Joint Meeting of The Board of Trustees and Investment Advisory Committee Minutes – December 12, 2018

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

March 6, 2019

TABLE OF CONTENTS

JOINT MEETING OF THE
BOARD OF TRUSTEES AND
INVESTMENT ADVISORY COMMITTEE
EMPLOYEES RETIREMENT SYSTEM OF TEXAS

TRS Building – Board Room
1000 Red River Street, Austin, Texas 78701
December 12, 2018 – 8:00 a.m.

TRUSTEES PRESENT
I. Craig Hester, Chair
Ilesa Daniels, Vice-Chair
Doug Danzeiser, Member
Cydney Donnell, Member
Catherine Melvin, Member
Jeanie Wyatt, Member

Investment Advisory committee (IAC) PRESENT
Caroline Cooley, Chair
Bob Alley, Vice-Chair
James Hille, Member
Mari Kooi, Member
Ken Mindell, Member
Gene Needles, Member
Didi Weinblatt, Member

IAC ABSENT
Laura Starks, Member
Lenore Sullivan, Member

ERS STAFF PRESENT
Porter Wilson, Executive Director
Catherine Terrell, Deputy Executive Director
Paula A. Jones, Deputy Executive Director and General Counsel
Tom Tull, Chief Investment Officer
Sharmila Kassam, Deputy Chief Investment Officer
Shack Nail, Special Projects and Policy Advisor
Jennifer Chambers, Director of Governmental Relations
Tony Chavez, Director of Internal Audit
Bernie Hajovsky, Director of Enterprise Planning Office
Robin Hardaway, Director of Customer Benefits
Machelle Pharr, Chief Financial Officer
Gabrielle Schreiber, Director of Procurement and Contract Oversight
DeeDee Sterns, Director of Human Resources
Kathryn Tesar, Director of Benefits Communications
Keith Yawn, Director of Strategic Initiatives
Brannon Andrews, Office of General Counsel
Betsy Blair, Benefits Communications
Amanda Burleigh, Investments
Carlos Chujoy, Investments
Kelley Davenport, Executive Office
Juli Davila, Investments
Leah Erard, Strategic Initiatives
Joe Ettle, Enterprise Planning Office
Panayiotis Lambropoulos, Investments
Nick Maffeo, Investments

Susie Ramirez, Executive Office
Tanna Ridgway, Investments
Tom Roberts, Investments
Cheryl Scott Ryan, Office of General Counsel
Pablo de la Sierra Perez, Investments
Robert Sessa, Investments
Joy Seth, Investments
John Streun, Investments
Yu Tong, Investments
Mary Jane Wardlow, Executive Office
Stuart Williams, Investments

VISITORS PRESENT
Katy Fallon-Brown, Legislative Budget Board
Steve Voss, Aon Hewitt Investment Consultants
Sam Austin, NEPC
Maridale Goff, AETNA
Robert Prentice, University of Texas at Austin
Paul Yin, Texas Comptroller of Public Accounts
Lauren Peiffer, Dimensional FA
Michael McCormick, Aon Hewitt Investment Consultants
Joe Newton, Gabriel Roeder Smith
Ryan Falls, Gabriel Roeder Smith

3. Joint Meeting of the ERS Board of Trustees and Investment Advisory Committee

1. CALL TO ORDER

1.1 Call Meeting to Reconvene the Board of Trustees

Mr. I. Craig Hester, Chair of the Board of Trustees for the Employees Retirement System of Texas (ERS), called to reconvene with the Investment Advisory Committee to take up the following joint Board of Trustees (Board) and Investment Advisory Committee agenda items (IAC).

A public notice of the ERS Board of Trustees containing all items on the proposed agenda was filed with the Office of the Secretary of State at 3:53 p.m. on Monday, December 3, 2018 as required by Chapter 551, Texas Government Code, referred to as "The Open Meetings Law."

1.2 Call Meeting of the Investment Advisory Committee to Order

Ms. Caroline Cooley, Chair of the IAC for ERS, called the meeting to order and read the following statement:

> A public notice of the Joint Meeting of the ERS Board of Trustees and Investment Advisory Committee containing all items on the proposed agenda was filed with the Office of the Secretary of State at 3:53 p.m. on Monday, December 3, 2018 as required by Chapter 551, Texas Government Code, referred to as "The Open Meetings Law."

2. MINUTES

2.1 Review and Approval of the minutes to the December 12, 2018 Joint Meeting of the Board of Trustees and IAC meeting – (Action)

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion on the approval of the minutes from the December 12, 2018 Joint Meeting of the Board and IAC.

The IAC then took the following action:

> **MOTION** made by Mr. Robert Alley, seconded by Mr. Ken Mindell, and carried unanimously by the members present that the Investment Advisory Committee of the Employees Retirement System of Texas approve the minutes of the Joint Meeting of the Board and IAC held on December 12, 2018.

