4,321	-3.1%
Deferred Members	1,158	1,267	9.4%
Retired Members	4,177	4,316	3.3%
Total Members	9,793	9,904	1.1%
Ratio of Inactive Members to Active Members	119.7%	129.2%	
Active Member Payroll (FYE 2021/2022)	$ 300,575,911	$ 306,344,007	1.9%
Average Pay per Active	$ 67,424	$ 70,897	5.2%

SECTION I – EXECUTIVE SUMMARY

The ratio of inactive members (i.e. those receiving benefits or those entitled to a deferred benefit) to active members is a measure of the maturity of the plan. It shows how many inactive members are supported by each active member. A higher ratio indicates a more mature plan and potentially higher risk since the retiree benefits are larger relative to the contribution base, i.e. the active member payroll. Table I-2 shows that the ratio of inactive members to active members increased this year due to an increase in inactive members and a decrease in the active workforce, indicating the ongoing maturation of the Plan.

Changes in UAL

The Unfunded Actuarial Liability (UAL) for StanCERA decreased by $69.0 million, from $738.4 million to $669.3 million. Table I-3 below presents the specific components of the change in the UAL.

Table I-3
Change in Unfunded Actuarial Liability

	Experience		in millions
1.	Unfunded actuarial liability, 6/30/2020	$	738.4
2.	Expected change in unfunded actuarial liability	$	(13.1)
3.	Unfunded decrease due to investment gain		(65.7)
4.	Unfunded increase due to contribution deficit		6.8
5.	Unfunded increase due to liability loss		33.0
6.	Unfunded decrease due to assumption changes		(30.1)
7.	Total change in unfunded actuarial liability	$	(69.0)
8.	Unfunded actuarial liability, 6/30/2021	$	669.3

As noted earlier, the return on the actuarial assets used to compute the UAL and the employer contribution rate was 9.76% during the 2020-21 Plan Year. Investment returns greater than the assumed rate of 7.00% decreased the UAL by $65.7 million.

Liability losses increased the UAL by $33.0 million, driven by losses associated with new retirements, larger Cost of Living Adjustments (COLAs) than expected for members in pay status, and higher pay increases than expected for continuing actives. Changes in assumptions decreased the UAL by $30.1 million. The UAL also increased by $6.8 million due to contributions smaller than the actuarially determined cost. This is primarily a result of the 12-month lag in the implementation of contribution rates and lower than expected payroll growth.

The expected change in the UAL due to the yearly amortization of the UAL balance – a decrease of $13.1 million, as a result of the amortization schedule for the current year – combined with the above UAL changes to produce an overall decrease of $69.0 million.

SECTION I – EXECUTIVE SUMMARY

Changes in Employer Contributions

Thus far, the experience of the 2020-21 Plan year has been presented in terms of the UAL and funded ratio. Table I-4 below summarizes the impact of actuarial experience and changes in assumptions on the employer contribution rate.

Table I-4
Employer Contribution Reconciliation

Item	Total	Normal Cost	Amortization	Admin Expense
FYE 2022 Net Employer Contribution Rate	***33.20%***	***11.40%***	***20.81%***	***0.99%***
Change Due to Asset Gain	-1.88%	0.00%	-1.88%	0.00%
Change Due to Contribution Deficit	0.20%	0.00%	0.20%	0.00%
Change Due to Demographic Changes	0.80%	-0.13%	0.93%	0.00%
Change Due to Effect of Payroll on Amortization	0.18%	0.00%	0.17%	0.01%
Change Due to Assumption Changes	-0.91%	-0.09%	-0.83%	0.01%
Total Change	-1.61%	-0.22%	-1.41%	0.02%
FYE 2023 Net Employer Contribution Rate	***31.59%***	***11.18%***	***19.40%***	***1.01%***

The impact of assumption changes from the Actuarial Experience Study as of June 30, 2021 are fully reflected in this valuation; no phase-in has been applied.

- Asset experience produced an investment gain on a smoothed basis, as described earlier. The smoothed gain decreased the contribution rate by 1.88% of pay.

  The ratio of Actuarial to Market Value of Assets is 91.8%. There are now $223.7 million in net deferred gains as of June 30, 2021. There is also $21.6 million in a non-valuation Contingency Reserve.

- The Plan received a smaller contribution than the actuarially determined cost for the prior plan year. The net impact of the deficit was an increase in the employer contribution rate by 0.20% of pay.

- The demographic experience of the Plan – rates of retirement, death, disability, and termination, as well as salary and COLA changes – caused an increase in employer contribution rate of 0.80% of pay. Losses associated with new retirees, COLA increases, and higher than expected pay increases for continuing active members were the largest factors contributing to an increase in the UAL and the associated amortization payment. The increase in the amortization payment was offset by a reduction in the employer-paid Normal Cost as a result of the continued transition of the active workforce to membership in the new PEPRA tiers, which reflect lower benefit levels for new hires.

- Overall payroll was lower than expected by about $3.2 million, increasing 1.92% compared to the 3.00% assumption. As a result, the unfunded liability amortization payment and administrative expenses were spread over a smaller payroll base than expected, and the employer contribution rate increased by 0.18% of pay.

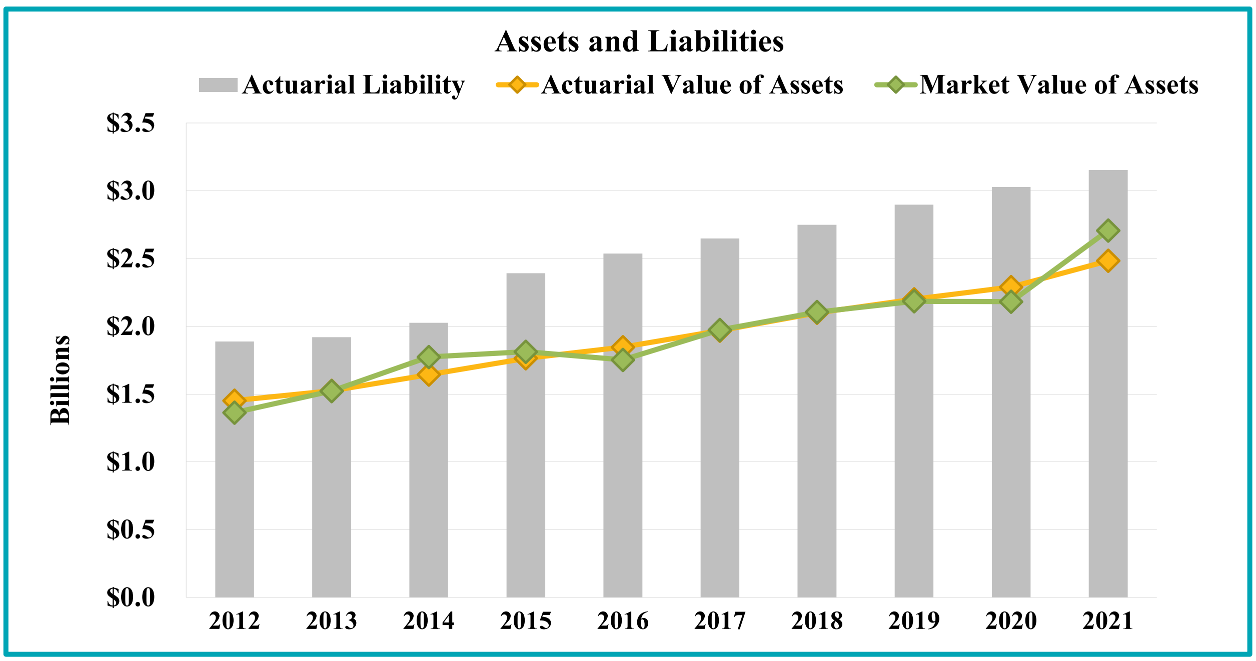
- The impact of assumption changes decreased the employer cost by 0.91% of pay. The largest contributor to this decrease in cost was the set of new mortality assumptions.

C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular, the size of the current UAL and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

Assets and Liabilities

The chart below compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentage shown in the table below the graph is the ratio of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). The funded ratio has increased from 76.9% in 2012 to 78.8% as of June 30, 2021. The large drop in the funded ratio in 2015 was primarily due to changes in assumptions. The increase in the funded ratio from last year to this year was primarily a result of investment gains and the new assumptions.

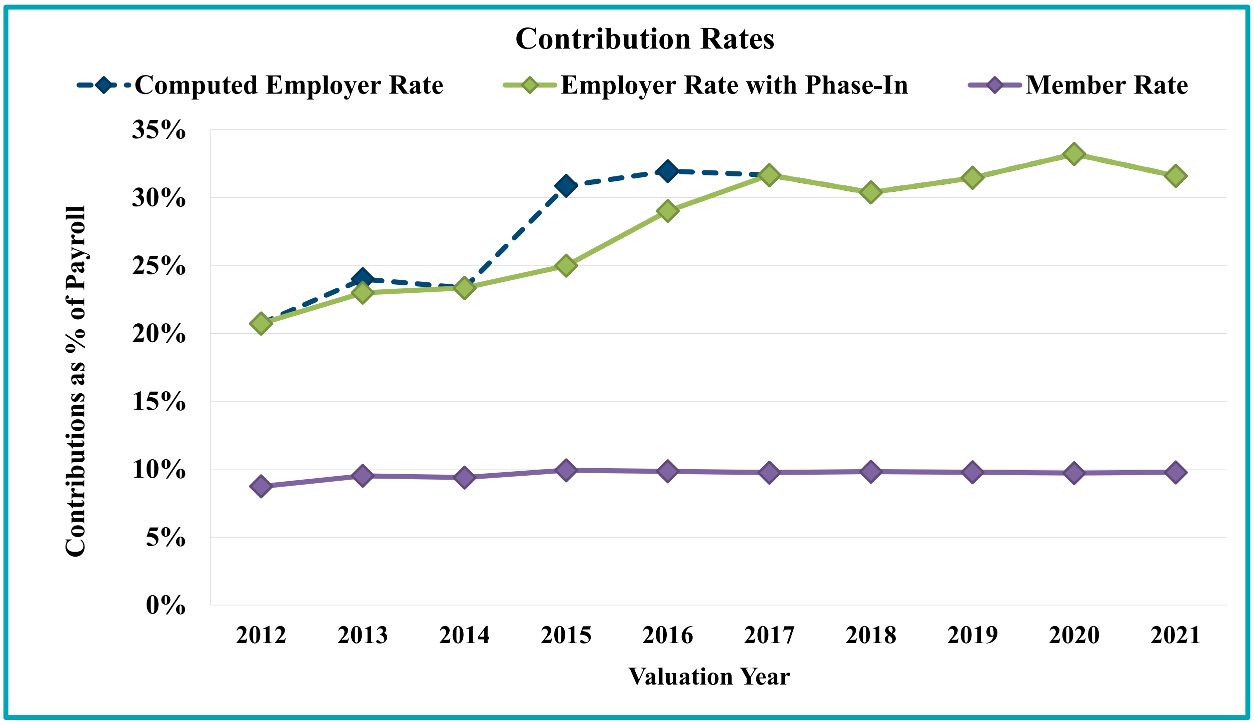


Valuation Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Funded Ratio	76.9%	79.4%	81.1%	73.7%	72.8%	74.3%	76.4%	75.9%	75.6%	78.8%
UAL (Billions)	$ 0.44	$ 0.40	$ 0.38	$ 0.63	$ 0.69	$ 0.68	$ 0.65	$ 0.70	$ 0.74	$ 0.67

SECTION I – EXECUTIVE SUMMARY

Contribution Trends

In the chart below, we present the historical trends for the StanCERA contribution rates. The employer contribution rates have risen since 2012, primarily as a result of the investment losses from 2008-2009 as well as changes to the actuarial assumptions and methods. The average employee contribution rates have also increased as the Plan's economic and demographic assumptions have changed. The phase-ins shown from 2013-2016 recognized significant changes in the computed employer rate over a set period to help manage the financial impact for the Plan sponsors. The employer contribution rate decreased this year due to investment gains and assumption changes.



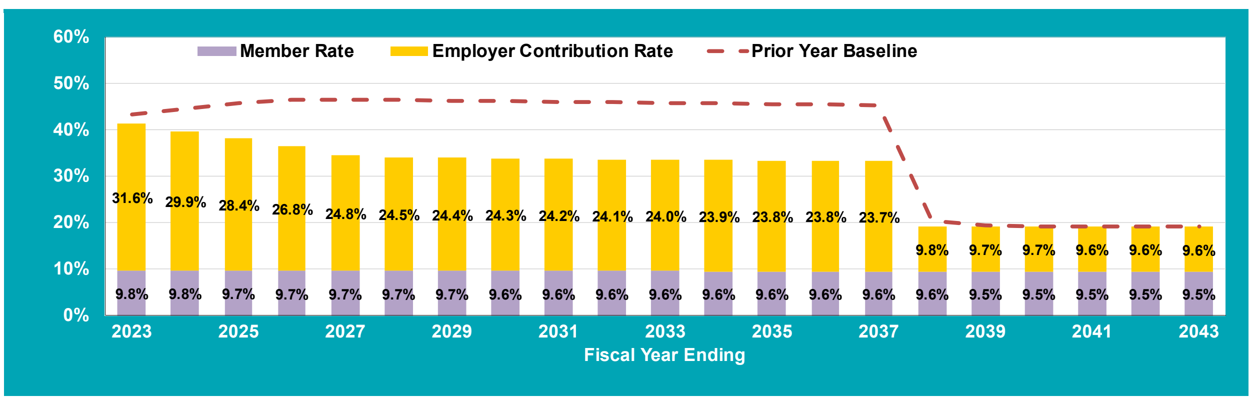
D. Future Expected Financial Trends

The analysis of projected financial trends is an important component of this valuation. In this Section, we present our assessment of the implications of the June 30, 2021 valuation results in terms of benefit security (assets compared to liabilities). All the projections in this section are based on the current investment return assumption of 6.75%. We have assumed future total payroll increases of 2.75% per year.

The graph below shows the expected employer and employee contribution rates based on achieving the 6.75% assumption **each year** for the next 20 years. This scenario is highly unlikely: even if the Plan does achieve an **average** return of 6.75% over this period, the returns in each given year will certainly vary. The expected total contribution rates based on the prior year valuation as of June 30, 2020 are shown (in the dashed line) for comparison.

The contribution rate graph shows that employer contribution rates are expected to decrease gradually for the next four years as deferred investment gains are recognized in the actuarial value of assets and then stay relatively stable until the current unfunded liability amortization period (15 years) ends.

Projection of Contributions, 6.75% Return Each Year



The total contribution rate (employer plus employee) is approximately 41% of member payroll for the June 30, 2021 valuation. It is expected to gradually decrease to approximately 34% through FYE 2027 if all actuarial assumptions are met, as recent market value asset gains are recognized in the actuarial value of assets. The total contribution rate (employer plus member) is expected to gradually decline after FYE 2027 as PEPRA members replace legacy members, lowering the average normal cost of the Plan.

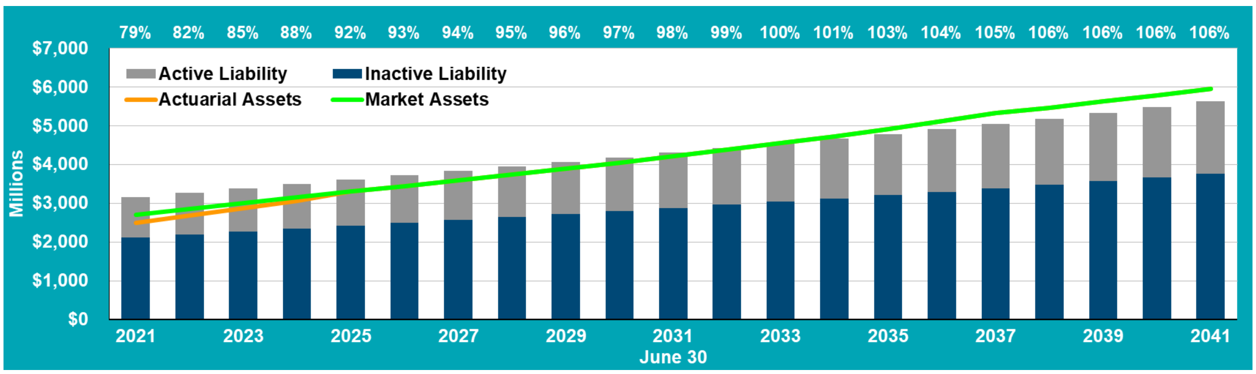
After 15 years, the total contribution rate is expected to drop due to the end of the amortization period for the current UAL, to a level around 20% of pay in FYE 2038, representing the expected Normal Cost plus administrative expenses. The end of the amortization period only affects the employer contribution rate. It has no impact on the employee contribution rate.

SECTION I – EXECUTIVE SUMMARY

Asset and Liability Projections:

The following graph shows the projection of assets and liabilities assuming that assets will earn the 6.75% assumption each year during the projection period. The funded ratio shown is based on the Actuarial Value of Assets. The Actuarial Value of Assets is less than the Market Value of Assets as of June 30, 2021; under the five-year smoothing policy, the two are assumed to be equal past 2024 if there are no additional asset gains/losses.

Projection of Assets and Liabilities, 6.75% Return Each Year
($ millions)



The graph above shows that the projected funded status increases over the next 15 years to gradually reach 100%, as can be expected based on the amortization policy, assuming the actuarial assumptions are achieved. However, it is the **actual** return on Plan assets that will determine the future funding status and contribution rate to the Fund.

We note that the funded ratio is expected to gradually climb above 100%; this is because under the PEPRA legislation, the employer contribution is not allowed to fall below the level of the Normal Cost unless the Plan reaches at least 120% funded (and other conditions are met).

SECTION II – DISCLOSURES RELATED TO RISK

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may vary significantly.

Actuarial Standard of Practice (ASOP 51) requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition." This section of the report is intended to identify the primary risks to the Plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

A fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. Even in the case that the Plan remains affordable, the contributions needed to support the Plan may differ significantly from expectations. While there are a number of factors that could lead to contribution amounts deviating from expectations, we believe the primary risks are:

- Investment risk,
- Assumption change risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

Investment Risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the unfunded actuarial liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. The potential volatility of future investment returns is determined by the Plan's asset allocation and the affordability of the investment risk is determined by the amount of assets invested relative to the size of the plan sponsors or other contribution base.

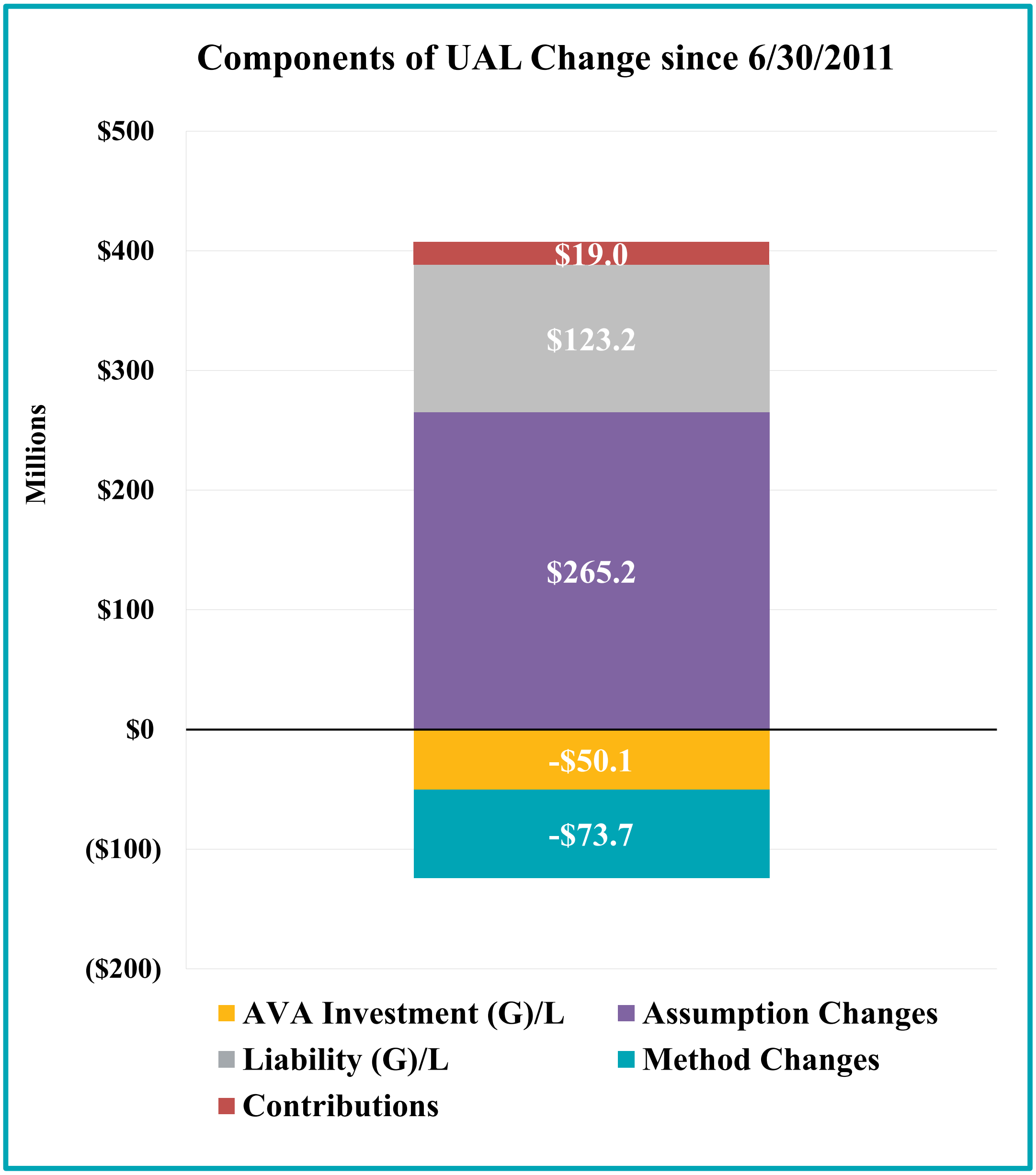
Assumption change risk is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed income investments but lower expected future returns, necessitating either a change in investment policy, a reduction in discount rate, or some combination of the two. Assumption change risk is an extension of the other risks identified, but rather than capturing the risk as it is experienced, it captures the cost of recognizing a change in environment when the current assumption is no longer reasonable.

Contribution risk is the potential for actual future contributions to deviate from expected future contributions. There are different sources of contribution risk such as the sponsor failing to make contributions in accordance with the funding policy or the contribution requirement becoming such a financial strain on the sponsor as a result of material changes in the contribution base (e.g., covered employees, covered payroll) that it affects the amount of contributions the Plan can collect.

SECTION II – DISCLOSURES RELATED TO RISK

The chart below shows the aggregated components contributing to the change in Unfunded Actuarial Liability (UAL) from June 30, 2011 through June 30, 2021. Over the last 10 years, the UAL has increased by approximately $283.6 million. The net liability losses (gray bar) of $123.2 million, assumption changes (purple bar) of $265.2 million and contributions below the "tread water" level (red bar) of $19.0 million resulting in a total UAL increase of $407.4 million are the sources of the UAL growth. Method changes (teal bar) of $73.7 million and investment gains (gold bar) of $50.1 million have decreased the UAL since June 30, 2011.

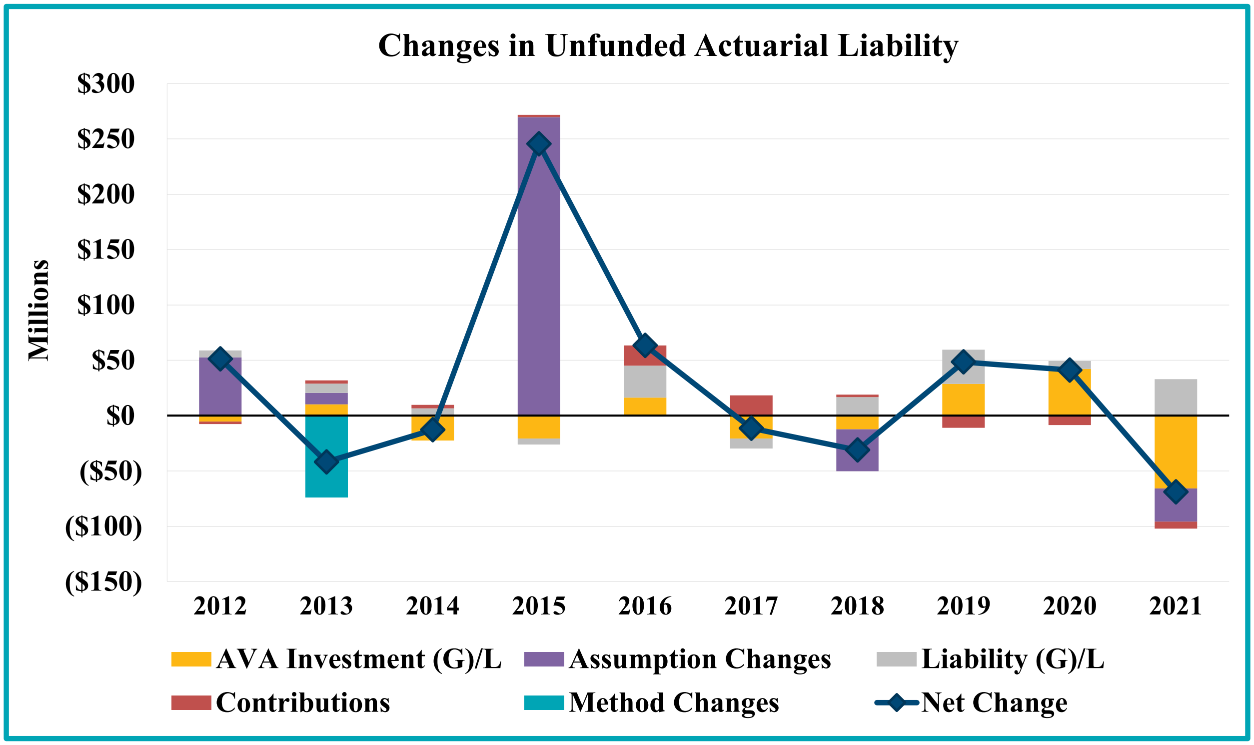
Chart II-1



SECTION II – DISCLOSURES RELATED TO RISK

Chart II-2 below details the annual sources of the UAL change (colored bars) for the plan years ending June 30. The net UAL change for each year is represented by the blue diamonds.

Chart II-2



Effective with the June 30, 2013, the actuarial cost method was modified from the Entry Age Normal-to-Decrement method to the Entry Age Normal-to-Final-Decrement method to comply with the accounting standards issued by the Government Accounting Standards Board. The impact of this was to shift some of the liability from past service to future, thereby decreasing the actuarial accrued liability (by approximately $74 million) and increasing the normal cost. This is represented by the teal bar.

On a market value basis, the average annual geometric return over the 10-year period has been 8.4% with investment gains on the AVA in six of those years decreasing the UAL, but investment losses in the other four years of the last decade. As of June 30, 2021, there are approximately $223.7 million of deferred gains that will be recognized over the next four years, with the large gain from the current year contributing nearly all the deferred gains.

Over the same time period, the assumed rate of return decreased from 8.00% to 6.75%. It is important to note that these changes simply reflect a downward revision to the estimate of future investment earnings and ultimately costs will be determined by actual investment earnings. Future expectations of investment returns may continue to decline necessitating further reductions in the discount rate.

SECTION II – DISCLOSURES RELATED TO RISK

The impact of all assumption changes is represented by the purple bars and also includes decreases in mortality rates projected in the future. The assumption changes effective with the June 30, 2021 valuation included a change in the expected rate of return from 7.00% to 6.75%, but also contained demographic assumption changes, which reduced the UAL.

Each year the UAL is expected to increase for benefits earned in the current year (the normal cost), administrative expenses, and interest on the UAL. This expected increase is referred to as the tread water level. If contributions are greater than the tread water level, the UAL is expected to decrease. Conversely, if contributions are less than the tread water level, the UAL is expected to increase. The amortization policy (as well as the contribution-timing lag) can impact whether or not the contributions exceed the tread water level. The contribution shortfalls in 2016 and 2017 were due to the phase-in of the 2015 assumption change impact.

For StanCERA, the liability has historically been amortized as a level percentage of payroll over a closed period, 15 years as of the current valuation. Contributions have not met the tread water level in six of 10 years, resulting in $19.0 million of increases to the UAL over the last decade. However, the amortization period has declined such that positive contributions to reduce the UAL principal have been made in each of the last three years. The funding policy has recently been changed, such that new unexpected changes in the UAL will be amortized over closed 20-year periods, which should enhance the probability that contributions reduce the UAL.

Table II-1 below numerically summarizes the changes in the UAL for each year by source over the last 10 years.

Table II-1

Table II-1

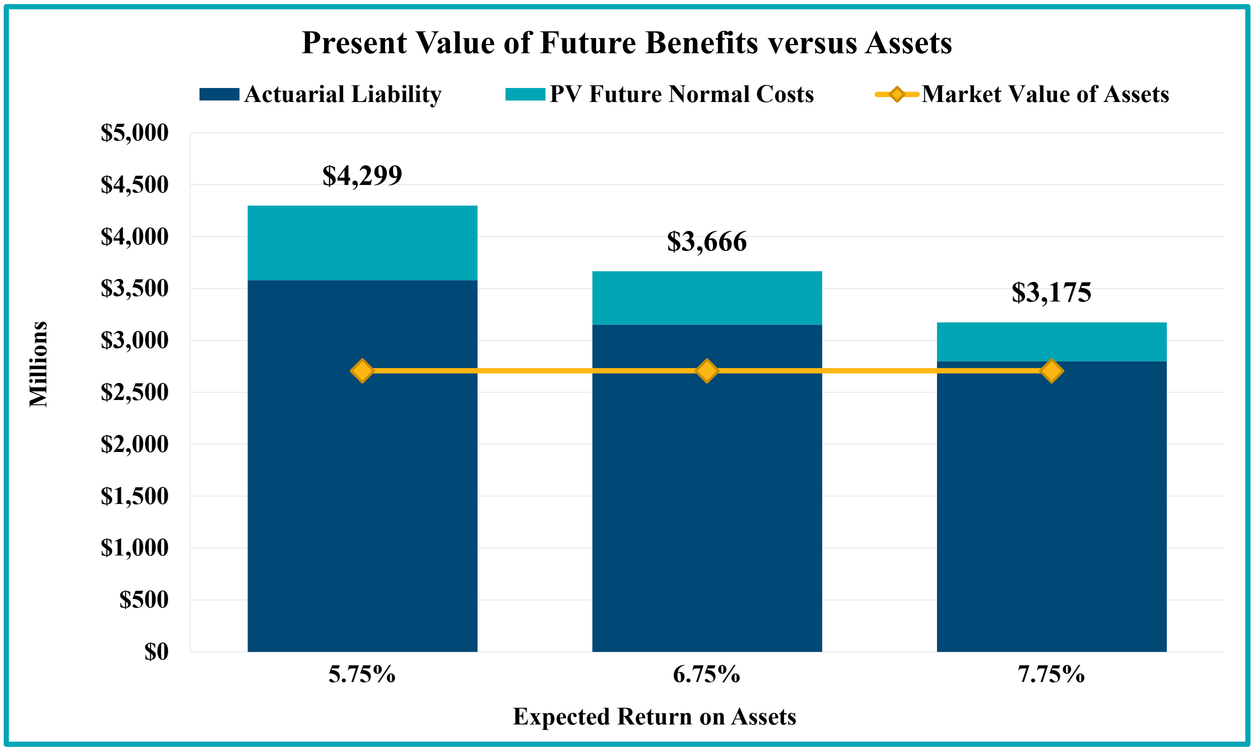
Unfunded Actuarial Liability (UAL) Change by Source

June 30,	Investment Experience	Liability Experience	Assumption Changes	Method Changes	Contributions	Total UAL Change
2012	($5,284,000)	$6,191,000	$52,606,000	$0	($2,235,000)	$51,278,000
2013	10,200,000	8,500,000	10,300,000	(73,700,000)	2,901,000	(41,799,000)
2014	(22,600,000)	6,100,000	400,000	0	3,243,000	(12,857,000)
2015	(20,600,000)	(5,600,000)	269,800,000	0	1,999,000	245,599,000
2016	16,300,000	28,900,000	0	0	18,210,000	63,410,000
2017	(20,800,000)	(8,900,000)	0	0	18,328,000	(11,372,000)
2018	(12,400,000)	16,800,000	(37,800,000)	0	2,260,000	(31,140,000)
2019	28,700,000	30,800,000	0	0	(11,023,000)	48,477,000
2020	42,100,000	7,400,000	0	0	(8,407,000)	41,093,000
2021	(65,700,000)	33,000,000	(30,100,000)	0	(6,240,000)	(69,040,000)
Total	**($50,084,000)**	**$123,191,000**	**$265,206,000**	**($73,700,000)**	**$19,036,000**	**$283,649,000**

Assessing Costs and Risks

Sensitivity to Investment Returns

The chart below compares assets to the present value of all projected future benefits discounted at the current expected rate of return and at discount rates 100 basis points above and below the expected rate of return. The present value of future benefits is shown as a bar with the portion attributable to past service in dark blue (Actuarial Liability) and the portion attributable to future service in teal (Present Value of Future Normal Costs). The Market Value of Assets is shown by the gold line.



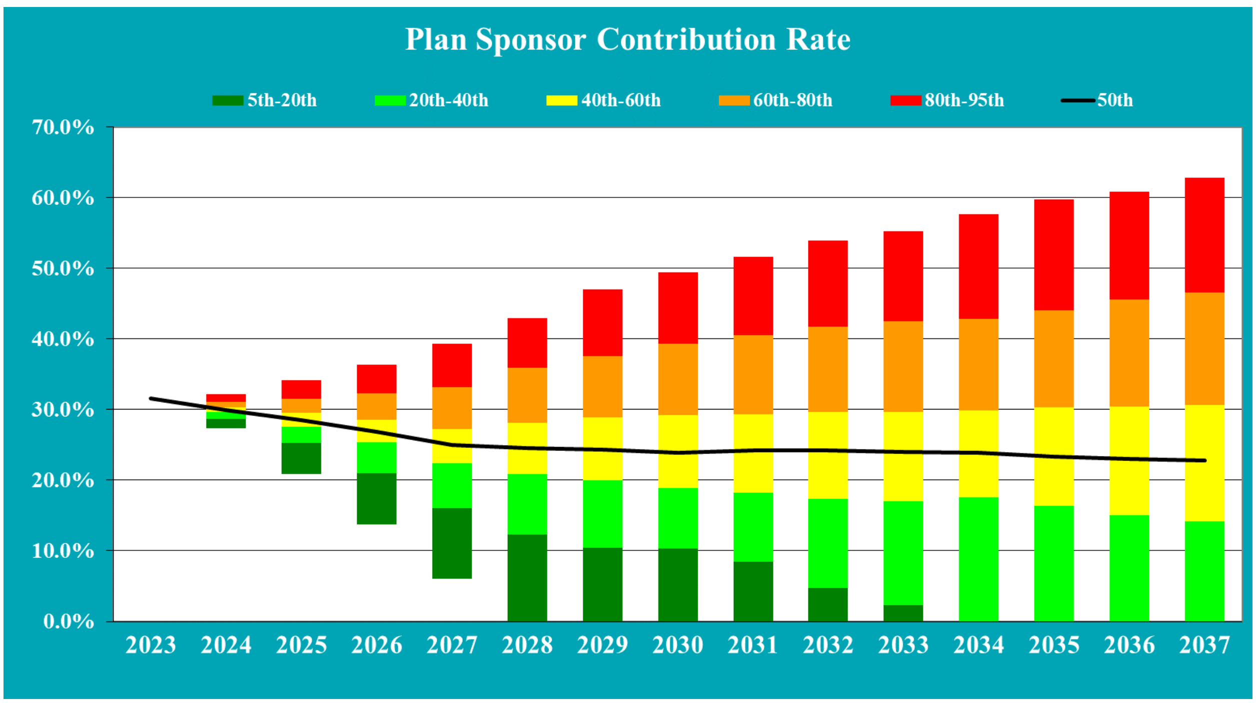
If investments return 6.75% annually, the Plan will need approximately $3.7 billion in assets today to pay all projected benefits compared to current assets of $2.7 billion. If investment returns are only 5.75%, the Plan would need approximately $4.3 billion in assets today, and if investment returns are 7.75%, the Plan would need approximately $3.2 billion in assets today.

SECTION II – DISCLOSURES RELATED TO RISK

Sensitivity to Investment Returns - Stochastic Projections

Stochastic projections serve to show the range of probable outcomes of various measurements. The graphs below and on the following page show the projected range of the employer contribution rate and of the funded ratio on an actuarial value of assets basis. The range in both scenarios is driven by the volatility of investment returns (assumed to be based on a 12% standard deviation of annual returns, as indicated in NEPC's March 31, 2021 capital market assumptions). The stochastic projections of investment returns are based on an assumption that each future year's investment return is independent from all other years and is identically distributed according to a lognormal distribution. This assumption may result in an unrealistically wide range of compound investment returns over longer periods.

Stochastic Projection of Employer Contributions as a Percent of Pay

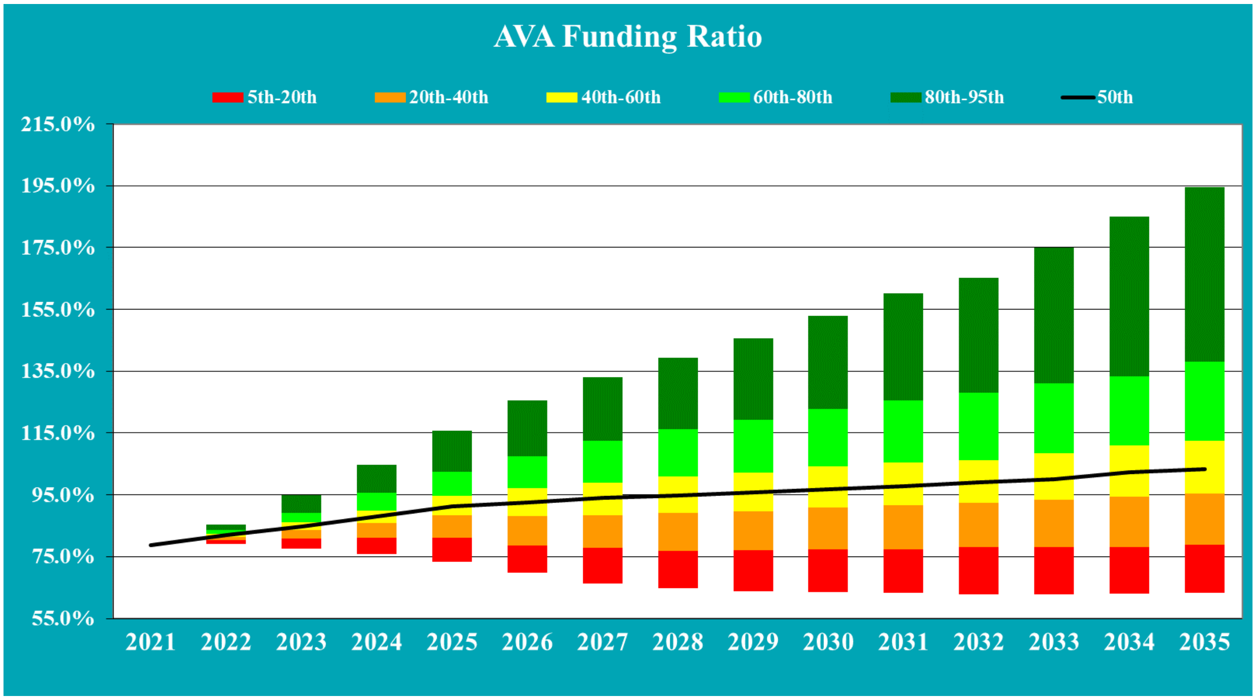


The stochastic projection of employer contributions as a percent of pay shows the probable range of future contribution rates. The baseline contribution rate (black line), which is based on the median of the simulations using an average return of 6.75%, aligns closely with the projections discussed in subsection D. of the Executive Summary of this report. In the most pessimistic scenario shown, the 95th percentile, the projected employer contribution rate surpasses 60% of pay in 2037. Conversely, the most optimistic scenario shown, the 5th percentile, the projected employer contribution rate declines to 0% by 2028. These projections allow the employer contribution to drop below the normal cost only if the Plan becomes extremely over-funded (above 120%), as required under PEPRA.

SECTION II – DISCLOSURES RELATED TO RISK

We note that the volatility in the contribution rate has declined significantly since the prior valuation as a result of the change in the funding policy to institute a layered amortization policy for future unexpected UAL changes.

Stochastic Projection of Funded Ratio on an Actuarial Value of Assets Basis



The graph above shows the projection of the funded ratio based on the actuarial value of assets, under the new layered amortization policy. While the baseline-funded ratio (black line) is projected to be approximately 100% at the end of the 15-year period shown here, there is a wide range of potential outcomes. Good investment returns have the likelihood of bringing the funded ratio well over 100%.

Due to the current funding policy of the Plan, even in scenarios with unfavorable investment returns, the Plan is projected to remain over 60% funded on an actuarial value of assets basis, as long as the actuarially determined contributions continue to be made.

Contribution Risk

While investment returns are typically the dominant factor in volatility, contribution rates can also be sensitive to future salary increases and the hiring of new members. When member payroll growth stagnates or even declines, the dollar level of contributions made to the Plan also stagnates or declines since contributions are based on payroll levels, though this will generally only present a funding issue if there is an extended period of payroll reductions.

SECTION II – DISCLOSURES RELATED TO RISK

There is also a risk of the contribution rate increasing even higher when payroll decreases since the Plan's funding policy amortizes the UAL as a level percentage of pay. This means that the UAL payments increase at the assumed payroll growth rate of 2.75%, so that the payment is expected to remain constant as a percentage of payroll. If payroll growth is less than the expected 2.75% or there is a decline in payroll, the UAL payments are spread over a smaller payroll base and the contribution rate as a percentage of pay increases, making the Plan less affordable for those sponsors with declining payroll bases.

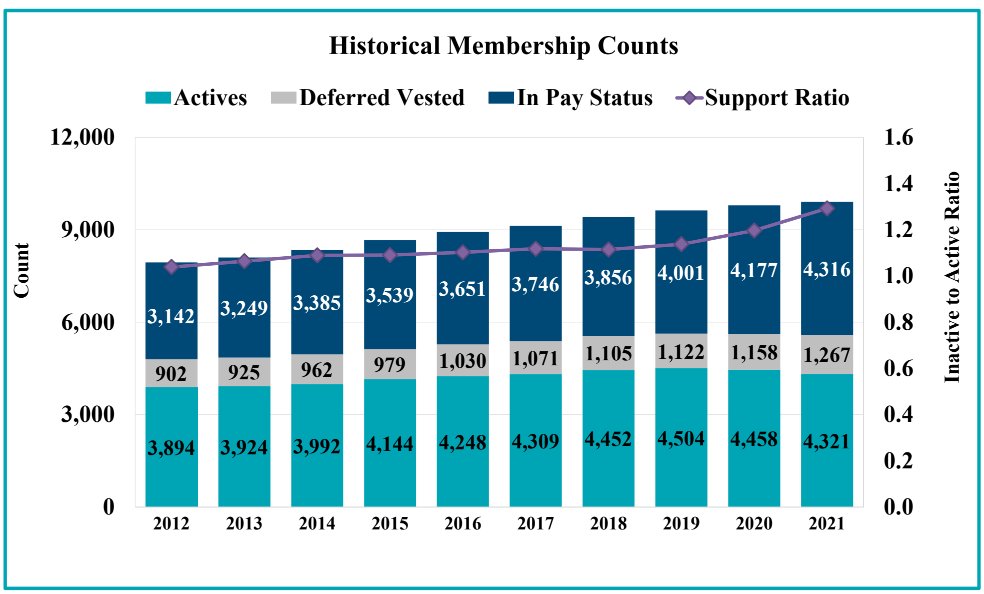
For example, the UAL Amortization rate as of June 30, 2021 for the FYE 2022 is 19.40%. If the projected payroll for FYE 2022 were 2.75% lower, all else being equal, the UAL Amortization rate would increase to 19.93%.

Plan Maturity Measures

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. It is important to understand how the maturity has changed over time. Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic - the larger the plan is compared to the contribution or revenue base that supports it, the more sensitive the plan will be to risk. The measures below have been selected as the most important in understanding the primary risks identified for the Plan.

Inactives per Active (Support Ratio)

One simple measure of plan maturity is the ratio of the number of inactive members to the number of active members. The Support Ratio is expected to increase gradually as a plan matures. The chart below shows the growth in the Support Ratio from 2012 to 2021 as the number of active members increased more slowly than the number of retirees and deferred members and then declined.

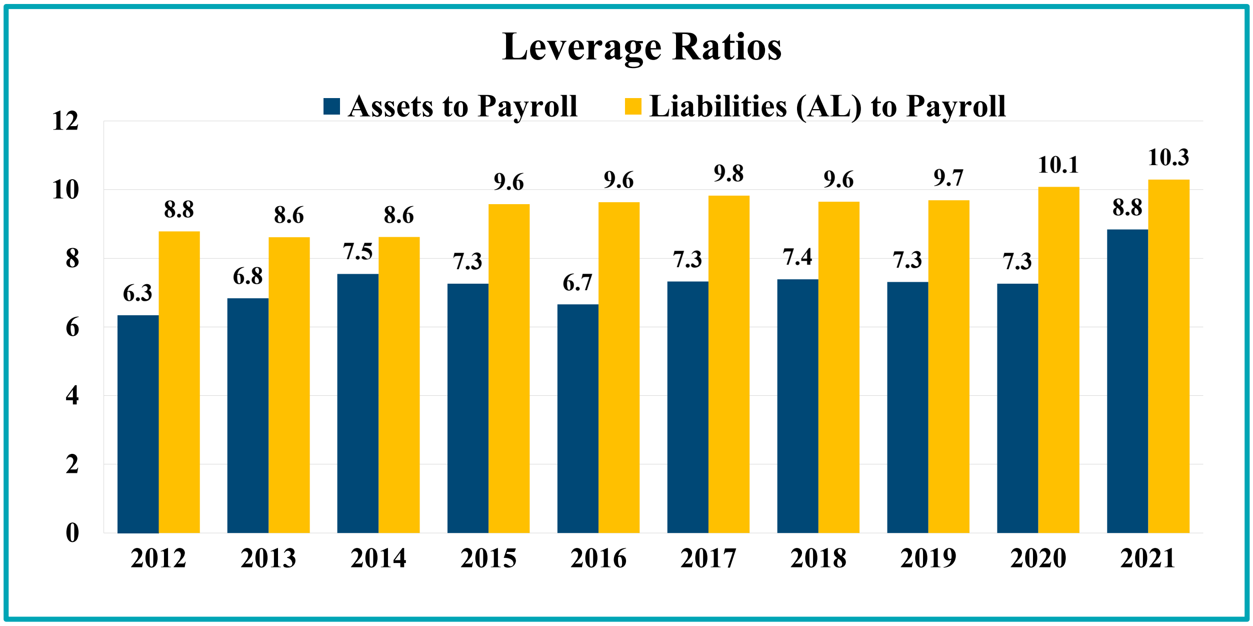


SECTION II – DISCLOSURES RELATED TO RISK

Leverage Ratios

Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. The asset leverage ratio is simply the market value of assets to active member payroll and indicates the sensitivity of the Plan to investment returns. The liability leverage ratio is the plan's actuarial liability to active member payroll and indicates the sensitivity of the Plan to assumption changes or demographic experience.

The chart below shows the historical leverage ratios of the Plan. Both leverage ratios have increased since 2012, and the asset to payroll ratio has remained at or above 7.0 - assets are seven times member payroll - for all but one of the last eight years.

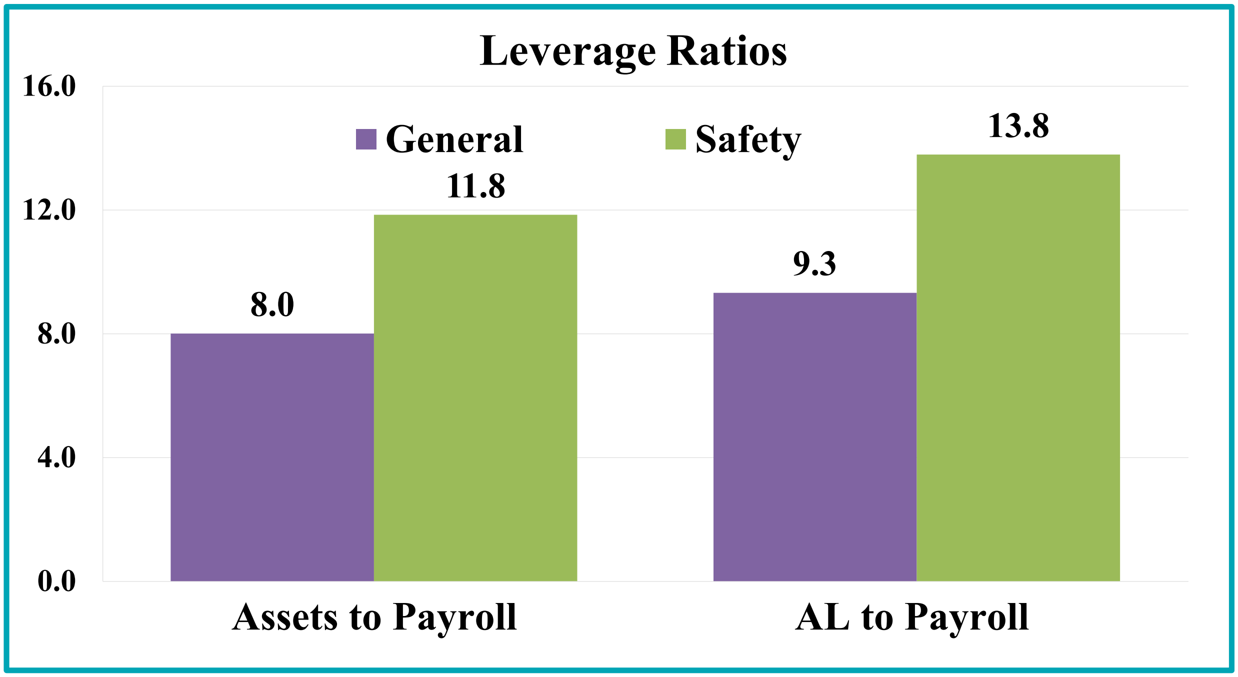


To appreciate the impact of the ratio of assets to payroll on plan cost, consider the situation for a new plan with almost no assets. Even if the assets suffer a bad year of investment returns, the impact on the plan cost is nil, because the asset level is so small.

As the Plan becomes better funded, the asset leverage ratio will increase, and if it were 100% funded, the asset leverage ratio would be about 10 times payroll, or the Actuarial Liability (AL) leverage ratio.

We note that the ratio of both assets and liabilities to payroll, and therefore the sensitivity to investment returns, is higher for the Safety members compared to the General members, because of the higher benefit amounts and the earlier average retirement ages for Safety.

SECTION II – DISCLOSURES RELATED TO RISK



The General asset leverage ratio of 8.0 means that if the Plan's assets lose 10% of their value, which is a 16.75% actuarial loss compared to the expected return of 6.75%, the loss would be equivalent to 134% of payroll (16.75% times 8.0). The same investment loss for the Safety group with an asset ratio of 11.8 would be equivalent to approximately 198% of payroll. There is only one source of funding to make up for these investment losses: contributions. Consequently, barring future offsetting investment gains, the employer has to make up the asset loss in additional future contributions. In this example of a one-year loss of 10%, the shortfall will eventually require an additional annual amortization payment of approximately 10% and 14% of payroll for General and Safety, respectively, if amortized over 20 years. Contribution rates for the Safety members will generally be more volatile compared to General members.

If the Plan were fully funded, the 10% loss discussed above would translate to a loss of 156% of payroll for General and 231% of payroll for Safety. When amortized over 20 years, employer contributions would increase approximately 11% and 17% of payroll, respectively. Therefore, the Plan may become more sensitive to market variations in the future than it is today.

More Detailed Assessment

While a more detailed assessment is always valuable to enhance the understanding of the risks identified above, we believe the scenarios illustrated above cover the primary risks facing the Plan at this time. We would be happy to provide the Board with a more in-depth analysis at their request.

SECTION III – ASSETS

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets as of June 30, 2020 and June 30, 2021,
- Statement of the **changes** in market values during the year,
- Development of the **Actuarial Value of Assets**,
- An assessment of historical **investment performance versus inflation**, and
- An allocation of the unfunded liability between the **valuation subgroups**.

Disclosure

There are two types of asset values disclosed in the valuation, the Market Value of Assets, and the Actuarial Value of Assets. The market value represents "snap-shot" or "cash-out" values, which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as are the Actuarial Value of Assets, which reflects smoothing of annual investment returns.

Table III-1 on the next page discloses and compares each asset class as of June 30, 2020 and June 30, 2021.

SECTION III – ASSETS

Table III-1
Statement of Assets at Market Value

Assets	Fiscal Year ending June 30, 2020	Fiscal Year ending June 30, 2021
Cash and Cash Equivalents	$ 73,474,225	$ 82,503,136
Total Cash and Cash Equivalents	$ 73,474,225	$ 82,503,136
Receivables		
Interest and Dividends	$ 6,367,746	$ 5,961,917
Contributions	7,270,478	4,093,616
Securities Transactions	438,668	101,836,428
Total Receivables	$ 14,076,892	$ 111,891,961
Fixed Assets		
Capitalized Software	$ 0	$ 0
Real Estate Occupied	1,611,569	1,592,591
Real Estate Leased	1,075,100	1,062,447
Other	5,076,949	6,367,162
Total Fixed Assets	$ 7,763,618	$ 9,022,200
Investments at Market Value		
Fixed Income	$ 444,479,600	$ 271,051,232
Equities	1,024,590,262	1,215,469,223
Collateral on Loaned Securities	96,382,659	66,220,680
Other	655,951,548	1,156,229,546
Total Investments	$ 2,221,404,069	$ 2,708,970,681
Liabilities		
Accounts Payable	$ (13,167,410)	$ (13,927,586)
Security Transactions Payable	(907,496)	(101,246,842)
Collateral Held for Loaned Securities	(96,382,659)	(66,220,680)
Other	(395,000)	(395,000)
Total Liabilities	$ (110,852,565)	$ (181,790,108)
Market Value of Assets	**$ 2,205,866,239**	**$ 2,730,597,870**

Changes in Market Value

The components of asset change are:

- Contributions (employers and employee)
- Benefit payments
- Expenses (investment and administrative)
- Investment income (realized and unrealized)

Table III-2 on the next page shows the components of change in the Market Value of Assets during the fiscal years ending June 30, 2020 and June 30, 2021.

SECTION III – ASSETS

Table III-2
Changes in Market Values

Additions		Fiscal Year ending June 30, 2020		Fiscal Year ending June 30, 2021
Contributions				
Employer's Contribution	$	92,684,609	$	93,307,629
Members' Contributions		29,645,645		29,553,123
Total Contributions	**$**	**122,330,254**	$	**122,860,752**
Net Investment Income				
Net Appreciation/(Depreciation) in				
Fair Value of Investments	$	(15,166,254)	$	528,077,801
Interest and Dividends		44,752,966		43,335,298
Commission Recapture		25,624		28,983
Other Investment Income		231,423		247,712
Total Investment Income	**$**	**29,843,759**	**$**	**571,689,794**
Investment Expense		(11,703,204)		(15,886,559)
Net Investment Income	**$**	**18,140,555**	**$**	**555,803,235**
Securities Lending Activities				
Securities Lending Income	$	508,646	$	560,422
Expenses from Securities Lending Activities		(152,428)		(168,008)
Net Securities Lending Income		**356,218**		**392,414**
Total Net Investment Income	$	**18,496,773**	$	**556,195,649**
Total Additions	**$**	**140,827,027**	**$**	**679,056,401**
Deductions				
Benefits	$	138,223,922	$	149,015,287
Refunds		1,761,673		1,915,614
Administrative Costs		3,216,625		3,393,869
Total Deductions	$	**143,202,220**	$	**154,324,770**
Net Increase/(Decrease)	**$**	**(2,375,193)**	**$**	**524,731,631**
Net Assets Beginning of Year	**$**	**2,208,241,432**	**$**	**2,205,866,239**
Net Assets End of Year	**$**	**2,205,866,239**	**$**	**2,730,597,870**
Approximate Return		**0.84%**		**25.40%**

Actuarial Value of Assets (AVA)

The Actuarial Value of Assets represents a "smoothed" value developed by the actuary to reduce the volatile results that could develop due to short-term fluctuations in the Market Value of Assets. For this Plan, the Actuarial Value of Assets is calculated on a modified market-related value. The Market Value of Assets is adjusted to recognize, over a five-year period, investment earnings which are greater than (or less than) the assumed investment return. However, in no event will the Actuarial Value of Assets be less than 80% or more than 120% of market value on the valuation date.

The Valuation Assets are the portion of the Actuarial Assets dedicated to funding the basic pension benefits. The Valuation Assets exclude the value of any non-valuation reserves, such as reserves established for legal contingencies. The Valuation Assets also exclude the value of any non-valuation contingency reserves, which have been established according to the Board's funding policy. In valuations prior to the June 30, 2014 valuation, a reserve associated with the Burial Allowance was excluded from the Valuation Assets; both the assets and liabilities associated with this benefit are included in this valuation.

The table on the following page shows the development of the Actuarial Asset and Valuation Assets values.

SECTION III – ASSETS

Table III-3
Development of Actuarial Value of Assets for 6/30/2021

Item		Total
1. Market Value as of 6/30/2020	$	2,205,866,239
2. Non-Investment Cash Flow for 2020-2021		(31,464,018)
3. Expected Return in 2020-2021		153,328,021
4. Expected Market Value as of 6/30/2021: (1 + 2 + 3)	$	2,327,730,242
5. Actual Return in 2020-2021		556,195,649
6. Actual Return Above Expected in 2020-2021: (5 - 3)		402,867,628
7. Market Value as of 6/30/2021	$	2,730,597,870
8. Deferred Recognition of Returns Above Expected		
A. 2020-2021 (80% of $402,867,628)		322,294,102
B. 2019-2020 (60% of -$135,361,964)		(81,217,178)
C. 2018-2019 (40% of -$48,987,388)		(19,594,955)
D. 2017-2018 (20% of $11,199,487)		2,239,897
E. Total	$	223,721,866
9. Preliminary Actuarial Value of Assets: (7 - 8E)	$	2,506,876,004
10. Corridor Limit		
A. 80% of Net Market Value		2,184,478,296
B. 120% of Net Market Value		3,276,717,444
11. Actuarial Value after Corridor as of 6/30/2021	**$**	**2,506,876,004**
12. Rate of Return on Actuarial Value of Assets		9.76%
13. Ratio of Actuarial Value to Market Value: (11 ÷ 7)		**91.8%**
14. Special (Non Valuation) Reserves:		
A. Health Insurance Reserves		0
B. Special COL Reserve		0
C. Legal Contingency Reserve		1,717,299
D. Tier 3 Disability Reserve		1,560
E. Contingency Reserve		21,586,063
F. Total Special Reserves (Market Value)	$	23,304,922
15. Adjusted Total Special Reserves (91.8% of Market, Except Contingency)	$	23,164,093
16. **Pension Reserves at Actuarial Value (Valuation Assets): (11 - 15)**	**$**	**2,483,711,911**

SECTION III – ASSETS

Historical Investment Performance

The table shows the historical annual asset returns on a Market Value, Actuarial Value, and Valuation Asset basis, as well as the increase in the Consumer Price Index (CPI) since 1997. Note that the returns prior to 2013 are expressed net of investment and administrative expenses; the returns for 2013 and all following years are expressed net of investment expenses only.

Table III-4
Net Return on Assets vs. Increase in Consumer Price Index

Year Ended June 30	Net Return at Market Value	Net Return at Actuarial Value	Net Return at Valuation Assets	Increase in Consumer Price Index[1]
1997	20.4%			2.3%
1998	13.4%			1.7%
1999	10.6%			2.0%
2000	6.3%			3.7%
2001	7.0%			3.2%
2002	-4.5%			1.1%
2003	5.2%		4.9%	2.1%
2004	6.1%		6.3%	3.3%
2005	8.2%		5.5%	2.5%
2006	9.9%		10.8%	4.3%
2007	16.0%	10.8%	0.6%	2.7%
2008	-8.5%	8.0%	16.7%	5.0%
2009	-17.2%	-9.6%	-9.4%	-1.4%
2010	15.6%	13.0%	14.7%	1.1%
2011	22.1%	3.5%	4.2%	3.6%
2012	0.1%	6.4%	6.5%	1.7%
2013	13.9%	7.0%	7.2%	1.8%
2014	18.0%	9.4%	9.5%	2.1%
2015	3.9%	9.1%	9.0%	0.1%
2016	-1.7%	6.3%	6.3%	1.0%
2017	14.4%	8.3%	8.4%	1.6%
2018	7.8%	7.9%	7.9%	2.9%
2019	4.7%	5.6%	5.6%	1.6%
2020	0.8%	5.0%	5.1%	0.6%
2021	25.4%	9.8%	9.9%	5.4%
25-Year Compound Average	**7.5%**	**N/A**	**N/A**	**2.2%**
20-Year Compound Average	**6.5%**	**N/A**	**N/A**	**2.1%**
15-Year Compound Average	**7.1%**	**6.6%**	**6.6%**	**2.0%**
10-Year Compound Average	**8.4%**	**7.5%**	**7.5%**	**1.9%**
5-Year Compound Average	**10.3%**	**7.3%**	**7.4%**	**2.4%**

[1] Based on All Urban Consumers - U.S. City Average, June indices.

Allocation of Unfunded Actuarial Liability by Valuation Subgroup

The following table shows the allocation of the Unfunded Actuarial Liability between the two valuation subgroups (County / Former County Members and City of Ceres / Special District Members). The Valuation Assets are reduced by the liability associated with the inactive members and the refundable contribution balances for active members, and the remaining assets are allocated to each subgroup based on its share of the active liability (prior to the assumption changes adopted as part of the current valuation). These UAL balances are used to calculate each subgroup's amortization payment. The share of UAL for Ceres has been adjusted to account for the departure of the Ceres Fire Department from the Ceres Safety group on August 1, 2021.

Table III-5
Allocation of 6/30/2021 Unfunded Liability
(in thousands)

		County and Former County	Ceres and Other Districts	Total
1.	Actuarial Value of Assets			$ 2,483,712
2.	Accumulated Employee Contributions	213,485	14,368	227,853
3.	Inactive Actuarial Liability (prior assump)	2,029,503	103,923	2,133,426
4.	**Net Assets for Distribution [1 - 2 - 3]**			**$ 122,433**
5.	Active Actuarial Liability (prior assump)	$ 987,998	$ 61,675	$ 1,049,672
6.	Allocation of Remaining Assets	94.12%	5.88%	100.00%
7.	Remaining Assets	115,239	7,194	122,433
8.	Total Assets for Actives [2 + 7]	328,724	21,562	350,286
9.	**Actuarial Value of Assets [3 + 8]**	**$ 2,358,227**	**$ 125,485**	**$ 2,483,712**
10.	Total Actuarial Liability (new assump)	2,985,508	167,524	3,153,032
11.	AVA Funded Ratio [9 ÷ 10]	78.98915%	74.90542%	78.8%
12.	**Unfunded Actuarial Liability [10 - 9]**	**$ 627,281**	**$ 42,040**	**$ 669,320**

Within the two valuation subgroups (County / Former County Members and City of Ceres / Special District Members), the Actuarial Value of Assets is allocated between Safety and General groups based on each group's share of the Actuarial Liability (prior to the assumption changes adopted as part of the current valuation), as shown in Table IV-1.

SECTION IV – LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities on June 30, 2020 and June 30, 2021,
- Statement of **changes** in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them. Note that these liabilities are not applicable for settlement purposes, including the purchase of annuities and the payment of lump sums.

- **Present Value of Future Benefits:** Used for measuring all future Plan obligations, represents the amount of money needed today to fully fund all benefits of the Plan both earned as of the valuation date and those to be earned in the future by current Plan participants, under the current Plan provisions.

- **Actuarial Liability:** Used for funding calculations, this liability is calculated taking the Present Value of Future Benefits and subtracting the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. The method used for this Plan is called the **Entry Age Normal** (EAN) funding method.

- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Valuation Assets.

Table IV-1 on the following page discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of Plan assets yields, for each respective type, a **net surplus,** or an **Unfunded Actuarial Liability**.

SECTION IV – LIABILITIES

Table IV-1
Present Value of Future Benefits and Actuarial Liability
(in thousands)

	General: County and Former County	General: Ceres and Other Districts	Safety: County and Former County	Safety: Ceres and Other Districts	June 30, 2021 Total	June 30, 2020 Total
Present Value of Future Benefits						
Actives	$ 1,055,297	$ 38,381	$ 426,615	$ 36,070	$ 1,556,363	$ 1,529,432
Terminated Vested	129,707	7,276	44,368	24,986	206,338	175,763
Retirees	1,196,099	34,092	389,429	34,444	1,654,064	1,589,222
Disabled	44,989	2,102	82,341	11,582	141,014	139,725
Beneficiaries	70,492	1,675	34,117	2,197	108,480	104,441
Total StanCERA	**$ 2,496,584**	**$ 83,526**	**$ 976,871**	**$ 109,278**	**$ 3,666,259**	**$ 3,538,583**
Actuarial Liability						
Total Present Value of Benefits	$ 2,496,584	$ 83,526	$ 976,871	$ 109,278	$ 3,666,259	$ 3,538,583
Present Value of Future Normal Costs						
Employer Portion	179,883	7,864	82,702	6,408	276,857	277,093
Employee Portion	153,681	6,006	71,680	5,002	236,370	232,843
Actuarial Liability	$ 2,163,019	$ 69,656	$ 822,488	$ 97,868	$ 3,153,032	$ 3,028,647
Actuarial Liability (prior assumptions)	2,204,066	70,833	813,435	94,765	3,183,099	
Actuarial Value of Assets	$ 1,722,514	$ 53,675	$ 635,713	$ 71,810	$ 2,483,712	$ 2,290,287
Funded Ratio	79.6%	77.1%	77.3%	73.4%	78.8%	75.6%
Unfunded Actuarial Liability/(Surplus)	$ 440,505	$ 15,981	$ 186,775	$ 26,058	$ 669,320	$ 738,360

SECTION IV – LIABILITIES

The table shows the Actuarial Liabilities for each of the valuation subgroups (General and Safety), split by members' status.

Table IV-2
Liabilities by Group as of June 30, 2021
(in thousands)

	General		Safety		Total
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts	
Actuarial Liability					
Actives	$ 721,732	$ 24,511	$ 272,233	$ 24,661	$ 1,043,137
Terminated Vested	129,707	7,276	44,368	24,986	206,338
Retirees	1,196,099	34,092	389,429	34,444	1,654,064
Disabled	44,989	2,102	82,341	11,582	141,014
Beneficiaries	70,492	1,675	34,117	2,197	108,480
Total	**$ 2,163,019**	**$ 69,656**	**$ 822,488**	**$ 97,868**	**$ 3,153,032**

SECTION IV – LIABILITIES

Changes in Liabilities

Each of the Liabilities disclosed in the prior tables are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure Plan assets

Table IV-3
Development of 2021 Experience Gain/(Loss)
(in millions)

Item		Cost
1.	Unfunded Actuarial Liability at June 30, 2020	$ 738.4
2.	Middle of year actuarial liability payment	(62.6)
3.	Interest to end of year on 1 and 2	49.5
4.	Expected Unfunded Actuarial Liability at June 30, 2021 (1+2+3)	$ 725.3
5.	Actual Unfunded Liability at June 30, 2021	669.3
6.	Experience Gain: (4 - 5)	$ 55.9
7.	Portion of experience gain due to:	
	A. Investment experience	$ 65.7
	B. Contribution (shortfall)/excess	(6.8)
	C. Assumption changes	30.1
	D. Other experience	(33.0)
	E. Total	55.9

SECTION V – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the Normal Cost and the Unfunded Actuarial Liability is the **Entry Age Normal (EAN)** cost method. There are three components to the total contribution: the **Normal Cost rate** (employee and employer), the **Unfunded Actuarial Liability rate** (UAL rate), and the **Administrative Expense** contribution.

The Normal Cost rate is determined in the following steps. First, an individual Normal Cost rate is determined by taking the value, as of entry age into the Plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of the member's expected future salary producing a Normal Cost rate that should remain relatively constant over a member's career.

The total Normal Cost is computed by adding the expected dollar amount of each active member's Normal Cost for the current year – known as the Individual Entry Age Method. The total Normal Cost is adjusted with interest to the middle of the year, to reflect the fact that the Normal Cost contributions are paid throughout the year as member payroll payments are made. Finally, the total Normal Cost rate is reduced by the member contribution rate to produce the employer Normal Cost rate. The member contribution rate for each subgroup is determined by adding the expected contributions for each member and dividing by the projected pay for each subgroup.

The EAN Actuarial Liability is calculated by subtracting the present value of future total Normal Cost from the Present Value of Future Benefits (as described at the beginning of Section IV).

The Unfunded Actuarial Liability (UAL) is the difference between the EAN Actuarial Liability and the Actuarial Value of Assets. The current UAL payment is determined as the amount needed to fund the UAL over a closed 15-year period as a level percentage of payroll.

At the April 27, 2021 board meeting, the StanCERA Board of Retirement made a change to the funding policy, choosing to amortize any future unexpected changes in the UAL from actuarial gains or losses or assumptions changes over a period of 20 years as a level percentage of payroll, with new amortization layers established each year, beginning with changes emerging after June 30, 2021. Any future changes in the UAL due to plan amendments or other plan provision changes will be amortized over a shorter period, based on the lesser of 15 years or the average future working lifetime for changes affecting active members, or the lesser of 10 years or the average remaining life expectancy for changes affecting inactive members.

Beginning with the June 30, 2012 actuarial valuation, the Board adopted a policy of adding an amount equal to the expected annual administrative expense to the employer's required contribution. Prior to the June 30, 2012 actuarial valuation, the administrative expenses were included as an offset to the assumed earnings rate and were shared between the employees and employers. For the June 30, 2021 valuation, this amount is estimated to be $3.1 million.

SECTION V – CONTRIBUTIONS

The table below presents the calculation of the contribution rates for the Plan for this valuation and compares the total contribution rate with the prior year rate. The tables on the following pages contain more details on the calculation of the UAL amortization payments, as well as details on the calculation of the contribution rates for each group and tier.

Table V-1
Development of the Net Employer Contribution Rate as of June 30, 2021 for FYE 2023

	June 30, 2021					June 30, 2020
	General		Safety		COMPOSITE	COMPOSITE
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts		
1. Total Normal Cost Rate	18.25%	20.45%	30.13%	33.31%	**20.95%**	**21.12%**
2. Member Contribution Rate	8.66%	9.05%	13.65%	14.52%	**9.77%**	**9.72%**
3. Employer Normal Cost Rate (1-2)	9.59%	11.40%	16.48%	18.79%	**11.18%**	**11.40%**
4. UAL Amortization	16.96%	15.82%	26.66%	50.35%	**19.40%**	**20.81%**
5. Administrative Expense Rate	0.88%	0.90%	1.43%	2.29%	**1.01%**	**0.99%**
6. Net Employer Contribution Rate (3+4+5)	27.43%	28.12%	44.57%	71.43%	**31.59%**	**33.20%**

SECTION V – CONTRIBUTIONS

Table V-2 contains the details of the calculations of the UAL rates for the Plan and its subgroups.

Table V-2
Development of UAL Amortization Rates

	General		Safety		TOTAL
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts	
Salary Scale:					
2022+	2.75%	2.75%	2.75%	2.75%	N/A
Amortization Factor	11.2642	11.2642	11.2642	11.2642	N/A
Payroll	$ 230,594,352	$ 8,967,187	$ 62,188,047	$ 4,594,421	$ 306,344,007
Unfunded Actuarial Liability (AVA)	$ 440,505,361	$ 15,981,192	$ 186,775,197	$ 26,058,366	$ 669,320,116
UAL Amortization	$ 39,106,626	$ 1,418,758	$ 16,581,292	$ 2,313,377	$ 59,420,053
UAL Amortization Rate	16.96%	15.82%	26.66%	50.35%	19.40%

SECTION V – CONTRIBUTIONS

Tables V-3 and V-4 contain the calculations of the employer contribution rates for each group and tier.

Table V-3
Development of the General Member Contribution Rate as of June 30, 2021 for FYE 2023

	Tier 2	Tier 3	Tier 4	Tier 5	PEPRA	TOTAL
County and Former County						
A. Total Normal Cost Rate	18.63%	2.94%	19.50%	19.81%	16.89%	**18.25%**
B. Member Contribution Rate	8.28%	0.00%	4.45%	9.01%	8.44%	**8.66%**
C. Employer Normal Cost Rate (A-B)	10.35%	2.94%	15.05%	10.80%	8.45%	**9.59%**
D. UAL Amortization Rate	16.96%	16.96%	16.96%	16.96%	16.96%	**16.96%**
E. Administrative Expense Rate	0.90%	0.66%	1.06%	0.92%	0.84%	**0.88%**
F. Net June 30, 2021 Contribution Rate (C+D+E)	**28.21%**	**20.56%**	**33.07%**	**28.68%**	**26.25%**	**27.43%**
Ceres and Other Districts						
A. Total Normal Cost Rate	16.65%			22.76%	18.20%	**20.45%**
B. Member Contribution Rate	8.10%			9.05%	9.10%	**9.05%**
C. Employer Normal Cost Rate (A-B)	8.55%			13.71%	9.10%	**11.40%**
D. UAL Amortization Rate	15.82%			15.82%	15.82%	**15.82%**
E. Administrative Expense Rate	0.81%			0.98%	0.82%	**0.90%**
F. Net June 30, 2021 Contribution Rate (C+D+E)	**25.18%**			**30.51%**	**25.74%**	**28.12%**

Administrative expenses allocated based on projected Employer Normal Cost and UAL Amortization contributions. See Table V-5.

SECTION V – CONTRIBUTIONS

Table V-4
Development of the Safety Member Contribution Rate as of June 30, 2021 for FYE 2023

	Tier 2	Tier 5	PEPRA	TOTAL
County and Former County				
A. Total Normal Cost Rate	28.01%	34.91%	26.37%	**30.13%**
B. Member Contribution Rate	12.95%	14.29%	13.18%	**13.65%**
C. Employer Normal Cost Rate (A-B)	15.06%	20.62%	13.19%	**16.48%**
D. UAL Amortization Rate	26.66%	26.66%	26.66%	**26.66%**
E. Administrative Expense Rate	1.38%	1.56%	1.32%	**1.43%**
F. Net June 30, 2021 Contribution Rate (C+D+E)	**43.10%**	**48.84%**	**41.17%**	**44.57%**
Ceres and Other Districts				
A. Total Normal Cost Rate		35.29%	29.44%	**33.31%**
B. Member Contribution Rate		14.41%	14.72%	**14.52%**
C. Employer Normal Cost Rate (A-B)		20.88%	14.72%	**18.79%**
D. UAL Amortization Rate		50.35%	50.35%	**50.35%**
E. Administrative Expense Rate		2.36%	2.15%	**2.29%**
F. Net June 30, 2021 Contribution Rate (C+D+E)		**73.59%**	**67.22%**	**71.43%**

Administrative expenses allocated based on projected Employer Normal Cost and UAL Amortization contributions. See Table V-6.

Tables V-5 and V-6 show the allocation of the administrative expense for each group and tier. The administrative expense is allocated to each group and tier based on its share of the projected employer contributions prior to inclusion of the administrative expense.

SECTION V – CONTRIBUTIONS

Table V-5
Development of the General Member Administrative Expense Rate as of June 30, 2021 for FYE 2023

	Tier 2	Tier 3	Tier 4	Tier 5	PEPRA	TOTAL
County and Former County						
A. Projected Payroll for FYE 2022	$ 16,017,455	$ 484,588	$ 115,241	$ 100,313,214	$ 113,663,854	**$ 230,594,352**
B. Employer Normal Cost Rate	10.35%	2.94%	15.05%	10.80%	8.45%	
C. UAL Amortization Rate	16.96%	16.96%	16.96%	16.96%	16.96%	
D. Employer Contribution Rate Prior to Administrative Expense (B+C)	27.31%	19.90%	32.01%	27.76%	25.41%	
E. Projected Employer Contribution for FYE 2022 Prior to Administrative Expense						
1. Normal Cost (A*B)	$ 1,657,807	$ 14,247	$ 17,344	$ 10,833,827	$ 9,604,595	**$ 22,127,820**
2. UAL Amortization (A*C)	2,716,560	82,186	19,545	17,013,121	19,277,390	**39,108,802**
3. Total Prior to Administrative Expense (A*D)	$ 4,374,367	$ 96,433	$ 36,889	$ 27,846,948	$ 28,881,985	**$ 61,236,622**
F. Allocated Administrative Expense	$ 144,697	$ 3,190	$ 1,220	$ 921,134	$ 955,372	**$ 2,025,613**
G. Administrative Expense Rate (F÷A)	**0.90%**	**0.66%**	**1.06%**	**0.92%**	**0.84%**	
H. Projected Employer Contribution for FYE 2022 Due to Administrative Expense (A*G)	$ 144,157	$ 3,198	$ 1,222	$ 922,882	$ 954,776	**$ 2,026,235**
Ceres and Other Districts						
A. Projected Payroll for FYE 2022	$ 252,612			$ 4,503,188	$ 4,211,387	**$ 8,967,187**
B. Employer Normal Cost Rate	8.55%			13.71%	9.10%	
C. UAL Amortization Rate	15.82%			15.82%	15.82%	
D. Employer Contribution Rate Prior to Administrative Expense (B+C)	24.37%			29.53%	24.92%	
E. Projected Employer Contribution for FYE 2022 Prior to Administrative Expense						
1. Normal Cost (A*B)	$ 21,599			$ 617,387	$ 383,237	**$ 1,022,223**
2. UAL Amortization (A*C)	39,963			712,404	666,241	**1,418,608**
3. Total Prior to Administrative Expense (A*D)	$ 61,562			$ 1,329,791	$ 1,049,478	**$ 2,440,831**
F. Allocated Administrative Expense	$ 2,036			$ 43,987	$ 34,715	**$ 80,739**
G. Administrative Expense Rate (F÷A)	**0.81%**			**0.98%**	**0.82%**	
H. Projected Employer Contribution for FYE 2022 Due to Administrative Expense (A*G)	$ 2,046			$ 44,131	$ 34,533	**$ 80,710**

SECTION V – CONTRIBUTIONS

Table V-6
Development of the Safety Member Administrative Expense Rate as of June 30, 2021 for FYE 2023

	Tier 2	Tier 5	PEPRA	TOTAL
County and Former County				
A. Projected Payroll for FYE 2022	$ 3,280,566	$ 27,161,657	$ 31,745,824	**$ 62,188,047**
B. Employer Normal Cost Rate	15.06%	20.62%	13.19%	
C. UAL Amortization Rate	26.66%	26.66%	26.66%	
D. Employer Contribution Rate Prior to Administrative Expense (B+C)	41.72%	47.28%	39.85%	
E. Projected Employer Contribution for FYE 2022 Prior to Administrative Expense				
1. Normal Cost (A*B)	$ 494,053	$ 5,600,733	$ 4,187,274	**$ 10,282,060**
2. UAL Amortization (A*C)	874,599	7,241,298	8,463,437	**16,579,334**
3. Total Prior to Administrative Expense (A*D)	$ 1,368,652	$ 12,842,031	$ 12,650,711	**$ 26,861,394**
F. Allocated Administrative Expense	$ 45,273	$ 424,795	$ 418,466	**$ 888,534**
G. Administrative Expense Rate (F÷A)	**1.38%**	**1.56%**	**1.32%**	
H. Projected Employer Contribution for FYE 2022 Due to Administrative Expense (A*G)	$ 45,272	$ 423,722	$ 419,045	**$ 888,039**
Ceres and Other Districts				
A. Projected Payroll for FYE 2022		$ 3,054,120	$ 1,540,301	**$ 4,594,421**
B. Employer Normal Cost Rate		20.88%	14.72%	
C. UAL Amortization Rate		50.35%	50.35%	
D. Employer Contribution Rate Prior to Administrative Expense (B+C)		71.23%	65.07%	
E. Projected Employer Contribution for FYE 2022 Prior to Administrative Expense				
1. Normal Cost (A*B)		$ 637,701	$ 226,732	**$ 864,433**
2. UAL Amortization (A*C)		1,537,749	775,542	**2,313,291**
3. Total Prior to Administrative Expense (A*D)		$ 2,175,450	$ 1,002,274	**$ 3,177,724**
F. Allocated Administrative Expense		$ 71,961	$ 33,154	**$ 105,114**
G. Administrative Expense Rate (F÷A)		**2.36%**	**2.15%**	
H. Projected Employer Contribution for FYE 2022 Due to Administrative Expense (A*G)		$ 72,077	$ 33,116	**$ 105,193**

SECTION VI – REQUIRED ACFR EXHIBITS

The GASB adopted Statement Nos. 67 and 68, which replaced GASB Statement Nos. 25, and 27. The disclosures needed to satisfy GASB requirements can be found in the StanCERA GASB 67/68 Report as of June 30, 2021.

In accordance with Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports (ACFRs), we continue to prepare several schedules for the Plan that are not included in the GASB report.

The Schedule of Funded Liabilities by Type (Table VI-1, formerly referred to as the Solvency Test) shows the portion of actuarial liabilities for active member contributions, inactive members, and the employer-financed portion of the active members covered by the Actuarial Value of Assets. The actuarial liability is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions, including a 6.75% discount rate for the most recent valuation.

The information needed to prepare the Actuarial Gain/Loss exhibit can now be found in Table II-1 (Unfunded Actuarial Liability Change by Source) in the Disclosures Related to Risk section. Each year there will be a gain or loss due to both assets and liabilities. In addition, there can be gains or losses due to changes in plan provisions or due to the adoption of new assumptions or methods. Finally, the unfunded liability will change based on whether the contributions exceed the interest on the unfunded liability plus the normal cost. A negative number in this column ("Contributions") indicates that the contributions in the given year are greater than the interest on the unfunded liability plus the normal cost, and thus reduce the unfunded liability.

We have also included a Schedule of Funding Progress (Table VI-2), showing the historical assets, liabilities, and funded ratios for the Plan, along with the covered payroll and the unfunded actuarial liability as a percent of payroll.