The Board of Trustees then took the following action:

> **MOTION** made by Mr. Doug Danzeiser, seconded by Ms. Cydney Donnell, and carried unanimously by the members present that the Board of Trustees approve the minutes of the Joint Meeting of the Board of Trustees and Investment Advisory Committee held on December 12, 2018.

3. ACTUARIAL VALUATIONS

3.1 Review of Retirement Program Actuarial Valuations and Financial Status

ERS Deputy Executive Director, Catherine Terrell, introduced Ryan Falls and Joseph Newton, co-actuaries from Gabriel Roeder Smith (GRS), ERS' independent consulting actuaries for retirement. Mr. Falls and Mr. Newton presented the results of the annual actuarial valuations on ERS' retirement plans for Fiscal Year 2018, with focus on the pre-funded plans ERS, LECOSRF and JRS 2.

GRS provided the overall results of the funded status of the plans. While the results of the actuarial valuation are similar to their status at the time of the 2017 report, both the ERS and LECOSRF plans are on a path to depletion. JRS2 is in a better position with a defined funding period of 69 years.

While investment returns of approximately 9.5% supported the funds position in 2018, additional contribution increases or benefit reductions are needed to return the ERS and LECOSRF plans to soundness. The actuarial investment return for the year was 7.9%. Due to the system's asset smoothing methodology, which recognizes losses and gains over a five year period. The system will hold about $400 million of gains in reserve to allocate across the next four years. This return rate exceeded the assumed rate of 7.5%. In response to a question, Mr. Falls reminded the Board of the changes to the asset smoothing methodology adopted by trustees as part of the 2017 Experience Study process. The asset smoothing changes serve to dampen the volatility that can be created from measuring funds on a market value basis.

Mr. Falls reported that there are 142,000 active contributing employees currently covered by the ERS plan. Projections have that number remaining consistent going forward. The number of retirees, however, is growing. This is normally not a concern as the plan is receiving contributions sufficient to accumulate assets to cover their benefits as they retire (the plan's normal cost). Unfortunately, since the plan has an unfunded liability, contributions are not enough to eliminate the existing unfunded liability over a defined period. The lack of growth of the active population in relation to the retiree population, and corresponding contributions, makes any deviation from the assumptions and expectations more difficult to address. This situation is common for a mature plan like ERS. Ms. Terrell noted that active state employee counts in 2018 are less than they were in 2001, and have not grown in relation to state population increases. However, even with a stable active employee count, payroll levels are expected to continue to increase over time. Over the last 10-year period, active ERS plan member payroll has grown 2.6%.

Responding to a question, Mr. Falls reported that the average ERS plan member retires at age 59. However, members in retirement Group 2 have a minimum retirement age of 60 and members in Group 3 have a minimum retirement age of 62. Members of those groups who retire before that age will have their annuity reduced. Group 2 members have their annuity reduced five percent each year up to a maximum of a 25% reduction. Group 3 members who retire before age 62 have their annuity reduced 5% per year with no cap on the reduction. The state legislature sets these eligibility structures and ERS does not have any flexibility to amend them.

Mr. Falls reported that as of August 31, 2018 the actuarial value of ERS trust assets was $27 billion, with liabilities valued at $39 billion, resulting in an unfunded liability of $11.6 billion and a funding ratio of 70.2%. The market value of the unfunded liability is $11.2 billion with a funding ratio of 71.2%. Mr. Newton explained that the more a plan's funding ratio declines, the more difficult it is to earn your way out, and the fund continues to decline. The fund is receiving approximately $1.3 billion a year in contributions and paying $2.5 billion in annuities, which reduces the ability of investment returns in excess of the assumed rate to increase the soundness of the plan. And the gap between contributions received and payments made is increasing.

The presentation then provided a breakdown of the actuarially sound contribution (ASC) rate which is at 23.12% of payroll at the August 31, 2018 valuation. The ASC is the amount of contributions the plan needs to pay off all of its obligations within a 31-year funding period. This rate is 3.62% more than the current contribution structure or about an additional $250 million this year. The value of the need will continue to grow by 3% per year (the assumed rate of payroll growth). However, best practices are evolving and 31-year funding periods are no longer considered ideal. Mr. Falls then reviewed the pension funding priorities and guidelines policy the board adopted in May, including the multi-level funding period goals. The first goal is to avoid trust fund depletion. The next step is to reach the state's statutory definition of soundness, a 31-year funding period. The final goal is to reduce the funding period to closer to 20 years, at which point – mathematically – a plan can make significant progress to eliminate the unfunded liability. The ERS fund depletion date of 2096 means that none of the goals are being met.