SECTION VI – REQUIRED ACFR EXHIBITS

Table VI-1
SCHEDULE OF FUNDED LIABILITIES BY TYPE
(dollars in thousands)

Valuation Date June 30,	(1) Active Member Contributions	(2) Retirees And Beneficiaries	(3) Active And Terminated Members	Actuarial Accrued Liabilities[4]	Valuation Assets	Portion of Actuarial Liabilities Covered by Reported Assets (1)	(2)	(3)
2003	$ 176,622	$ 455,784	$ 325,689	$ 958,095	$ 928,022	100%	100%	91%
2004	166,806	518,922	349,617	1,035,345	993,180	100%	100%	88%
2005	205,556	551,810	358,994	1,116,310	1,049,691	100%	100%	81%
2006 [1]	219,907	619,109	355,888	1,194,904	1,154,048	100%	100%	89%
2008 [2]	272,657	739,838	536,329	1,548,824	1,317,167	100%	100%	57%
2009	298,342	781,082	574,292	1,653,716	1,171,767	100%	100%	16%
2010	323,940	829,323	584,561	1,737,824	1,325,801	100%	100%	30%
2011	337,201	897,384	523,133	1,757,718	1,372,046	100%	100%	26%
2012	351,569	987,546	549,598	1,888,713	1,451,764	100%	100%	20%
2013 [3]	191,968	1,065,792	661,466	1,919,227	1,524,076	100%	100%	40%
2014	193,301	1,144,734	688,335	2,026,371	1,644,077	100%	100%	44%
2015	196,074	1,337,781	857,667	2,391,522	1,763,629	100%	100%	27%
2016	200,960	1,427,166	908,941	2,537,067	1,845,764	100%	100%	24%
2017	206,386	1,510,151	931,625	2,648,162	1,968,231	100%	100%	27%
2018	213,223	1,590,078	945,767	2,749,068	2,100,278	100%	100%	31%
2019	219,369	1,695,484	982,369	2,897,223	2,199,956	100%	100%	29%
2020	222,390	1,833,388	972,868	3,028,647	2,290,287	100%	100%	24%
2021	224,594	1,903,558	1,024,880	3,153,032	2,483,712	100%	100%	35%

[1] Results recalculated, reflecting Level 1 assumption changes (new retirement, termination and withdrawal decrements) & new EFI EAN methodology.

[2] Reflects transfer as of June 30, 2008 of $50 million from Non-Valuation to Valuation Reserves.

[3] Reflects change to include only refundable contribution balance.

[4] The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

SECTION VI – REQUIRED ACFR EXHIBITS

Table VI-2
Schedule of Funding Progress

Actuarial Valuation Date [1]	Valuation Assets	Actuarial Accrued Liability (AAL) [3]	Unfunded AAL	Funded Ratio	Covered Payroll	Unfunded AAL as a % of Covered Payroll
2008 [2]	$ 1,317,167,000	$ 1,548,824,000	$ 231,657,000	85.0%	$ 275,580,000	84.1%
2009	1,171,767,000	1,653,716,000	481,949,000	70.9%	248,316,000	194.1%
2010	1,325,801,000	1,737,824,000	412,023,000	76.3%	248,830,473	165.6%
2011	1,372,046,000	1,757,718,000	385,672,000	78.1%	226,706,796	170.1%
2012	1,451,764,000	1,888,713,000	436,949,000	76.9%	220,918,009	197.8%
2013	1,524,076,000	1,919,227,000	395,151,000	79.4%	219,028,318	180.4%
2014	1,644,077,000	2,026,371,000	382,294,000	81.1%	223,028,288	171.4%
2015	1,763,629,000	2,391,522,000	627,893,000	73.7%	237,717,727	264.1%
2016	1,845,764,000	2,537,067,000	691,303,000	72.8%	250,447,580	276.0%
2017	1,968,231,000	2,648,162,000	679,931,000	74.3%	256,143,684	265.4%
2018	2,100,278,000	2,749,068,000	648,790,000	76.4%	270,755,220	239.6%
2019	2,199,956,000	2,897,223,000	697,267,000	75.9%	284,008,303	245.5%
2020	2,290,287,000	3,028,647,000	738,360,000	75.6%	285,326,282	258.8%
2021	2,483,712,000	3,153,032,000	669,320,000	78.8%	291,650,438	229.5%

[1] Excludes value of Non-Valuation Reserves.

[2] Includes $50 million transferred from Non-Valuation Reserves as of June 30, 2008.

[3] The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided by StanCERA as of June 30, 2021. Cheiron did not audit any of the data. However, we performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Active, Vested, and In Payment Member Data as of June 30, 2021

	General Members		Safety Members		Total	
	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021
Active Participants						
Number	3,652	3,555	806	766	4,458	4,321
Average Age	44.73	44.78	37.13	37.31	43.36	43.46
Average Service	10.37	10.54	9.75	9.93	10.26	10.43
Average Pay (does not reflect impact of furloughs)	$ 60,693	$ 64,176	$ 79,000	$ 82,905	$ 64,003	$ 67,496
Service Retired						
Number	2,900	2,997	473	501	3,373	3,498
Average Age	70.36	70.51	64.25	64.19	69.51	69.61
Average Annual Total Benefit	$ 32,902	$ 33,879	$ 59,785	$ 60,435	$ 36,672	$ 37,682
Beneficiaries						
Number	386	390	112	118	498	508
Average Age	73.15	73.26	67.15	67.51	71.80	71.92
Average Annual Total Benefit	$ 20,816	$ 21,321	$ 31,102	$ 32,093	$ 23,129	$ 23,823
Duty Disabled						
Number	89	90	138	142	227	232
Average Age	69.53	69.26	59.51	60.03	63.44	63.61
Average Annual Total Benefit	$ 26,952	$ 26,644	$ 40,467	$ 41,405	$ 35,169	$ 35,679
Ordinary Disabled						
Number	72	71	7	7	79	78
Average Age	65.36	66.01	62.00	63.00	65.06	65.74
Average Annual Total Benefit	$ 19,005	$ 19,513	$ 25,901	$ 26,678	$ 19,616	$ 20,156
Total In Pay						
Number	3,447	3,548	730	768	4,177	4,316
Average Age	70.55	70.69	63.78	63.92	69.37	69.49
Average Annual Total Benefit	$ 31,105	$ 32,027	$ 51,407	$ 52,254	$ 34,653	$ 35,627
Terminated Vested						
Number	398	445	67	74	465	519
Average Age	49.76	48.88	43.16	42.95	48.81	48.04
Average Service	10.54	10.54	9.87	9.97	10.44	10.46
Transfers						
Number	523	536	170	212	693	748
Average Age	46.14	46.88	41.75	41.40	45.06	45.33
Average Service	7.35	7.89	7.51	7.90	7.39	7.89
Total Deferred						
Number	921	981	237	286	1,158	1,267
Average Age	47.70	47.79	42.15	41.80	46.57	46.44
Average Service	8.73	9.09	8.18	8.44	8.62	8.94

APPENDIX A – MEMBERSHIP INFORMATION

Schedule of Retirees & Beneficiaries Added to and Removed from Retirement Payroll

Plan Year Ending	Added During Year	Allowance Added	Removed During Year	Allowance Removed	At End of Year	Annual Allowance	% Increase in Retiree Allowance	Average Annual Allowance
2008	369	$ 9,084,777	(148)	$ (1,731,738)	2,666	$ 63,296,000	19.18%	$ 23,742
2009	156	$ 2,168,425	(71)	$ (647,870)	2,751	$ 66,720,003	5.41%	$ 24,253
2010	159	$ 3,349,900	(80)	$ (751,427)	2,830	$ 71,464,735	7.11%	$ 25,334
2011	263	$ 4,724,416	(78)	$ (1,194,042)	3,015	$ 74,826,404	4.70%	$ 25,732
2012	226	$ 3,565,634	(99)	$ (978,729)	3,142	$ 80,157,222	7.12%	$ 26,737
2013	198	$ 6,036,138	(91)	$ (1,144,584)	3,249	$ 89,975,736	12.25%	$ 27,694
2014	222	$ 6,703,273	(86)	$ (1,725,066)	3,385	$ 96,405,454	7.15%	$ 28,480
2015	237	$ 7,778,716	(83)	$ (2,043,313)	3,539	$ 104,052,097	7.93%	$ 29,402
2016	211	$ 7,066,750	(99)	$ (2,160,689)	3,651	$ 111,260,240	6.93%	$ 30,474
2017	202	$ 6,749,973	(107)	$ (2,471,229)	3,746	$ 117,901,627	5.97%	$ 31,474
2018	233	$ 7,555,825	(123)	$ (3,109,178)	3,856	$ 124,995,337	6.02%	$ 32,416
2019	242	$ 8,421,538	(97)	$ (2,580,158)	4,001	$ 133,601,799	6.89%	$ 33,392
2020	283	$ 11,277,136	(107)	$ (3,164,436)	4,177	$ 144,745,530	8.34%	$ 34,653
2021	273	$ 9,937,557	(134)	$ (3,802,836)	4,316	$ 153,764,029	6.23%	$ 35,627

APPENDIX A – MEMBERSHIP INFORMATION

Active and Vested Participant Data as of June 30, 2021

	County and Former County						Ceres and Other Districts						Total County and Former County, Ceres and Other Districts	
	General Members		Safety Members		Total		General Members		Safety Members		Total			
	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021
Active Participants														
Number	3,520	3,418	726	717	4,246	4,135	132	137	80	49	212	186	4,458	4,321
Average Age	44.73	44.74	36.90	37.15	43.39	43.43	44.95	45.72	39.23	39.69	42.79	44.13	43.36	43.46
Average Service	10.36	10.54	9.58	9.82	10.22	10.42	10.59	10.42	11.52	11.53	10.94	10.72	10.26	10.42
Average Pay[1]	$ 60,760	$ 64,248	$ 78,241	$ 82,458	$ 63,749	$ 67,406	$ 58,908	$ 62,363	$ 85,887	$ 89,451	$ 69,089	$ 69,499	$ 64,003	$ 67,496
Terminated Vested														
Number	383	427	62	71	445	498	15	18	5	3	20	21	465	519
Average Age	49.68	48.99	43.18	42.82	48.78	48.11	51.67	46.44	43.00	46.00	49.50	46.38	48.81	48.04
Average Service	10.44	10.45	9.76	9.78	10.35	10.36	13.13	12.60	11.21	14.51	12.65	12.88	10.44	10.46
Transfers														
Number	479	490	138	138	617	628	44	46	32	74	76	120	693	748
Average Age	46.39	47.14	41.17	41.70	45.23	45.95	43.32	44.07	44.28	40.85	43.72	42.08	45.06	45.33
Average Service	7.30	7.85	7.36	7.35	7.31	7.74	7.96	8.26	8.17	8.93	8.05	8.68	7.39	7.89
Total Deferred														
Number	862	917	200	209	1,062	1,126	59	64	37	77	96	141	1,158	1,267
Average Age	47.86	48.00	41.79	42.08	46.71	46.90	45.44	44.73	44.11	41.05	44.93	42.72	46.57	46.44
Average Service	8.69	9.06	8.10	8.17	8.58	8.90	9.28	9.49	8.58	9.15	9.01	9.30	8.62	8.94

[1] All payroll figures shown are annual.

APPENDIX A – MEMBERSHIP INFORMATION

Active and Vested Participant Data as of June 30, 2021

County and Former County Members

	General Members														Safety Members					
	Tier 1		Tier 2		Tier 3		Tier 4		Tier 5		PEPRA		Tier 2		Tier 5		PEPRA	
	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021
Active Participants																		
Number	0	0	211	206	8	8	4	2	1,467	1,315	1,830	1,887	36	36	292	267	398	414
Average Age	0.00	0.00	44.10	45.19	52.25	53.25	62.00	64.00	51.60	51.88	39.22	39.66	38.39	39.00	44.91	45.38	30.89	31.68
Average Service	0.00	0.00	9.95	10.73	20.62	21.55	35.47	32.41	18.85	19.71	3.50	4.05	9.71	10.49	17.67	18.43	3.63	4.25
Average Pay[1]	$ 0	$ 0	$ 70,176	$ 74,854	$ 54,560	$ 58,659	$ 100,735	$ 55,799	$ 69,796	$ 73,866	$ 52,371	$ 56,421	$ 81,868	$ 87,505	$ 92,680	$ 98,022	$ 67,318	$ 71,981
Terminated Vested																		
Number	4	2	60	65	15	18	0	0	278	291	26	51	11	12	45	48	6	11
Average Age	66.75	67.00	51.30	50.28	60.53	60.67	0.00	0.00	49.25	49.32	41.69	40.59	47.55	47.00	43.76	44.29	30.83	31.82
Average Service	8.87	9.29	7.93	8.05	13.89	13.58	0.00	0.00	11.23	11.51	6.08	6.44	7.42	6.76	10.88	11.42	5.62	5.91
Transfers																		
Number	1	1	124	120	11	20	0	0	236	235	107	114	20	19	91	89	27	30
Average Age	65.00	66.00	48.81	49.13	51.18	54.95	0.00	0.00	48.94	49.42	37.31	38.83	43.90	44.32	43.35	44.20	31.78	32.60
Average Service	5.95	9.91	3.98	4.08	15.00	22.01	0.00	0.00	10.88	11.06	2.46	2.73	4.21	4.36	9.33	9.37	3.05	3.25
Total Deferred																		
Number	5	3	184	185	26	38	0	0	514	526	133	165	31	31	136	137	33	41
Average Age	66.40	66.67	49.62	49.54	56.58	57.66	0.00	0.00	49.11	49.37	38.17	39.38	45.19	45.35	43.49	44.23	31.61	32.39
Average Service	8.29	9.50	5.27	5.47	14.36	18.02	0.00	0.00	11.07	11.31	3.17	3.87	5.35	5.29	9.85	10.09	3.52	3.96

[1] All payroll figures shown are annual.

CERES and Other District Members

	General Members														Safety Members					
	Tier 1		Tier 2		Tier 3		Tier 4		Tier 5		PEPRA		Tier 2		Tier 5		PEPRA	
	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021	7/1/2020	7/1/2021
Active Participants																		
Number	0	0	4	4	0	0	1	0	60	59	67	74	0	0	51	28	29	21
Average Age	0.00	0.00	49.00	50.00	0.00	0.00	73.00	0.00	51.22	52.07	38.69	40.42	0.00	0.00	42.02	42.43	34.31	36.05
Average Service	0.00	0.00	14.58	15.54	0.00	0.00	51.87	0.00	18.00	18.70	3.10	3.57	0.00	0.00	15.87	16.06	3.86	5.42
Average Pay[1]	$ 0	$ 0	$ 60,363	$ 61,157	$ 0	$ 0	$ 58,044	$ 0	$ 71,805	$ 73,755	$ 47,285	$ 53,347	$ 0	$ 0	$ 98,354	$ 104,799	$ 63,963	$ 68,987
Terminated Vested																		
Number	0	0	4	4	0	0	0	0	8	10	3	4	0	0	4	2	1	1
Average Age	0.00	0.00	60.25	54.75	0.00	0.00	0.00	0.00	50.75	46.80	42.67	37.25	0.00	0.00	42.00	44.00	47.00	50.00
Average Service	0.00	0.00	7.59	11.28	0.00	0.00	0.00	0.00	16.89	15.23	10.49	7.36	0.00	0.00	12.69	12.93	5.30	17.66
Transfers																		
Number	0	0	5	6	0	0	0	0	29	30	10	10	11	11	19	43	2	20
Average Age	0.00	0.00	54.00	54.33	0.00	0.00	0.00	0.00	43.14	43.50	38.50	39.60	51.09	52.09	41.79	42.02	30.50	32.15
Average Service	0.00	0.00	2.11	6.02	0.00	0.00	0.00	0.00	10.17	10.18	4.48	3.86	7.56	5.37	9.15	12.74	2.18	2.71
Total Deferred																		
Number	0	0	9	10	0	0	0	0	37	40	13	14	11	11	23	45	3	21
Average Age	0.00	0.00	56.78	54.50	0.00	0.00	0.00	0.00	44.78	44.33	39.46	38.93	51.09	52.09	41.83	42.11	36.00	33.00
Average Service	0.00	0.00	4.55	8.12	0.00	0.00	0.00	0.00	11.62	11.44	5.87	4.86	7.56	5.37	9.77	12.75	3.22	3.42

[1] All payroll figures shown are annual.

APPENDIX A – MEMBERSHIP INFORMATION

Schedule of Active Member Valuation Data

Valuation Date	Plan Type	Number	Annual Payroll	Average Annual Salary	Increase in Average Pay
June 30, 2003	General	3,626	$163,505,000	$45,092	6.76%
	Safety	637	$34,159,000	$53,625	3.98%
	Total	4,263	$197,664,000	$46,367	5.23%
June 30, 2004	General	3,618	$164,462,000	$45,457	0.81%
	Safety	630	$35,501,000	$56,351	5.08%
	Total	4,248	$199,963,000	$47,072	1.52%
June 30, 2005	General	3,651	$173,399,000	$47,494	4.48%
	Safety	687	$38,282,000	$55,723	-1.11%
	Total	4,338	$211,681,000	$48,797	3.66%
June 30, 2006	General	3,702	$179,767,000	$48,559	2.24%
	Safety	689	$40,001,000	$58,057	4.19%
	Total	4,391	$219,768,000	$50,050	2.57%
June 30, 2008	General	3,719	$230,942,000	$62,098	27.88%
	Safety	731	$44,638,000	$61,064	5.18%
	Total	4,450	$275,580,000	$61,928	23.73%
June 30, 2009	General	3,627	$201,144,000	$55,457	-10.69%
	Safety	739	$47,172,000	$63,832	4.53%
	Total	4,366	$248,316,000	$56,875	-8.16%
June 30, 2010	General	3,464	$202,200,198	$58,372	5.26%
	Safety	685	$46,630,275	$68,073	6.64%
	Total	4,149	$248,830,473	$59,974	5.45%
June 30, 2011	General	3,232	$184,906,498	$57,211	-1.99%
	Safety	637	$41,800,298	$65,621	-3.60%
	Total	3,869	$226,706,796	$58,596	-2.30%
June 30, 2012	General	3,233	$179,260,736	$55,447	-3.08%
	Safety	661	$41,657,273	$63,022	-3.96%
	Total	3,894	$220,918,009	$56,733	-3.18%
June 30, 2013	General	3,230	$176,437,755	$54,625	-1.48%
	Safety	694	$42,590,563	$61,370	-2.62%
	Total	3,924	$219,028,318	$55,818	-1.61%
June 30, 2014	General	3,303	$179,606,090	$54,377	-0.45%
	Safety	689	$43,422,198	$63,022	2.69%
	Total	3,992	$223,028,288	$55,869	0.09%
June 30, 2015	General	3,421	$188,550,804	$55,116	1.36%
	Safety	723	$49,166,923	$68,004	7.91%
	Total	4,144	$237,717,727	$57,364	2.68%
June 30, 2016	General	3,521	$198,457,059	$56,364	2.26%
	Safety	727	$52,020,521	$71,555	5.22%
	Total	4,248	$250,477,580	$58,964	2.79%
June 30, 2017	General	3,552	$201,758,423	$56,801	0.78%
	Safety	757	$54,385,261	$71,843	0.40%
	Total	4,309	$256,143,684	$59,444	0.81%
June 30, 2018	General	3,658	$211,919,963	$57,933	1.99%
	Safety	794	$58,835,257	$74,100	3.14%
	Total	4,452	$270,755,220	$60,817	2.31%
June 30, 2019	General	3,690	$220,393,008	$59,727	3.10%
	Safety	814	$63,615,295	$78,151	5.47%
	Total	4,504	$284,008,303	$63,057	3.68%
June 30, 2020	General	3,652	$221,652,587	$60,693	1.62%
	Safety	806	$63,673,695	$79,000	1.09%
	Total	4,458	$285,326,282	$64,003	1.50%
June 30, 2021	General	3,555	$228,145,063	$64,176	5.74%
	Safety	766	$63,505,375	$82,905	4.94%
	Total	4,321	$291,650,438	$67,496	5.46%

Actuarial valuation was not performed for fiscal year ending June 30, 2007.

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Retired Members as of June 30, 2021

	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members			
Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
35-39	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
40-44	0	$ 0	1	$ 45,970	0	$ 0	0	$ 0	1	$ 45,970
45-49	0	$ 0	9	$ 59,503	0	$ 0	1	$ 75,405	10	$ 61,093
50-54	60	$ 22,789	77	$ 59,461	3	$ 37,688	12	$ 67,035	152	$ 45,153
55-59	194	$ 29,427	88	$ 73,290	4	$ 40,672	7	$ 32,300	293	$ 42,823
60-64	432	$ 34,860	64	$ 49,915	16	$ 34,111	3	$ 112,283	515	$ 37,159
65-69	675	$ 35,475	79	$ 47,930	20	$ 25,791	5	$ 122,504	779	$ 37,048
70-74	710	$ 37,739	72	$ 64,063	25	$ 31,488	2	$ 78,376	809	$ 39,989
75-79	443	$ 33,813	47	$ 60,883	9	$ 34,120	0	$ 0	499	$ 36,368
80-84	236	$ 27,637	22	$ 57,348	4	$ 48,596	0	$ 0	262	$ 30,452
85-89	95	$ 27,327	9	$ 72,054	1	$ 125,376	0	$ 0	105	$ 32,094
90-94	56	$ 25,604	1	$ 39,471	0	$ 0	0	$ 0	57	$ 25,847
95+	14	$ 26,843	2	$ 25,749	0	$ 0	0	$ 0	16	$ 26,706
All Ages	2,915	$ 33,888	471	$ 59,588	82	$ 33,554	30	$ 73,735	3,498	$ 37,682

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Service-Connected Disabled Members as of June 30, 2021

	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members			
Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
25-29	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
30-34	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
35-39	0	$ 0	5	$ 24,603	0	$ 0	1	$ 42,745	6	$ 27,626
40-44	0	$ 0	7	$ 26,858	0	$ 0	3	$ 30,553	10	$ 27,966
45-49	1	$ 17,398	10	$ 28,781	0	$ 0	0	$ 0	11	$ 27,746
50-54	4	$ 19,517	19	$ 40,399	0	$ 0	1	$ 34,450	24	$ 36,671
55-59	5	$ 21,553	15	$ 36,964	1	$ 34,069	2	$ 71,854	23	$ 36,522
60-64	10	$ 24,749	22	$ 34,898	1	$ 18,697	2	$ 94,638	35	$ 34,949
65-69	24	$ 26,739	22	$ 49,137	1	$ 26,688	3	$ 45,686	50	$ 37,730
70-74	20	$ 29,168	16	$ 54,493	1	$ 24,230	0	$ 0	37	$ 39,986
75-79	9	$ 25,656	12	$ 42,184	1	$ 23,728	0	$ 0	22	$ 34,584
80-84	10	$ 31,591	1	$ 38,038	0	$ 0	0	$ 0	11	$ 32,177
85-89	2	$ 23,964	1	$ 54,892	0	$ 0	0	$ 0	3	$ 34,274
90-94	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
95+	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
All Ages	85	$ 26,712	130	$ 40,313	5	$ 25,482	12	$ 53,241	232	$ 35,679

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Nonservice-Connected Disabled Members as of June 30, 2021

	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members			
Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
35-39	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
40-44	1	$ 16,200	0	$ 0	1	$ 25,048	0	$ 0	2	$ 20,624
45-49	5	$ 20,061	0	$ 0	0	$ 0	0	$ 0	5	$ 20,061
50-54	5	$ 19,267	1	$ 25,801	0	$ 0	1	$ 40,544	7	$ 23,240
55-59	10	$ 18,408	0	$ 0	0	$ 0	0	$ 0	10	$ 18,408
60-64	7	$ 23,606	1	$ 29,431	0	$ 0	0	$ 0	8	$ 24,334
65-69	8	$ 20,924	2	$ 25,596	0	$ 0	0	$ 0	10	$ 21,858
70-74	17	$ 18,626	1	$ 16,477	0	$ 0	0	$ 0	18	$ 18,506
75-79	10	$ 20,575	1	$ 23,301	0	$ 0	0	$ 0	11	$ 20,823
80-84	6	$ 15,790	0	$ 0	0	$ 0	0	$ 0	6	$ 15,790
85-89	1	$ 13,726	0	$ 0	0	$ 0	0	$ 0	1	$ 13,726
90-94	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
95+	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
All Ages	70	$ 19,434	6	$ 24,367	1	$ 25,048	1	$ 40,544	78	$ 20,156

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Beneficiaries as of June 30, 2021

	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members			
Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
0-24	0	$ 0	2	$ 20,617	0	$ 0	0	$ 0	2	$ 20,617
25-29	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
30-34	0	$ 0	0	$ 0	0	$ 0	0	$ 0	0	$ 0
35-39	2	$ 23,933	1	$ 43,692	0	$ 0	0	$ 0	3	$ 30,519
40-44	5	$ 9,474	0	$ 0	0	$ 0	0	$ 0	5	$ 9,474
45-49	6	$ 12,886	9	$ 20,456	0	$ 0	0	$ 0	15	$ 17,428
50-54	22	$ 14,980	11	$ 19,218	0	$ 0	0	$ 0	33	$ 16,392
55-59	22	$ 15,867	7	$ 35,149	1	$ 25,209	0	$ 0	30	$ 20,678
60-64	20	$ 17,510	13	$ 22,583	0	$ 0	2	$ 35,743	35	$ 20,436
65-69	55	$ 20,447	13	$ 31,144	2	$ 29,922	1	$ 51,168	71	$ 23,105
70-74	76	$ 23,782	17	$ 39,042	1	$ 12,961	0	$ 0	94	$ 26,427
75-79	65	$ 23,056	13	$ 46,494	1	$ 37,332	1	$ 92,248	80	$ 27,908
80-84	40	$ 22,747	19	$ 34,924	1	$ 20,172	0	$ 0	60	$ 26,560
85-89	33	$ 22,543	4	$ 37,429	0	$ 0	0	$ 0	37	$ 24,152
90-94	26	$ 24,119	5	$ 13,143	0	$ 0	0	$ 0	31	$ 22,349
95+	12	$ 20,547	0	$ 0	0	$ 0	0	$ 0	12	$ 20,547
All Ages	384	$ 21,249	114	$ 31,334	6	$ 25,920	4	$ 53,725	508	$ 23,823

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Benefit Form Elections as of June 30, 2021

	County and Former County		Ceres and Other Districts		Total
	General	Safety	General	Safety	
Service Retired					
Option #0 (Unmodified 60% to Spouse)	2,409	418	64	27	2,918
Option #1 (Cash Refund)	232	13	7	1	253
Option #2 (100% Continuance)	236	34	11	1	282
Option #3 (50% Continuance)	36	4	0	1	41
Option #4 (Other)	2	2	0	0	4
Total Service Retired	2,915	471	82	30	3,498
Ordinary Disability					
Option #0 (Unmodified 60% to Spouse)	62	4	1	1	68
Option #1 (Cash Refund)	4	2	0	0	6
Option #2 (100% Continuance)	4	0	0	0	4
Option #3 (50% Continuance)	0	0	0	0	0
Total Ordinary Disability	70	6	1	1	78
Duty Disability					
Option #0 (Unmodified 60% to Spouse)	76	118	5	11	210
Option #1 (Cash Refund)	1	1	0	0	2
Option #2 (100% Continuance)	6	9	0	1	16
Option #3 (50% Continuance)	2	2	0	0	4
Total Duty Disability	85	130	5	12	232
Total	3,070	607	88	43	3,808

APPENDIX A – MEMBERSHIP INFORMATION

Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2021
General Members (County and Former County)

Count

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total Count
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	19	5	5	2	0	0	0	0	0	0	0	0	31
25-29	65	60	51	39	18	15	0	0	0	0	0	0	248
30-34	55	54	68	78	47	168	6	0	0	0	0	0	476
35-39	28	45	50	36	45	201	48	17	0	0	0	0	470
40-44	27	37	35	37	29	152	89	77	23	1	0	0	507
45-49	19	19	25	20	18	94	66	101	84	7	0	0	453
50-54	15	19	21	15	16	75	60	73	91	40	7	0	432
55-59	10	13	20	14	15	68	47	70	86	47	30	4	424
60-64	5	12	13	12	12	47	31	52	55	20	24	7	290
65-69	0	1	1	1	3	15	12	11	15	7	5	1	72
70 & Over	0	0	0	0	0	3	4	2	3	2	1	0	15
Total Count	243	265	289	254	203	838	363	403	357	124	67	12	3,418

Compensation ($)

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Avg. Comp.
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	39,758	38,430	39,940	34,885	0	0	0	0	0	0	0	0	39,259
25-29	48,057	48,898	48,107	49,323	51,374	54,630	0	0	0	0	0	0	49,108
30-34	49,187	49,783	53,114	53,850	59,059	62,245	56,269	0	0	0	0	0	56,252
35-39	49,854	55,844	54,476	57,980	56,700	64,445	71,569	64,603	0	0	0	0	61,188
40-44	49,777	51,890	56,377	61,317	61,996	62,978	69,211	71,811	72,879	43,858	0	0	63,680
45-49	59,957	53,126	61,153	60,878	55,928	67,148	73,373	64,886	79,117	107,443	0	0	68,449
50-54	66,166	54,188	60,297	54,639	63,903	62,981	69,906	69,664	78,531	82,903	89,921	0	69,967
55-59	55,226	53,754	61,160	56,574	74,408	65,808	75,315	76,169	74,234	74,413	85,709	74,435	71,886
60-64	46,999	73,612	54,420	44,653	66,639	64,635	72,967	73,036	67,922	77,046	87,800	89,176	69,886
65-69	0	131,632	123,316	56,890	68,903	74,932	51,667	57,275	73,296	96,581	67,639	50,011	70,226
70 & Over	0	0	0	0	0	105,224	125,454	48,952	84,265	72,172	36,621	0	89,943
Average	50,384	52,830	54,709	55,006	60,106	64,189	71,331	69,787	75,463	80,410	84,817	80,998	64,248

APPENDIX A – MEMBERSHIP INFORMATION

Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2021
General Members (Ceres and Other Districts)

Count

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total Count
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	1	1	0	0	0	0	0	0	0	0	0	0	2
25-29	3	7	3	2	2	1	0	0	0	0	0	0	18
30-34	1	1	2	0	1	4	0	0	0	0	0	0	9
35-39	3	0	2	2	1	5	0	1	0	0	0	0	14
40-44	4	0	2	2	0	3	2	4	2	0	0	0	19
45-49	0	0	2	2	0	4	2	3	3	1	0	0	17
50-54	1	3	2	2	1	1	5	3	2	0	0	0	20
55-59	3	0	4	0	1	1	3	3	3	0	2	0	20
60-64	2	0	0	0	0	2	2	1	5	0	2	0	14
65-69	0	0	0	0	0	2	0	1	0	1	0	0	4
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Count	18	12	17	10	6	23	14	16	15	2	4	0	137

Compensation ($)

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Avg. Comp.
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	43,507	21,551	0	0	0	0	0	0	0	0	0	0	32,529
25-29	53,321	41,688	38,723	47,842	52,396	47,860	0	0	0	0	0	0	45,349
30-34	49,878	34,934	45,379	0	41,083	52,791	0	0	0	0	0	0	47,535
35-39	56,740	0	44,644	44,191	46,446	63,366	0	58,309	0	0	0	0	54,962
40-44	95,189	0	59,608	45,774	0	43,952	71,672	64,900	74,303	0	0	0	67,101
45-49	0	0	96,307	49,167	0	59,502	54,643	57,662	94,357	74,973	0	0	68,781
50-54	125,392	43,356	93,490	50,507	117,773	132,460	79,991	60,888	115,426	0	0	0	80,358
55-59	71,523	0	67,777	0	90,468	59,454	56,958	53,904	56,819	0	67,524	0	63,684
60-64	94,639	0	0	0	0	46,464	53,581	78,601	66,425	0	64,743	0	66,399
65-69	0	0	0	0	0	52,707	0	53,825	0	51,297	0	0	52,634
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	74,087	39,864	62,714	47,496	66,761	58,086	66,473	60,481	77,674	63,135	66,134	0	62,363

APPENDIX A – MEMBERSHIP INFORMATION

Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2021
Safety Members (County and Former County)

Count

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total Count
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	12	8	3	1	0	0	0	0	0	0	0	0	24
25-29	13	25	31	35	25	21	0	0	0	0	0	0	150
30-34	9	7	10	23	27	81	2	0	0	0	0	0	159
35-39	3	5	7	8	4	37	37	6	0	0	0	0	107
40-44	1	1	1	3	3	25	20	54	9	0	0	0	117
45-49	0	0	0	2	0	2	11	28	35	5	0	0	83
50-54	4	3	2	1	1	1	4	10	12	7	2	0	47
55-59	0	0	0	1	1	2	3	7	3	1	0	0	18
60-64	0	0	0	0	0	4	2	0	4	0	0	0	10
65-69	0	0	0	0	0	0	0	1	0	0	1	0	2
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Count	42	49	54	74	61	173	79	106	63	13	3	0	717

Compensation ($)

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Avg. Comp.
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	50,345	59,601	71,222	75,992	0	0	0	0	0	0	0	0	57,108
25-29	54,990	58,919	66,720	71,777	75,627	78,889	0	0	0	0	0	0	68,771
30-34	56,652	63,180	68,112	69,059	72,496	80,882	93,944	0	0	0	0	0	74,958
35-39	61,677	60,437	69,738	68,131	83,702	80,312	94,943	103,713	0	0	0	0	83,756
40-44	78,716	88,054	102,543	81,209	63,568	85,276	91,380	96,890	132,845	0	0	0	94,793
45-49	0	0	0	84,158	0	89,019	97,970	96,454	104,940	99,722	0	0	99,955
50-54	78,793	90,908	93,771	55,048	73,745	89,019	81,436	89,952	103,574	105,914	95,310	0	93,477
55-59	0	0	0	135,387	93,771	93,771	86,845	90,704	97,855	81,288	0	0	93,723
60-64	0	0	0	0	0	94,151	94,599	0	89,295	0	0	0	92,298
65-69	0	0	0	0	0	0	0	77,504	0	0	87,746	0	82,625
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	57,328	62,347	69,285	71,946	74,444	81,750	93,437	95,915	107,335	101,638	92,789	0	82,458

APPENDIX A – MEMBERSHIP INFORMATION

Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2021
Safety Members (Ceres and Other Districts)

Count

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total Count
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	2	1	0	0	0	0	0	0	0	0	0	3
30-34	2	1	4	2	0	5	0	0	0	0	0	0	14
35-39	1	1	0	0	1	3	4	0	0	0	0	0	10
40-44	0	0	0	0	0	0	0	4	2	0	0	0	6
45-49	1	1	0	1	1	0	0	3	5	0	0	0	12
50-54	0	0	0	0	0	0	1	0	1	0	0	0	2
55-59	0	1	0	0	0	0	0	0	0	1	0	0	2
60-64	0	0	0	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Count	4	6	5	3	2	8	5	7	8	1	0	0	49

Compensation ($)

	Years of Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Avg. Comp.
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	62,763	65,934	0	0	0	0	0	0	0	0	0	63,820
30-34	75,442	60,193	64,893	71,450	0	81,476	0	0	0	0	0	0	72,924
35-39	87,673	61,840	0	0	89,156	85,266	92,046	0	0	0	0	0	86,265
40-44	0	0	0	0	0	0	0	94,197	101,808	0	0	0	96,734
45-49	72,526	60,604	0	71,823	87,587	0	0	103,521	136,593	0	0	0	107,172
50-54	0	0	0	0	0	0	92,946	0	150,564	0	0	0	121,755
55-59	0	68,775	0	0	0	0	0	0	0	129,303	0	0	99,039
60-64	0	0	0	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	77,771	62,823	65,101	71,574	88,371	82,897	92,226	98,193	129,643	129,303	0	0	89,451

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
All Members

All Members

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2020	**4,458**	**693**	**506**	**465**	**79**	**227**	**3,373**	**498**	**10,299**
New Entrants	330	7	0	0	0	0	0	0	337
Rehires	20	(3)	(8)	(4)	0	0	0	0	5
Duty Disabilities	(1)	(1)	0	(1)	0	3	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(149)	(21)	0	(31)	0	0	201	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(93)	(2)	0	95	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	(1)	(35)	39	3
Died, Without Beneficiary, and Other Terminations	(141)	(2)	137	(1)	(1)	(4)	(58)	0	(70)
Transfers	(25)	52	(8)	(3)	0	0	0	0	16
Beneficiary Deaths	0	0	0	0	0	0	0	(35)	(35)
Domestic Relations Orders	0	0	0	0	0	0	0	8	8
Withdrawals Paid	(78)	(1)	(46)	(6)	0	0	0	0	(131)
Member Reclassifications	0	26	15	5	0	7	17	(2)	68
July 1, 2021	**4,321**	**748**	**596**	**519**	**78**	**232**	**3,498**	**508**	**10,500**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
General Members (County and Former County)

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2020	**3,520**	**479**	**437**	**383**	**71**	**84**	**2,822**	**379**	**8,175**
New Entrants	266	0	0	0	0	0	0	0	266
Rehires	17	(3)	(8)	(3)	0	0	0	0	3
Duty Disabilities	0	0	0	0	0	0	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(124)	(15)	0	(25)	0	0	164	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(74)	(1)	0	75	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	(1)	(27)	31	3
Died, Without Beneficiary, and Other Terminations	(119)	(1)	115	(1)	(1)	(3)	(56)	0	(66)
Transfers	(1)	9	0	0	0	0	0	0	8
Beneficiary Deaths	0	0	0	0	0	0	0	(28)	(28)
Domestic Relations Orders	0	0	0	0	0	0	0	4	4
Withdrawals Paid	(67)	(1)	(41)	(4)	0	0	0	0	(113)
Member Reclassifications	0	23	14	2	0	5	12	(2)	54
July 1, 2021	**3,418**	**490**	**517**	**427**	**70**	**85**	**2,915**	**384**	**8,306**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
Safety Members (County and Former County)

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2020	**726**	**138**	**49**	**62**	**6**	**128**	**446**	**108**	**1,663**
New Entrants	46	1	0	0	0	0	0	0	47
Rehires	1	0	0	(1)	0	0	0	0	0
Duty Disabilities	0	(1)	0	(1)	0	2	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(21)	(4)	0	(3)	0	0	28	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(13)	(1)	0	14	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	0	(6)	6	0
Died, Without Beneficiary, and Other Terminations	(14)	(1)	14	0	0	(1)	(2)	0	(4)
Transfers	0	5	(1)	(1)	0	0	0	0	3
Beneficiary Deaths	0	0	0	0	0	0	0	(5)	(5)
Domestic Relations Orders	0	0	0	0	0	0	0	4	4
Withdrawals Paid	(8)	0	(5)	0	0	0	0	0	(13)
Member Reclassifications	0	1	1	1	0	1	5	1	10
July 1, 2021	**717**	**138**	**58**	**71**	**6**	**130**	**471**	**114**	**1,705**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
General Members (Ceres and Other Districts)

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2020	**132**	**44**	**9**	**15**	**1**	**5**	**78**	**7**	**291**
New Entrants	16	1	0	0	0	0	0	0	17
Rehires	0	0	0	0	0	0	0	0	0
Duty Disabilities	0	0	0	0	0	0	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(2)	(1)	0	(2)	0	0	5	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(5)	0	0	5	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	0	(2)	2	0
Died, Without Beneficiary, and Other Terminations	(6)	0	6	0	0	0	0	0	0
Transfers	5	0	0	0	0	0	0	0	5
Beneficiary Deaths	0	0	0	0	0	0	0	(2)	(2)
Domestic Relations Orders	0	0	0	0	0	0	0	0	0
Withdrawals Paid	(3)	0	0	(1)	0	0	0	0	(4)
Member Reclassifications	0	2	1	1	0	0	1	(1)	4
July 1, 2021	**137**	**46**	**16**	**18**	**1**	**5**	**82**	**6**	**311**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Plan Membership Since Prior Valuation
Safety Members (Ceres and Other Districts)

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2020	**80**	**32**	**11**	**5**	**1**	**10**	**27**	**4**	**170**
New Entrants	2	5	0	0	0	0	0	0	7
Rehires	2	0	0	0	0	0	0	0	2
Duty Disabilities	(1)	0	0	0	0	1	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(2)	(1)	0	(1)	0	0	4	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(1)	0	0	1	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	0	0	0	0
Died, Without Beneficiary, and Other Terminations	(2)	0	2	0	0	0	0	0	0
Transfers	(29)	38	(7)	(2)	0	0	0	0	0
Beneficiary Deaths	0	0	0	0	0	0	0	0	0
Domestic Relations Orders	0	0	0	0	0	0	0	0	0
Withdrawals Paid	0	0	0	(1)	0	0	0	0	(1)
Member Reclassifications	0	0	(1)	1	0	1	(1)	0	0
July 1, 2021	**49**	**74**	**5**	**3**	**1**	**12**	**30**	**4**	**178**

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the actuarial valuation as of June 30, 2021 are:

Actuarial Methods

1. **Actuarial Cost Method**
   Annual contributions to the Stanislaus County Employees' Retirement Association (the Plan) are computed under the Entry Age Normal Actuarial Cost Method, computed to the final decrement.

   Under this Cost Method, the Normal Cost is calculated as the amount necessary to fund Members' benefits as a level percentage of total payroll over their projected working lives. At each valuation date, the Actuarial Liability is equal to the difference between the liability for the Members' total projected benefit and the present value of future Normal Cost contributions.

   The excess of the Actuarial Liability over Plan assets is the Unfunded Actuarial Liability, and the liability for each valuation group is amortized as a level percentage of payroll over a closed period (15 years as of the current valuation). Any future unexpected changes in the UAL from actuarial gains or losses or assumptions changes are amortized over fixed close periods of 20 years as a level percentage of payroll, with new amortization layers established each year, beginning with changes emerging after June 30, 2021. Any future changes in the UAL due to plan amendments or other plan provision changes will be amortized over a shorter period, based on the lesser of 15 years or the average future working lifetime for changes affecting active members, or the lesser of 10 years or the average remaining life expectancy for changes affecting inactive members.

   The total Plan cost is the sum of the Normal Cost (computed on an Individual basis), the amortization of the Unfunded Actuarial Liability, and the expected Administrative Expenses.

2. **Actuarial Value of Plan Assets**
   The Actuarial Value of Plan assets is a modified market-related value. The Market Value of Assets is adjusted to recognize, over a five-year period, differences between actual investment earnings and the assumed investment return. The Actuarial Value of Assets is limited to no less than 80% and no more than 120% of the market value.

   The detailed calculations of the Actuarial Value of Plan assets are shown in Section III.