Responding to a question, Mr. Falls reported that a one-time lump sum payment to the ERS fund, along with a commitment to maintain the current contribution structure, could result in a 31-year funding period and eliminate the unfunded liability. Ms. Terrell stressed the difference between the actuarially sound contribution rate discussed and the normal cost for the plan. With the normal cost currently at 13.86%, contributions more than cover the normal cost of benefits employees are earning today. A discussion of the agency's current Legislative Appropriations Request and budget processes followed. Mr. Falls stated that an increase in appropriations would not immediately alter the funding ratio, but would improve the trajectory of the plan. Based on current contributions levels, the plan is in a downward trajectory with a projected depletion date of 2096.

Mr. Falls reported that the current tread-water level – a level at which the plan is not on a path to depletion – requires annual returns of 7.7% and meeting all other assumptions. That situation would maintain the trust at a 70% funded ratio. However, even in that environment the unfunded liability will continue to grow, even as it remains a stable percentage of the assets. This would make it more difficult over time to return the fund to solvency in the future. GRS provided a sensitivity analysis to show the impact of 100 basis point changes in returns and contributions. For example, a 1% increase in state contributions would reverse the path to depletion and result in a funding period of about 70 years. A 0.7% increase in state contributions would result in a tread-water scenario.

The Board then discussed the constitutional funding provisions and current contribution funding levels with ERS staff and GRS representatives. Executive Director Wilson pointed out the flexibility built into the structure of the constitutional provisions and how they can be interpreted to allow actuarially sound funding of state pension plans, including potentially appropriating more than 10% of payroll. Mr. Wilson also stated that ERS continues to pursue discussions with interested legislative offices on this issue.

GRS then moved on to a discussion of the status of the Law Enforcement and Custodial Supplemental Retirement Fund (LECOSRF) and the Judicial Retirement 2 (JRS2) plans. As of this valuation, LECOSRF is projected to reach depletion in less than 30 years and JRS2 carries a funding period of about 70 years. LECOSRF unfunded liability as of August 31, 2018 is $500 million and JRS2 unfunded liability is $41 million. The strength of the JRS2 plan at this point is a result of the fact that historically the plan has received much closer to a full actuarially sound contribution rate. LECOSRF currently has a funding gap of about 2% of payroll to reach actuarially sound levels, approximately $33 million in additional funding need (increasing at 3% per year). JRS2 is less than 1% underfunded with an annual additional contribution need of about $600,000 (increasing at 3% per year). In terms of the Board's adopted funding guidelines, LECOSRF is not meeting any of the goals and JRS2 is meeting the first goal, but does not achieve statutory soundness levels.

The Board then asked if employee contributions are at the maximum levels. Mr. Falls reported current employee contribution levels for each of the plans: 9.5% for the main fund; plus 0.5% for LECOSRF members; and 7.5% for JRS2. Mr. Wilson responded that there are no maximum defined employee contribution levels; however, when you consider that state employees also contribute 6.2% to Social Security and are opted into the defined contribution plan at a minimum of 1%, employees are contributing a significant portion of their salaries to the various plans, higher than state employees in most other states. Ms. Terrell noted that high contribution levels can have an impact on recruitment and retention for state employees in the current competitive job market.

Mr. Falls then discussed the application of Governmental Accounting Standards Board (GASB) rules on the financial reports for the valuation, specifically GASB 67, 68, and 73. The rules modify the use of discount rates, limiting the use of ERS' 7.5% assumed rate of return in future projections after accrued assets run out. After the point of fund depletion, the assumed rate used in future projections falls to a standard bond rate (currently 3.69% for a 20-year AA municipal bond), assuming borrowing would be required to fund benefits at that point. For GASB reporting, the impact is to increase ERS' current actuarial unfunded liability of $11.6 billion to a GASB reported unfunded liability of $20.2 billion, which must be reported on the state's annual consolidated balance sheet. The GASB calculation can be fully resolved by eliminating the unfunded liability or receiving an actuarially sound contribution. This commitment to improved funding can have a dramatic effect on the state's bottom line balance sheet, something bond rating agencies review when the state has bond issuances.

Mr. Falls reminded the Board that they agreed to revisit the 7.5% rate of return assumption when they adopted the new rate in 2017. The results of that process would be reflected in the next valuation. At the moment, data from around the country show that average assumed rates of return continue to come down, with the average now around 7.23% for funds that have reviewed their rates within the last 24 months. Mr. Newton stressed that plan specifics, such as asset allocations and funding policies, play an important role in setting appropriate return rate assumptions. GRS will also prepare a mini-valuation update, for legislative purposes, in February 2019.

GRS ended their presentation with an update of recent changes to actuarial standards of practice, including an emerging discussion of investment risk defeasance measures. The measure would be added to financial reporting as part of a description of market value liability, however, the discussion is probably two to three years from resulting in meaningful requirements for financial publications. GRS also mentioned trends related to negative amortization and mortality tables. The Board asked a question concerning national trends on declining life expectancy, but Mr. Newton responded that Texas state employee life expectancy continues to increase, although at a slower rate than in the past.

Mr. Hester concluded the presentation by stating his interest, as Board chair, of working with staff to communicate funding needs directly to the legislature.

This agenda item was presented for information and discussion purposes only. There was no further discussion or questions and no action was taken.

4. ETHICS TRAINING

4.1 Discussion and Training Regarding Ethics

Ms. Paula A. Jones, Deputy Executive Director and General Counsel and Dr. Robert Prentice, Department Chair and Professor, University of Texas at Austin, McCombs School of Business presented a training on ethics.

Ms. Jones revisited the ERS policies and noted ERS employees are required to perform their duties in an ethical manner, as required by the personnel policy and procedure manual. She further noted that ERS works very hard to promote an ethical work environment.

Ms. Jones noted that a 2018 survey of employee engagement showed that employees believe that ERS adheres to an ethical work environment. She highlighted that employees at all levels demonstrate high ethical standards and that employees felt that leadership regularly shows that it cares about and concerns itself with ethical issues.

Ms. Jones explained that employees are encouraged to discuss their issues, if they have any, with regard to ethics with their supervisors. Staff can go to Ms. Jones or to human resources to ask any questions or to get any advice they believe they need. She further noted the intranet site which allows employees to report matters anonymously. She noted the reports come directly to her, the Director of Human Resources, and the Director of Internal Audit. She highlighted that all reports are investigated.

Ms. Jones discussed the requirement and rule with regard to Board and IAC members to receive ethics training annually, along with staff.

Dr. Prentice discussed various topics on ethics. He focused on the importance of being self-aware and cognizant of our own biases, and other tips on how to identify and manage ethical situations.

There were no questions or further discussion, and no action was required on this item.

5. EDUCATIONAL PRESENTATION

5.1 Educational Presentation on Benchmarking

Mr. Tom Tull, Chief Investment Officer, Ms. Sharmila Kassam, Deputy Chief Investment Officer, Mr. Steve Voss and Michael McCormick, Aon Hewitt Investment Consulting (AHIC), presented an educational presentation on investment benchmarking.

Mr. Tull highlighted that the presentation would cover the purpose, types, and properties of benchmarks as well as industry trends. He noted that after the presentation staff would discuss a schedule to review and propose any recommendations for revised asset class benchmarks. He further noted that the goal is to complete a review for the Board to receive recommendations on benchmarking this fiscal year that would go into effect in Fiscal Year 2020.

Mr. Voss explained that along with policy targets, benchmarks serve as the backbone for the investment policy statement. He further noted the use of benchmarks in asset liability studies, risk return expectations, and incentive compensation plans. He added that the presentation will revolve around asset class policy benchmarks but not benchmarks for investment managers.

Mr. McCormick explained the properties of appropriate benchmarks using the Chartered Financial Analyst (CFA) Institute's guidance on appropriate benchmarks as a framework. He further explained that benchmarks should be: specified in advance, appropriate, measurable, unambiguous, reflective of current investment opinions, accountable and investable (SAMURAI criteria). The discussion further explained that with private market asset classes these desirable characteristics of benchmarks are not always possible.

Mr. McCormick presented the various types of benchmarks, such as broad market benchmarks like the MSCI ACWI IMI, and style-specific benchmarks like the S&P 500 Value Index, which benchmarks large cap value US equities. He also noted peer universe benchmarks can be helpful in benchmarking private market asset classes.

Mr. McCormick described AHIC's benchmarking principles and noted they believe if a Trust invests in equities the benchmark should be the MSCI ACWI IMI, which the Trust currently uses. He further noted that benchmarking becomes difficult when it comes to private markets and explained the presentation will cover how AHIC suggests approaching that. He then explained they believe the benchmark for each asset class should be the broadest available and the total benchmark should be a weighted average of the underlying pieces. He further noted that changes in benchmark policy should be preceded with a predetermined transition structure.

Mr. McCormick discussed trends in benchmarking and noted more institutional investors are transitioning to the MSCI ACWI. He explained that historically a public benchmark plus a premium was used for private equity and now they are seeing peer benchmarking becoming common. He further explained that peer benchmarks reduce the misalignment in the timing of private and public market returns.

Mr. I. Craig Hester, Chair, asked what the trend in premium is over the global equity index for private equity. Mr. McCormick explained that 10 years ago 300 to 500 basis points (bps) was the trend and now it is maybe 100 to 300 bps. He attributed the change to the reduced opportunity set in private equity due to it being more common.