3. **Changes in Actuarial Methods**
   At the April 27, 2021 board meeting, the StanCERA Board of Retirement modified the amortization policy as noted above for unexpected UAL changes occurring after June 30, 2021. However, this change in policy had no impact on the current year Plan Cost.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

All actuarial assumptions are based on the Actuarial Experience Study Report for the period covering July 1, 2018 through June 30, 2021 report. The proposed assumptions were summarized and reviewed with the Board at the December 14, 2021 Board meeting, at which the Board provided direction to proceed with the valuation based on those assumptions. Final adoption of these assumptions will be effective with the adoption of this Report.

4. **Rate of Return**
   The annual rate of return on all Plan assets is assumed to be 6.75%, net of investment expenses.

5. **Cost of Living**
   The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 2.50% per year.

6. **Administrative Expenses**
   An allowance of $3,100,000 for Plan administrative expenses for the current year has been included in the annual cost calculated. The administrative expense amount has been assumed to increase in future years at the rate of the Cost of Living assumption (2.50%).

7. **Interest Credited to Employee Accounts**
   The employee accounts are credited with 0.25% interest annually.

8. **Increases in Pay**
   Base salary increase: 2.75%
   Assumed pay increases for active Members consist of increases due to base salary adjustments (as noted above), plus service-based increases due to longevity and promotion, as shown on the next page.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Longevity & Promotion Increases		
Service	**General**	**Safety**
0	5.00%	5.00%
1	5.00%	5.00%
2	5.00%	5.00%
3	5.00%	4.50%
4	5.00%	4.50%
5	3.50%	2.00%
6	2.50%	1.75%
7	1.50%	1.50%
8	1.25%	1.50%
9	1.00%	1.25%
10	0.75%	1.00%
11+	0.50%	1.00%

9. PEPRA Compensation Limit

The assumption used for increasing the compensation limit that applies to PEPRA members is 2.50%

10. Post Retirement COLA

For those with the 3% COLA benefit (i.e. 100% of CPI up to 3% annually with banking), 2.40% annual increases are assumed. Increases are assumed to occur on April 1.

11. Social Security Wage Base

General Plan 3 members have their benefits offset by an assumed Social Security Benefit. For projecting the Social Security Benefit, the annual Social Security Wage Base increase is assumed to be 2.75% per year.

12. Internal Revenue Code Section 415 Limit

The Internal Revenue Code (IRC) Section 415 maximum benefit limitations have been applied to the benefits for members currently in pay status, as the limited benefits have been provided by StanCERA for valuation purposes. Future projected benefits for members in active and deferred statuses have not been reduced for potential Section 415 limits in the current valuation, though any actual limitations for these members will result in actuarial gains upon their actual retirement, which will reduce future contributions.

13. Internal Revenue Code Section 401(a)(17)

The IRC Section 401(a)(17) maximum compensation limitation for active members is not reflected in the valuation for funding purposes; limitations are reflected after retirement.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

14. Family Composition

Percentage married for all active members who retire, become disabled, or die during active service is shown in the following table.

Percentage Married	
Gender	Percentage
Males	80%
Females	60%

Spouses of male members are assumed to be two years younger than the member and spouses of female members are assumed to be two years older than the member.

15. Accumulated Vacation Time Load

Active members' service retirement and related benefits are loaded by 3.00% for Safety Members and 3.00% for General Members for cashouts of vacation time. 1/3 of this load applies for members with a 36-month final average service period. No other adjustment is made to the liabilities for anticipated future service purchases.

16. Rates of Separation

Rates of termination apply to all active Members who terminate their employment.

Separate rates of termination are assumed among Safety and General Members.

Termination Rates		
Years of Service	General All	Safety All
0	18.0%	16.0%
1	14.0%	8.0%
2	9.0%	7.0%
3	8.0%	6.0%
4	7.0%	6.0%
5	7.0%	6.0%
10	5.0%	5.0%
15	3.0%	2.0%
20	3.0%	0.0%
25	3.0%	0.0%
30+	0.0%	0.0%

Termination rates do not apply once a member is eligible for retirement.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

17. Withdrawal

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. Separate rates of withdrawal are assumed among Safety and General Members and are based on service. The rates do not overlap with the service retirement rates.

45% of all General Member terminations with less than 10 years of service are assumed to take a refund of contributions, as well as 15% of those with 10 or more years of service.

35% of all Safety Member terminations with less than 10 years of service are assumed to take a refund of contributions, and 10% of those with 10 or more years of service.

18. Vested Termination and Reciprocal Transfers

Rates of vested termination apply to active Members who terminate their employment after five years of service and leave their member contributions on deposit with the Plan. Alternatively, those who terminate their employment with less than five years of service can leave their member contributions with the Plan and transfer to a reciprocal employer, therefore retaining entitlement to future Plan benefits.

Vested terminated Tier 3 General Members are assumed to begin receiving benefits at age 65 while all other General Members are assumed to begin at age 58, unless they have reciprocity, in which case they are assumed to begin at age 61; terminated Safety Members are assumed to begin receiving benefits at age 51 for Tiers 4 and 5 and at age 54 for the Tiers 1, 2, 3, and 6.

60% of vested terminated General Members with less than 10 years of service are assumed to be reciprocal, as well as 40% of those with 10 or more years of service.

75% of vested terminated Safety Members with less than 10 years of service are assumed to be reciprocal, as well as 70% of those with 10 or more years of service.

Reciprocal members are assumed to receive annual pay increases of 3.25% for General and 3.75% for Safety from the date of transfer to the assumed retirement date.

19. Form of Benefit

Upon retirement, 90% of male married members and 95% of female married members are assumed to elect the normal payment form (joint & 50% survivor annuity for Tier 3 and joint & 60% survivor annuity for all other tiers). Non-married members are assumed to elect a single life annuity.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Rates of Service-Connected Disability

Separate rates of duty disability are assumed among Safety and General Members; rates for both sexes for Safety Members are combined. Safety members are assumed to follow the 2021 CALPERS State Safety rates. Sample rates are shown below:

Rates of Service-Connected Disability			
	General		Safety
Age	Male	Female	All
20	0.0043%	0.0002%	0.0020%
25	0.0102%	0.0004%	0.0760%
30	0.0211%	0.0008%	0.1700%
35	0.0284%	0.0024%	0.2640%
40	0.0401%	0.0056%	0.3600%
45	0.0613%	0.0101%	0.4570%
50	0.0897%	0.0162%	0.5570%
55	0.1227%	0.0249%	0.6580%
60	0.1637%	0.0349%	0.7620%
65	0.0000%	0.0000%	0.8690%

20. Rates of Nonservice-Connected Disability

Separate rates of ordinary disability are assumed among Safety and General Members. Rates of ordinary disability for Safety Members are assumed to follow the 2021 CalPERS Public Agency Police Non-Industrial Disability table; rates of ordinary disability for General Members are assumed to follow the 2021 CalPERS Public Agency Miscellaneous Non-Industrial Disability table. The rates shown are applied after five Years of Service. On the next page are sample rates:

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Rates of Non Service-Connected Disability		
	General	
Age	Male	Female
20	0.0170%	0.0100%
25	0.0170%	0.0100%
30	0.0190%	0.0240%
35	0.0390%	0.0710%
40	0.1020%	0.1350%
45	0.1510%	0.1880%
50	0.1580%	0.1990%
55	0.1580%	0.1490%
60	0.1530%	0.1050%
65	0.1280%	0.0880%
70	0.1020%	0.0840%
75+	0.1020%	0.0880%

Rates of Non Service-Connected Disability	
	Safety
Age	All
20	0.0100%
25	0.0100%
30	0.0200%
35	0.0300%
40	0.0400%
45	0.0500%
50	0.0800%
55	0.1300%
60	0.2000%
65+	0.2000%

21. Rates of Mortality for Non-Annuitants

Rates of ordinary death for active General members are specified by the 2021 CalPERS Preretirement Non-Industrial Mortality table, adjusted by 102.2% for males and 110.2% for females. Rates of ordinary death for active Safety members are specified by the 2021 CalPERS Preretirement Non-Industrial Mortality table, adjusted by 102.6% for males and 100.9% for females. Duty related mortality rates are only applicable for Safety Active Members and are based on the 2021 CalPERS Preretirement Industrial Death table, adjusted by 102.6% for males and 100.9% for females. These mortality base tables are all projected generationally from 2017 using 80% of SOA Scale MP-2020.

The table on the following page provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Non-Annuitant Mortality Rates						
	Ordinary Death - General		Ordinary Death	Ordinary Death	Duty Death	Duty Death
Age	Male	Female	Safety Male	Safety Female	Safety Male	Safety Female
20	0.0399%	0.0154%	0.0390%	0.0141%	0.0041%	0.0020%
25	0.0337%	0.0143%	0.0349%	0.0182%	0.0041%	0.0020%
30	0.0450%	0.0209%	0.0431%	0.0252%	0.0051%	0.0030%
35	0.0593%	0.0320%	0.0492%	0.0343%	0.0051%	0.0040%
40	0.0767%	0.0430%	0.0564%	0.0424%	0.0062%	0.0050%
45	0.0950%	0.0595%	0.0677%	0.0535%	0.0072%	0.0061%
50	0.1369%	0.0893%	0.0944%	0.0737%	0.0103%	0.0081%
55	0.2024%	0.1355%	0.1416%	0.1070%	0.0154%	0.0121%
60	0.2933%	0.1973%	0.2267%	0.1524%	0.0257%	0.0172%
65	0.4119%	0.2755%	0.3550%	0.1957%	0.0390%	0.0222%
70	0.6071%	0.4452%	0.6218%	0.3612%	0.0687%	0.0404%

22. Rates of Mortality for Nonservice-Connected Disabled Retirees

Rates of mortality for current nonservice-connected disabled Members are specified by the 2021 CalPERS Non-Industrially Disabled Annuitant Mortality table, no adjustment for males or females, with generational mortality improvements projected from 2017 using 80% of SOA Scale MP-2020.

The table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Nonservice-Connected Disabled Mortality Rates		
Age	Male	Female
45	1.120%	1.019%
50	1.727%	1.439%
55	2.217%	1.734%
60	2.681%	1.962%
65	3.332%	2.276%
70	4.056%	2.910%
75	5.465%	4.160%
80	8.044%	6.112%
85	11.695%	9.385%
90	16.770%	14.3956%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

23. Rates of Mortality for Service-Connected Disabled Retirees

Rates of mortality for current service-connected disabled Members are specified by the 2021 CalPERS Industrially Disabled Annuitant Mortality table, no adjustment for males and adjusted by 105% for females, with generational mortality improvements projected from 2017 using 80% of SOA Scale MP-2020.

The table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Service-Connected Disabled Mortality Rates		
Age	Male	Female
45	0.314%	0.238%
50	0.437%	0.326%
55	0.623%	0.577%
60	0.935%	0.911%
65	1.393%	1.250%
70	2.189%	1.951%
75	3.498%	3.291%
80	5.932%	5.442%
85	10.244%	8.447%
90	16.739%	13.0557%

24. Rates of Mortality for Emerging Disabled Retirees

Rates of mortality for future General disabled retirees, both nonservice- and service-connected, are specified by mortality tables consisting of blends of the mortality assumptions for current nonservice- and service-connected disabled retirees. The blend for future disabled General retirees is 50% and 50%, respectively. The proportions reflect the expected splits in future disabled retirees between nonservice- and service-connected disablements.

Future disabled Safety retirees are assumed to follow the same rates of mortality as the service-connected disabled retirees indicated in the prior bullet.

25. Rates of Mortality for Healthy Annuitants

Rates of mortality for retired Members and their beneficiaries are specified by the 2021 CalPERS Healthy Annuitant table, adjusted by 107.6% for males and 115.3% for females, with generational mortality improvements projected from 2017 using 80% of SOA Scale MP-2020.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

The table below provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Healthy Annuitant Mortality Rates		
Age	Male	Female
45	0.101%	0.063%
50	0.291%	0.229%
55	0.421%	0.375%
60	0.618%	0.525%
65	0.922%	0.705%
70	1.442%	1.149%
75	2.582%	2.056%
80	4.713%	3.923%
85	8.902%	7.110%
90	15.644%	12.7820%

26. Mortality Improvement

As mentioned above, the mortality assumptions employ a fully generational mortality improvement projection from base year 2017 using 80% of the Society of Actuaries Scale MP-2020.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

27. Rates of Retirement

Retirement for members in non-PEPRA Tiers (Tier 6) are assumed to occur among eligible members in accordance with the tables below:

Rates of Retirement General (Non-PEPRA)			
	Years of Service		
Age	0-9	10-29	30+
40-44	0.00%	0.00%	0.00%
45-49	0.00%	0.00%	10.00%
50-54	0.00%	4.00%	10.00%
55	0.00%	7.00%	10.00%
56	0.00%	7.00%	15.00%
57	0.00%	7.00%	15.00%
58	0.00%	7.00%	15.00%
59	0.00%	12.50%	15.00%
60	0.00%	12.50%	22.50%
61	0.00%	12.50%	30.00%
62	0.00%	20.00%	30.00%
63	0.00%	20.00%	30.00%
64	0.00%	20.00%	30.00%
65	0.00%	40.00%	30.00%
66	0.00%	40.00%	30.00%
67	0.00%	40.00%	30.00%
68	0.00%	25.00%	30.00%
69	0.00%	25.00%	30.00%
70	25.00%	25.00%	30.00%
71	25.00%	25.00%	30.00%
72	25.00%	25.00%	30.00%
73	25.00%	25.00%	30.00%
74	25.00%	25.00%	30.00%
75+	100.00%	100.00%	100.00%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Rates of Retirement Safety (Non-PEPRA) Years of Service				
Age	0-9	10-14	15-19	20+
40-48	0.00%	0.00%	0.00%	5.00%
49	0.00%	0.00%	0.00%	20.00%
50	0.00%	5.00%	25.00%	40.00%
51	0.00%	5.00%	5.00%	25.00%
52	0.00%	5.00%	5.00%	25.00%
53	0.00%	5.00%	5.00%	25.00%
54	0.00%	5.00%	5.00%	25.00%
55	0.00%	5.00%	5.00%	40.00%
56	0.00%	5.00%	5.00%	40.00%
57	0.00%	5.00%	5.00%	40.00%
58	0.00%	5.00%	5.00%	40.00%
59	0.00%	5.00%	5.00%	40.00%
60	0.00%	25.00%	25.00%	100.00%
61	0.00%	25.00%	25.00%	100.00%
62	0.00%	25.00%	25.00%	100.00%
63	0.00%	25.00%	25.00%	100.00%
64	0.00%	25.00%	25.00%	100.00%
65	0.00%	100.00%	100.00%	100.00%
66	0.00%	100.00%	100.00%	100.00%
67	0.00%	100.00%	100.00%	100.00%
68	0.00%	100.00%	100.00%	100.00%
69	0.00%	100.00%	100.00%	100.00%
70+	100.00%	100.00%	100.00%	100.00%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Retirement for members in PEPRA, Tier 6, are assumed to occur among eligible members in accordance with the sample rates below, from the full tables 2021 CALPERS Public Agency Miscellaneous 2% @ 62 table for General and the 2021 CALPERS Public Agency Safety Police 2.7% @ 57 table for Safety:

Rates of Retirement General (PEPRA) Years of Service				
Age	5	10	25	35
50-51	0.00%	0.00%	0.00%	0.00%
52	0.50%	0.80%	1.90%	3.80%
53	0.70%	1.10%	2.10%	4.80%
54	0.70%	1.10%	2.30%	5.40%
55	1.00%	1.90%	6.10%	15.20%
56	1.40%	2.60%	7.50%	16.70%
57	1.80%	2.90%	7.40%	14.30%
58	2.30%	3.50%	7.30%	13.50%
59	2.50%	3.80%	9.20%	17.50%
60	3.10%	5.10%	11.10%	18.30%
61	3.80%	5.80%	12.10%	23.20%
62	4.40%	7.40%	16.40%	27.10%
63	7.70%	10.50%	19.20%	26.60%
64	7.20%	10.10%	18.70%	27.60%
65	10.80%	14.10%	23.90%	34.80%
66	13.20%	17.20%	29.20%	42.60%
67	13.20%	17.20%	29.20%	40.50%
68	12.00%	15.60%	26.50%	38.70%
69	12.00%	15.60%	26.50%	36.80%
70	12.00%	15.60%	26.50%	38.70%
71	12.00%	15.60%	26.50%	38.70%
72	12.00%	15.60%	26.50%	38.70%
73	12.00%	15.60%	26.50%	38.70%
74	12.00%	15.60%	26.50%	38.70%
75+	100.00%	100.00%	100.00%	100.00%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Rates of Retirement Safety (PEPRA) Years of Service				
Age	5	10	25	35
50	5.00%	5.00%	5.00%	11.00%
51	4.00%	4.00%	5.75%	13.92%
52	3.80%	3.80%	5.80%	13.21%
53	3.80%	3.80%	7.74%	28.98%
54	3.80%	3.80%	9.31%	33.25%
55	6.84%	6.84%	13.40%	38.76%
56	6.27%	6.27%	12.28%	34.49%
57	6.00%	6.00%	11.75%	32.00%
58	8.00%	8.00%	13.75%	35.00%
59	8.00%	8.00%	14.00%	40.00%
60	15.00%	15.00%	15.00%	35.00%
61	14.40%	14.40%	14.40%	26.40%
62	15.00%	15.00%	15.00%	33.00%
63	15.00%	15.00%	15.00%	40.00%
64	15.00%	15.00%	15.00%	52.50%
65+	100.00%	100.00%	100.00%	100.00%

28. Changes in Actuarial Assumptions

Details of all assumption changes can be found in the Actuarial Experience Study Report for the period covering July 1, 2018 through June 30, 2021. The proposed assumptions were summarized and reviewed with the Board at the December 14, 2021 Board meeting, at which the Board provided direction to proceed with the valuation based on those assumptions. Final adoption of these assumptions will be effective with the adoption of this Report.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

All actuarial calculations are based on our understanding of the statutes governing the StanCERA as contained in the County Employees Retirement Law (CERL) of 1937, with provisions adopted by the County Board of Supervisors, a district Board of Directors, or the StanCERA Board, effective through June 30, 2021. The benefit and contribution provisions of this law are summarized briefly below, along with corresponding references to the State Code. This summary does not attempt to cover all the detailed provisions of the law.

A. Definitions

Compensation: Compensation means the cash remuneration for services paid by the employer. It includes base pay and certain differential, incentive, and special pay allowances defined by the Board of Retirement. Overtime is excluded, with the exception of overtime paid under the Fair Labor Standards Act that is regular and recurring.

For Tier 6 (PEPRA) members, only pensionable compensation up to the PEPRA Compensation Limit will count for computing Plan benefits and employee contributions and employer contributions. For those participating in Social Security, the compensation cap is $128,059 for calendar year 2021. For those not participating in Social Security, the compensation cap is $153,671 for calendar year 2021. In addition, it is possible that some sources of compensation, such as any payments deemed to be terminal or special pays, may be excluded from the benefit and contribution computations for PEPRA members.

Credited Service: In general, Credited Service is earned for the period during which Member Contributions are paid. Since Tier 3 Members participate in a non-contributory Plan, their Credited Service is calculated based on their date of Membership only.

Temporary service for which the Member was not credited, or service for which the Member withdrew his or her Member Contributions, may be purchased by paying or repaying the Member Contributions with interest. The categories of services that credit may be purchased for are listed below:

- **Prior Part-time Service**: If a Member worked for an employer within the Association on a part-time or 'extra help' basis before his membership in the Retirement Association, the Member may buyback this service.
- **Intermittent Part-time Service**
- **Prior full time Service:** Member may buyback full time service that may have been cashed out upon termination.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

- **Leave of Absence (Including absence with State Disability or Worker's Compensation):** No unpaid leave of absence can be bought back except for absence due to medical reasons of up to one year.
- **Public Service:** Only Tier 1 and 4 Members may buy back this service.
- **Military Time:** Only Tier 1 and 4 Members may buy back this service.
- **Enhance Prior Tier Service:** Applies to certain active and deferred Members with Tier 1, 2, or 3 service.
- **Military "call up"**
- **AB 2766:** Only Safety Employees can buy back this service.

A percentage of credited sick leave may be credited according to the Member's applicable bargaining unit.

Final Compensation: For Members belonging to Tier 2, Tier 3, and Tier 6, Final Compensation means the highest Compensation earned during any 36 consecutive months of the Member's employment. For all others, it is the highest Compensation earned during any twelve months of employment.

General Member: Any Member who is not a Safety Member is a General Member.

Safety Member: Any sworn Member engaged in law enforcement, probation, or fire suppression is a Safety Member.

B. Membership

Eligibility: All full-time, permanent employees of Stanislaus County, City of Ceres, Stanislaus County Superior Court, Salida Sanitary District, East Side Mosquito Abatement, Keyes Community Services, Hills Ferry Cemetery, and StanCOG hired on or after October 1, 1988 become Members on their date of appointment. All others hired before October 1, 1988 became Members on the first day of the calendar month following their date of appointment.

Detailed membership eligibility according to Tier and membership date is shown in Table 1 on the following page.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

C. Service Retirement

Eligibility: New members who meet the requirements to enter a legacy tier under PEPRA will enter Tier 2; all other new members will enter Tier 6.

Tier 3 General Members are eligible to retire at age 55 if they have earned 10 years of Credited Service. Tier 6 (PEPRA) General Members are eligible to retire at age 52 if they have earned five years of Credited Service. All other General Members are eligible to retire at age 50 if they have earned five years of Credited Service and have been an Association member for at least 10 years. Alternatively, General non-PEPRA Members are eligible to retire at any age after having earned 30 years of Credited Service, or upon reaching age 70 with no service requirement.

Safety Members are eligible to retire at age 50 if they have earned five years of Credited Service and have been an Association member for at least 10 years. Alternatively, Safety Members are eligible to retire at any age after having earned 20 years of Credited Service, or upon reaching age 70 with no service requirement. The 20-year Credited Service retirement eligibility is not applicable to Tier 6 (PEPRA) Safety Members, nor is the 10-year Association membership requirement.

Benefit Amount: The Service Retirement Benefit payable to the Member is equal to the Member's Final Compensation multiplied by credited service, the benefit factor from Table 1 and the age factor from Table 2 corresponding to the Member's code section. The appropriate code sections for each group are listed in Table 1. For Tier 3 members, the age factors are applied *after* the benefit amount as determined under Table 1 has been offset by the designated fraction of the member's projected age 65 Social Security benefit.

For Tier 3 Members with Credited Service up to 35 years, the percentage of Final Compensation may not exceed 70% and for those with more than 35 years, it may not exceed 80%. For all other non-PEPRA Members, the percentage of Final Compensation may not exceed 100%. For those members integrated with Social Security (other than Tiers 3 and 6), Retirement Benefits based on the first $350 of monthly Final Average Compensation are reduced by one-third.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Table 1: Member Group Descriptions

Group	Open or Closed	FAP	Max Cola	Code Section	Description	Top Retirement Factor Age	Benefit Factor
General Tier I	Closed	1	3	31676.12	2% at 57	62	2.00%
General Tier II	Open	3	3	31676.1	2% at 62	65	1.67%
General Tier III	Closed	3	0	31499.14	Non-Contributory	65	First 35 Years: 2.0% of FAS less 1/35th of Social Security benefit at age 65. Next 10 Years: 1% of FAS
General Tier IV	Closed	1	3	31676.14	2% at 55	65	1.67%
General Tier V	Closed	1	3	31676.14	2% at 55	65	1.67%
General Tier VI	Open	3	3	7522.2	PEPRA	67	1.00%
Safety Tier II	Open	3	3	31664	2% at 50	50	2.00%
Safety Tier IV	Closed	1	3	31664.1	3% at 50	50	3.00%
Safety Tier V	Closed	1	3	31664.1	3% at 50	50	3.00%
Safety Tier VI	Open	3	3	7522.25 (2)	PEPRA	57	1.00%

Table 2: Age Factors

Age	Safety 2% at Age 50 CERL §: 31664	Safety 3% at Age 50 CERL §: 31664.1	Safety PEPRA GC §: 7522.25 Opt2	General 2% at Age 62 CERL §: 31676.1	General 2% at Age 57 CERL §: 31676.12	General 2% at Age 55 CERL §: 31676.14	General 2% at Age 65 CERL §: 31499.14	General PEPRA GC §: 7522.20
41	0.6258	0.6258	N/A	N/A	N/A	N/A	N/A	N/A
42	0.6625	0.6625	N/A	N/A	N/A	N/A	N/A	N/A
43	0.7004	0.7004	N/A	N/A	N/A	N/A	N/A	N/A
44	0.7397	0.7397	N/A	N/A	N/A	N/A	N/A	N/A
45	0.7805	0.7805	N/A	N/A	N/A	N/A	N/A	N/A
46	0.8226	0.8226	N/A	N/A	N/A	N/A	N/A	N/A
47	0.8678	0.8678	N/A	N/A	N/A	N/A	N/A	N/A
48	0.9085	0.9085	N/A	N/A	N/A	N/A	N/A	N/A
49	0.9522	0.9522	N/A	N/A	N/A	N/A	N/A	N/A
50	1.0000	1.0000	2.0000	0.7091	0.6681	0.8850	N/A	N/A
51	1.0516	1.0000	2.1000	0.7457	0.7056	0.9399	N/A	N/A
52	1.1078	1.0000	2.2000	0.7816	0.7454	1.0000	N/A	1.0000
53	1.1692	1.0000	2.3000	0.8181	0.7882	1.0447	N/A	1.1000
54	1.2366	1.0000	2.4000	0.8556	0.8346	1.1048	N/A	1.2000
55	1.3099	1.0000	2.5000	0.8954	0.8850	1.1686	0.3900	1.3000
56	1.3099	1.0000	2.6000	0.9382	0.9399	1.2365	0.4300	1.4000
57	1.3099	1.0000	2.7000	0.9846	1.0000	1.3093	0.4700	1.5000
58	1.3099	1.0000	2.7000	1.0350	1.0447	1.3608	0.5100	1.6000
59	1.3099	1.0000	2.7000	1.0899	1.1048	1.4123	0.5600	1.7000
60	1.3099	1.0000	2.7000	1.1500	1.1686	1.4638	0.6100	1.8000
61	1.3099	1.0000	2.7000	1.1947	1.2365	1.5153	0.6700	1.9000
62	1.3099	1.0000	2.7000	1.2548	1.3093	1.5668	0.7400	2.0000
63	1.3099	1.0000	2.7000	1.3186	1.3093	1.5668	0.8200	2.1000
64	1.3099	1.0000	2.7000	1.3865	1.3093	1.5668	0.9000	2.2000
65	1.3099	1.0000	2.7000	1.4593	1.3093	1.5668	1.0000	2.3000
66	1.3099	1.0000	2.7000	1.4593	1.3093	1.5668	1.0000	2.4000
67	1.3099	1.0000	2.7000	1.4593	1.3093	1.5668	1.0000	2.5000

Form of Benefit: The Service Retirement Benefit will be paid monthly beginning at retirement and for the life of the Member. If the member selects the unmodified benefit form, in the event of the Member's death 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. For Tier 3 Members, the benefit payable to beneficiary is limited to 50%. In the event there is no surviving spouse or minor children, any unpaid remainder of

APPENDIX C – SUMMARY OF PLAN PROVISIONS

the Member's accumulated contributions will be paid to the Member's designated beneficiary.
Actuarially equivalent optional benefit forms are also available.

Annually on April 1, benefits for all retired members other than those in Tier 3 are adjusted to reflect changes in the CPI for the San Francisco Bay Area since the prior year. Benefits may be increased or decreased, but the cumulative changes shall never reduce the benefit below the original monthly allowance. Annual increases may not exceed the COLA figures shown in Table 1, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than the figures shown.

In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

A lump sum benefit of $5,000 will be payable upon the death of a retired member. No death benefit is payable for Tier 3 retired members.

D. Service-Connected Disability

Eligibility: All non-Tier 3 Members are eligible for Service-Connected Disability Retirement benefits at any age if they are permanently disabled as a result of injuries or illness sustained in the line of duty. Tier 3 Members are not eligible to receive disability benefits.

Benefit Amount: The Service-Connected Disability Retirement Benefit payable to Members is equal to the greater of 50% of their Final Compensation or – if the Member is eligible at disability for a Service Retirement Benefit – the Service Retirement Benefit accrued on the date of disability.

Form of Benefit: The Service-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement and for the life of the Member; in the event of the Member's death, 100% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available. A lump sum benefit of $5,000 will be payable upon the death of the member.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

E. Nonservice-Connected Disability

Eligibility: Tier 3 Members are not eligible to receive disability benefits. All other Members are eligible for Nonservice-Connected Disability Retirement benefits if they are permanently disabled at any age after earning five years of Credited Service.

Benefit Amount: The Nonservice-Connected Disability Retirement Benefit payable to Tier 1 General Members is equal to the greatest of:

- 1.8% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.8% of Final Compensation at disability multiplied by years of Credited Service projected to age 62, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

The Nonservice-Connected Disability Retirement Benefit payable to Tiers 2, 4, 5, and 6 General Members is equal to the greatest of:

- 1.5% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.5% of Final Compensation at disability multiplied by years of Credited Service projected to age 65, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

The Nonservice-Connected Disability Retirement Benefit payable to Safety Members is equal to the greatest of:

- 1.8% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.8% of Final Compensation at disability multiplied by years of Credited Service projected to age 55, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

Form of Benefit: The Nonservice-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement, and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available. A lump sum benefit of $5,000 will be payable upon the death of the member.

F. Death Benefit

Eligibility: A Tier 3 Member's survivors are not eligible to receive death benefits. All other Members' survivors are eligible to receive different Death benefits dependent on the Member's cause of death and retirement eligibility.

Benefit Amount: In the event the Member's death resulted from injury or illness sustained in connection with the Member's duties, the Death Benefit payable to a surviving spouse, domestic partner, or eligible dependent children will be the greater of 50% of the Member's Final Compensation at the time of death or the Service Retirement Benefit.

In the event the Member's death did not result from injury or illness sustained in connection with the Member's duties and at the time of death, the Member was eligible for Service Retirement or Non-Service Connected Disability (i.e. the employee was employed at least five years), the Death Benefit payable to the spouse, partner or children will be 60% of the survivor benefit based on benefit due on Member's date of death.

In all other cases, the designated beneficiary (not necessarily a spouse/partner/child) will receive a refund of the Member's contributions with interest plus one month of Final Compensation for each year of service to a maximum of six years.

Form of Benefit: Annuity death benefits will be paid monthly beginning at the Member's death and for the life of the surviving spouse/partner or to the age of majority of dependent minor children if there is no spouse/partner. Lump sum benefits will be paid as described above.

COLA adjustments (as described for the annuity benefits) are also available.

G. Withdrawal Benefits

Eligibility: Tier 3 Members are not eligible to receive withdrawal benefits. All other Members are eligible for a Withdrawal Benefit upon termination of employment, if not eligible to receive or electing to waive a monthly benefit.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Benefit Amount: The Withdrawal Benefit is a refund of the Member's accumulated Contributions with interest. Upon receipt of the Withdrawal Benefit, the Member forfeits all Credited Service.

Form of Benefit: The Withdrawal Benefit is paid in a lump sum upon election by the Member.

H. Deferred Vested Benefit

Eligibility: A Member is eligible for a Deferred Vested Benefit upon termination of employment after earning five years of Credited Service, including reciprocity service from another system. For Tier 3 Members, the vesting requirement is 10 years of Credited Service.

The Member must leave his or her Member Contributions with interest on deposit with the Plan. This requirement does not apply to Tier 3 Members since they participate in a non-contributory Plan.

Benefit Amount: The Deferred Vested Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service and Final Compensation on the date of termination.

Form of Benefit: The Deferred Vested Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. For Tier 3 Members, the benefit payable to beneficiary is limited to 50%. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available. A lump sum benefit of $5,000 will be payable upon the death of the member. No death benefit is payable for Tier 3 retired members.

I. Reciprocal Benefit

Eligibility: A Member is eligible for a Reciprocal Benefit upon termination of employment after earning five years of Credited Service and entry, within a specified period of time, into another retirement system recognized as a reciprocal system by the Plan. For Tier 3 Members, the vesting requirement is 10 years of Credited Service.

The Member must leave his or her Member Contributions with interest on deposit with the Plan. This requirement does not apply to Tier 3 Members since they participate in a non-contributory Plan.

Benefit Amount: The Reciprocal Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service on the date of termination and Final Compensation on the date of retirement; Final Compensation is based on the highest of the Compensation earned under this Plan or the reciprocal plan.

Form of Benefit: The Reciprocal Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. For Tier 3 Members, the benefit payable to beneficiary is limited to 50%. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available.

A lump sum benefit of $5,000 will be payable upon the death of the member. No death benefit is payable for Tier 3 retired members.

J. Optional Benefit Forms

Prior to retirement, a member may elect to convert his retirement allowance into a benefit of equivalent Actuarial Value in accordance with one of the optional forms described below.

1. A reduced retirement allowance payable during his life with the provision that on his death the excess, if any, of his accumulated deductions at the time of retirement over the annuity payments made to him will be paid to his designated beneficiary or estate; or
2. A reduced retirement allowance payable during his life with the provision that after his death the reduced allowance will be continued for life to the beneficiary designated by him at the time of his retirement; or
3. A reduced retirement allowance payable during his life with the provision that after his death an allowance of one-half of his reduced allowance will be continued for life to the beneficiary designated by him at the time of his retirement.

In addition, a member participating in Social Security may elect to receive an increased monthly allowance before age 62 (earliest possible receipt of Social Security benefits) and then take a reduced monthly allowance at age 62 and after. This option will not affect any

APPENDIX C – SUMMARY OF PLAN PROVISIONS

monthly payments payable to a beneficiary. This option is not available to those receiving a disability benefit.

K. Member Contributions

Other than Tiers 3 and 6, all Members contribute a percentage of Compensation to the Plan through payroll deduction. The percentage contributed depends on the Member's nearest age upon joining the Plan. Members do not contribute after earning 30 years of Credited Service.

Tier 6 (PEPRA) Members must contribute half of the Normal Cost of the Plan. Contributions for these members will be based on the Normal Cost associated with their benefits, including COLA; General and Safety members will pay different rates. Members will continue to contribute after earnings 30 years of service.

City of Ceres members in Tiers 1 and 4 pay the Tier 2 and 5 rates ("Full" rates), rather than the rates for their respective Tiers ("Half" rates).

Interest is credited semiannually to each Member's accumulated contributions. The crediting rate is set by the Board; the current annual rate is 0.25%.

The employee contribution rates are shown in the Appendix E.

L. Changes in Plan Provisions

No change

APPENDIX D – GLOSSARY

1. **Actuarial Assumptions**

   Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation and rates of investment return.

2. **Actuarial Cost Method**

   A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. **Actuarial Gain (Loss)**

   The difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. **Actuarial Liability**

   The portion of the Actuarial Present Value of Projected Benefits that will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. **Actuarial Present Value (Present Value)**

   The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. **Actuarial Valuation**

   The determination, as of a specified date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

7. **Actuarial Value of Assets**

   The value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

APPENDIX D – GLOSSARY

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date, with each value based on the same set of actuarial assumptions.

9. Amortization Payment

The portion of the pension plan contribution, which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liability.

12. Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses that is allocated to a valuation year by the Actuarial Cost Method.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets. The Unfunded Actuarial Liability is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling StanCERA's benefit obligation in the event of a plan termination or other similar action. However, it is an appropriate measure for assessing the need for or the amount of future contributions.

APPENDIX E – MEMBER CONTRIBUTION RATES

Employee Normal contribution rates vary by benefit formula as defined in the CERL and described in the table below, with the exception that City of Ceres members in Tiers 1 and 4 pay the Tier 2 and 5 rates ("Full" rates), rather than the rates for their respective Tiers ("Half" rates).

Plan/Tier	Code Section	Member Contribution Provides Average Annuity
General Tier 1	31621.5	1/200th of Final Average Salary (FAS) at age 60
General Tier 2	31621	1/120th of Final Average Salary (FAS) at age 60
General Tier 3	NA	NA
General Tier 4	31621.3	1/240th of Final Average Salary (FAS) at age 55
General Tier 5	31621.9	1/120th of Final Average Salary (FAS) at age 55
Safety Tier 2	31639.25	1/100th of Final Average Salary (FAS) at age 50
Safety Tier 4	31639.5	1/200th of Final Average Salary (FAS) at age 50
Safety Tier 5	31639.25	1/100th of Final Average Salary (FAS) at age 50

Employee COLA contribution rates are determined based on 50% of the normal cost associated with the expected COLA benefits, including all forms of decrement and the value of any assumed joint and survivor benefits, determined for each individual entry age. Similar to the benefit formulas, for those members integrated with Social Security (other than Tiers 3 and 6), contributions based on the first $350 of monthly compensation are reduced by one-third.

The rates were changed following the Experience Study covering the period June 30, 2018 through June 30, 2021. The current employee contribution rates are shown in the following tables and were determined based on the assumptions used in the current actuarial valuation. These assumptions include an interest rate of 6.75% per annum, an average salary increase of 2.75% per year (plus longevity and promotion increases), and the CalPERS mortality tables with adjustment as specified in the Appendix B and projected using 80% of Scale MP-2020 from 2017 to 2042 for General members and to 2043 for Safety members. The projection periods are based upon the duration of liabilities for the respective groups as of June 30, 2021. The rates are blended using a male/female weighting of 25% male / 75% female for General members, and 80% male / 20% female for Safety members.

Basic and COLA rates were determined based on an assumption that members would cease making contributions after 30 years of service. Basic and COLA rates include the value of the accumulated vacation time load, except that the load is not applied when calculating the Basic rates for members with less than three years of service.

Employee contribution rates for Tier 6 (PEPRA) members are determined based on half the Normal Cost (including COLA) for the PEPRA members, computed separately for General and Safety members, and for County and Ceres / Other District members. Due to the passage of SB13, contribution rates for PEPRA members are not rounded, and are recomputed each year.

The member contribution rates shown in this appendix apply only to pensionable compensation (up to the PEPRA Compensation Limits for PEPRA members).