Mr. McCormick presented a breakdown of alternative investments benchmarking by peers of similar size and explained that the methods consist of peer based, market based, absolute return, and asset based. He noted that three-quarters of infrastructure investors use an absolute return based hurdle as the Trust uses.

Mr. McCormick presented a high level overview of Trust asset class benchmarks against the CFA Institute's benchmark framework and highlighted areas where the policy benchmark is consistent with the framework. He then noted the investable challenges associated with the private equity, private infrastructure, and absolute return portfolio benchmarking.

Mr. Voss added that the benchmark difficulties the Trust experiences are similar to peers.

Mr. McCormick presented asset class benchmark reviews and noted the public equity benchmark is representative of the global opportunity set. He commented that there were no real concerns with any asset class benchmark. He then reviewed the Private Equity benchmark and noted that it is not investable and market-based benchmarking introduces tracking error difficulties. He further noted the private equity benchmark is very common with 53% of the industry using it.

Mr. Voss noted that AHIC has seen more and more institutions going to a peer benchmark since the data, timing and transparency of peer benchmarks are improving.

Mr. Ken Mindell asked if a peer benchmark is appropriate for the Trust. Mr. Voss explained that it is something that will be explored with staff.

Mr. McCormick reviewed benchmarks and noted key points of discussion with staff as additional analysis on benchmarks are conducted.

Ms. Kassam noted staff has been exploring peer universes for the private equity benchmark for some time. She highlighted that the team presented some of the data during the August Board meeting.

Mr. Hille commented that Texas Christian University did a review of private equity benchmarks two years ago and concluded that they should change to a peer universe. He explained that they also reviewed the private market equivalent (PME) and feels like it is also worth considering.

Mr. McCormick then reviewed the Global Credit benchmark of Barclays U.S. High Yield – 2% Index by comparing actual portfolio weights to that of the benchmark. He noted that the combined 19% within private credit and emerging debt within the asset class may be useful to review because it is outside the stated benchmark's opportunity set. He noted that the feedback that he has heard over time indicates the Board wants the staff to use the tools available to them to implement ways to generate alpha. He further explained that staff has done that by allocating to private securities and private assets, which creates a benchmarking mismatch but is very much in line with the implementation under the direction of the Board principally because this mismatch is not intended to be much larger than the current weighting to these non-benchmark assets.

Mr. Voss explained that one of the topics that will be discussed as the benchmarking process continues is how complex individual benchmarks should be. He noted that they do not care for complexity because it can jeopardize the qualities of a good benchmark by making it non-investable. He also noted benchmarks can allow unintended tracking error to creep into the portfolio.

Mr. Mindell commented that it may be easier to adjust the tracking error bands for inefficiency in the benchmark.

Mr. Voss agreed and noted that they like the way the credit portfolio is implemented which gives great flexibility in increasing or decreasing things like private credit or emerging market debt. He further noted the investment team has the guidelines, leeway, and the access to expertise to do that.

Ms. Mari Kooi asked about consistency of benchmarks over time and how to measure performance over time as the benchmark is changed.

Mr. Voss noted that a good way, and the way it is done at the Trust, is to account for changes on a go forward basis. He further noted that there have been changes in Board and Chief Investment Officer (CIO) positions but benchmarks have been preserved historically.

Mr. McCormick noted the Public Real Estate portfolio is very reflective of the underlying exposures. He further noted 99% of Private Real Estate portfolio peers use peer benchmarks. He explained there is further analysis to be done on the 57% non-core exposure and whether a premium over the NCREIF ODCE would be appropriate.

Mr. McCormick reviewed the Private Infrastructure benchmark and reiterated that the benchmark is not investable due to the premium, which also makes it not reflective or accountable. He further explained that there may not be a better alternative at the moment.

Mr. Hille noted that when infrastructure was reviewed for implementation they wanted to make sure that it hit the assumed return of 7.5%. He further asked if investments that are expected to return below that rate would not be considered.

Ms. Kassam noted portfolios are constructed to complement each other without changing what was underwritten in the asset liabilities study for asset allocation.

Mr. McCormick presented the review of Opportunistic Credit and noted bank loans are used as the relative opportunity set. He noted that as the portfolio is built out the potential premium or further enhancement of the benchmark will become clearer.

Ms. Kassam noted the portfolio has not been started and the plan is to come back with a tactical plan at the March 2019 Joint Meeting of the Board and IAC. She further noted Opportunistic Credit is a bit of a different asset class because it will work across asset classes and the pacing of the portfolio will be discussed at the March meeting.

Mr. McCormick reviewed the Rates portfolio benchmark and noted no issues.

Ms. Kassam explained that the goal of the presentation was to provide an overview of best practices and have AHIC discuss what they are seeing in benchmarking trends. She noted that staff is mindful that benchmarks should not change often and time will be used to study what makes the most sense based on the construction of the Trust's portfolios and information in the industry. She detailed the upcoming benchmarking timeline and noted the last benchmark review was conducted in fiscal year 2015.

Ms. Donnell asked if the plan is to have discussions with the investment managers on the Board that have knowledge of benchmarks to make sure there are not any unintended consequences. She further explained that given the scrutiny of the investment compensation plan it is important that it is fair to all parties.

Mr. Tull explained that staff will reach out to the IAC as practitioners to make sure nothing is missed in the process.

Ms. Kassam added that she will be in contact with the general consultant, the IAC members that have the most experience, portfolio heads, and the private asset class consultants.

Ms. Catherine Melvin asked if benchmarks can be audited.

Mr. Kassam explained that benchmarks are presented by the custodian with performance.

Mr. Voss noted that all of the Trust benchmarks are easy to audit because the information can be accessed publicly or gathered from the custodian and recalculated for the time periods in question.

Mr. McCormick added that AHIC is also auditing the data. He explained that the data is gathered from a third-party source and reconciled to the custodian.

There were no questions or further discussion, and no action was required on this item.

6. INVESTMENT PERFORMANCE

6.1 Review of Investment Performance for the Third Calendar Quarter 2018

Ms. Sharmila Kassam, Deputy Chief Investment Officer, Mr. Steve Voss and Mr. Michael McCormick, Aon Hewitt Investment Consulting (AHIC), presented the investment performance for the third quarter of 2018.

Mr. Voss provided an overview of calendar year to date performance. The total fund generated a return net of fees of 4.4%, compared to the benchmark of 3.1%, with a total excess return of 1.3%. He noted that it amounts to $1.2 billion in net investment gains. He further explained that the plan continues to be highly liquid and is in compliance with policy.

Mr. McCormick explained that over the previous five years the Trust has grown from $24.5 billion to $28.9 billion, with $10 billion coming from investment earnings and $5.5 billion in withdrawals.

Mr. Voss highlighted that about $500 million of the investment earnings came from outperforming the benchmark by internal and external managers.

Mr. McCormick noted aside from the three-year period, trailing performance has outperformed the primary benchmark and the long-term public benchmark of stocks and bonds.

Mr. McCormick presented risk and return information on a three and 10-year basis and explained how the Trust has reduced risk and increased returns compared to the benchmark. He further noted that he expects that the Trust can continue to produce a similar return and reduce volatility through diversification.

Mr. McCormick then presented risk taken over the benchmark over a three-year period and noted that 7% of the excess risk was converted into outperformance.

Mr. McCormick discussed long-term investment results and noted the actuarial assumed rate of 7.5% has been achieved over the 10-year period.

Mr. McCormick presented rolling 12-month capital market returns over a 10-year period and noted that the Trust returns have been about median and explained that it was due to the phenomenal performance of the equity markets.

Mr. McCormick discussed peer risk and return information for public pension plans with greater than $10 billion in AUM in response to questions raised by Mr. Doug Danzeiser. He explained that over the three-year period ERS has outperformed peers. He then commented that more illiquid investments will make funds look less volatile and explained that other public funds may have more illiquid investments compared to ERS.

Mr. Danzeiser asked if the Trust has a liquidity target.

Ms. Kassam explained that the Rates book is used as the liquidity buffer as well as looking at the liquidity within each asset class. She further explained that there is not a liquidity target at this time and noted that it is one of the areas being reviewed.

Mr. Voss commented that the asset liability study looks at cash flow characteristics to stress test what would happen in bad market environments with liquidity considerations taken into account. He further commented that they do not recommend that an institutional investor have a threshold or policy for liquidity.

Mr. Hester noted that liquidity limits will put a limit on how much the Trust can invest in illiquid investments.

Ms. Kassam noted there are liquidity reports within the private market asset class quarterly reports provided to the Board and IAC. She discussed the complexity that comes with managing liquidity due to withdrawals such as benefit payments. She further explained that liquidity is viewed internally as having ample room to breathe during drawdowns and that liquidity is managed on a daily and monthly basis.

Mr. Tull highlighted the ability to hold 0.5% to 1% in cash, which is used during challenging markets. He noted that cash from sold equities has been deployed in the Rates portfolio as volatility has risen and is currently at 15% of the Trust.

Mr. McCormick presented the Trust's asset allocation compared to peers and noted that the Trust has slightly less US equities compared to peers with slightly more in fixed income and real estate. He explained that the allocation to equites and fixed income has created a slight hurdle to make up. He noted the overweight to real estate has been beneficial to performance.

Mr. McCormick concluded that the Trust's trailing performance, alpha, and nominal returns have been strong.