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tier 1								
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350	Total First $350	Total Over $350	Prior Total First $350	Prior Total Over $350
16	2.39%	3.59%	1.00%	1.50%	3.39%	5.09%	3.46%	5.19%
17	2.39%	3.59%	1.00%	1.50%	3.39%	5.09%	3.46%	5.19%
18	2.39%	3.59%	1.00%	1.50%	3.39%	5.09%	3.46%	5.19%
19	2.39%	3.59%	1.00%	1.50%	3.39%	5.09%	3.46%	5.19%
20	2.39%	3.59%	1.00%	1.50%	3.39%	5.09%	3.46%	5.19%
21	2.41%	3.62%	1.03%	1.54%	3.44%	5.16%	3.51%	5.26%
22	2.43%	3.65%	1.05%	1.58%	3.48%	5.23%	3.55%	5.33%
23	2.45%	3.67%	1.09%	1.63%	3.53%	5.30%	3.59%	5.39%
24	2.46%	3.69%	1.11%	1.67%	3.57%	5.36%	3.64%	5.46%
25	2.47%	3.71%	1.15%	1.72%	3.62%	5.43%	3.68%	5.52%
26	2.48%	3.73%	1.18%	1.77%	3.66%	5.50%	3.71%	5.57%
27	2.49%	3.74%	1.21%	1.82%	3.71%	5.56%	3.76%	5.63%
28	2.50%	3.75%	1.24%	1.86%	3.74%	5.61%	3.79%	5.68%
29	2.50%	3.75%	1.27%	1.91%	3.78%	5.66%	3.82%	5.73%
30	2.50%	3.76%	1.31%	1.96%	3.81%	5.72%	3.85%	5.77%
31	2.56%	3.83%	1.33%	2.00%	3.89%	5.83%	3.92%	5.88%
32	2.61%	3.91%	1.36%	2.04%	3.97%	5.95%	4.01%	6.01%
33	2.66%	3.99%	1.39%	2.08%	4.05%	6.07%	4.08%	6.13%
34	2.72%	4.07%	1.41%	2.12%	4.13%	6.19%	4.17%	6.25%
35	2.77%	4.16%	1.45%	2.17%	4.22%	6.33%	4.26%	6.39%
36	2.83%	4.24%	1.49%	2.24%	4.32%	6.48%	4.36%	6.54%
37	2.89%	4.33%	1.54%	2.31%	4.43%	6.64%	4.46%	6.69%
38	2.95%	4.42%	1.58%	2.37%	4.53%	6.79%	4.56%	6.84%
39	3.01%	4.52%	1.63%	2.44%	4.64%	6.96%	4.66%	7.00%
40	3.07%	4.61%	1.67%	2.51%	4.75%	7.12%	4.77%	7.15%
41	3.14%	4.71%	1.70%	2.55%	4.84%	7.26%	4.86%	7.29%
42	3.21%	4.81%	1.73%	2.60%	4.94%	7.41%	4.96%	7.44%
43	3.28%	4.92%	1.76%	2.64%	5.04%	7.56%	5.06%	7.59%
44	3.35%	5.03%	1.79%	2.68%	5.14%	7.71%	5.16%	7.73%
45	3.43%	5.14%	1.81%	2.72%	5.24%	7.86%	5.26%	7.88%
46	3.51%	5.26%	1.83%	2.75%	5.34%	8.01%	5.37%	8.05%
47	3.59%	5.38%	1.85%	2.78%	5.44%	8.16%	5.47%	8.20%
48	3.68%	5.52%	1.88%	2.82%	5.56%	8.34%	5.58%	8.37%
49	3.77%	5.65%	1.90%	2.85%	5.67%	8.50%	5.68%	8.51%
50	3.85%	5.78%	1.91%	2.86%	5.76%	8.64%	5.77%	8.66%
51	3.94%	5.90%	1.91%	2.86%	5.84%	8.76%	5.85%	8.78%
52	4.02%	6.03%	1.90%	2.85%	5.92%	8.88%	5.91%	8.86%
53	4.08%	6.12%	1.87%	2.80%	5.95%	8.92%	5.91%	8.86%
54	4.11%	6.16%	1.84%	2.76%	5.95%	8.92%	5.90%	8.85%
55	4.09%	6.13%	1.81%	2.71%	5.89%	8.84%	5.84%	8.76%
56	4.06%	6.10%	1.71%	2.57%	5.78%	8.67%	5.74%	8.61%
57	4.04%	6.07%	1.61%	2.42%	5.66%	8.49%	5.59%	8.39%
58	3.91%	5.86%	1.50%	2.25%	5.41%	8.11%	5.49%	8.24%
59+	3.88%	5.83%	1.44%	2.16%	5.32%	7.99%	5.45%	8.17%

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tier 2								
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350	Total First $350	Total Over $350	Prior Total First $350	Prior Total Over $350
16	3.79%	5.69%	0.81%	1.22%	4.60%	6.91%	4.63%	6.95%
17	3.79%	5.69%	0.81%	1.22%	4.60%	6.91%	4.63%	6.95%
18	3.79%	5.69%	0.81%	1.22%	4.60%	6.91%	4.63%	6.95%
19	3.79%	5.69%	0.81%	1.22%	4.60%	6.91%	4.63%	6.95%
20	3.79%	5.69%	0.81%	1.22%	4.60%	6.91%	4.63%	6.95%
21	3.82%	5.73%	0.83%	1.25%	4.65%	6.98%	4.68%	7.02%
22	3.85%	5.77%	0.85%	1.28%	4.70%	7.05%	4.73%	7.09%
23	3.87%	5.81%	0.87%	1.31%	4.75%	7.12%	4.77%	7.16%
24	3.90%	5.85%	0.89%	1.34%	4.79%	7.19%	4.81%	7.22%
25	3.92%	5.88%	0.92%	1.38%	4.84%	7.26%	4.85%	7.28%
26	3.93%	5.90%	0.95%	1.42%	4.88%	7.32%	4.89%	7.34%
27	3.95%	5.92%	0.97%	1.46%	4.92%	7.38%	4.93%	7.39%
28	3.96%	5.93%	0.99%	1.49%	4.95%	7.42%	4.96%	7.44%
29	3.96%	5.94%	1.02%	1.53%	4.98%	7.47%	4.99%	7.48%
30	3.96%	5.95%	1.05%	1.57%	5.01%	7.52%	5.02%	7.52%
31	4.05%	6.07%	1.07%	1.61%	5.12%	7.68%	5.12%	7.68%
32	4.13%	6.19%	1.10%	1.65%	5.23%	7.84%	5.23%	7.84%
33	4.21%	6.32%	1.12%	1.68%	5.33%	8.00%	5.34%	8.01%
34	4.30%	6.45%	1.15%	1.72%	5.45%	8.17%	5.45%	8.18%
35	4.39%	6.58%	1.17%	1.76%	5.56%	8.34%	5.57%	8.35%
36	4.48%	6.72%	1.21%	1.82%	5.69%	8.54%	5.69%	8.53%
37	4.57%	6.86%	1.25%	1.87%	5.82%	8.73%	5.82%	8.73%
38	4.67%	7.00%	1.29%	1.93%	5.96%	8.93%	5.94%	8.92%
39	4.77%	7.15%	1.33%	1.99%	6.09%	9.14%	6.07%	9.11%
40	4.87%	7.30%	1.36%	2.04%	6.23%	9.34%	6.21%	9.32%
41	4.97%	7.46%	1.39%	2.08%	6.36%	9.54%	6.33%	9.50%
42	5.08%	7.62%	1.41%	2.11%	6.48%	9.73%	6.46%	9.69%
43	5.19%	7.78%	1.43%	2.14%	6.62%	9.92%	6.59%	9.89%
44	5.30%	7.96%	1.45%	2.17%	6.75%	10.13%	6.73%	10.09%
45	5.42%	8.14%	1.47%	2.20%	6.89%	10.34%	6.87%	10.30%
46	5.55%	8.33%	1.49%	2.24%	7.04%	10.57%	7.01%	10.52%
47	5.68%	8.52%	1.51%	2.27%	7.19%	10.79%	7.16%	10.73%
48	5.81%	8.71%	1.53%	2.30%	7.34%	11.01%	7.31%	10.96%
49	5.93%	8.90%	1.55%	2.33%	7.48%	11.23%	7.45%	11.17%
50	6.05%	9.08%	1.57%	2.35%	7.62%	11.43%	7.58%	11.36%
51	6.15%	9.23%	1.58%	2.37%	7.73%	11.60%	7.69%	11.53%
52	6.23%	9.34%	1.59%	2.38%	7.81%	11.72%	7.77%	11.65%
53	6.25%	9.37%	1.59%	2.38%	7.83%	11.75%	7.78%	11.67%
54	6.23%	9.35%	1.57%	2.36%	7.81%	11.71%	7.75%	11.63%
55	6.20%	9.30%	1.55%	2.33%	7.76%	11.63%	7.69%	11.53%
56	6.17%	9.25%	1.48%	2.22%	7.65%	11.47%	7.60%	11.39%
57	6.14%	9.21%	1.40%	2.10%	7.54%	11.31%	7.46%	11.19%
58	6.27%	9.41%	1.31%	1.96%	7.58%	11.37%	7.60%	11.40%
59+	6.47%	9.71%	1.25%	1.88%	7.73%	11.59%	7.78%	11.67%

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tier 4								
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350	Total First $350	Total Over $350	Prior Total First $350	Prior Total Over $350
16	2.19%	3.28%	1.06%	1.59%	3.25%	4.87%	3.32%	4.98%
17	2.19%	3.28%	1.06%	1.59%	3.25%	4.87%	3.32%	4.98%
18	2.19%	3.28%	1.06%	1.59%	3.25%	4.87%	3.32%	4.98%
19	2.19%	3.28%	1.06%	1.59%	3.25%	4.87%	3.32%	4.98%
20	2.19%	3.28%	1.06%	1.59%	3.25%	4.87%	3.32%	4.98%
21	2.20%	3.30%	1.09%	1.63%	3.28%	4.93%	3.36%	5.05%
22	2.21%	3.31%	1.11%	1.67%	3.32%	4.98%	3.40%	5.10%
23	2.21%	3.32%	1.15%	1.72%	3.36%	5.04%	3.43%	5.14%
24	2.21%	3.32%	1.17%	1.76%	3.39%	5.08%	3.46%	5.19%
25	2.21%	3.32%	1.21%	1.81%	3.42%	5.13%	3.49%	5.24%
26	2.26%	3.39%	1.24%	1.86%	3.50%	5.25%	3.56%	5.34%
27	2.31%	3.46%	1.27%	1.91%	3.58%	5.37%	3.63%	5.44%
28	2.35%	3.53%	1.30%	1.95%	3.65%	5.48%	3.70%	5.55%
29	2.40%	3.60%	1.33%	1.99%	3.73%	5.59%	3.77%	5.66%
30	2.45%	3.68%	1.36%	2.04%	3.81%	5.72%	3.85%	5.77%
31	2.50%	3.75%	1.39%	2.09%	3.90%	5.84%	3.92%	5.88%
32	2.56%	3.83%	1.41%	2.12%	3.97%	5.95%	4.00%	6.00%
33	2.61%	3.91%	1.44%	2.16%	4.05%	6.07%	4.08%	6.12%
34	2.66%	3.99%	1.47%	2.21%	4.14%	6.20%	4.17%	6.26%
35	2.72%	4.08%	1.50%	2.25%	4.22%	6.33%	4.27%	6.40%
36	2.78%	4.17%	1.55%	2.33%	4.33%	6.50%	4.36%	6.54%
37	2.84%	4.26%	1.60%	2.40%	4.44%	6.66%	4.46%	6.70%
38	2.90%	4.35%	1.65%	2.47%	4.55%	6.82%	4.56%	6.84%
39	2.96%	4.45%	1.69%	2.54%	4.66%	6.99%	4.67%	7.01%
40	3.03%	4.55%	1.73%	2.60%	4.76%	7.15%	4.78%	7.17%
41	3.10%	4.65%	1.76%	2.64%	4.86%	7.29%	4.88%	7.31%
42	3.18%	4.76%	1.79%	2.68%	4.96%	7.44%	4.97%	7.46%
43	3.25%	4.88%	1.81%	2.72%	5.07%	7.60%	5.08%	7.62%
44	3.33%	5.00%	1.83%	2.75%	5.17%	7.75%	5.17%	7.76%
45	3.41%	5.11%	1.86%	2.79%	5.27%	7.90%	5.27%	7.91%
46	3.48%	5.22%	1.87%	2.81%	5.36%	8.03%	5.36%	8.05%
47	3.56%	5.34%	1.89%	2.84%	5.45%	8.18%	5.46%	8.18%
48	3.61%	5.41%	1.91%	2.86%	5.51%	8.27%	5.52%	8.28%
49	3.63%	5.45%	1.92%	2.88%	5.55%	8.33%	5.55%	8.32%
50	3.61%	5.42%	1.92%	2.88%	5.53%	8.30%	5.53%	8.29%
51	3.60%	5.39%	1.91%	2.87%	5.51%	8.26%	5.51%	8.27%
52	3.58%	5.37%	1.91%	2.86%	5.48%	8.23%	5.46%	8.19%
53	3.45%	5.18%	1.87%	2.81%	5.33%	7.99%	5.36%	8.03%
54+	3.44%	5.15%	1.84%	2.76%	5.28%	7.91%	5.30%	7.96%

APPENDIX E – MEMBER CONTRIBUTION RATES

				General Tier 5				
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350	Total First $350	Total Over $350	Prior Total First $350	Prior Total Over $350
16	4.38%	6.57%	1.06%	1.59%	5.44%	8.16%	5.41%	8.11%
17	4.38%	6.57%	1.06%	1.59%	5.44%	8.16%	5.41%	8.11%
18	4.38%	6.57%	1.06%	1.59%	5.44%	8.16%	5.41%	8.11%
19	4.38%	6.57%	1.06%	1.59%	5.44%	8.16%	5.41%	8.11%
20	4.38%	6.57%	1.06%	1.59%	5.44%	8.16%	5.41%	8.11%
21	4.40%	6.59%	1.09%	1.63%	5.48%	8.22%	5.46%	8.19%
22	4.41%	6.62%	1.11%	1.67%	5.52%	8.29%	5.50%	8.25%
23	4.42%	6.63%	1.15%	1.72%	5.57%	8.35%	5.54%	8.31%
24	4.43%	6.64%	1.17%	1.76%	5.60%	8.40%	5.57%	8.35%
25	4.43%	6.64%	1.21%	1.81%	5.64%	8.45%	5.60%	8.41%
26	4.52%	6.78%	1.24%	1.86%	5.76%	8.64%	5.72%	8.58%
27	4.61%	6.92%	1.27%	1.91%	5.89%	8.83%	5.83%	8.74%
28	4.71%	7.06%	1.30%	1.95%	6.01%	9.01%	5.94%	8.92%
29	4.81%	7.21%	1.33%	1.99%	6.13%	9.20%	6.06%	9.09%
30	4.90%	7.36%	1.36%	2.04%	6.26%	9.40%	6.18%	9.28%
31	5.01%	7.51%	1.39%	2.09%	6.40%	9.60%	6.31%	9.46%
32	5.11%	7.67%	1.41%	2.12%	6.52%	9.79%	6.44%	9.66%
33	5.22%	7.83%	1.44%	2.16%	6.66%	9.99%	6.57%	9.85%
34	5.33%	7.99%	1.47%	2.21%	6.80%	10.20%	6.71%	10.07%
35	5.44%	8.16%	1.50%	2.25%	6.94%	10.41%	6.86%	10.29%
36	5.55%	8.33%	1.55%	2.33%	7.11%	10.66%	7.01%	10.51%
37	5.67%	8.51%	1.60%	2.40%	7.27%	10.91%	7.17%	10.75%
38	5.80%	8.70%	1.65%	2.47%	7.44%	11.17%	7.33%	10.99%
39	5.93%	8.89%	1.69%	2.54%	7.62%	11.43%	7.50%	11.24%
40	6.06%	9.09%	1.73%	2.60%	7.79%	11.69%	7.67%	11.50%
41	6.20%	9.30%	1.76%	2.64%	7.96%	11.94%	7.83%	11.75%
42	6.35%	9.53%	1.79%	2.68%	8.14%	12.21%	8.00%	12.00%
43	6.51%	9.76%	1.81%	2.72%	8.32%	12.48%	8.18%	12.27%
44	6.66%	10.00%	1.83%	2.75%	8.50%	12.75%	8.35%	12.52%
45	6.82%	10.22%	1.86%	2.79%	8.68%	13.01%	8.52%	12.78%
46	6.96%	10.45%	1.87%	2.81%	8.84%	13.26%	8.68%	13.02%
47	7.11%	10.67%	1.89%	2.84%	9.01%	13.51%	8.84%	13.27%
48	7.22%	10.82%	1.91%	2.86%	9.12%	13.68%	8.95%	13.43%
49	7.27%	10.90%	1.92%	2.88%	9.19%	13.78%	9.01%	13.51%
50	7.23%	10.84%	1.92%	2.88%	9.15%	13.72%	8.97%	13.46%
51	7.19%	10.79%	1.91%	2.87%	9.10%	13.66%	8.94%	13.40%
52	7.15%	10.73%	1.91%	2.86%	9.06%	13.59%	8.87%	13.30%
53	6.91%	10.36%	1.87%	2.81%	8.78%	13.17%	8.71%	13.07%
54+	6.87%	10.31%	1.84%	2.76%	8.71%	13.07%	8.64%	12.96%

APPENDIX E – MEMBER CONTRIBUTION RATES

Safety Tier 2								
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350	Total First $350	Total Over $350	Prior Total First $350	Prior Total Over $350
18	5.55%	8.32%	2.05%	3.08%	7.60%	11.40%	6.65%	9.98%
19	5.55%	8.32%	2.05%	3.08%	7.60%	11.40%	6.65%	9.98%
20	5.55%	8.32%	2.05%	3.08%	7.60%	11.40%	6.65%	9.98%
21	5.64%	8.46%	2.12%	3.18%	7.76%	11.64%	6.83%	10.24%
22	5.74%	8.61%	2.15%	3.23%	7.89%	11.84%	6.98%	10.47%
23	5.83%	8.75%	2.19%	3.29%	8.03%	12.04%	7.14%	10.70%
24	5.93%	8.90%	2.23%	3.34%	8.16%	12.24%	7.30%	10.94%
25	6.03%	9.05%	2.25%	3.38%	8.29%	12.43%	7.46%	11.19%
26	6.14%	9.21%	2.28%	3.42%	8.42%	12.63%	7.62%	11.42%
27	6.24%	9.36%	2.30%	3.45%	8.54%	12.81%	7.78%	11.67%
28	6.35%	9.52%	2.32%	3.48%	8.67%	13.00%	7.96%	11.94%
29	6.46%	9.68%	2.33%	3.50%	8.79%	13.18%	8.13%	12.20%
30	6.57%	9.85%	2.37%	3.56%	8.94%	13.41%	8.31%	12.46%
31	6.68%	10.02%	2.41%	3.62%	9.09%	13.64%	8.50%	12.75%
32	6.80%	10.20%	2.46%	3.69%	9.26%	13.89%	8.69%	13.03%
33	6.92%	10.38%	2.50%	3.75%	9.42%	14.13%	8.88%	13.32%
34	7.04%	10.56%	2.53%	3.80%	9.58%	14.36%	9.07%	13.61%
35	7.17%	10.75%	2.55%	3.82%	9.72%	14.57%	9.27%	13.91%
36	7.30%	10.95%	2.56%	3.84%	9.86%	14.79%	9.46%	14.19%
37	7.44%	11.16%	2.56%	3.84%	10.00%	15.00%	9.64%	14.47%
38	7.58%	11.37%	2.55%	3.83%	10.13%	15.20%	9.84%	14.76%
39	7.72%	11.58%	2.55%	3.83%	10.27%	15.41%	10.03%	15.04%
40	7.85%	11.78%	2.55%	3.83%	10.40%	15.61%	10.21%	15.32%
41	7.98%	11.98%	2.53%	3.79%	10.51%	15.77%	10.34%	15.52%
42	8.12%	12.17%	2.51%	3.77%	10.63%	15.94%	10.46%	15.69%
43	8.19%	12.29%	2.50%	3.75%	10.69%	16.04%	10.55%	15.83%
44	8.21%	12.32%	2.49%	3.74%	10.71%	16.06%	10.61%	15.91%
45	8.19%	12.28%	2.49%	3.74%	10.68%	16.02%	10.61%	15.91%
46	8.15%	12.22%	2.51%	3.77%	10.66%	15.99%	10.58%	15.86%
47	8.11%	12.16%	2.53%	3.79%	10.63%	15.95%	10.49%	15.73%
48	8.28%	12.42%	2.55%	3.82%	10.83%	16.24%	10.70%	16.06%
49+	8.55%	12.83%	2.56%	3.84%	11.11%	16.67%	10.97%	16.45%

APPENDIX E – MEMBER CONTRIBUTION RATES

Safety Tier 5								
Entry Age	Basic First $350	Basic Over $350	COL First $350	COL Over $350	Total First $350	Total Over $350	Prior Total First $350	Prior Total Over $350
18	5.87%	8.80%	2.97%	4.46%	8.84%	13.26%	7.54%	11.31%
19	5.87%	8.80%	2.97%	4.46%	8.84%	13.26%	7.54%	11.31%
20	5.87%	8.80%	2.97%	4.46%	8.84%	13.26%	7.54%	11.31%
21	5.97%	8.95%	3.07%	4.60%	9.04%	13.55%	7.74%	11.61%
22	6.07%	9.10%	3.11%	4.67%	9.18%	13.77%	7.91%	11.87%
23	6.17%	9.26%	3.16%	4.74%	9.33%	14.00%	8.08%	12.12%
24	6.28%	9.42%	3.20%	4.80%	9.48%	14.22%	8.25%	12.38%
25	6.38%	9.58%	3.23%	4.84%	9.61%	14.42%	8.43%	12.64%
26	6.49%	9.74%	3.25%	4.88%	9.75%	14.62%	8.60%	12.91%
27	6.60%	9.90%	3.27%	4.91%	9.88%	14.81%	8.78%	13.17%
28	6.71%	10.07%	3.29%	4.93%	10.00%	15.00%	8.97%	13.45%
29	6.83%	10.24%	3.29%	4.93%	10.12%	15.17%	9.14%	13.71%
30	6.95%	10.42%	3.29%	4.93%	10.23%	15.35%	9.29%	13.94%
31	7.07%	10.60%	3.29%	4.94%	10.36%	15.54%	9.44%	14.15%
32	7.19%	10.79%	3.31%	4.96%	10.50%	15.75%	9.62%	14.44%
33	7.32%	10.98%	3.31%	4.97%	10.63%	15.95%	9.82%	14.73%
34	7.45%	11.17%	3.33%	4.99%	10.78%	16.16%	10.02%	15.02%
35	7.58%	11.38%	3.34%	5.01%	10.92%	16.39%	10.22%	15.34%
36	7.73%	11.59%	3.25%	4.87%	10.97%	16.46%	10.42%	15.63%
37	7.87%	11.81%	3.24%	4.86%	11.11%	16.67%	10.63%	15.95%
38	8.03%	12.04%	3.23%	4.84%	11.25%	16.88%	10.86%	16.29%
39	8.19%	12.29%	3.21%	4.81%	11.40%	17.10%	11.08%	16.62%
40	8.35%	12.52%	3.19%	4.78%	11.53%	17.30%	11.30%	16.95%
41	8.49%	12.74%	3.14%	4.71%	11.63%	17.45%	11.41%	17.11%
42	8.65%	12.98%	3.10%	4.65%	11.75%	17.63%	11.51%	17.27%
43	8.81%	13.22%	3.07%	4.61%	11.89%	17.83%	11.62%	17.43%
44	8.98%	13.47%	3.05%	4.57%	12.03%	18.04%	11.74%	17.61%
45	8.96%	13.44%	3.03%	4.54%	11.99%	17.98%	11.80%	17.71%
46	8.95%	13.42%	3.03%	4.55%	11.98%	17.97%	11.83%	17.75%
47	8.90%	13.35%	3.04%	4.56%	11.94%	17.91%	11.81%	17.72%
48	8.60%	12.90%	3.05%	4.57%	11.64%	17.47%	11.60%	17.40%
49+	8.55%	12.83%	3.05%	4.58%	11.60%	17.41%	11.48%	17.21%

APPENDIX E – MEMBER CONTRIBUTION RATES

PEPRA Rates				
	General		Safety	
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts
Current	8.44%	9.10%	13.18%	14.72%
Prior	8.74%	9.16%	12.36%	13.72%

Assumptions:

Interest: 6.75%

Salary: 2021 Valuation Scale (Service based, includes wage inflation at 2.75%)

Mortality: Because the PEPRA contributions rates are based on 50% of the actual Normal Cost, the mortality rates are the same as those used in the Actuarial Valuation (CalPERS mortality tables with adjustments based on StanCERA experience projected generationally from 2017 using 80% of Scale MP-2020)

CHEIRON

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Stanislaus County Employees' Retirement Association

Actuarial Experience Study for July 1, 2018 through June 30, 2021

Produced by Cheiron

February 2022

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February 15, 2022

Board of Retirement
Stanislaus County Employees' Retirement Association
832 12th Street, Suite 600
Modesto, CA 95353

Dear Members of the Board:

The purpose of this report is to present an Actuarial Experience Study of the Stanislaus County Employees' Retirement Association (StanCERA, the Fund, the Plan) covering actuarial experience from July 1, 2018 through June 30, 2021. The report includes analyses and recommendations of economic and demographic assumptions to be used beginning with the July 1, 2021 actuarial valuation.

If you have any questions about the report or would like additional information, please let us know.

Sincerely,
Cheiron

Graham A. Schmidt, ASA, FCA, MAAA, EA	Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary	Consulting Actuary

SECTION I – EXECUTIVE SUMMARY

Actuarial assumptions (economic and demographic) are intended to be long-term in nature and should be both individually reasonable and consistent in the aggregate. The purpose of this experience study is to evaluate whether or not the current assumptions adequately reflect the long-term expectations for StanCERA, and if not, to recommend adjustments. It is important to note that frequent and significant changes in the actuarial assumptions are not typically recommended, unless there are known fundamental changes in expectations of the economy, or with respect to StanCERA's membership or assets that would warrant such frequent or significant changes.

SUMMARY OF ECONOMIC ASSUMPTION ANALYSIS

The specific economic assumptions analyzed in this report are price inflation, wage inflation, COLA growth, and the discount rate. These assumptions have a significant impact on the contribution rates in the short-term and the risk of negative outcomes in the long-term.

The economic assumptions adopted by the Retirement Board at the April 27, 2021 meeting include a 6.75% long-term rate of return on Plan assets, an annual increase in prices measured by the Consumer Price Index (CPI) of 2.50%, annual wage increase equal to 25 basis points greater than price increases (2.75% in total), and a post-retirement COLA average growth rate of 2.40%.

The discount rate assumption is consistent with the long-term (20-year) capital market assumptions from a survey of investment consultants. Other data presented in this report indicate that the discount rate and other economic assumptions adopted by the Retirement Board are reasonable.

However, the Plan's investment consultant (NEPC) projects lower returns for the next 10 years, averaging 5.66%, for StanCERA's current target portfolio. If the current target asset allocation is maintained and NEPC's projections are realized, the Board can expect a pattern of actuarial losses from the assets in the near term. However, we would expect these losses to be offset by liability gains over the same time period, since NEPC's inflation assumption (2.30%) is lower than the Plan's assumption (2.50%), resulting in lower than expected pay and COLA increases.

SUMMARY OF DEMOGRAPHIC ASSUMPTION ANALYSIS

This experience study specifically analyzes and makes the following recommendations for the demographic assumptions.

- **Merit salary increases** – Adjustments to the rates for Safety members.
- **Retirement rates** – Adjustments to the rates for both General and Safety members in non-PEPRA tiers.
- **Termination rates** – Lower rates for most Safety members. Lower rates for General members with 2-4 years of service and higher rates for most General members with five or more years of service.

SECTION I – EXECUTIVE SUMMARY

- **Mortality rates** – Update to the new CalPERS base tables with appropriate adjustments and the use of new generational mortality improvement scales (from MP-2018 to 80% of the MP-2020 tables).
- **Family composition assumption changes** – Males now assumed to be two years older than female spouses, 90% of male and 95% of female married members assumed to elect the joint and survivor option, and 80% of male and 60% of female members assumed to be married. Also, previously we assumed that spouses of current retirees reported on the data survived through the valuation date. We propose relying on the reported spouse date of death instead of using an assumption.
- **Other assumptions changes** – Increase terminal payload for vacation cash outs, adjust rates of withdrawals and reciprocity, reduce expected commencement age for Tier 4 and 5 Safety reciprocal transfers and update administrative expense assumption.

The changes in the economic assumptions increase costs overall, with a decrease due to the inflation rate change somewhat offsetting an increase due to the discount rate reduction. Among the demographic assumptions, the recommendation to change mortality assumptions has the largest impact on contribution rates, reducing rates substantially. The recently completed mortality study by the Society of Actuaries found that mortality rates had improved slower than previously anticipated and recommended future projections of mortality improvement commensurate with recent experience in the short-term tapering to a steady long-term expected rate. The recommended change to mortality rates for StanCERA reflects both the changes in StanCERA experience since the last experience study and the application of the recommended lower rates of improvement projected in the future.

The recommended changes to retirement and termination rates, as well as the changes to the family composition assumptions also would decrease contribution rates, while the changes to assumed Safety merit salary increases, terminal payload, and deferral age would increase overall contribution rates.

Further information about impact of these changes to overall contribution rates can be found on the following page:

SECTION I – EXECUTIVE SUMMARY

Stanislaus County Employees' Retirement Association
Assumptions Changes Impact (Employee + Employer)

	Gross Normal Cost %	Amortization of UAL %	Gross Contribution
General			
Economic	0.13%	0.43%	0.56%
Mortality	-0.28%	-1.73%	-2.01%
Merit Pay	0.00%	0.00%	0.00%
Reciprocity	0.04%	-0.09%	-0.05%
Deferral Age	0.00%	0.00%	0.00%
Family Compositon	-0.02%	-0.27%	-0.29%
Vacation Pay	0.15%	0.47%	0.62%
Termination	-0.54%	-0.08%	-0.62%
Retirement	-0.05%	-0.26%	-0.31%
Impact of All Changes to General	**-0.57%**	**-1.53%**	**-2.10%**
Safety			
Economic	0.23%	0.65%	0.89%
Mortality	-0.14%	-1.17%	-1.31%
Merit Pay	1.44%	1.17%	2.60%
Reciprocity	0.22%	-0.05%	0.17%
Deferral Age	0.29%	0.73%	1.02%
Family Compositon	-0.21%	-0.77%	-0.98%
Vacation Pay	0.13%	0.41%	0.54%
Termination	0.26%	0.08%	0.34%
Retirement	0.13%	0.55%	0.68%
Impact of All Changes to Safety	**2.35%**	**1.60%**	**3.95%**
Aggregate			
Economic	0.15%	0.48%	0.63%
Mortality	-0.25%	-1.61%	-1.86%
Merit Pay	0.32%	0.26%	0.58%
Reciprocity	0.08%	-0.08%	0.00%
Deferral Age	0.07%	0.16%	0.23%
Family Compositon	-0.07%	-0.37%	-0.44%
Vacation Pay	0.14%	0.46%	0.60%
Termination	-0.35%	-0.05%	-0.40%
Retirement	-0.02%	-0.08%	-0.10%
TOTAL IMPACT OF ALL CHANGES	**0.07%**	**-0.83%**	**-0.76%**

The body of this report provides additional detail and support for our conclusions and recommendations.

SECTION II – CERTIFICATION

The purpose of this report is to provide the results of an Actuarial Experience Study of the Stanislaus County Employees' Retirement Association (StanCERA) covering actuarial experience from July 1, 2018 through June 30, 2021. This report is for the use of the StanCERA Retirement Board in selecting assumptions to be used in actuarial valuations beginning June 30, 2021.

In preparing our report, we relied on information (some oral and some written) supplied by StanCERA. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Cheiron utilizes ProVal, an actuarial valuation application leased from Winklevoss Technologies (WinTech), to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal, have a basic understanding of it, and have used it in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this report.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This report was prepared for the StanCERA Retirement Board for the purposes described herein. This report is not intended to benefit any other party, and Cheiron assumes no duty or liability to any such party.

Graham A. Schmidt, ASA, FCA, MAAA, EA	Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary	Consulting Actuary

SECTION III – ECONOMIC ASSUMPTIONS
PRICE INFLATION

The economic assumptions used in actuarial valuations are intended to be long-term in nature and should be both individually reasonable and consistent with each other. The specific assumptions analyzed in this report are:

- **Price inflation** – used indirectly as an underlying component of other economic assumptions.
- **Wage inflation** – across the board wage growth used to project benefits and to amortize the unfunded liability as a level percentage of expected payroll.
- **COLA growth** – rate at which inflation-linked post-retirement COLAs are expected to change.
- **Discount rate** – used both to project long-term asset growth and to discount future cash flows in calculating the liabilities and costs of the Plan.

In order to develop recommendations for each of these assumptions, we considered historical data, both nationally and for the Plan, and expectations for the future, as expressed by the Plan's and other external investment consultants and the Board.

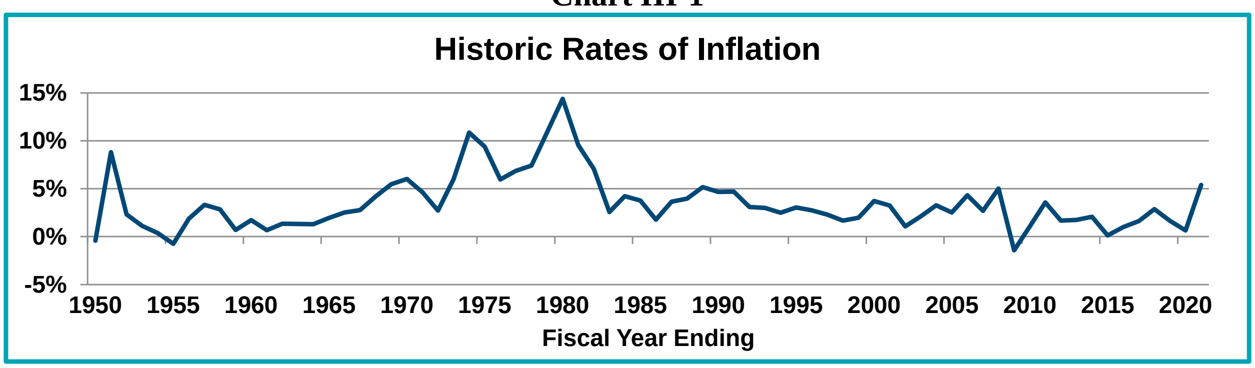
PRICE INFLATION

Long-term price inflation rates are the foundation of other economic assumptions. In a growing economy, wages and investments are expected to grow at the underlying inflation rate plus some additional real growth rate, whether it reflects productivity in terms of wages or risk premiums in terms of investments.

Historical Data

Chart III-1 below shows inflation for the U.S. by individual year since 1950.

Chart III-1



Over the 50 years ending June 2021, the geometric average inflation rate for the U.S. has been about 3.9%, but this average is heavily influenced by the high inflation rates in the 1970s and early 1980s. Over the last 30 years, the geometric average inflation rate has been 2.3%, and it has been only 1.9% over the 10 years ending June 2021.

SECTION III – ECONOMIC ASSUMPTIONS
PRICE INFLATION

In the year ending June 2021, inflation broke from this long-term trend with an annual rate of 5.4%. Inflation continued to come in higher than in recent history in the months after June 2021 and prior to the issuance of this report. This short-term deviation bears monitoring but does not require an immediate revision to expectations. Economic assumptions frequently deviate significantly from expectations. Often those deviations are followed by offsetting deviations in the opposite direction. The assumptions used in actuarial valuations are long-term in nature and are not necessarily driven by the most recent events. That is particularly important considering the major economic impact of the recent COVID-19 pandemic.

Future Expectations

A measure of the market consensus of expected future inflation rates is the difference in yields between conventional treasury bonds and Treasury Inflation-Protected Securities (TIPS) at the same maturity. Table III-1 shows the yields on both types of bonds and the break-even inflation rate as of December 2021. Break-even inflation is the level of inflation needed for an investment in TIPS to "break even" with an investment in conventional treasury bonds of the same maturity. Longer-term expectations are lower than short-term expectations.

Table III-1

Break-Even Inflation Based on Treasury Bond Yields			
Time to Maturity	Conventional Yield	TIPS Yield	Break Even Inflation
5 Years	1.23%	-1.52%	2.75%
10 Years	1.47%	-0.99%	2.46%
20 Years	1.90%	-0.61%	2.51%

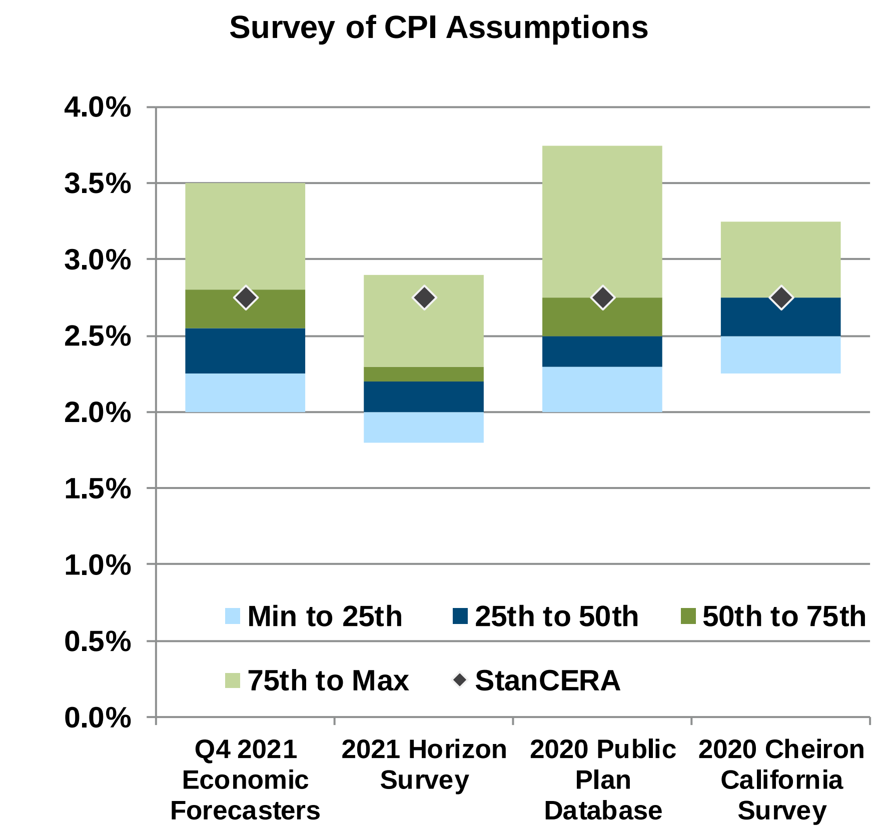
Data Source Federal Reserve, Constant Maturity Yields, Monthly Series

The Federal Reserve Bank of Philadelphia publishes a quarterly survey of professional economic forecasters that includes their forecasts of inflation over the next 10 years. The survey for the fourth quarter of 2021 shows a median inflation forecast of 2.55%; a minimum forecast of about 2.0% and a maximum forecast of 3.5%.

Chart III-2 on the next page shows the distribution of the professionals forecasts for average inflation over the next 10 years compared to assumptions from the Horizon Actuarial Services Survey of Capital Market Assumptions (2021 Edition), the 2020 Data Survey from US Public Plan Data (PPD) maintained by the Center for Retirement Research at Boston College and the MissionSquare Research Institute and our 2020 internal survey of California public pension plans.

SECTION III – ECONOMIC ASSUMPTIONS
PRICE INFLATION

Chart III-2



	Q4 2021 Economic Forecasters	2021 Horizon Survey	2020 Public Plan Database	2020 Cheiron California Survey
Minimum	2.00%	1.80%	2.00%	2.25%
25th	2.25%	2.00%	2.30%	2.50%
50th	2.55%	2.20%	2.50%	2.75%
75th	2.80%	2.30%	2.75%	2.75%
Maximum	3.50%	2.90%	3.75%	3.25%

Finally, NEPC, the Board's investment consultant, uses an inflation assumption of 2.30% for the next 10 years. A broader survey of 39 investment advisors, as published by Horizon Actuarial Services in 2021, reflects a 2.12% average assumption over the next 10 years and 2.23% over the next 20 years.

Based on all of these considerations, we believe a reasonable range for long-term price inflation for use in the Plan's actuarial valuations is between 2.25% and 2.75%. Therefore, we agree with the Board's recent action to reduce the assumption from 2.75% to 2.50%. Although inflation has accelerated in the latter half of 2021 and the beginning of 2022, the updated inflation assumption is consistent with current long-term market expectations and still slightly higher than the average expectations of many investment consultants.

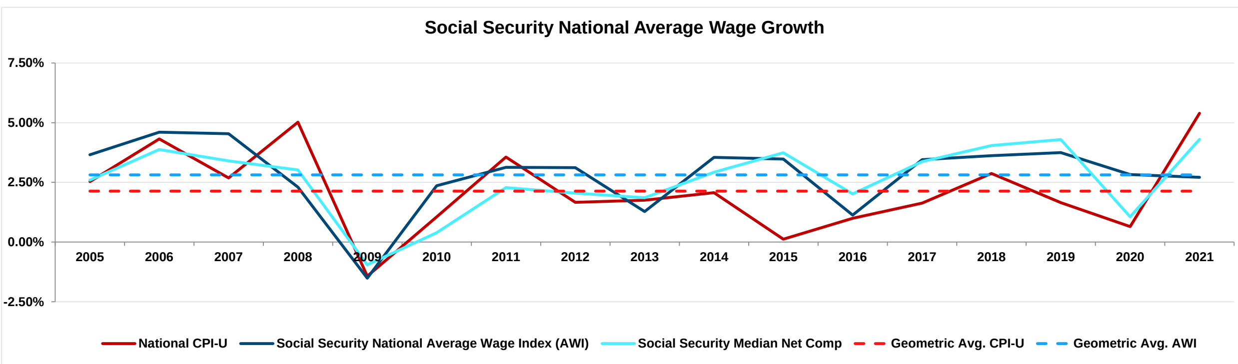
WAGE INFLATION

Wage inflation can be thought of as the annual across-the-board increase in wages. Individuals often receive salary increases in excess of the wage inflation rate, and we study these increases as a part of the merit salary scale assumption. Wage inflation generally exceeds price inflation by some margin reflecting the history of increased purchasing power.

Wage inflation is used in the actuarial valuation as the minimum expected salary increase for an individual and, for purposes of amortizing the unfunded actuarial liability, the rate at which payroll is expected to grow over the long term, assuming a stable active member population.

Chart III-3 shows the increase in national average wages (as reported by the Social Security Administration) compared to inflation from 2005 through 2021.

Chart III-3



Over this period, national wage inflation averaged approximately 2.8% compared to annual price inflation of 2.1%, making real wage increases about 0.7% above inflation. However, over the same time period the increase in the median real wage was only 0.5% per year, as much of the growth in wages was clustered at the top end of the wage scale.

It is acceptable to assume some additional level of base payroll increase beyond general inflation. Potential reasons contributing to the increase may include the presence of strong union representation in the collective bargaining process, competition in hiring among other similar employers, and regional factors – such as the local inflation index exceeding the national average, as has sometimes proven the case in parts of California. Also, the Social Security Administration projects real wage growth of 0.5% - 1.8% going forward in their Social Security solvency projections included in the 2021 annual Trustees Report. However, recent higher rates of inflation have resulted in negative real wage growth for US workers in 2021, and the expectation of higher inflation in the short term is anticipated to continue to put downward pressure on real wages, at least in the short term.

Cheiron recommends maintaining the small non-inflationary base payroll growth assumption of 0.25% annually. The annual expected increase in base payroll will be 2.75%, reduced from

3.00% in the June 30, 2020 valuation. This increase will be applied to all continuing active members, and to starting pay for new entrants when projections of future populations are required. This increase will also be used in the calculation of the unfunded liability amortization payment as a level percentage of payroll.

COLA GROWTH

Members of StanCERA – other than those in Tier 3 - are eligible to receive automatic Cost of Living Adjustments (COLAs), based on the growth in the Bay Area Consumer Price Index (CPI-U) and a 3% cap on the annual COLA increase. Any increase in the CPI above the maximum increase can be banked for future years in which the change in the CPI is below the maximum increase.

It is necessary to determine an assumed rate of COLA growth, reflecting both inflation (i.e., the growth in the CPI), and the interaction of the CPI with the COLA cap and banking mechanism. Simulations of inflation show that the average growth in the COLA is expected to be below the cap, even if the expected increase in the CPI is equal to or higher than the cap itself. This is because if there is not a significant bank already in existence (such as in the early years of retirement) and there are years in which inflation is below the cap, this shortfall will not be made up in future years.

We have produced stochastic simulations of inflation and then modeled how the COLA maxima and the banking process interact with the changes in CPI. For a given long-term estimate of inflation, we used a 30% autocorrelation factor with 1.50% annual inflation volatility (expressed as a standard normal error). A starting inflation level of 4.00% was used in the simulations, to reflect the most recent annual average increase in the level of Bay Area inflation. This model is intended only for use in analyzing the relationship between long-term average COLAs and CPI. These assumptions may result in an unrealistically narrow distribution of annual inflation rates.