There were no questions or further discussion, and no action was required on this item.

7. RISK MANAGEMENT

7.1 Discussion of Risk Management Program

Carlos Chujoy, Risk Officer, and Stuart Williams, Portfolio Manager of Risk Management and Applied Research, lead a discussion on risk management.

Mr. Chujoy noted the three main goals of the Risk Management and Applied Research (RMAR) group are to assist the investment program to measure, manage, and monitor risk. He explained that the team takes a four-prong approach that begins with items in the investment policy statement like asset allocation limits, tracking error limits, and investment type constraints. He explained that the information is used to generate risk analytics that are provided to members of the Risk Committee which meets on a monthly basis. The Risk Committee is invited to bring issues that may be relevant for discussion purposes. Finally, if corrective action is warranted it is then communicated to the respective asset class heads for implementation.

Mr. Chujoy highlighted the five members of the RMAR team and noted the team is led by two senior members. He then discussed the voting members of the Risk Committee and commented that the Risk Committee includes non-voting members that are part of the alternative asset classes.

Mr. Hester asked how much the risk management process is involved in making tactical changes within the portfolio and if it happens on a frequent basis.

Mr. Chujoy explained that a tactical asset allocation model has been used for close to five years to help identify risk on and risk off opportunities and gauge the attractiveness of competing assets. He further noted that the model does not change often but generated a risk-off signal as early as May 2018. He noted that the tactical allocation models allow the team to flag issues believed to be pertinent to bring to the CIO and Deputy CIO's attention.

Mr. Tull noted that the tactical asset allocation model is a great tool that is used along with input from various asset class leaders.

Mr. Mindell asked if the process is systematic or more of a qualitative process.

Mr. Chujoy explained that the TAA process is extremely systematic, structured, and disciplined. He explained that the information is communicated to the Risk Committee and to Mr. Tull and Ms. Kassam. He highlighted that as a result of some of the recommendations, Mr. Tull took some early action in adjusting the return seeking versus risk reducing exposures. The implementation of the TAA signals is at the discretion of the CIO.

Mr. Chujoy presented Trust metrics and noted that as of August 31, 2018 the total Trust assets under management was at $29 billion. He highlighted excess rate to return seeking assets and noted that it helped the Trust deliver strong excess returns over the trailing 12-month period that amounted to 163 basis points. He further explained that total asset volatility stood at a little over 500 bps over the trailing 12-month period.

Mr. Mindell commented that the total fund return was outstanding with a Sharpe ratio of 1.51.

Mr. Chujoy presented a table of the asset classes that drove performance for the Trust. He noted Global Public Equity and the Rates portfolio added to performance. He explained that from an excess return standpoint, Private Equity delivered 480 bps of excess returns over the trailing 12-month period. He also noted External Credit and Private Real Estate returned 700 bps and 343 bps over their benchmarks, respectively. He added that total cash returned a little over 120 bps that was the result of currency hedging from cash distributions from private equity.

Mr. Chujoy presented a chart of cumulative returns and drawdowns for the Trust over a four-year period. He explained that during times of heightened volatility the Trust experienced lower drawdowns compared to the benchmark.

Mr. Chujoy presented an excess return chart and noted that the Trust has been able to generate excess returns during drawdown periods and also during non-drawdown periods. He then discussed asset class active risk measured by tracking error and noted that it is closely monitored by the RMAR team.

Mr. Chujoy discussed areas across asset classes that are monitored by the RMAR team. He explained that as they look at asset allocation they are looking at how the Trust is positioned versus the policy benchmark and if the stance being taken is beneficial to the plan. He further explained that the same review is done for active risk and left-tail risk. He highlighted that the RMAR team has spent the last year examining sector exposures.

Mr. Williams spoke about economic conditions and risk. He discussed the classic business cycle and explained the four stages within the cycle, highlighting characteristics that define each stage. He then applied the business cycle to the United States (US) economy and noted the US appears to be more middle-stage than late-stage. He highlighted gross domestic product growth (GDP) and expectations of slower forecasted growth. He noted the quick credit growth in commercial lending and discussed tightening credit standards in areas of consumer credit.

Mr. Williams discussed US GDP and noted growth generally begins to slow the preceding 12 months before a recession. He further noted that GDP growth usually fluctuates between -2.0% and 6.0% due to factors such as government policies, inflation, and trade.

Mr. Williams discussed the previous six bull markets and noted that the current bull market is currently the longest in history. He then explained that bull markets do not die of old age but die from policy mistakes or an unforeseen event.

Mr. Williams reviewed potential market risks such as strong wage growth, trade conflict, a flattening yield curve, and corporate leverage. He explained that equity valuations are at historically high levels and have the potential of reverting to normal levels. He further explained the $1 trillion waiting for private equity investments that is increasing valuations and depressing future returns. He noted risks are rising and there is a growing possibility of a future recession.