Based on the results of these simulations and using the 2.50% inflation assumption adopted by the Board, which we believe to be reasonable, we recommended a COLA growth assumption of 2.40%.

DISCOUNT RATE

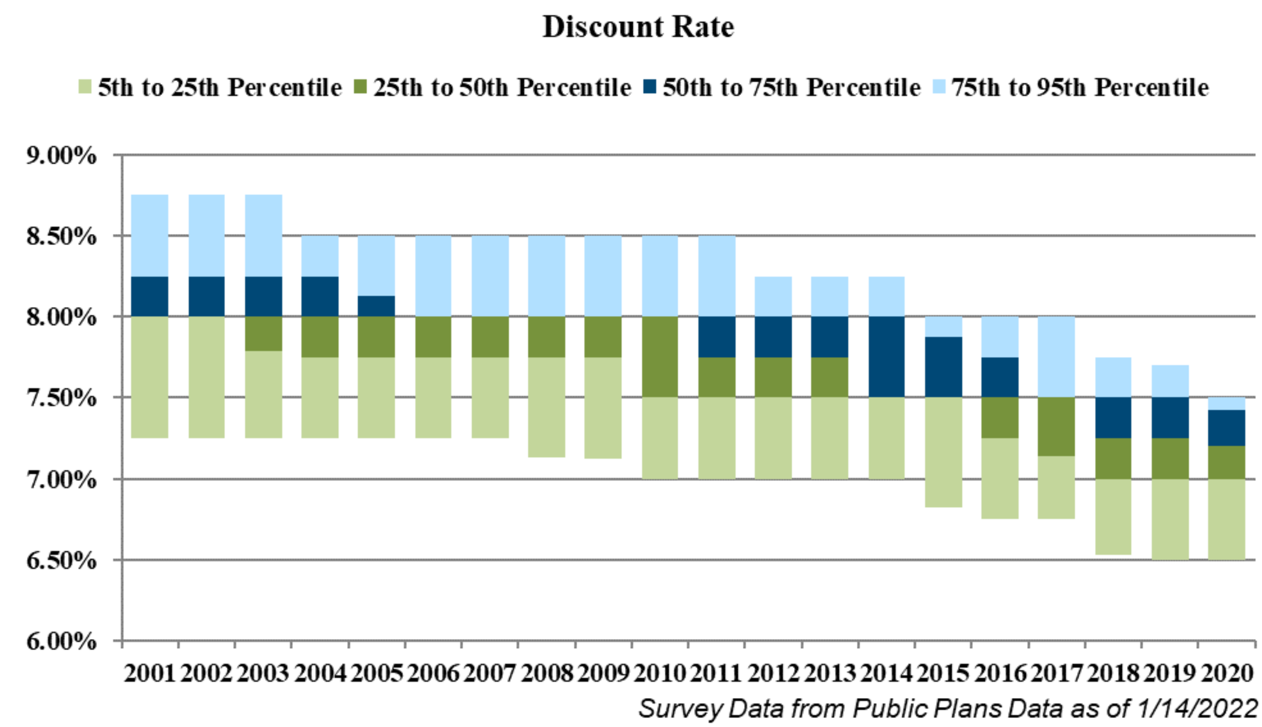
The discount rate assumption is generally the most significant of all the assumptions employed in actuarial valuations. The discount rate is based on the long-term expected return on plan investments. In the short-term, a higher discount rate results in lower expected contributions. However, over the long term, actual contributions will depend on actual investment returns and not the discount rate (or expected investment returns). If actual investment returns are lower than expected, contribution rates will increase in the future. It is important to set a realistic discount rate so that projections of future contributions for budgeting purposes will not be biased.

SECTION III – ECONOMIC ASSUMPTIONS
DISCOUNT RATE

Other Large Public Retirement Plans

Based on the PPD, which covers most of the largest public retirement systems in the country, there has been a general movement over at least the last decade to reduce the discount rate used in actuarial valuations. Chart III-4 below shows the change in the distribution of assumptions since 2001. The median assumption is now 7.20% and the number of plans using a discount rate 7.0% or lower has increased significantly.

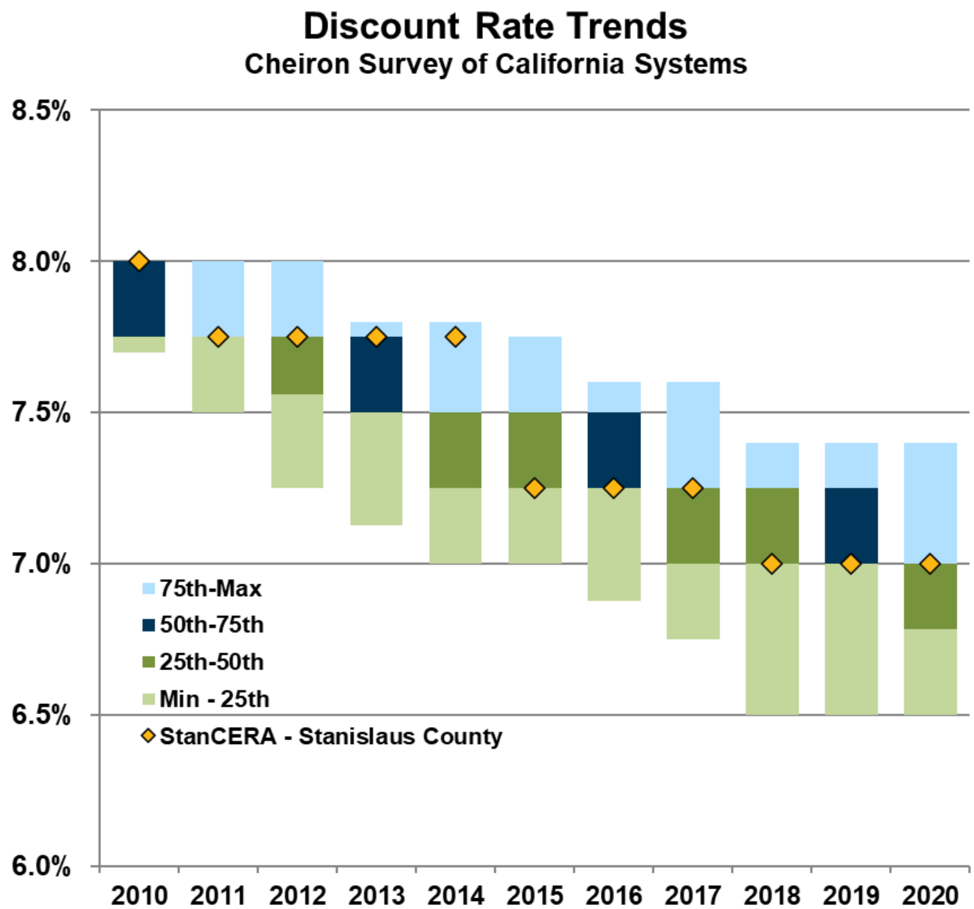
Chart III-4



In our survey of California retirement systems, the median assumption is even lower at 7.00% with over half of the 39 systems using the median rate. Only four systems were using a rate of 7.25% or higher in 2020, and some have since reduced their discount rates. Chart III-5 below shows the change in discount rate assumptions for California systems from 2010 to 2020.

SECTION III – ECONOMIC ASSUMPTIONS
DISCOUNT RATE

Chart III-5



Target Asset Allocation and Future Expectations

The discount rate assumption depends on the anticipated average level of inflation and the anticipated average *real rate of return.* The real rate of return is the investment return in excess of underlying inflation. The expected average real rate of return is heavily dependent on asset mix: The portion of assets in stocks, bonds, and other asset classes.

Table III-2 below shows the expected nominal geometric return based on the Board's current target asset allocation and the capital market assumptions provided by the Plan's investment consultant (NEPC) in 2021, as well as a survey of multiple investment consultants published by Horizon Actuarial Services in 2021 over both a 10 and 20-year time horizon. These expected returns reflect a 5 basis point adjustment for investment expenses. The table also shows the underlying inflation assumption used in the development of these capital market assumptions and computes the expected real rate of return (investment return in excess of inflation).

For some classes in the StanCERA portfolio – in particular, US Treasuries, Value-Add Real Estate and Private Real Assets (Natural Resources) – the Horizon survey did not include specific

SECTION III – ECONOMIC ASSUMPTIONS
DISCOUNT RATE

assumptions, therefore the NEPC assumptions were used for these classes (adjusted for differences in inflation).

Based on these assumptions, we calculated an expected geometric return of 6.77% and 6.89% under the NEPC 30-year and the Horizon 20-year survey assumptions, respectively, but only a 5.66% and 6.06% return under the NEPC 10-year and Horizon 10-year survey assumptions, respectively.

Table III-2

StanCERA Portfolio Return Expectations (reflects 5bp adjustment for investment expenses)				
Consultant	**Nominal**	**Inflation**	**Real**	**Standard Deviation**
NEPC (10-year)	5.66%	2.30%	3.36%	12.07%
NEPC (30-year)	6.77%	2.50%	4.27%	12.07%
Horizon (Survey, 10-year)	6.06%	2.12%	3.94%	11.83%
Horizon (Survey, 20-year)	6.89%	2.23%	4.66%	11.83%
Average	6.34%	2.29%	4.06%	11.95%
Current Assumption	7.00%	2.75%	4.25%	

Based on these capital market assumptions, we also calculated the potential distribution of returns over the various periods as shown in Table III-3. The 50th percentile nominal return under 6.77% under the NEPC 30-year assumptions and 6.89% under Horizon 20-year survey assumptions, both of which are higher than the 6.75% nominal return recently adopted by the Board.

Table III-3

Expected Distribution of Average Nominal Annual Investment Returns (reflects 5bp adjustment for investment expenses)					
Percentile	**NEPC (10-Year)**	**NEPC (30-Year)**	**Horizon (10-Year)**	**Horizon (20-Year)**	**Average**
95th	12.06%	10.42%	12.33%	11.29%	11.53%
75th	8.24%	8.25%	8.59%	8.67%	8.44%
60th	**6.62%**	**7.32%**	**7.00%**	**7.56%**	**7.12%**
50th	5.66%	6.77%	6.06%	6.89%	6.34%
40th	**4.70%**	**6.22%**	**5.12%**	**6.23%**	**5.57%**
25th	3.14%	5.31%	3.59%	5.14%	4.29%
5th	-0.39%	3.24%	0.13%	2.66%	1.41%

SECTION III – ECONOMIC ASSUMPTIONS
DISCOUNT RATE

As stated earlier in this report, the NEPC geometric assumption for the current target portfolio is lower than the adopted nominal return of 6.75% over the next 10 years (5.66%), as is the Horizon 10-year expectation (6.06%). The Board's adopted real return assumption (4.25%, based on a 6.75% nominal return and 2.50% price inflation) is also higher than the 10-year real return under the NEPC assumptions (3.36%) and the Horizon survey assumptions (3.94%). The adopted real return assumption is similar to the longer-term real returns under both the NEPC and the Horizon survey assumptions.

As of the 2013 valuation, the expected rate of return is expressed net of investment, but not administrative, expenses. The returns above were modeled based on the expected returns of the portfolio benchmark indices, which are expected to have minimal expenses. The actuarial standards on selecting a return assumption (ASOP 27) state that in general superior or inferior returns (net of fees) should not be assumed for active versus passive management, therefore we do not recommend a significant adjustment to the modeled returns for the fees of the asset managers. However, a slight margin is appropriate to reflect the investment-related expenses other than those of the investment managers, which would include the investment advisor and custodian. The expected returns shown above reflect a 5 basis point adjustment for investment expenses.

The recently adopted discount rate of 6.75% is consistent with the capital market assumptions discussed above, including an adjustment for differences in inflation and a small adjustment for investment-related expenses as described above. We therefore find this discount rate to be a reasonable assumption.

While short-term considerations should not be unduly weighted when setting the discount rate, stakeholders should be aware of the following factors regarding short-term expectations:

- Many investment consultants expect poor rates of return in the immediate and near-term future. They reason that there is little in the way of yields on fixed income, and that the equity markets are fully valued.
- We believe that near- and mid-term return projections should be considered along with long-term projections. Fund performance is usually measured over five to 10 years; longer measurement periods are often considered less relevant because of the potential for changes in the economy and in the investment markets.
- If NEPC and much of the investment community are correct in their projections, we can expect returns below the 6.75% assumed rate for a number of years. This will result in actuarial losses and increases in employer contribution rates, assuming other assumptions have no gain or loss.

Anecdotally, we have begun to see modest increases in capital market expectations over the past few months due to the recent high level of inflation and corresponding expected increases in interest rates. While this trend bears monitoring, we believe the recently adopted discount rate of 6.75% remains reasonable.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
MERIT SALARY INCREASES

Demographic assumptions are used to predict membership behavior, including rates of retirement, termination, disability, and mortality. These assumptions are based primarily on the historical experience of StanCERA, with some adjustments where future experience is expected to differ from historical experience and with deference to standard tables where StanCERA experience is not fully credible and a standard table is available. In some cases, we have combined the experience of the past three years with that of the prior three-year period in order to have a more robust dataset to review.

For purposes of this study, merit salary increases are also considered a demographic assumption because the assumption is based primarily on StanCERA's historical experience.

MERIT SALARY INCREASES

Salary increases consist of three components: Increases due to cost of living maintenance (inflation), increases related to non-inflationary pressures on base pay (such as productivity increases), and increases in individual pay due to merit, promotion, and longevity. Increases due to cost of living and non-inflationary base pay factors were addressed in an earlier section of this report. To analyze the merit component, we subtracted the Plan's base wage growth as measured by the increase in the Plan's aggregate average wages and adjusted for changes in the average service level.

The merit salary increase assumption is analyzed by employee group and by service. Generally, newer employees are more likely to earn a longevity increase or receive a promotion, so their salary increases tend to be greater than those for longer service employees.

Charts IV-1 and IV-2 on the next page analyze the pay patterns for Safety and General members, respectively. The charts show the current assumption (red line) compared to the actual experience (blue line) and the proposed assumption (green line).

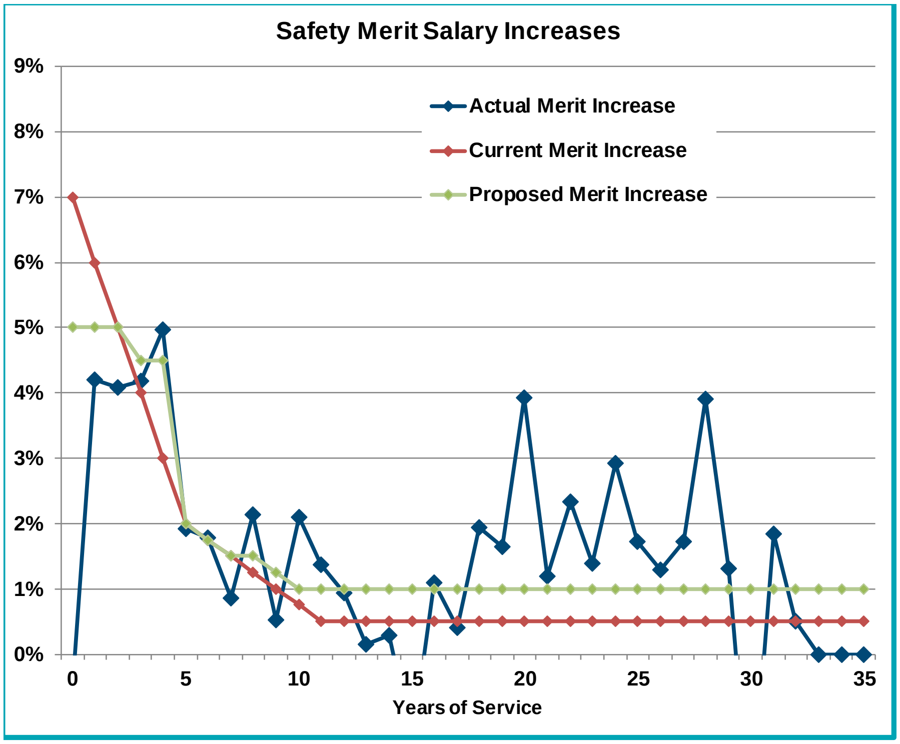
For Safety members, we have proposed new assumptions with rates of 5% per year in the first three years of service and slightly higher increases thereafter, when compared to the previous assumption. The 5% pattern of increases in the first three years fits well with our general understanding of how the step increases work in the members' pay schedules.

The proposal also recommends an ultimate rate of 1.00% starting at 10 years of service. We note that the data could have supported a larger increase in the ultimate rate. However, we have been made aware that a significant portion of the merit increases for the Safety members are a result of the implementation of a POST certification bonus for the Deputy Sheriffs, which represents a one-time increase for these members, and will not apply to future PEPRA members.

For General members, we have not recommended any changes.

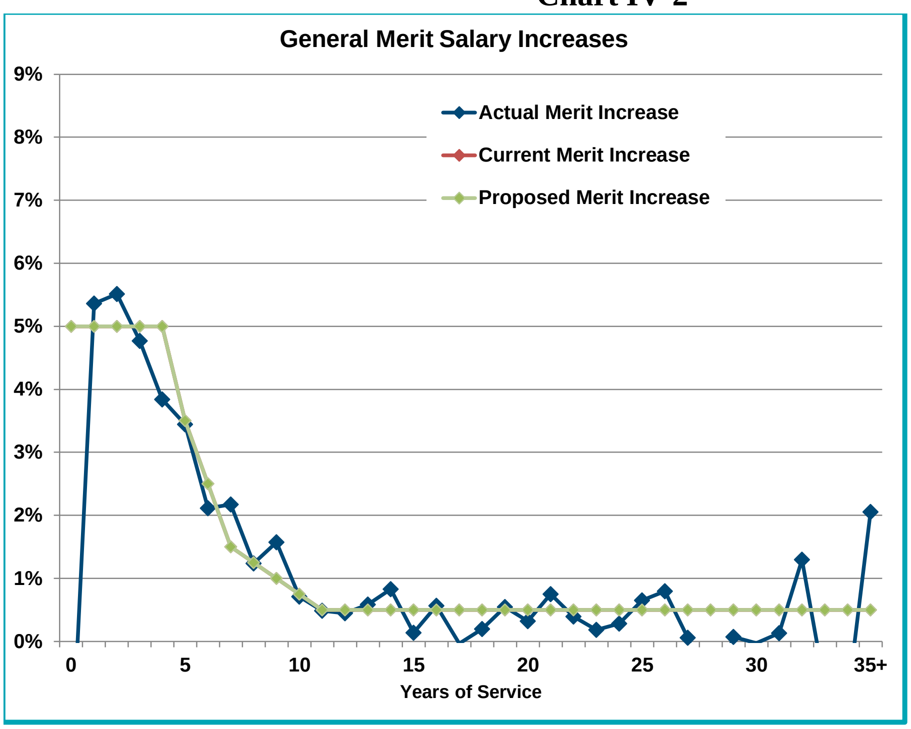
SECTION IV – DEMOGRAPHIC ASSUMPTIONS
MERIT SALARY INCREASES

Chart IV-1



Merit Salary Increases Safety		
Service	Current	Recommended
0	7.00%	5.00%
1	6.00%	5.00%
2	5.00%	5.00%
3	4.00%	4.50%
4	3.00%	4.50%
5	2.00%	2.00%
6	1.75%	1.75%
7	1.50%	1.50%
8	1.25%	1.50%
9	1.00%	1.25%
10	0.75%	1.00%
11	0.50%	1.00%
12	0.50%	1.00%
13	0.50%	1.00%
14	0.50%	1.00%
15	0.50%	1.00%
16	0.50%	1.00%
17	0.50%	1.00%
18	0.50%	1.00%
19	0.50%	1.00%
20	0.50%	1.00%
21	0.50%	1.00%
22	0.50%	1.00%
23	0.50%	1.00%
24	0.50%	1.00%
25	0.50%	1.00%
26	0.50%	1.00%
27	0.50%	1.00%
28	0.50%	1.00%
29	0.50%	1.00%
30+	0.50%	1.00%

Chart IV-2



Merit Salary Increases General		
Service	Current	Recommended
0	5.00%	5.00%
1	5.00%	5.00%
2	5.00%	5.00%
3	5.00%	5.00%
4	5.00%	5.00%
5	3.50%	3.50%
6	2.50%	2.50%
7	1.50%	1.50%
8	1.25%	1.25%
9	1.00%	1.00%
10	0.75%	0.75%
11	0.50%	0.50%
12	0.50%	0.50%
13	0.50%	0.50%
14	0.50%	0.50%
15	0.50%	0.50%
16	0.50%	0.50%
17	0.50%	0.50%
18	0.50%	0.50%
19	0.50%	0.50%
20	0.50%	0.50%
21	0.50%	0.50%
22	0.50%	0.50%
23	0.50%	0.50%
24	0.50%	0.50%
25+	0.50%	0.50%

ANALYSIS OF OTHER DEMOGRAPHIC ASSUMPTIONS

For all of the remaining demographic assumptions, we determined the ratio of the actual number of decrements for each membership group compared to the expected number of decrements (A/E ratio or actual-to-expected ratio). If the assumption is perfect, this ratio will be 100%. Otherwise, any recommended assumption change should move from the current A/E ratio towards 100% unless future experience is expected to be different than the experience during the period of study.

We also calculate an r-squared statistic for each assumption. R-squared measures how well the assumption fits the actual data and can be thought of as the percentage of the variation in actual data explained by the assumption. Ideally, r-squared would equal 100% although this is never the case. In general, a recommended assumption change should increase the r-squared compared to the current assumption making it closer to 100% unless the pattern of future decrements is expected to be different from the pattern experienced during the period of study.

In addition, we calculated the 90% confidence interval, which represents the range within which the true decrement rate during the experience study period fell with 90% confidence. (If there is insufficient data to calculate a confidence interval, the confidence interval is shown as the entire range of the graph.) We generally propose assumption changes when the current assumption is outside the 90% confidence interval of the observed experience. However, adjustments are made to account for differences between future expectations and historical experience, to account for the past experience represented by the current assumption, and to maintain a neutral to slight conservative bias in the selection of the assumption. For disability and mortality rates, we compare StanCERA's experience to that of a standard table, and only adjust the standard table to the extent StanCERA's experience is large enough to be credible in the case of disabilities. For mortality, we adjust the standard table to bring the proposed assumption closer to an A/E ratio of 100%.

RETIREMENT RATES

The current retirement rates vary by age and service and are applied to all members who are eligible to retire. As a result, a General member who is age 60 with 10 years of service, for example, is assumed to be less likely to retire than a member who is age 60 with 30 years of service. In reviewing the data for StanCERA, we find that at many ages, members with more service are generally more likely to retire than members with fewer years of service. StanCERA is not large enough to justify assumptions for each age and service combination, so we recommend separate assumptions by age for each of the following three service groups for Safety members:

- Members with 10 to 14 years of service,
- Members with 15 to 19 years of service.
- Members with 20 or more years of service.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

We continue to recommend separate assumptions by age for each of the following two service groups for General members:

- Members with 10 to 29 years of service,
- Members with 30 or more years of service.

For the PEPRA membership, there is not enough data yet on retirement rates that would enable us to generate a distinct set of credible assumptions. However, based on the lower benefits at earlier ages and higher ages at which the maximum benefit multipliers are reached under the PEPRA formulas, it is reasonable to expect that some members will retire at later ages than they would under the pre-PEPRA formulas.

CalPERS has developed age and service-based retirement rates reflecting these expectations. For the PEPRA members, we recommend continuing to use the CalPERS 2% at Age 62 Public Agency Miscellaneous rates and the 2.7% at Age 57 Public Agency Police rates (since the StanCERA Safety workforce has considerably more Police than Fire members). See Appendix A for a listing of the rates.

For General members, we include experience from July 1, 2015 through June 30, 2021. For Safety members only, we excluded the experience from July 1, 2019 to June 30, 2020, due to unusually high pandemic related retirement activity. We included the July 1, 2018 to June 30, 2019 and July 1, 2020 to June 30, 2021 experience, as well as the three years of experience from the prior experience study (2015-2018).

For the pre-PEPRA membership, Table IV-R1 shows the calculation of actual-to-expected ratios and the r-squared statistic for Safety members with 10 to 14 years of service. Chart IV-R1 shows the information graphically along with the 90% confidence interval.

The data shows lower actual retirement rates than expected under the current assumption, with an A/E ratio of 36%. We are proposing lower rates from age 50 to 59 to bring the assumption more in line with experience.

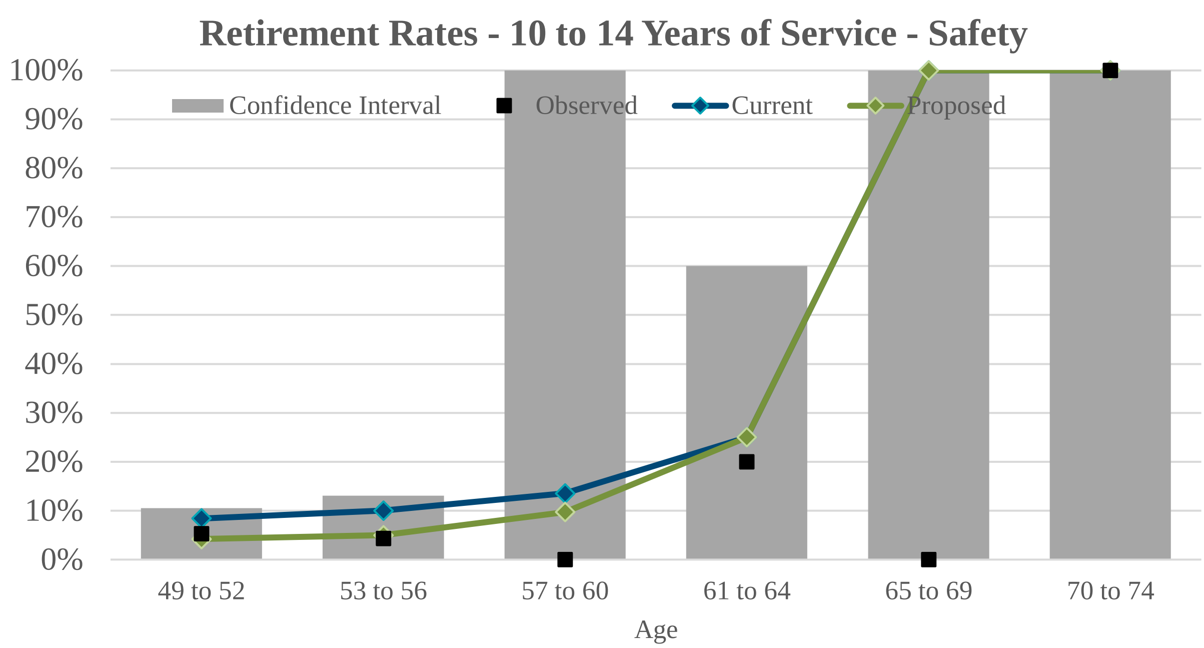
See Appendices A and B for the proposed and prior rates. The ultimate retirement age remains at 65.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table IV-R1

Retirement Rates - 10 to 14 Years of Service - Safety									
		Retirements			Retirement Rates			A/E Ratios	
Age	Exposures	Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
49 to 52	38	2	3	2	5.3%	8.4%	4.2%	63%	125%
53 to 56	23	1	2	1	4.3%	10.0%	5.0%	43%	87%
57 to 60	17	0	2	2	0.0%	13.5%	9.7%	0%	0%
61 to 64	5	1	1	1	20.0%	25.0%	25.0%	80%	80%
65 to 69	4	0	4	4	0.0%	100.0%	100.0%	0%	0%
70 to 74	1	1	1	1	100.0%	100.0%	100.0%	100%	100%
Total	**88**	**5**	**14**	**11**	**5.7%**	**16.0%**	**12.1%**	**36%**	**47%**
Confidence Interval %			**100%**	**100%**					
R-squared			**3%**	**29%**					

Chart IV-R1



SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table IV-R2 shows the calculation of actual-to-expected ratios and the r-squared statistic for Safety members with 15 to 19 years of service, and Chart IV-R2 shows the information graphically along with the 90% confidence interval.

The data shows higher retirement rates to those expected under the current assumptions. We recommend a higher age 50 retirement rate and lower rates from ages 51 to 59 to bring the assumption more in line with experience. We note that although the overall A/E is somewhat further from 100%, the pattern of retirements is significantly closer to the data (as seen in the improvement in the r-squared statistic).

See Appendices A and B for a full listing of the proposed and prior rates. The ultimate retirement age remains at 65.

Table IV-R2

Retirement Rates - 15 to 19 Years of Service - Safety									
		Retirements			Retirement Rates			A/E Ratios	
Age	Exposures	Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
49 to 52	38	6	2	3	15.8%	6.1%	7.5%	261%	211%
53 to 56	19	0	2	1	0.0%	10.0%	5.0%	0%	0%
57 to 60	17	1	2	2	6.1%	14.1%	10.5%	43%	58%
61 to 64	6	3	2	2	50.0%	25.0%	25.0%	200%	200%
65 to 69	0	0	0	0	0.0%	0.0%	0.0%	0%	0%
70 to 74	0	0	0	0	0.0%	0.0%	0.0%	0%	0%
Total	**79**	**10**	**8**	**7**	**12.7%**	**10.1%**	**8.9%**	**125%**	**143%**
Confidence Interval %			**83%**	**83%**					
R-squared			**32%**	**77%**					

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart IV-R2

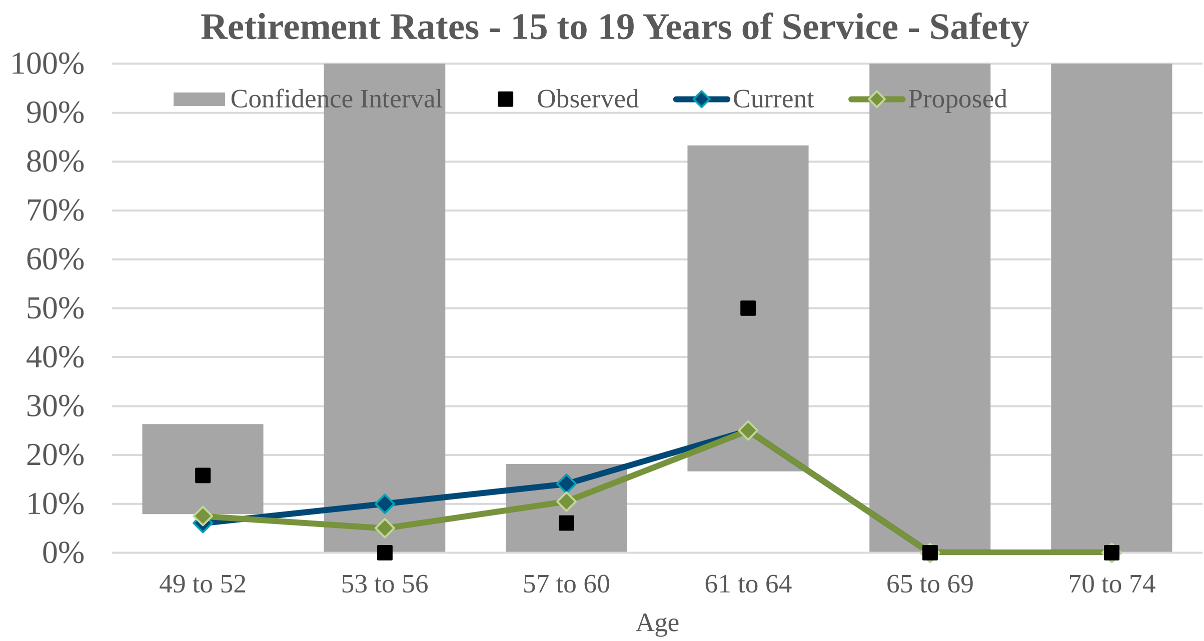


Table IV-R3 shows the calculation of actual-to-expected ratios and the r-squared statistic for Safety members with more than 20 years of service, and Chart IV-R3 shows the information graphically along with the 90% confidence interval.

The data shows higher retirement rates to those expected under the current assumptions. We recommend a higher age 50 to 59 rates to bring the assumption more in line with experience. Similar to the 15-19 service interval, we note that although the overall A/E is somewhat further from 100%, the pattern of retirements is significantly closer to the data (as seen in the improvement in the r-squared statistic), particularly at the ages with the most exposures (age 49 to 56).

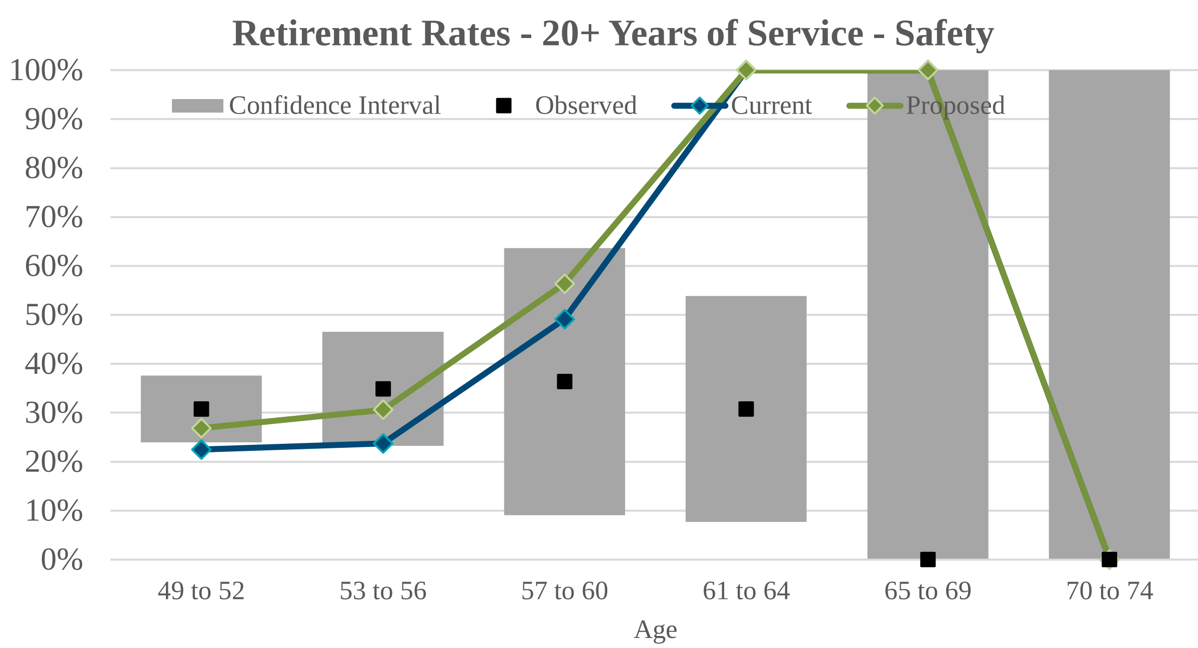
See Appendices A and B for a full listing of the proposed and prior rates. The ultimate retirement age remains at 65.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table IV-R3

Retirement Rates - 20+ Years of Service - Safety									
		Retirements			Retirement Rates			A/E Ratios	
Age	Exposures	Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
49 to 52	117	36	26	31	30.8%	22.5%	26.8%	137%	115%
53 to 56	43	15	10	13	34.9%	23.7%	30.6%	147%	114%
57 to 60	11	4	5	6	36.4%	49.1%	56.4%	74%	65%
61 to 64	13	4	13	13	30.8%	100.0%	100.0%	31%	31%
65 to 69	2	0	2	2	0.0%	100.0%	100.0%	0%	0%
70 to 74	0	0	0	0	0.0%	0.0%	0.0%	0%	0%
Total	**186**	**59**	**57**	**66**	**31.7%**	**30.6%**	**35.3%**	**104%**	**90%**
Confidence Interval %			**67%**	**83%**					
R-squared			**85%**	**91%**					

Chart IV-R3



SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table IV-R4 shows the calculation of actual-to-expected ratios and the r-squared statistic for General members with less than 30 years of service. Chart IV-R4 shows the information graphically along with the 90% confidence interval.

The data shows lower actual retirement rates than expected under the current assumption. The proposed assumptions decrease the rates for most ages and increases them at a few ages to better fit the data. This increases the aggregate A/E ratio from 83% to 95%. The r-squared also increases from 83% to 98%.

See Appendices A and B for a full listing of the proposed and prior rates. The ultimate retirement age remains at 75.

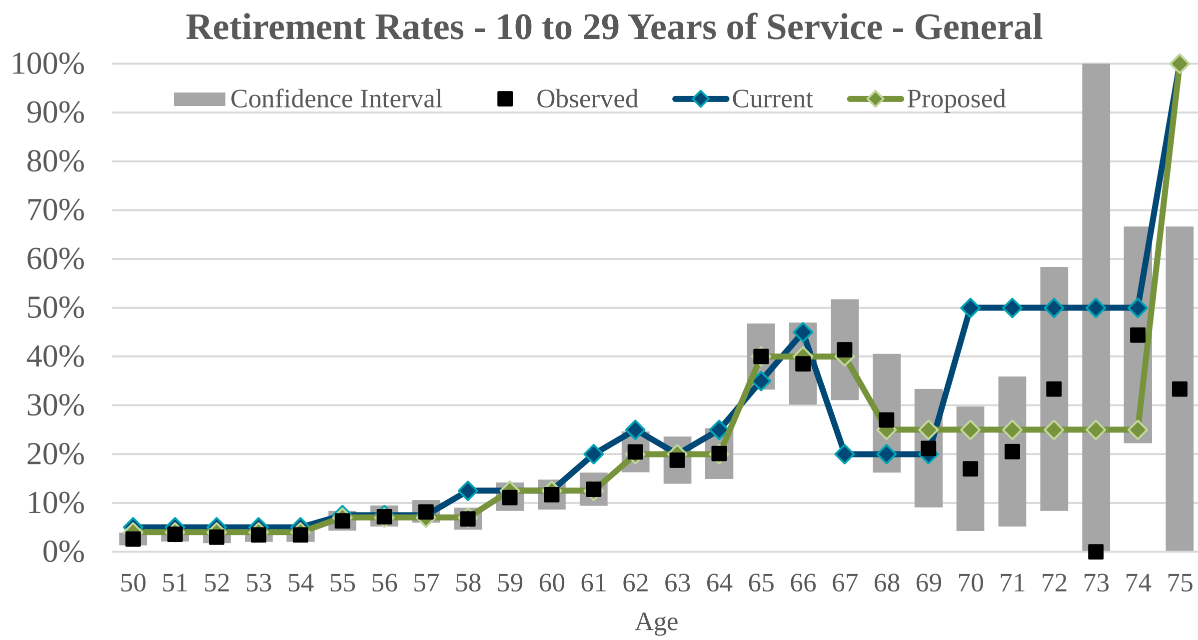
SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table IV-R4

Retirement Rates - 10 to 29 Years of Service - General									
		Retirements			Retirement Rates			A/E Ratios	
Age	Exposures	Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50	386	10	19	15	2.6%	5.0%	4.0%	52%	65%
51	388	14	19	16	3.6%	5.0%	4.0%	72%	90%
52	400	12	20	16	3.0%	5.0%	4.0%	60%	75%
53	403	14	20	16	3.5%	5.0%	4.0%	70%	87%
54	403	14	20	16	3.5%	5.0%	4.0%	70%	87%
55	396	25	30	28	6.3%	7.5%	7.0%	84%	90%
56	390	28	29	27	7.2%	7.5%	7.0%	96%	103%
57	369	30	28	26	8.1%	7.5%	7.0%	109%	116%
58	356	24	45	25	6.7%	12.5%	7.0%	54%	96%
59	324	36	41	41	11.1%	12.5%	12.5%	89%	89%
60	291	34	36	36	11.7%	12.5%	12.5%	94%	94%
61	266	34	53	33	12.8%	20.0%	12.5%	64%	102%
62	240	49	60	48	20.5%	25.0%	20.0%	82%	102%
63	187	35	37	37	18.8%	20.0%	20.0%	94%	94%
64	154	31	39	31	20.1%	25.0%	20.0%	81%	101%
65	133	53	46	53	40.0%	35.0%	40.0%	114%	100%
66	83	32	37	33	38.6%	45.0%	40.0%	86%	96%
67	58	24	12	23	41.4%	20.0%	40.0%	207%	103%
68	37	10	7	9	27.0%	20.0%	25.0%	135%	108%
69	33	7	7	8	21.2%	20.0%	25.0%	106%	85%
70	24	4	12	6	17.0%	50.0%	25.0%	34%	68%
71	20	4	10	5	20.5%	50.0%	25.0%	41%	82%
72	12	4	6	3	33.3%	50.0%	25.0%	67%	133%
73	8	0	4	2	0.0%	50.0%	25.0%	0%	0%
74	9	4	5	2	44.4%	50.0%	25.0%	89%	178%
75	6	2	6	6	33.3%	100.0%	100.0%	33%	33%
TOTAL	**5,371**	**534**	**647**	**562**	**9.9%**	**12.0%**	**10.5%**	**83%**	**95%**
Confidence Interval %			**58%**	**92%**					
R-squared			**83%**	**98%**					

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart IV-R4



While we have not specifically examined retirement experience for members with less than ten years of service, such members are eligible to retire after attaining age 70. These proposed rates at ages 70 and above apply to those members as well.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table IV-R4 shows the calculation of actual-to-expected ratios and the r-squared statistic for General members with 30 or more years of service, and Chart IV-R4 shows the information graphically along with the 90% confidence interval.

The data shows lower actual retirement rates than expected under the current assumption. The proposed assumption decreases the assumed rate of retirement from ages 55 to 60 and sets ages 61 to 74 to a 30% assumption, ending with an ultimate retirement age of 75. This would increase the aggregate A/E ratio from 77% to 97%. The r-squared also increases from 82% to 94%.

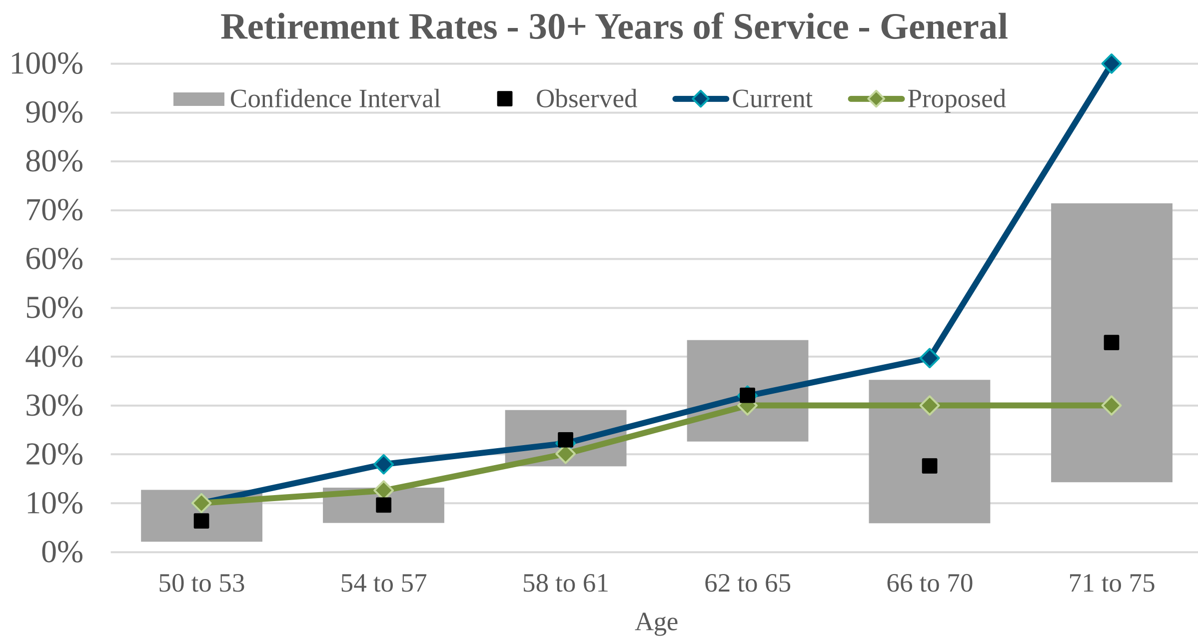
See Appendices A and B for a full listing of the proposed and prior rates.

Table IV-R4

Retirement Rates - 30+ Years of Service - General									
		Retirements			Retirement Rates			A/E Ratios	
Age	Exposures	Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50 to 53	47	3	5	5	6.4%	10.0%	10.0%	64%	64%
54 to 57	167	16	30	21	9.6%	18.0%	12.6%	53%	76%
58 to 61	148	34	33	30	23.0%	22.3%	20.1%	103%	114%
62 to 65	53	17	17	16	32.1%	32.0%	30.0%	100%	107%
66 to 70	17	3	7	5	17.6%	39.7%	30.0%	44%	59%
71 to 75	7	3	7	2	42.9%	100.0%	30.0%	43%	143%
Total	**439**	**76**	**98**	**79**	**17.3%**	**22.4%**	**17.9%**	**77%**	**97%**
Confidence Interval %			**50%**	**100%**					
R-squared			**82%**	**94%**					

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart IV-R4



SECTION IV – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Termination rates reflect the frequency at which active members leave employment for reasons other than retirement, death, or disability. Currently, there is one set of service-based termination rates for Safety members, and one set for General members. The General experience was analyzed separately for males and females, but previously a single set of termination rates was used for both groups and based on the recent data we recommend continuing this approach.

Table IV-T1 shows the calculation of actual-to-expected ratios and the r-squared statistic for Safety members, and Chart IV-T1 shows the information graphically along with the 90% confidence interval.

The data shows actual termination rates lower than those expected under the current assumptions. Lower rates are proposed for most service levels to bring the assumption more in line with experience. The aggregate A/E ratio increases from 76% to 89%. The r-squared also increases from 92% to 97%.

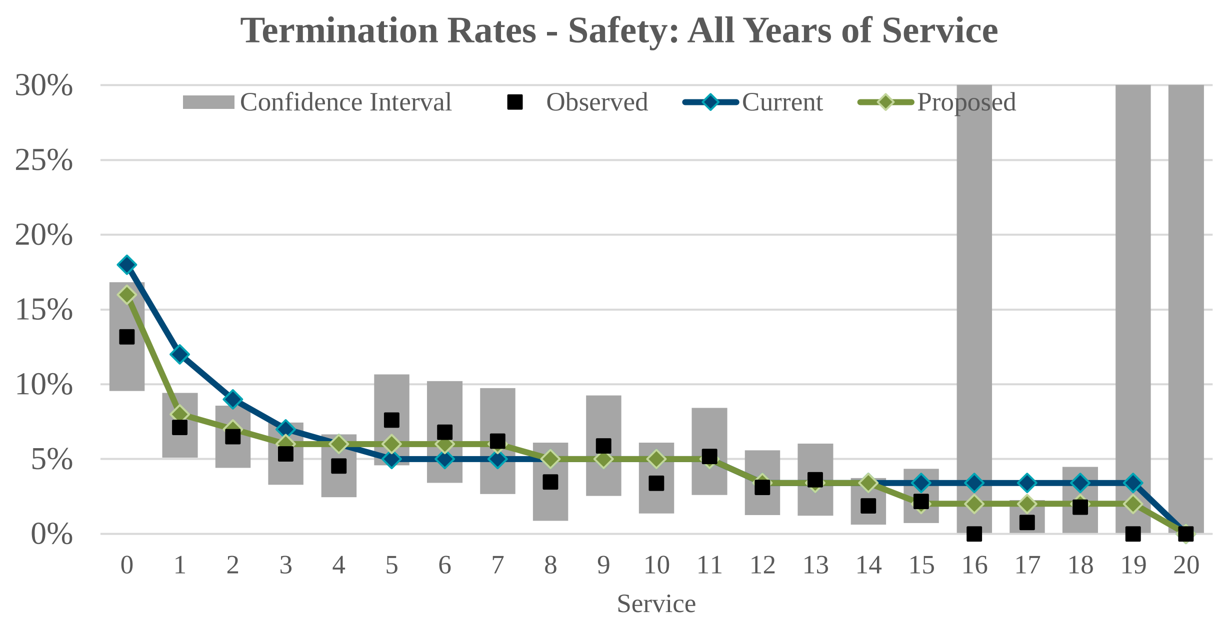
See Appendices A and B for a full listing of the rates.

Table IV-T1

Termination Rates - Safety: All Years of Service									
		Terminations			Termination Rates			A/E Ratios	
Service	Exposures	Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
0	220	29	40	35	13.18%	18.00%	16.00%	73%	82%
1	393	28	47	31	7.12%	12.00%	8.00%	59%	89%
2	385	25	35	27	6.49%	9.00%	7.00%	72%	93%
3	336	18	24	20	5.36%	7.00%	6.00%	77%	89%
4	286	13	17	17	4.55%	6.00%	6.00%	76%	76%
5	197	15	10	12	7.61%	5.00%	6.00%	152%	127%
6	147	10	7	9	6.80%	5.00%	6.00%	136%	113%
7	113	7	6	7	6.19%	5.00%	6.00%	124%	103%
8	115	4	6	6	3.48%	5.00%	5.00%	70%	70%
9	119	7	6	6	5.88%	5.00%	5.00%	118%	118%
10	148	5	7	7	3.39%	5.00%	5.00%	68%	68%
11	155	8	8	8	5.18%	5.00%	5.00%	104%	104%
12	161	5	5	5	3.11%	3.40%	3.40%	91%	91%
13	166	6	6	6	3.61%	3.40%	3.40%	106%	106%
14	161	3	5	5	1.86%	3.40%	3.40%	55%	55%
15	138	3	5	3	2.17%	3.40%	2.00%	64%	109%
16	131	0	4	3	0.00%	3.40%	2.00%	0%	0%
17	133	1	5	3	0.75%	3.40%	2.00%	22%	38%
18	112	2	4	2	1.79%	3.40%	2.00%	53%	89%
19	51	0	2	1	0.00%	3.40%	2.00%	0%	0%
20	0	0	0	0	0.00%	0.00%	0.00%	0%	0%
21	0	0	0	0	0.00%	0.00%	0.00%	0%	0%
22	0	0	0	0	0.00%	0.00%	0.00%	0%	0%
23	0	0	0	0	0.00%	0.00%	0.00%	0%	0%
24	0	0	0	0	0.00%	0.00%	0.00%	0%	0%
25	0	0	0	0	0.00%	0.00%	0.00%	0%	0%
TOTAL	**3,665**	**189**	**248**	**213**	**5.16%**	**6.75%**	**5.81%**	**76%**	**89%**
Confidence Interval %			**85%**	**100%**					
R-squared			**92%**	**97%**					

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Chart IV-T1



SECTION IV – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table IV-T2 shows the calculation of actual-to-expected ratios and the r-squared statistic for Male General members, and Chart IV-T2 shows the information graphically along with the 90% confidence interval.

The data shows that actual terminations are higher than the current assumptions. Higher rates are proposed that would bring the assumption more in line with experience. The aggregate A/E ratio decreases from 106% to 104%. The r-squared also increases from 97% to 99%.

See Appendices A and B for a full listing of the rates.

Table IV-T2

Termination Rates - General - Male: All Years of Service									
		Terminations			Termination Rates			A/E Ratios	
Service	Exposures	Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
0	325	68	59	59	20.92%	18.00%	18.00%	116%	116%
1	583	89	82	82	15.27%	14.00%	14.00%	109%	109%
2	492	47	58	44	9.55%	11.70%	9.00%	82%	106%
3	391	29	37	31	7.42%	9.40%	8.00%	79%	93%
4	337	22	24	24	6.53%	7.10%	7.00%	92%	93%
5	227	12	11	16	5.29%	5.00%	7.00%	106%	76%
6	155	12	8	11	7.74%	5.00%	7.00%	155%	111%
7	131	6	7	9	4.58%	5.00%	7.00%	92%	65%
8	141	14	7	10	9.93%	5.00%	7.00%	199%	142%
9	122	8	6	7	6.58%	4.90%	6.00%	134%	110%
10	115	6	4	6	5.24%	3.50%	5.00%	150%	105%
11	121	7	4	6	5.81%	3.40%	5.00%	171%	116%
12	123	5	4	6	4.07%	3.40%	5.00%	120%	81%
13	104	3	3	5	2.90%	3.30%	5.00%	88%	58%
14	88	3	3	4	3.43%	3.30%	5.00%	104%	69%
15	75	3	2	2	4.00%	2.90%	3.00%	138%	133%
16	75	4	2	2	5.37%	2.80%	3.00%	192%	179%
17	73	1	2	2	1.38%	2.80%	3.00%	49%	46%
18	66	0	2	2	0.00%	2.70%	3.00%	0%	0%
19	60	3	2	2	5.04%	2.60%	3.00%	194%	168%
20	48	1	1	1	2.08%	1.50%	3.00%	139%	69%
21	33	1	0	1	3.08%	1.50%	3.00%	205%	103%
22	20	2	0	1	10.26%	1.40%	3.00%	733%	342%
23	9	0	0	0	0.00%	1.40%	3.00%	0%	0%
24	5	0	0	0	0.00%	1.30%	3.00%	0%	0%
25	5	0	0	0	0.00%	1.30%	3.00%	0%	0%
26	3	0	0	0	0.00%	1.20%	1.20%	0%	0%
27	2	0	0	0	0.00%	1.20%	1.20%	0%	0%
28	1	0	0	0	0.00%	1.20%	1.20%	0%	0%
29	1	0	0	0	0.00%	1.20%	1.20%	0%	0%
TOTAL	**3,924**	**346**	**327**	**334**	**8.82%**	**8.33%**	**8.51%**	**106%**	**104%**
Confidence Interval %			**96%**	**100%**					
R-squared			**97%**	**99%**					

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Chart IV-T2

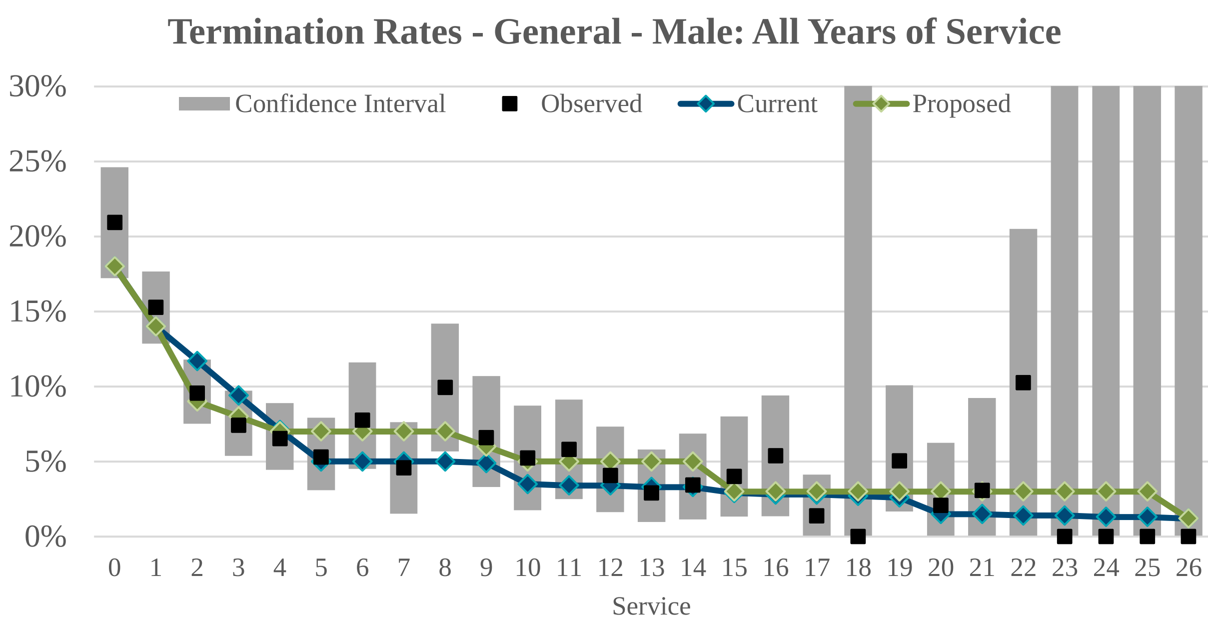


Table IV-T3 on the next page shows the calculation of actual-to-expected ratios and the r-squared statistic for Female General members, and Chart IV-T3 shows the information graphically along with the 90% confidence interval.

The data shows that actual terminations are higher than the current assumptions. Higher rates are proposed that would bring the assumption more in line with experience. The aggregate A/E ratio decreases from 107% to 105%. The r-squared also increases from 95% to 99%. We note that the proposed rates are the same as the rates proposed for the male members.

See Appendices A and B for a full listing of the rates.

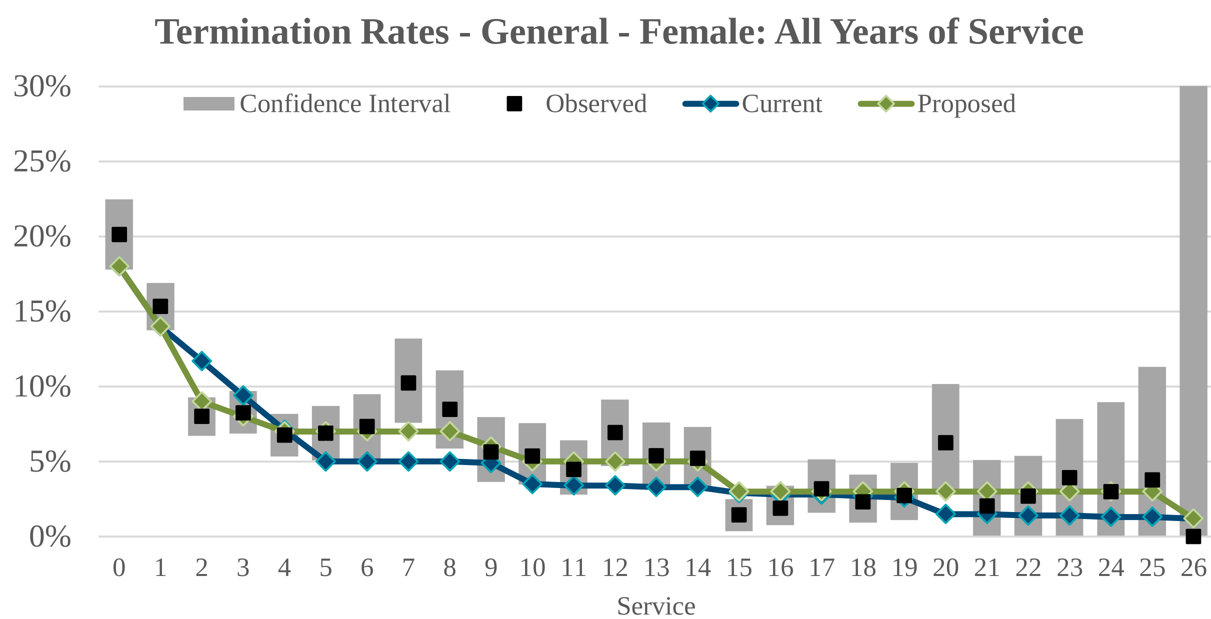
SECTION IV – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table IV-T3

Termination Rates - General - Female: All Years of Service									
		Terminations			Termination Rates			A/E Ratios	
Service	Exposures	Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
0	770	155	139	139	20.13%	18.00%	18.00%	112%	112%
1	1,462	224	205	205	15.33%	14.00%	14.00%	109%	109%
2	1,250	100	146	113	8.00%	11.70%	9.00%	68%	89%
3	1,020	84	96	82	8.24%	9.40%	8.00%	88%	103%
4	845	57	60	59	6.75%	7.10%	7.00%	95%	96%
5	552	38	28	39	6.88%	5.00%	7.00%	138%	98%
6	369	27	18	26	7.32%	5.00%	7.00%	146%	105%
7	303	31	15	21	10.23%	5.00%	7.00%	205%	146%
8	307	26	15	21	8.47%	5.00%	7.00%	169%	121%
9	302	17	15	18	5.64%	4.90%	6.00%	115%	94%
10	318	17	11	16	5.35%	3.50%	5.00%	153%	107%
11	359	16	12	18	4.46%	3.40%	5.00%	131%	89%
12	362	25	12	18	6.92%	3.40%	5.00%	203%	138%
13	316	17	10	16	5.39%	3.30%	5.00%	163%	108%
14	288	15	9	14	5.22%	3.30%	5.00%	158%	104%
15	280	4	8	8	1.43%	2.90%	3.00%	49%	48%
16	266	5	7	8	1.88%	2.80%	3.00%	67%	63%
17	253	8	7	8	3.17%	2.80%	3.00%	113%	106%
18	218	5	6	7	2.30%	2.70%	3.00%	85%	77%
19	183	5	5	5	2.73%	2.60%	3.00%	105%	91%
20	128	8	2	4	6.25%	1.50%	3.00%	417%	208%
21	98	2	1	3	2.04%	1.50%	3.00%	136%	68%
22	75	2	1	2	2.68%	1.40%	3.00%	192%	89%
23	51	2	1	2	3.92%	1.40%	3.00%	280%	131%
24	34	1	0	1	2.99%	1.30%	3.00%	230%	100%
25	27	1	0	1	3.77%	1.30%	3.00%	290%	126%
26	20	0	0	0	0.00%	1.20%	1.20%	0%	0%
27	10	0	0	0	0.00%	1.20%	1.20%	0%	0%
28	4	0	0	0	0.00%	1.20%	1.20%	0%	0%
29	2	0	0	0	0.00%	1.20%	1.20%	0%	0%
TOTAL	**10,465**	**892**	**832**	**852**	**8.52%**	**7.95%**	**8.15%**	**107%**	**105%**
Confidence Interval %			**63%**	**88%**					
R-squared			**95%**	**99%**					

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Chart IV-T3



Refund rates and Reciprocity

When a vested member terminates employment, they have the option of receiving a refund of contributions with interest or a deferred annuity. If an employee terminates employment and works for a reciprocal employer, the employee's retirement benefit is ultimately based on the employee's service with StanCERA and Final Compensation based on employment with any reciprocal employer.

For this study we analyzed the percentage of those retiring from a deferred vested status during the study period who appeared to have established reciprocity after leaving StanCERA. To do this, we included both those who previously reported reciprocity to StanCERA, as well as those who had a final average pay in the retirement data that exceeded the final average pay most recently reported in the member's active data file from StanCERA by 20% or more.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table IV-T4 shows the results of our analysis of transfers for General and Safety, for the period from July 1, 2018 through June 30, 2021 as well as the prior three years of experience, from July 1, 2015 to June 30, 2018. For members with less than 10 years of service we are proposing an increase in the percentage of members assumed to establish reciprocity among those who terminate and do not withdraw their contributions: 60% of General members and 75% of Safety members are assumed to establish reciprocity, up from 50% and 65%, respectively. For members with 10 or more years of service we are proposing a decrease for General and increase for Safety: 40% of General members and 70% of Safety members are assumed to establish reciprocity, compared to the prior assumption of 50% and 65%, respectively.

Table IV-T4

	Transfers as a % of Non-Withdrawals		
	< 10 Years of Service	10+ Years of Service	All Service
Observed			
General	64%	39%	53%
Safety	78%	73%	76%
Current Assumption			
General	50%	50%	50%
Safety	65%	65%	65%
Proposed Assumption			
General	60%	40%	N/A
Safety	75%	70%	N/A

Additionally, we propose that reciprocal members are assumed to receive annual pay increases of 3.25% for General and 3.75% for Safety from the date of transfer to the assumed retirement date. These annual increases are equal to wage inflation (2.75%) plus the ultimate merit salary increase rate (0.50% for General and 1.00% for Safety). Currently, both General and Safety reciprocal members are assumed to receive annual pay increases of 3.75%.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table IV-T5 shows the results of our analysis of rates of withdrawal for those who terminated service. We have not changed our approach for this analysis – continuing to compare the number of those who terminated and withdraw their contributions and analyzing the data separately for those with greater or less than 10 years of service. We are proposing lower rates of withdrawals for General members as shown below. We are not proposing changes to this assumption for Safety members.

Table IV-T5

Withdrawals as % of Terminations	< 10 Years of Service	10+ Years of Service
Observed		
General	40.71%	13.37%
Safety	37.82%	6.06%
Current Assumption		
General	50.00%	20.00%
Safety	35.00%	10.00%
Proposed Assumption		
General	45.00%	15.00%
Safety	35.00%	10.00%

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table IV-T6 shows the results of our analysis of the age at which vested terminated and transferred members decide to retire. We are recommending a split of Safety into Tiers 4 & 5 and 2 & 6 for the purposes of this assumption, with an assuming retirement age of 51 for the former group and 54 for the latter. We are not recommending any change to the assumptions for General members.

Table IV-T6

	Age at Retirement		
	From Vested Status	From Transferred Status	All Service
Observed			
General	58.21	60.70	59.53
Safety (Tiers 4 and 5)	52.21	50.67	51.23
Safety (Tiers 2 and 6)	N/A	54.06	54.06
Current Assumption			
General	58.00	61.00	
Safety	53.00	53.00	
Proposed Assumption			
General	58.00	61.00	
Safety (Tiers 4 and 5)	51.00	51.00	
Safety (Tiers 2 and 6)	54.00	54.00	

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

This section analyzes the incidence of disability by the age of the employee. There are separate sets of assumptions for nonservice-connected disabilities and service-connected disabilities. Both sets of assumptions for Safety members are unisex, while General rates vary by gender. The disability decrement is only applied after members are eligible for disability benefits.

To improve the credibility of the data, we have aggregated the experience of the past three years with that of prior experience studies (2009-2018). The amount of disability experience is fairly limited; only 44 duty-related and 24 non duty-related disabilities have occurred during the last twelve years for Safety and General members combined.

Table IV-D1 shows the calculation of actual-to-expected ratios and the r-squared statistic for service-connected disabilities for Safety members. The 90% confidence interval is not shown because of a lack of credible data.

The data shows that the aggregate number of disabilities has been reasonably close to the number expected under the current assumptions. We are not proposing any change to the service-connected disability assumption for Safety members.

See Appendix A or B for a full listing of the rates.

Table IV-D1

Service Disability Rates - Safety - All									
Age Band	Exposures	Disabilities			Average Disability Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
< 35	3,440	4.0	5.3	5.3	0.12%	0.15%	0.15%	76%	76%
35 - 39	1,615	8.0	4.9	4.9	0.50%	0.30%	0.30%	164%	164%
40 - 44	1,428	6.0	5.7	5.7	0.42%	0.40%	0.40%	106%	106%
45 - 49	1,166	5.0	5.8	5.8	0.43%	0.49%	0.49%	87%	87%
50 - 54	608	2.0	3.6	3.6	0.33%	0.59%	0.59%	56%	56%
55 - 59	288	3.0	2.0	2.0	1.04%	0.69%	0.69%	151%	151%
60 - 64	118	1.0	0.9	0.9	0.85%	0.80%	0.80%	106%	106%
Subtotal	**5,223**	**25.0**	**22.8**	**22.8**	**0.48%**	**0.44%**	**0.44%**	**109%**	**109%**
65 +	37	1.0	0.3	0.3	2.70%	0.92%	0.92%	295%	295%
TOTAL	**8,700**	**30.0**	**28.4**	**28.4**	**0.34%**	**0.33%**	**0.33%**	**105%**	**105%**
Confidence Interval %			**100%**	**100%**					
R-squared			**62%**	**62%**					

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Tables IV-D2 and IV-D3 below show the calculation of actual-to-expected ratios and the r-squared statistic for male and female General members. Charts are not shown since the lack of credible data does not produce meaningful information.

The data shows that the aggregate number of disabilities has been reasonably close to the number expected under the current assumptions. We are not proposing any change to the service-connected disability assumption for General members.

See Appendix A or B for a full listing of the rates.

Table IV-D2

Service Disability Rates - General - Male									
Age Band	Exposures	Disabilities			Average Disability Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
< 35	2,150	0.0	0.4	0.4	0.00%	0.02%	0.02%	0%	0%
35 - 39	1,440	0.0	0.5	0.5	0.00%	0.03%	0.03%	0%	0%
40 - 44	1,426	0.0	0.7	0.7	0.00%	0.05%	0.05%	0%	0%
45 - 49	1,482	0.0	1.1	1.1	0.00%	0.07%	0.07%	0%	0%
50 - 54	1,653	0.0	1.7	1.7	0.00%	0.10%	0.10%	0%	0%
55 - 59	1,505	1.0	2.1	2.1	0.07%	0.14%	0.14%	48%	48%
60 - 64	950	5.0	1.7	1.7	0.53%	0.18%	0.18%	297%	297%
Subtotal	**8,456**	**6.0**	**7.7**	**7.7**	**0.07%**	**0.09%**	**0.09%**	**78%**	**78%**
65 +	383	1.0	0.0	0.0	0.26%	0.00%	0.00%	0%	0%
TOTAL	**10,989**	**7.0**	**8.1**	**8.1**	**0.06%**	**0.07%**	**0.07%**	**86%**	**86%**
Confidence Interval %			**83%**	**83%**					
R-squared			**19%**	**19%**					

Table IV-D3

Service Disability Rates - General - Female									
Age Band	Exposures	Disabilities			Average Disability Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
< 35	5,865	0.0	0.1	0.1	0.00%	0.00%	0.00%	0%	0%
35 - 39	4,052	0.0	0.1	0.1	0.00%	0.00%	0.00%	0%	0%
40 - 44	4,267	0.0	0.3	0.3	0.00%	0.01%	0.01%	0%	0%
45 - 49	4,346	0.0	0.5	0.5	0.00%	0.01%	0.01%	0%	0%
50 - 54	4,546	3.0	0.9	0.9	0.07%	0.02%	0.02%	340%	340%
55 - 59	4,225	1.0	1.2	1.2	0.02%	0.03%	0.03%	82%	82%
60 - 64	2,449	2.0	0.9	0.9	0.08%	0.04%	0.04%	216%	216%
Subtotal	**23,885**	**6.0**	**4.0**	**4.0**	**0.03%**	**0.02%**	**0.02%**	**150%**	**150%**
65 +	654	1.0	0.0	0.0	0.15%	0.00%	0.00%	0%	0%
TOTAL	**30,404**	**7.0**	**4.1**	**4.1**	**0.02%**	**0.01%**	**0.01%**	**173%**	**173%**
Confidence Interval %			**83%**	**83%**					
R-squared			**43%**	**43%**					

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Table IV-D4 below shows the calculation of actual-to-expected ratios and the r-squared statistic for nonservice-connected disabilities for Safety members. A chart is not shown since the lack of credible data does not produce meaningful information.

The data shows that the number of disabilities has been lower than expected under the current assumption. In this context, however, the 28% A/E ratio does not mean much; there was only one nonservice-connected disability among all safety members in the last twelve years, while we expected less than four disabilities. We are not proposing any changes to this assumption, continuing to use the CalPERS Public Agency Police Non-Industrial Disability table.

See Appendices A and B for a full listing of the rates.

Table IV-D4

Ordinary Disability Rates - Safety - All									
Age Band	Exposures	Disabilities			Average Disability Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
< 35	2,411	0.0	0.4	0.4	0.00%	0.02%	0.02%	0%	0%
35 - 39	1,487	0.0	0.5	0.5	0.00%	0.03%	0.03%	0%	0%
40 - 44	1,387	1.0	0.6	0.6	0.07%	0.04%	0.04%	165%	165%
45 - 49	1,146	0.0	0.7	0.7	0.00%	0.06%	0.06%	0%	0%
50 - 54	579	0.0	0.6	0.6	0.00%	0.10%	0.10%	0%	0%
55 - 59	277	0.0	0.4	0.4	0.00%	0.16%	0.16%	0%	0%
60 - 64	116	0.0	0.2	0.2	0.00%	0.20%	0.20%	0%	0%
Subtotal	**4,990**	**1.0**	**3.0**	**3.0**	**0.02%**	**0.06%**	**0.06%**	**33%**	**33%**
65 +	35	0.0	0.1	0.1	0.00%	0.20%	0.20%	0%	0%
TOTAL	**7,436**	**1.0**	**3.5**	**3.5**	**0.01%**	**0.05%**	**0.05%**	**28%**	**28%**
Confidence Interval %			**100%**	**100%**					
R-squared			**9%**	**9%**					

The Table IV-D5 on the next page shows the calculation of actual-to-expected ratios and the r-squared statistic for nonservice-connected disabilities for male General members. A chart is not shown since the lack of credible data does not produce meaningful information.

The data shows that the number of disabilities has been lower than expected under the current assumption. In this context, however, the 27% A/E ratio does not mean much; there were only three nonservice-connected disabilities. We are not proposing any changes to this assumption, continuing to use the CalPERS Public Agency Miscellaneous Non-Industrial Disability table for Males.

See Appendices A and B for a full listing of the rates.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Table IV-D5

Ordinary Disability Rates - General - Male									
Age Band	Exposures	Disabilities			Average Disability Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
< 35	1,390	0	0	0	0.00%	0.02%	0.02%	0%	0%
35 - 39	1,171	0	1	1	0.00%	0.06%	0.06%	0%	0%
40 - 44	1,199	0	2	2	0.00%	0.13%	0.13%	0%	0%
45 - 49	1,352	2	2	2	0.15%	0.16%	0.16%	94%	94%
50 - 54	1,522	1	2	2	0.07%	0.16%	0.16%	42%	42%
55 - 59	1,403	0	2	2	0.00%	0.16%	0.16%	0%	0%
60 - 64	878	0	1	1	0.00%	0.14%	0.14%	0%	0%
Subtotal	**7,524**	**3**	**10**	**10**	**0.04%**	**0.14%**	**0.14%**	**29%**	**29%**
65 +	361	0	0	0	0.00%	0.12%	0.12%	0%	0%
TOTAL	**9,274**	**3**	**11**	**11**	**0.03%**	**0.12%**	**0.12%**	**27%**	**27%**
Confidence Interval %			**100%**	**100%**					
R-squared			**31%**	**31%**					

Table IV-D6 shows the calculation of actual-to-expected ratios and the r-squared statistic for nonservice-connected disabilities for female General members. A chart is not shown since the lack of credible data does not produce meaningful information.

The data shows that the number of disabilities has been lower than expected under the current assumption. In this context, however, the 59% A/E ratio does not mean much; there were only 20 nonservice-connected disabilities. We are not proposing any changes to this assumption, continuing to use the CalPERS Public Agency Miscellaneous Non-Industrial Disability table for Females.

See Appendices A and B for a full listing of the rates.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Table IV-D6

Ordinary Disability Rates - General - Female									
Age Band	Exposures	Disabilities			Average Disability Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
< 35	3,836	0	1	1	0.00%	0.03%	0.03%	0%	0%
35 - 39	3,364	1	3	3	0.03%	0.10%	0.10%	31%	31%
40 - 44	3,774	6	6	6	0.16%	0.16%	0.16%	102%	102%
45 - 49	3,993	5	8	8	0.13%	0.20%	0.20%	63%	63%
50 - 54	4,222	4	8	8	0.09%	0.18%	0.18%	52%	52%
55 - 59	3,989	4	5	5	0.10%	0.13%	0.13%	77%	77%
60 - 64	2,344	0	2	2	0.00%	0.10%	0.10%	0%	0%
Subtotal	**21,684**	**20**	**32**	**32**	**0.09%**	**0.15%**	**0.15%**	**62%**	**62%**
65 +	635	0	1	1	0.00%	0.09%	0.09%	0%	0%
TOTAL	**26,155**	**20**	**34**	**34**	**0.08%**	**0.13%**	**0.13%**	**59%**	**59%**
Confidence Interval %			**83%**	**83%**					
R-squared			**70%**	**70%**					

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Post-retirement mortality assumptions are typically developed separately by gender for both healthy annuitants and disabled annuitants. Pre-retirement mortality assumptions are developed separately for males and females. Unlike most of the other demographic assumptions that rely exclusively on the experience of the plan, for mortality, standard mortality tables and projection scales serve as the primary basis for the assumption.

In the prior study, StanCERA adopted the following assumptions:

Active members

- CalPERS 2017 Preretirement Non-Industrial Mortality, adjusted by 97.2% for males and 101.6% for females.
- CalPERS 2017 Preretirement Industrial Mortality (Line-of-Duty Mortality for Safety only).

Healthy retirees and beneficiaries

- CalPERS 2017 Healthy Annuitant Mortality, adjusted by 97.2% for males and 104.1% for females.

Service-Connected Disabled members

- CalPERS 2017 Industrially Disabled Annuitant Mortality, adjusted by 101.9% for males and no adjustment for females.

Nonservice-Connected Disabled members

- CalPERS 2017 Non-Industrially Disabled Annuitant Mortality, no adjustment for males and adjusted by 104.5% for females.

StanCERA also adopted the approach of projecting these base tables generationally using the MP-2018 mortality improvement scale for all types of mortality except Line-of-Duty Mortality for Safety members. No mortality projection was used for Line-of-Duty Mortality for Safety members.

The Society of Actuaries recently released a comprehensive study of U.S. public sector mortality experience, which included the publication of new mortality tables, with separate tables for teachers, safety members, and other public employees. However, when we compared these tables to StanCERA's recent experience, we did not find them to be a better fit than the most recent CalPERS tables (updated in 2021), therefore we have continued to use the CalPERS tables as the basis for our analysis.

The Society of Actuaries has also continued to update their mortality improvement projection scale. We used 80% of the MP-2020 Scale for the basis of our analysis and projections, the same scale CalPERS adopted for their most recent experience study. CalPERS provided evidence that 80% of MP-2020 represented a reasonably proxy for their recent improvement experience in their most recent study.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

The steps in our analysis are as follows:

1. Select a standard mortality table that is, based on experience, most closely matching the anticipated experience of StanCERA.
2. Compare actual StanCERA experience to what would have been predicted by the selected standard table for the period of the experience study.
3. Adjust the standard table either fully or partially depending on the level of credibility for StanCERA experience. This adjusted table is called the base table.
4. Select an appropriate standard mortality improvement projection scale and apply it to the base table.

As we have done in prior experience studies, we have combined the experience of the most recent three-year period with that of the prior nine years in order to have a more robust dataset to review.

Even with the use of twelve years of data, the StanCERA is only partially credible, based on standard statistical theory. We therefore recommend partially adjusting the CalPERS base tables to fit StanCERA's experience to develop a new base table. The rates for each age in the standard table are adjusted by a factor, where the factor is determined by multiplying the actual-to-expected ratio for the group (such as male retirees) by a credibility factor for the group. The credibility factor is equal to the square root of the number of deaths divided by 1,082, which is the number of deaths needed for full credibility (defined by a 90% probability that the observed rate is within 5% of the true rate). Where the adjustment is very close to 100%, we have elected not to recommend any adjustment to the base table.

Based on these adjustments, we are recommending the following base mortality table assumptions:

Active members

- For General members, CalPERS 2021 Preretirement Non-Industrial Mortality, adjusted by 102.2% for males and 110.2% for females.
- For Safety members, CalPERS 2021 Preretirement Non-Industrial Mortality, adjusted by 102.6% for males and 100.9% for females.
- CalPERS 2021 Preretirement Industrial Mortality (Line-of-Duty Mortality for Safety only), adjusted by 102.6% for males and 100.9% for females.

Healthy retirees and beneficiaries

- CalPERS 2021 Healthy Annuitant Mortality, adjusted by 107.6% for males and 115.3% for females.

Service-Connected Disabled members

- CalPERS 2021 Industrially Disabled Annuitant Mortality, no adjustment for males and adjusted by 105.0% for females.

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Nonservice-Connected Disabled members

- CalPERS 2021 Non-Industrially Disabled Annuitant Mortality, no adjustment for males or females.

We also recommend projecting these base tables generationally using 80% of the MP-2020 mortality improvement scale described above for all types of mortality.

As shown in Table IV-M1 on the following page, our proposed mortality rates for healthy annuitants are close to recent experience. To perform our comparisons, the CalPERS base rates (without projection) were projected from their base year (2017) to the midpoint of the combined twelve year study period (2015).

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Table IV-M1

Mortality Experience (2009-2021)										
	Exposures	Actual Deaths	Weighted Exposures	Actual Weighted Deaths	Actual Weighted Rates	Current Expected Weighted Deaths	Proposed Expected Weighted Deaths	Current Weighted A/E Ratio	Recommended Weighted A/E Ratio
Active Members									
Male	17,941	25	1,219,305,274	1,797,131	0.15%	1,841,625	1,519,498	98%	118%
Female	32,126	43	1,739,845,948	2,159,303	0.12%	1,906,149	1,569,996	113%	138%
Total Actives	50,067	68	2,959,151,221	3,956,434	0.13%	3,747,774	3,089,494	106%	128%
Retired and Surviving Spouse									
Male	13,808	392	525,395,291	12,112,403	2.31%	12,005,082	11,559,195	101%	105%
Female	22,987	632	594,643,376	12,377,806	2.08%	11,613,849	11,886,922	107%	104%
Total Ret/Surv	36,795	1,024	1,120,038,667	24,490,209	2.19%	23,618,930	23,446,117	104%	104%
Disabled									
Nonservice-Connected Male	281	12	4,603,718	180,703	3.93%	163,285	169,410	111%	107%
Nonservice-Connected Female	708	24	11,458,736	279,907	2.44%	267,045	294,283	105%	95%
Service-Connected Male	1,763	35	58,943,372	1,011,830	1.72%	996,081	991,350	102%	102%
Service-Connected Female	935	19	23,797,442	477,411	2.01%	304,387	363,016	157%	132%
Total Disabled	3,687	90	98,803,268	1,949,851	1.97%	1,730,799	1,818,060	113%	107%
TOTAL (Excluding Actives)	40,482	1,114	1,218,841,935	26,440,060	2.17%	25,349,729	25,264,177	104%	105%

SECTION IV – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Rather than weighting the experience based on the number of members living and dying, we have weighted the experience based on benefit size (salary for current active members). This approach has been recommended by the Society of Actuaries' Retirement Plans Experience Committee (RPEC), since members with larger benefits are expected to live longer, and a benefit-weighted approach helps avoid underestimating the liabilities. The match between the actual and expected experience across all statuses (active, retired, and disabled) is reasonably close under the proposed assumptions: 107%.

Mortality Assumptions for Employee Contribution Rates

For purposes of determining employee contribution rates, the use of generational mortality improvements is impractical from an administrative perspective. Therefore, we recommend using the base mortality tables described above (various CalPERS tables with StanCERA-specific adjustments) projected using 80% of Scale MP-2020 from 2017 to 2042 for General Members and to 2043 for Safety Members. These static projections are intended to approximate generational mortality improvements.

The projection periods are based upon the duration of active liabilities for the respective impacted groups (General Tiers 1, 2, 4, 5, and Safety Tiers 2, 4, and 5) as of June 30, 2021 and the period during which the associated employee contribution rates will be in use. The rates also are blended using a male/female weighting of 25% male/75% female for General Members and 80% male/20% female for Safety members.

We anticipate that these mortality assumptions will be used to determine the employee contribution rates in effect for the period of July 1, 2022 through June 30, 2025. We also anticipate that the mortality assumptions for this purpose will be updated again after the next experience study covering the period from July 1, 2021 through June 30, 2024.

TERMINAL PAY

The current assumptions increase the liability for retirement benefits for Safety active participants by 1.75% and for General active participants by 1.00% to account for the impact of unused vacation time. 1/3 of this load applies for members with a 36-month final average service period. No other adjustment is made to the liability for anticipated future service purchases.

The data provided by StanCERA includes the vacation pay cashed out at retirement for each member who retired from active status after July 1, 2018. We also included the data from the prior experience analysis from July 1, 2015 to June 30, 2018. We compared the total vacation pay for retirees to their final average pay. For the 644 General retirees with a 12-month final average service period, the vacation pay represented 3.7%; for Safety, the average was 4.3% for 131 retirees.

StanCERA also provided the amount of vacation pay cashed out each year by all active members. This averaged 0.25% for General members and 0.41% for all Safety members who were under age 47 (and therefore would not be expected to retire in the next three years) across all actives working full time.

After backing out these average non-retiree cash outs, we recommend a load of 3.00% on final average compensation for all members, to reflect the fact that the load should only capture the additional cash outs that are expected to occur during the final average pay period.

There were only 35 retirees with a 36-month final average service period, so we excluded them from the analysis. For future retirees with a 36-month final average service period, we recommend loading the final average compensation by 1/3 of the load for those with 12-month final average pay periods. No load will be applied to the benefits of PEPRA members, as vacation cash outs are not included in their pensionable compensation.

FAMILY COMPOSITION

The current assumption is that 80% of active male and 50% of active female StanCERA participants who retire, become disabled, or die during active service have beneficiaries and that male members are three years older than their spouses, and female members are two years younger than their spouses. Based on the experience of the last six years, we recommend two small changes to these assumptions: 60% of active female StanCERA participants who retire, become disabled, or die during active service have beneficiaries, and male members are two years older than their spouses.

	Retirees	Number Married	Percent Married	Member Age	Spouse Age	Difference
Male	432	348	81%	58.49	56.23	2.26
Female	678	396	58%	59.40	61.13	-1.73

Average ages shown are for married retirees.

We also reviewed the percent of married retirees who elect the joint and survivor form of payment option.

	Retirees	Number w/ Unmod+Sps	Percent	Percent of Married / Unmod
Male	432	314	73%	90%
Female	678	375	55%	95%

We previously assumed all married members elected the joint and survivor option. We propose assuming 90% of married male members and 95% of married female members elect the joint and survivor option.

Finally, we reviewed the data for spouses of members currently in receipt of the unmodified option. Spouses of members with the unmodified options receive 60% (50% for Tier 3) survivor benefits upon the member's death. Previously we assumed that spouses reported on the data survived through the valuation date. Upon review, we determined that StanCERA accurately reports a spouse date of death when the spouse predeceases the member. We propose relying on the spouse date of death instead of using the prior assumption.

PLAN EXPENSES

An allowance of $2,983,171 for Plan administrative expenses was included in the annual cost calculation in the prior valuation. The inflation adjusted average of the Plan's administrative expenses during the last six years have averaged approximately $3,000,000. We recommend changing the Plan's assumed administrative expenses for 2021 to $3,100,000 (the inflation-adjusted six-year average), increasing each year at the assumed rate of inflation.

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

The demographic assumptions are based on an experience study covering the period from July 1, 2018 through June 30, 2021.

1. **Rate of Return**
   The annual rate of return on all Plan assets is assumed to be 6.75%, net of investment expenses.

2. **Cost of Living**
   The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 2.50% per year.

3. **Administrative Expenses**
   An allowance of $3,100,000 for Plan administrative expenses for the current year has been included in the annual cost calculated. The administrative expense amount has been assumed to increase in future years at the rate of the Cost of Living assumption (2.50%).

4. **Interest Credited to Employee Accounts**
   The employee accounts are credited with 0.25% interest annually.

5. **Increases in Pay**
   Base salary increase: 2.75%

   Assumed pay increases for active Members consist of increases due to base salary adjustments (as noted above), plus service-based increases due to longevity and promotion, as shown below.

Longevity & Promotion Increases		
Service	**General**	**Safety**
0	5.00%	5.00%
1	5.00%	5.00%
2	5.00%	5.00%
3	5.00%	4.50%
4	5.00%	4.50%
5	3.50%	2.00%
6	2.50%	1.75%
7	1.50%	1.50%
8	1.25%	1.50%
9	1.00%	1.25%
10	0.75%	1.00%
11+	0.50%	1.00%

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

6. **PEPRA Compensation Limit**
   The assumption used for increasing the compensation limit that applies to PEPRA members is 2.50%

7. **Post Retirement COLA**
   For those with the 3% COLA benefit (i.e. 100% of CPI up to 3% annually with banking), 2.40% annual increases are assumed. Increases are assumed to occur on April 1.

8. **Social Security Wage Base**
   General Plan 3 members have their benefits offset by an assumed Social Security Benefit. For projecting the Social Security Benefit, the annual Social Security Wage Base increase is assumed to be 2.75% per year.

9. **Internal Revenue Code Section 415 Limit**
   The Internal Revenue Code (IRC) Section 415 maximum benefit limitations have been applied to the benefits for members currently in pay status, as the limited benefits have been provided by StanCERA for valuation purposes. Future projected benefits for members in active and deferred statuses have not been reduced for potential Section 415 limits in the current valuation, though any actual limitations for these members will result in actuarial gains upon their actual retirement, which will reduce future contributions.

10. **Internal Revenue Code Section 401(a)(17)**
    The IRC Section 401(a)(17) maximum compensation limitation for active members is not reflected in the valuation for funding purposes; limitations are reflected after retirement.

11. **Family Composition**
    Percentage married for all active members who retire, become disabled, or die during active service is shown in the following table.

Percentage Married	
Gender	**Percentage**
Males	80%
Females	60%

    Spouses of male members are assumed to be two years younger than the member and spouses of female members are assumed to be two years older than the member.

12. **Accumulated Vacation Time Load**
    Active members' service retirement and related benefits are loaded by 3.00% for Safety Members and 3.00% for General Members for conversion of vacation time. 1/3 of this load applies for members with a 36-month final average service period. No other adjustment is made to the liabilities for anticipated future service purchases.

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

13. Rates of Separation

Rates of termination apply to all active Members who terminate their employment.

Separate rates of termination are assumed among Safety and General Members.

Termination Rates		
Years of Service	General All	Safety All
0	18.0%	16.0%
1	14.0%	8.0%
2	9.0%	7.0%
3	8.0%	6.0%
4	7.0%	6.0%
5	7.0%	6.0%
10	5.0%	5.0%
15	3.0%	2.0%
20	3.0%	0.0%
25	3.0%	0.0%
30+	0.0%	0.0%

Termination rates do not apply once a member is eligible for retirement.

14. Withdrawal

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. Separate rates of withdrawal are assumed among Safety and General Members and are based on service. The rates do not overlap with the service retirement rates.

45% of all General Member terminations with less than 10 years of service are assumed to take a refund of contributions, as well as 15% of those with 10 or more years of service.

35% of all Safety Member terminations with less than 10 years of service are assumed to take a refund of contributions, and 10% of those with 10 or more years of service.

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

15. Vested Termination and Reciprocal Transfers

Rates of vested termination apply to active Members who terminate their employment after five years of service and leave their member contributions on deposit with the Plan. Alternatively, those who terminate their employment with less than five years of service can leave their member contributions with the Plan and transfer to a reciprocal employer, therefore retaining entitlement to future Plan benefits.

Vested terminated Tier 3 General Members are assumed to begin receiving benefits at age 65 while all other General Members are assumed to begin at age 58, unless they have reciprocity, in which case they are assumed to begin at age 61; terminated Safety Members are assumed to begin receiving benefits at age 51 for Tiers 4 and 5 and at age 54 for all others.

60% of vested terminated General Members with less than 10 years of service are assumed to be reciprocal, as well as 40% of those with 10 or more years of service.

75% of vested terminated Safety Members with less than 10 years of service are assumed to be reciprocal, as well as 70% of those with 10 or more years of service.

Reciprocal members are assumed to receive annual pay increases of 3.25% for General and 3.75% for Safety from the date of transfer to the assumed retirement date.

16. Form of Benefit

Upon retirement, 90% of male married members and 95% of female married members are assumed to elect the normal payment form (joint & 50% survivor annuity for Tier 3 and joint & 60% survivor annuity for all other tiers). Non-married members are assumed to elect a single life annuity.

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

17. Rates of Service-Connected Disability

Separate rates of duty disability are assumed among Safety and General Members; rates for both sexes for Safety Members are combined. Safety members are assumed to follow the CalPERS State Safety rates. Sample rates are shown below:

Rates of Service-Connected Disability			
	General		Safety
Age	Male	Female	All
20	0.0043%	0.0002%	0.0020%
25	0.0102%	0.0004%	0.0760%
30	0.0211%	0.0008%	0.1700%
35	0.0284%	0.0024%	0.2640%
40	0.0401%	0.0056%	0.3600%
45	0.0613%	0.0101%	0.4570%
50	0.0897%	0.0162%	0.5570%
55	0.1227%	0.0249%	0.6580%
60	0.1637%	0.0349%	0.7620%
65	0.0000%	0.0000%	0.8690%

18. Rates of Nonservice-Connected Disability

Separate rates of ordinary disability are assumed among Safety and General Members. Rates of ordinary disability for Safety Members are assumed to follow the 2021 CalPERS Public Agency Police Non-Industrial Disability table; rates of ordinary disability for General Members are assumed to follow the 2021 CalPERS Public Agency Miscellaneous Non-Industrial Disability table. The rates shown are applied after five Years of Service. Below are sample rates:

Rates of Non Service-Connected Disability		
	General	
Age	Male	Female
20	0.0170%	0.0100%
25	0.0170%	0.0100%
30	0.0190%	0.0240%
35	0.0390%	0.0710%
40	0.1020%	0.1350%
45	0.1510%	0.1880%
50	0.1580%	0.1990%
55	0.1580%	0.1490%
60	0.1530%	0.1050%
65	0.1280%	0.0880%
70	0.1020%	0.0840%
75+	0.1020%	0.0880%

Rates of Non Service-Connected Disability	
	Safety
Age	All
20	0.0100%
25	0.0100%
30	0.0200%
35	0.0300%
40	0.0400%
45	0.0500%
50	0.0800%
55	0.1300%
60	0.2000%
65+	0.2000%

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

19. Rates of Mortality for Non-Annuitants

Rates of ordinary death for active General members are specified by the 2021 CalPERS Preretirement Non-Industrial Mortality table, adjusted by 102.2% for males and 110.2% for females. Rates of ordinary death for active Safety members are specified by the 2021 CalPERS Preretirement Non-Industrial Mortality table, adjusted by 102.6% for males and 100.9% for females. Duty related mortality rates are only applicable for Safety Active Members and are based on the 2021 CalPERS Preretirement Industrial Death table, adjusted by 102.6% for males and 100.9% for females. These mortality base tables are all projected generationally from 2017 using 80% of SOA Scale MP-2020.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Non-Annuitant Mortality Rates						
	Ordinary Death - General					
Age	Male	Female	Ordinary Death Safety Male	Ordinary Death Safety Female	Duty Death Safety Male	Duty Death Safety Female
20	0.0399%	0.0154%	0.0390%	0.0141%	0.0041%	0.0020%
25	0.0337%	0.0143%	0.0349%	0.0182%	0.0041%	0.0020%
30	0.0450%	0.0209%	0.0431%	0.0252%	0.0051%	0.0030%
35	0.0593%	0.0320%	0.0492%	0.0343%	0.0051%	0.0040%
40	0.0767%	0.0430%	0.0564%	0.0424%	0.0062%	0.0050%
45	0.0950%	0.0595%	0.0677%	0.0535%	0.0072%	0.0061%
50	0.1369%	0.0893%	0.0944%	0.0737%	0.0103%	0.0081%
55	0.2024%	0.1355%	0.1416%	0.1070%	0.0154%	0.0121%
60	0.2933%	0.1973%	0.2267%	0.1524%	0.0257%	0.0172%
65	0.4119%	0.2755%	0.3550%	0.1957%	0.0390%	0.0222%
70	0.6071%	0.4452%	0.6218%	0.3612%	0.0687%	0.0404%

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

20. Rates of Mortality for Nonservice-Connected Disabled Retirees

Rates of mortality for current nonservice-connected disabled Members are specified by the 2021 CalPERS Non-Industrially Disabled Annuitant Mortality table, no adjustment for males or females, with generational mortality improvements projected from 2017 using 80% of SOA Scale MP-2020.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Nonservice-Connected Disabled Mortality Rates		
Age	**Male**	**Female**
45	1.120%	1.019%
50	1.727%	1.439%
55	2.217%	1.734%
60	2.681%	1.962%
65	3.332%	2.276%
70	4.056%	2.910%
75	5.465%	4.160%
80	8.044%	6.112%
85	11.695%	9.385%
90	16.770%	14.3956%

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

21. Rates of Mortality for Service-Connected Disabled Retirees

Rates of mortality for current service-connected disabled Members are specified by the 2021 CalPERS Industrially Disabled Annuitant Mortality table, no adjustment for males and adjusted by 105% for females, with generational mortality improvements projected from 2017 using 80% of SOA Scale MP-2020.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Service-Connected Disabled Mortality Rates		
Age	Male	Female
45	0.314%	0.238%
50	0.437%	0.326%
55	0.623%	0.577%
60	0.935%	0.911%
65	1.393%	1.250%
70	2.189%	1.951%
75	3.498%	3.291%
80	5.932%	5.442%
85	10.244%	8.447%
90	16.739%	13.0557%

22. Rates of Mortality for Emerging Disabled Retirees

Rates of mortality for future General disabled retirees, both nonservice- and service-connected, are specified by mortality tables consisting of blends of the mortality assumptions for current nonservice- and service-connected disabled retirees. The blend for future disabled General retirees is 50% and 50%, respectively. The proportions reflect the expected splits in future disabled retirees between nonservice- and service-connected disablements.

Future disabled Safety retirees are assumed to follow the same rates of mortality as the service-connected disabled retirees indicated in the prior bullet.

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

23. Rates of Mortality for Healthy Annuitants

Rates of mortality for retired Members and their beneficiaries are specified by the 2021 CalPERS Healthy Annuitant table, adjusted by 107.6% for males and 115.3% for females, with generational mortality improvements projected from 2017 using 80% of SOA Scale MP-2020.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Healthy Annuitant Mortality Rates		
Age	Male	Female
45	0.101%	0.063%
50	0.291%	0.229%
55	0.421%	0.375%
60	0.618%	0.525%
65	0.922%	0.705%
70	1.442%	1.149%
75	2.582%	2.056%
80	4.713%	3.923%
85	8.902%	7.110%
90	15.644%	12.7820%

24. Mortality Improvement

As mentioned above, the mortality assumptions employ fully generational mortality improvement projection from base year 2017 using 80% of the Society of Actuaries Scale MP-2020.

25. Rates of Mortality for Purposes of Determining Employee Contribution Rates

The rates are based on the same base tables described above (2021 CalPERS mortality tables with StanCERA-specific adjustments) and are projected using 80% of Scale MP-2020 from 2017 to 2042 for General members and to 2043 for Safety members. The rates are blended using a male/female weighting of 25% male/75% female for General members and 80% male/20% female for Safety members. These assumptions are used only for determining the employee contribution rates for General members in Tiers 1, 2, 4 and 5 and Safety members in Tiers 2, 4 and 5.

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

26. Rates of Retirement

Retirement for members in non-PEPRA Tiers (Tier 6) are assumed to occur among eligible members in accordance with the tables below:

Rates of Retirement General (Non-PEPRA)	Years of Service		
Age	0-9	10-29	30+
40-44	0.00%	0.00%	0.00%
45-49	0.00%	0.00%	10.00%
50-54	0.00%	4.00%	10.00%
55	0.00%	7.00%	10.00%
56	0.00%	7.00%	15.00%
57	0.00%	7.00%	15.00%
58	0.00%	7.00%	15.00%
59	0.00%	12.50%	15.00%
60	0.00%	12.50%	22.50%
61	0.00%	12.50%	30.00%
62	0.00%	20.00%	30.00%
63	0.00%	20.00%	30.00%
64	0.00%	20.00%	30.00%
65	0.00%	40.00%	30.00%
66	0.00%	40.00%	30.00%
67	0.00%	40.00%	30.00%
68	0.00%	25.00%	30.00%
69	0.00%	25.00%	30.00%
70	25.00%	25.00%	30.00%
71	25.00%	25.00%	30.00%
72	25.00%	25.00%	30.00%
73	25.00%	25.00%	30.00%
74	25.00%	25.00%	30.00%
75+	100.00%	100.00%	100.00%

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

Rates of Retirement Safety (Non-PEPRA) Years of Service				
Age	0-9	10-14	15-19	20+
40-48	0.00%	0.00%	0.00%	5.00%
49	0.00%	0.00%	0.00%	20.00%
50	0.00%	5.00%	25.00%	40.00%
51	0.00%	5.00%	5.00%	25.00%
52	0.00%	5.00%	5.00%	25.00%
53	0.00%	5.00%	5.00%	25.00%
54	0.00%	5.00%	5.00%	25.00%
55	0.00%	5.00%	5.00%	40.00%
56	0.00%	5.00%	5.00%	40.00%
57	0.00%	5.00%	5.00%	40.00%
58	0.00%	5.00%	5.00%	40.00%
59	0.00%	5.00%	5.00%	40.00%
60	0.00%	25.00%	25.00%	100.00%
61	0.00%	25.00%	25.00%	100.00%
62	0.00%	25.00%	25.00%	100.00%
63	0.00%	25.00%	25.00%	100.00%
64	0.00%	25.00%	25.00%	100.00%
65	0.00%	100.00%	100.00%	100.00%
66	0.00%	100.00%	100.00%	100.00%
67	0.00%	100.00%	100.00%	100.00%
68	0.00%	100.00%	100.00%	100.00%
69	0.00%	100.00%	100.00%	100.00%
70+	100.00%	100.00%	100.00%	100.00%

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

Retirement for members in PEPRA, Tier 6, are assumed to occur among eligible members in accordance with the sample rates below, from the full tables 2021 CALPERS Public Agency Miscellaneous 2% @ 62 table for General and the 2021 CALPERS Public Agency Safety Police 2.7% @ 57 table for Safety:

Rates of Retirement General (PEPRA) Years of Service				
Age	5	10	25	35
50-51	0.00%	0.00%	0.00%	0.00%
52	0.50%	0.80%	1.90%	3.80%
53	0.70%	1.10%	2.10%	4.80%
54	0.70%	1.10%	2.30%	5.40%
55	1.00%	1.90%	6.10%	15.20%
56	1.40%	2.60%	7.50%	16.70%
57	1.80%	2.90%	7.40%	14.30%
58	2.30%	3.50%	7.30%	13.50%
59	2.50%	3.80%	9.20%	17.50%
60	3.10%	5.10%	11.10%	18.30%
61	3.80%	5.80%	12.10%	23.20%
62	4.40%	7.40%	16.40%	27.10%
63	7.70%	10.50%	19.20%	26.60%
64	7.20%	10.10%	18.70%	27.60%
65	10.80%	14.10%	23.90%	34.80%
66	13.20%	17.20%	29.20%	42.60%
67	13.20%	17.20%	29.20%	40.50%
68	12.00%	15.60%	26.50%	38.70%
69	12.00%	15.60%	26.50%	36.80%
70	12.00%	15.60%	26.50%	38.70%
71	12.00%	15.60%	26.50%	38.70%
72	12.00%	15.60%	26.50%	38.70%
73	12.00%	15.60%	26.50%	38.70%
74	12.00%	15.60%	26.50%	38.70%
75+	100.00%	100.00%	100.00%	100.00%

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

Rates of Retirement Safety (PEPRA) Years of Service				
Age	5	10	25	35
50	5.00%	5.00%	5.00%	11.00%
51	4.00%	4.00%	5.75%	13.92%
52	3.80%	3.80%	5.80%	13.21%
53	3.80%	3.80%	7.74%	28.98%
54	3.80%	3.80%	9.31%	33.25%
55	6.84%	6.84%	13.40%	38.76%
56	6.27%	6.27%	12.28%	34.49%
57	6.00%	6.00%	11.75%	32.00%
58	8.00%	8.00%	13.75%	35.00%
59	8.00%	8.00%	14.00%	40.00%
60	15.00%	15.00%	15.00%	35.00%
61	14.40%	14.40%	14.40%	26.40%
62	15.00%	15.00%	15.00%	33.00%
63	15.00%	15.00%	15.00%	40.00%
64	15.00%	15.00%	15.00%	52.50%
65+	100.00%	100.00%	100.00%	100.00%

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

The following are the assumptions used in the actuarial valuation as of June 30, 2020. The economic and demographic assumptions and methods for that valuation are based on the Actuarial Experience Study Report for the period covering July 1, 2015 through June 30, 2018 report. The proposed assumptions were summarized and reviewed with the Board at the January 22, 2019 Board meeting, at which the Board provided direction to proceed with the valuation based on those assumptions. Final adoption of these assumptions was effective with the June 30, 2018 report.

1. **Rate of Return**
   The annual rate of return on all Plan assets is assumed to be 7.00%, net of investment expenses.

2. **Cost of Living**
   The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 2.75% per year.

3. **Administrative Expenses**
   An allowance of $2,983,171 for Plan administrative expenses for the current year has been included in the annual cost calculated. The administrative expense amount has been assumed to increase in future years at the rate of the Cost of Living assumption (2.75%).

4. **Interest Credited to Employee Accounts**
   The employee accounts are credited with 0.25% interest annually.

5. **Increases in Pay**
   Base salary increase: 3.00%
   Assumed pay increases for active Members consist of increases due to base salary adjustments (as noted above), plus service-based increases due to longevity and promotion, as shown below.

Longevity & Promotion Increases		
Service	General	Safety
0	5.00%	7.00%
1	5.00%	6.00%
2	5.00%	5.00%
3	5.00%	4.00%
4	5.00%	3.00%
5	3.50%	2.00%
6	2.50%	1.75%
7	1.50%	1.50%
8	1.25%	1.25%
9	1.00%	1.00%
10	0.75%	0.75%
11+	0.50%	0.50%

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

6. **PEPRA Compensation Limit**
   The assumption used for increasing the compensation limit that applies to PEPRA members is 2.75%.

7. **Post Retirement COLA**
   For those with the 3% COLA benefit (i.e. 100% of COP up to 3% annually with banking), 2.60% annual increases assumed. Increases are assumed to occur on April 1.

8. **Social Security Wage Base**
   General Plan 3 members have their benefits offset by an assumed Social Security Benefit. For projecting the Social Security Benefit, the annual Social Security Wage Base increase is assumed to be 3.00% per year.

9. **Internal Revenue Code Section 415 Limit**
   The Internal Revenue Code (IRC) Section 415 maximum benefit limitations have been applied to the benefits for members currently in pay status, as the limited benefits have been provided by StanCERA for valuation purposes. Future projected benefits for members in active and deferred statuses have not been reduced for potential Section 415 limit in the current valuation, though any actual limitations for these members will result in actuarial gains upon their actual retirement, which will reduce future contributions.

10. **Internal Revenue Code Section 401(a)(17)**
    The Internal Revenue Code Section 401(a)(17) maximum compensation limitation is not reflected in the valuation for funding purposes; limitations are reflected after retirement.

11. **Family Composition**
    Percentage married for all active members who retire, become disabled, or die during active service is shown in the following table.

Percentage Married	
Gender	Percentage
Males	80%
Females	50%

    Spouses of male members are assumed to be three years younger than the member and spouses of female members are assumed to be two years older than the member.

12. **Accumulated Vacation Time Load**
    Active members' service retirement and related benefits are loaded by 1.75% for Safety Members and 1.0% for General Members for conversion of vacation time. 1/3 of this load applies for members with a 36-month final average service period. No other adjustment is made to the liabilities for anticipated future service purchases.

13. **Rates of Separation**
    Rates of termination apply to all active Members who terminate their employment. Separate rates of termination are assumed among Safety and General Members.

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

Termination Rates		
Years of Service	General All	Safety All
0	18.0%	18.0%
1	14.0%	12.0%
2	11.7%	9.0%
3	9.4%	7.0%
4	7.1%	6.0%
5	5.0%	5.0%
10	3.5%	5.0%
15	2.9%	3.4%
20	1.5%	0.0%
25	1.3%	0.0%
30+	0.0%	0.0%

Termination rates do not apply once a member is eligible for retirement.

14. Withdrawal

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. Separate rates of withdrawal are assumed among Safety and General Members and are based on service. The rates do not overlap with the service retirement rates.

50% of all General Member terminations with less than 10 years of service are assumed to take a refund of contributions, as well as 20% of those with 10 or more years of service.

35% of all Safety Member terminations with less than 10 years of service are assumed to take a refund of contributions, and 10% of those with 10 or more years are assumed to take a refund.

15. Vested Termination and Reciprocal Transfers

Rates of vested termination apply to active Members who terminate their employment after five years of service and leave their member contributions on deposit with the Plan. Alternatively, those who terminate their employment with less than five years of service can leave their member contributions with the Plan and transfer to a reciprocal employer, therefore retaining entitlement to future Plan benefits.

Vested terminated Tier 3 General Members are assumed to begin receiving benefits at age 65 while all other General Members are assumed to begin at age 58, unless they have reciprocity, in which case they are assumed to begin at age 61; terminated Safety Members are assumed to begin receiving benefits at age 53. 50% of vested terminated General Members are assumed to be reciprocal; 65% of vested terminated Safety Members are assumed to be reciprocal.

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

Reciprocal members are assumed to receive 3.75% annual pay increases from the date of transfer to the assumed retirement date.

16. Form of Benefit

Upon retirement, all married members are assumed to elect the normal payment form (joint & 50% survivor annuity for Tier 3 and joint & 60% survivor annuity for all other tiers). Non-married members are assumed to elect a single life annuity.

17. Rates of Service-Connected Disability

Separate rates of duty disability are assumed among Safety and General Members; rates for both sexes for Safety Members are combined. Safety members are assumed to follow the 2017 CalPERS State Safety rates. Below are sample rates:

Rates of Service-Connected Disability			
	General		Safety
Age	Male	Female	All
20	0.0043%	0.0002%	0.0020%
25	0.0102%	0.0004%	0.0760%
30	0.0211%	0.0008%	0.1700%
35	0.0284%	0.0024%	0.2640%
40	0.0401%	0.0056%	0.3600%
45	0.0613%	0.0101%	0.4570%
50	0.0897%	0.0162%	0.5570%
55	0.1227%	0.0249%	0.6580%
60	0.1637%	0.0349%	0.7620%
65	0.0000%	0.0000%	0.8690%

18. Rates of Nonservice-Connected Disability

Separate rates of ordinary disability are assumed among Safety and General Members. Rates of ordinary disability for Safety Members are assumed to follow the 2017 CalPERS Public Agency Police Non-Industrial Disability table; rates of ordinary disability for General Members are assumed to follow the 2017 CalPERS Public Agency Miscellaneous Non-Industrial Disability table. The rates shown are applied after five Years of Service. On the next page are sample rates:

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

Rates of Non Service-Connected Disability		
	General	
Age	Male	Female
20	0.0170%	0.0100%
25	0.0170%	0.0100%
30	0.0190%	0.0240%
35	0.0390%	0.0710%
40	0.1020%	0.1350%
45	0.1510%	0.1880%
50	0.1580%	0.1990%
55	0.1580%	0.1490%
60	0.1530%	0.1050%
65	0.1280%	0.0880%
70+	0.1020%	0.0840%

Rates of Non Service-Connected Disability	
	Safety
Age	All
20	0.0100%
25	0.0100%
30	0.0200%
35	0.0300%
40	0.0400%
45	0.0500%
50	0.0800%
55	0.1300%
60	0.2000%
65+	0.2000%

19. Rates of Mortality for Non-Annuitants

Rates of ordinary death for active Members are specified by the 2017 CalPERS Pre-Retirement Non-Industrial Mortality table, adjusted by 97.2% for males and 101.6% for females, with generational mortality improvements projected from 2009 using SOA Scale MP-2018. Duty related mortality rates are only applicable for Safety Active Members and are based on the 2017 CalPERS Pre-Retirement Industrial Death table without adjustment or projection.

The table on the following page provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Non-Annuitant Mortality Rates			
	Ordinary Death - General and Safety		Duty Death
Age	Male	Female	Safety All
20	0.0320%	0.0215%	0.0030%
25	0.0413%	0.0248%	0.0070%
30	0.0505%	0.0269%	0.0100%
35	0.0588%	0.0378%	0.0120%
40	0.0774%	0.0539%	0.0130%
45	0.1094%	0.0766%	0.0140%
50	0.1600%	0.1079%	0.0150%
55	0.2353%	0.1550%	0.0160%
60	0.3446%	0.2261%	0.0170%
65	0.4949%	0.3324%	0.0180%
70	0.6891%	0.4747%	0.0190%

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

20. Rates of Mortality for Nonservice-Connected Disabled Retirees

Rates of mortality for current nonservice-connected disabled Members are specified by the 2017 CalPERS Non-Industrially Disabled Annuitant Mortality table, adjusted by 104.5% for females (no adjustment for males), with generational mortality improvements projected from 2009 using SOA Scale MP-2018.

The table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Nonservice-Connected Disabled Mortality Rates		
Age	Male	Female
45	1.297%	0.892%
50	1.784%	1.285%
55	2.095%	1.327%
60	2.634%	1.578%
65	3.120%	2.138%
70	3.890%	2.941%
75	5.398%	4.041%
80	8.230%	6.287%
85	13.166%	10.327%
90	18.469%	16.806%

21. Rates of Mortality for Service-Connected Disabled Retirees

Rates of mortality for current service-connected disabled Members are specified by the 2017 CalPERS Industrially Disabled Annuitant Mortality table, adjusted by 101.9% for males (no adjustment for females), with generational mortality improvements projected from 2009 using SOA Scale MP-2018.

The table on the next page provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

Service-Connected Disabled Mortality Rates		
Age	Male	Female
45	0.344%	0.298%
50	0.542%	0.495%
55	0.648%	0.460%
60	0.884%	0.633%
65	1.455%	1.066%
70	2.254%	1.775%
75	3.908%	2.952%
80	6.754%	4.978%
85	10.587%	7.959%
90	16.493%	12.335%

22. Rates of Mortality for Emerging Disabled Retirees

Rates of mortality for future General disabled retirees, both nonservice- and service-connected, are specified by mortality tables consisting of blends of the mortality assumptions for current nonservice- and service-connected disabled retirees. The blend for future disabled General retirees is 75% and 25%, respectively. The proportions reflect the expected splits in future disabled retirees between nonservice- and service-connected disablements.

Future disabled Safety retirees are assumed to follow the same rates of mortality as the service-connected disabled retirees indicated in the prior bullet.

23. Rates of Mortality for Healthy Annuitants

Rates of mortality for retired Members and their beneficiaries are specified by the 2017 CalPERS Healthy Annuitant table, adjusted by 97.2% for males and 104.1% for females, with generational mortality improvements projected from 2009 using SOA Scale MP-2018.

The table below provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

Healthy Annuitant Mortality Rates		
Age	Male	Female
45	0.234%	0.221%
50	0.517%	0.515%
55	0.618%	0.479%
60	0.794%	0.556%
65	1.026%	0.779%
70	1.717%	1.317%
75	2.900%	2.283%
80	5.128%	3.847%
85	9.165%	6.949%
90	15.733%	12.841%

24. Mortality Improvement

As mentioned above, the mortality assumptions employ a fully generational mortality improvement projection from base year 2009 using Scale MP-2018.

25. Rates of Retirement

Retirement for members in non-PEPRA Tiers (Tier 6) are assumed to occur among eligible members in accordance with the tables on the next page:

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

Rates of Retirement General (Non-PEPRA) Years of Service			
Age	0-9	10-29	30+
40-44	0.00%	0.00%	0.00%
45-49	0.00%	0.00%	10.00%
50-54	0.00%	5.00%	10.00%
55	0.00%	7.50%	20.00%
56	0.00%	7.50%	20.00%
57	0.00%	7.50%	20.00%
58	0.00%	12.50%	20.00%
59	0.00%	12.50%	20.00%
60	0.00%	12.50%	25.00%
61	0.00%	20.00%	25.00%
62	0.00%	25.00%	40.00%
63	0.00%	20.00%	25.00%
64	0.00%	25.00%	25.00%
65	0.00%	35.00%	35.00%
66	0.00%	45.00%	45.00%
67	0.00%	20.00%	25.00%
68	0.00%	20.00%	25.00%
69	0.00%	20.00%	25.00%
70	50.00%	50.00%	100.00%
71	50.00%	50.00%	100.00%
72	50.00%	50.00%	100.00%
73	50.00%	50.00%	100.00%
74	50.00%	50.00%	100.00%
75+	100.00%	100.00%	100.00%

Rates of Retirement Safety (Non-PEPRA) Years of Service			
Age	0-9	10-19	20+
40-48	0.00%	0.00%	5.00%
49	0.00%	0.00%	20.00%
50	0.00%	10.00%	30.00%
51	0.00%	10.00%	20.00%
52	0.00%	10.00%	20.00%
53	0.00%	10.00%	20.00%
54	0.00%	10.00%	20.00%
55	0.00%	10.00%	30.00%
56	0.00%	10.00%	30.00%
57	0.00%	10.00%	30.00%
58	0.00%	10.00%	30.00%
59	0.00%	10.00%	30.00%
60	0.00%	25.00%	100.00%
61	0.00%	25.00%	100.00%
62	0.00%	25.00%	100.00%
63	0.00%	25.00%	100.00%
64	0.00%	25.00%	100.00%
65	0.00%	100.00%	100.00%
66	0.00%	100.00%	100.00%
67	0.00%	100.00%	100.00%
68	0.00%	100.00%	100.00%
69	0.00%	100.00%	100.00%
70+	100.00%	100.00%	100.00%

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

Retirement for members in PEPRA, Tier 6, are assumed to occur among eligible members in accordance with the sample rates below, from the full tables 2017 CALPERS Public Agency Miscellaneous 2% @ 62 table for General and the 2017 CALPERS Public Agency Safety Police 2.7% @ 57 table for Safety:

Rates of Retirement General (PEPRA) Years of Service				
Age	5	10	25	35
50-51	0.00%	0.00%	0.00%	0.00%
52	0.50%	0.80%	1.90%	3.80%
53	0.70%	1.10%	2.10%	4.80%
54	0.70%	1.10%	2.30%	5.40%
55	1.00%	1.90%	6.10%	15.20%
56	1.40%	2.60%	7.50%	16.70%
57	1.80%	2.90%	7.40%	14.30%
58	2.30%	3.50%	7.30%	13.50%
59	2.50%	3.80%	9.20%	17.50%
60	3.10%	5.10%	11.10%	18.30%
61	3.80%	5.80%	12.10%	23.20%
62	4.40%	7.40%	16.40%	27.10%
63	7.70%	10.50%	19.20%	26.60%
64	7.20%	10.10%	18.70%	27.60%
65	10.80%	14.10%	23.90%	34.80%
66	13.20%	17.20%	29.20%	42.60%
67	13.20%	17.20%	29.20%	40.50%
68	12.00%	15.60%	26.50%	38.70%
69	12.00%	15.60%	26.50%	36.80%
70	12.00%	15.60%	26.50%	38.70%
71	12.00%	15.60%	26.50%	38.70%
72	12.00%	15.60%	26.50%	38.70%
73	12.00%	15.60%	26.50%	38.70%
74	12.00%	15.60%	26.50%	38.70%
75+	100.00%	100.00%	100.00%	100.00%

Rates of Retirement Safety (PEPRA) Years of Service				
Age	5	10	25	35
50	5.00%	5.00%	5.00%	11.00%
51	4.00%	4.00%	5.75%	13.92%
52	3.80%	3.80%	5.80%	13.21%
53	3.80%	3.80%	7.74%	28.98%
54	3.80%	3.80%	9.31%	33.25%
55	6.84%	6.84%	13.40%	38.76%
56	6.27%	6.27%	12.28%	34.49%
57	6.00%	6.00%	11.75%	32.00%
58	8.00%	8.00%	13.75%	35.00%
59	8.00%	8.00%	14.00%	40.00%
60	15.00%	15.00%	15.00%	35.00%
61	14.40%	14.40%	14.40%	26.40%
62	15.00%	15.00%	15.00%	33.00%
63	15.00%	15.00%	15.00%	40.00%
64	15.00%	15.00%	15.00%	52.50%
65+	100.00%	100.00%	100.00%	100.00%

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February 22, 2022
Retirement Board Agenda Item

TO: Retirement Board

FROM: Richard Santos, Executive Director

I. SUBJECT: StanCERA Recruitment

II. ITEM NUMBER: 10.b.

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION:

i. Direct staff to begin recruitment for the currently unfilled Manager II position with the working title of Retirement Business and Operations Manager.

ii. Direct staff to begin recruitment for the position of the Retirement Member & Employer Services Manager as a Manager IV.

V. ANALYSIS:

Recommendation regarding filling the vacant Manager II position

In August of 2021, the Board of Retirement approved the reclassification of an un-filled, vacant Manager II position in the Organization and upgrading that position to a Manager III/IV. And while as of today the resolution between the County and StanCERA regarding organizational governance has not been resolved, StanCERA is at a point where it needs to have dedicated support in sub-functional areas which are currently lacking in the Organization.

As pointed out in the August agenda item, currently, there are many tasks today that do not have any one person directly responsible for their oversight and completion. This has led to a situation where many tasks are being done by either the Executive Assistant or Management. Unfortunately, the number of tasks that fall under this category have been increasing over time and are either assigned on an ad-hoc basis depending on whoever has the time or are being prioritized and pushed aside until time is available. This has created an environment where no one person or team is necessarily responsible for or oversees the completion of these tasks. It also limits the time spent on other high-level issues that leaders in the Organization should be focused on and takes away from other staff, the opportunity to hone their retirement skills and keep up with the public pension landscape. The Organization is at a point where it can't continue to wait to fill this position. Both unplanned and routine tasks are delegated to whomever has the time and we are finding that most do not have any additional time which is resulting in overtime on a regular basis. Consequently, as our membership, assets, compliance, legal and governance issues grow, so too will the demand on human resources. The Organization needs a dedicated resource to manage these regular and routine tasks of a business manager and relieve the continual worrisome burden of making sure nothing "falls through the cracks".

Pending resolution of personnel decisions between StanCERA and the County, staff is recommending filling the position today at its current level (Manager II). This position is already in StanCERA's budget this current fiscal year at a III/IV, so filling the position at a II level, actually reduces StanCERA's budget. Further, the SPOT Committee's recommendation to upgrade the position was based on the need for a more sophisticated level of communications management. While this level of support is certainly growing, staff feels this business need can be pushed off for a few more years and consequently, the Board can always upgrade this position to a III/IV when the need becomes more urgent. Today, it is important that we fill those business gaps in the Organization that were mentioned earlier.

Recommendation regarding the recruitment for the Manager IV Position

Given the fact that the Retirement Member & Employer Services Manager will soon become vacant, StanCERA will need to begin recruiting for that position in March/April at the Board of Retirement approved level of Manager IV. The Manager IV will be more reflective of the duties associated with this position, will aid in recruitment and retention, is in line with StanCERA's Strategic Plan and succession planning and assists in long-term planning and organizational transition. When we set out to upgrade the position we did not know we would need to recruit for this position this soon but as shared previously, we will shortly be recruiting for this position and would like to bring the candidate in at the higher level. This move gives the Organization more flexibility in the recruitment and retention of talented and experienced individuals to assist in its operations, policy making and ultimate growth.

To summarize, we do not feel it is in StanCERA's best interest or in its strategic planning to wait for the outcome of the organizational governance discussions with the County before moving forward regarding the two positions discussed.

VI. RISK: The risks related to not approving this item are mentioned above

VII. STRATEGIC PLAN: Develop an Organizational Structure reflective of our operational capabilities and succession planning needs

VIII. ADMINISTRATIVE BUDGET IMPACT: Should the Board approve this item, the annual costs would decrease by approximately $31,000. This decrease is a result of approving the Retirement Business and Operations Manager at a II level rather than a IV level

February 22, 2022

Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

I. SUBJECT: Ad-Hoc Committee Assignment for the Recruitment of the Position of Executive Director

II. ITEM NUMBER: 10.c.

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION: Form an ad-hoc Committee of at least 3 Trustees to recommend to the full Board the process to recruit for the position of Executive Director

V. ANALYSIS: In December of this year, the Executive Director will be retiring. As such, there will be several decisions the Board of Retirement will need to make regarding the recruitment process and consequently, staff is proposing that the Board form a Committee to make recommendations to the full Board. Staff is proposing that at least 3 trustees work together to set forth the process from beginning to end. The following is a proposed task list that would need to be accomplished during this time and should have the Committee/full Board buy-in at the onset of the process:

Development of the Timeline of Events – The Committee should develop a timeline of events and dead-lines for their achievement.

Development of the Position – Staff recommends that the Committee convene to discuss and make recommendations regarding the minimum and desired qualifications for the job. This should include discussions regarding salary and benefits. Staff will also ask the Committee to be involved in the creation of the job flyer and the mediums used to advertise.

The Recruitment Process – During the last recruitment for this position, a recruitment firm was used to assist. Staff recommends that this process be used again. The Committee will be asked to weigh in on the process to choose a firm. This could include staff simply reaching out to potential firms (or using the same firm as last time) or the Committee could recommend interviewing several firms before making this decision. There are many qualified firms out there and a couple of them are well-known for recruiting for these positions for 1937 Act Systems.

The Interview Process – Staff feels the full Board should be involved in the interview process and will be recommending this to the Committee.

The Negotiation Process – The Committee should make a recommendation to the full Board regarding who oversees negotiating employment terms with the candidate and the development of the contract.

The Onboarding Process – During the last transition for the position, the Board had the new Executive Director work with the incumbent for a couple months before taking over. Depending on the candidate chosen for the position and his/her 1937 Act experience, this may or may not be necessary and the Committee should advise.

Staff anticipates that the Committee would meet a couple times before making the full and complete recommendation to the Board of Retirement sometime in the spring and that the interview process would occur sometime in the fall.

VI. RISK: None

VII. STRATEGIC PLAN: Strategic Objective #1; Develop an Organizational Structure reflective of our current operational needs and succession planning needs

VIII. ADMINISTRATIVE BUDGET IMPACT: None