Ms. Cydney Donnell commented that the credit market generally leads the economy into recessions.

Mr. Mindell asked what indicator is looked at to forecast recessions. Mr. Williams explained that all the indicators discussed are stresses that are building up in the economy. He further explained the difficulty in predicting what will ultimately cause a recession.

Mr. Mindell asked about the potential of the yield curve inverting. Mr. Williams noted the spread between the three-month and 10-year rate is what the Fed monitors for inversions and noted there is still a 50 to 75 bps spread between the two.

Mr. Tull explained that the team is constantly taking the temperature of corporate America by monitoring interest coverage and how much debt is being held on corporate balance sheets. He noted that currently credit is not problematic. He further explained that factors that were right in predicting the last cycle may be wrong this cycle, so the key is to watch as many factors as possible and draw conclusions.

Mr. Williams discussed asset class performance in recessionary and non-recessionary periods. He noted the max loss for public equity ranged between -20% and -40%. He further noted that real estate performs similarly to public equity, but real estate suffered a 50% loss during the great financial crisis. He noted credit performance resembles public equity and treasuries perform well during recessions. He explained that hedge funds have a tight range of returns and have generally become a less risky asset class today.

Ms. Caroline Cooley, IAC Chair, asked if the current portfolio is stress tested compared to the Trust's pre-financial crisis portfolio. Mr. Chujoy commented that portfolio stress tests are created for the Risk Committee and the CIO and are also conducted on the components of the portfolio to provide a factor stress analysis. He noted the analysis revealed the equity component of the Trust was the major driver of risk.

Mr. Chujoy discussed economic and market conditions by presenting a heat map that showed whether economic indicators are improving or deteriorating. He noted that during recessions the map shows more stress not only on the market but the economy as a whole. He further noted that dashboards like this help to assess risk better. He explained that at the end of July, valuations were high but the probability of an impending recession was very low. Mr. Chujoy explained that markets are concerned with wage inflation and that it may portend a looming recession.

Mr. Chujoy presented historical correlation and reminded the group that earlier in the presentation it was noted that equities drive a lot of the risk and return. He explained that during the recent market turmoil the Rates portfolio's negative correlation hedged the equity risk. He then discussed equity/bond correlations and noted the negative correlations have helped reduce overall portfolio risk. He also noted the equity/bond correlations have become less and less correlated, meaning the diversification benefit is declining.

Mr. Chujoy explained the three lines of defense used to help reduce portfolio risk. The first line of defense is at the plan level, where the risk/reward of the plan can be managed by balancing the allocation between the return seeking and risk reducing asset classes. The second line of defense resides at the asset class level, where overlays or changing the composition of the asset mix can refine the return/risk profile. Finally, the third line of defense is managing exposures at the portfolio or strategy level.

Mr. Chujoy presented an equity/bond correlation plot over the past five decades versus the 10-year bond yield and noted the most recent plot still shows a negative correlation, indicating there is still a diversification benefit. He explained that when yields are low the Trust can benefit from diversification, but when yields are north of 6%, the equity bond correlation becomes positive. He further explained that high interest rates are depicted by high inflationary periods that become a negative to financial assets, and that is why correlations become positive. He noted people believe the correlation break-even point is at about 5%, but could be as low as 4%, once the Fed's reduction of the balance sheet is factored in.

Mr. Chujoy noted the upcoming fiscal year initiatives are to adopt a principles-based investment policy, continue refinement of risk dashboards with executive risk reporting to the Board and IAC, and identify downside protection strategies.

Mr. McCormick noted discussions with the Risk Committee about investment risk and presented a dashboard of potential investment risks and provided an overview of external, strategic, and governmental risks. He noted that this data is currently being captured by the Trust.

Mr. McCormick discussed active risk and noted a third of the active risk comes from the Directional Growth Portfolio which gives the Trust a tool to assess where active risk is being sourced.

Ms. Donnell noted that computers do most of the trading now and asked what that implies for the future as opposed to historical returns. She also asked how the decline of public companies is being looked at in terms of what it means for an entity that has to stay active. Mr. McCormick explained that they look at the holdings relative to the benchmark to try to project forward active risk and by looking at historic returns to see that perspective. He noted that the low levels of active risk compared to the benchmark make it difficult to see meaningful volatility.

Further discussions regarding risk will be presented to the Board and IAC in this fiscal year with new risk reporting. There were no questions or further discussion, and no action was required on this item.

8. INVESTMENT POLICY

8.1 Review of ERS' Investment Policy Draft

Mr. Tom Tull, Chief Investment Officer, Ms. Sharmila Kassam, Deputy Chief Investment Officer, Mr. Steve Voss and Michael McCormick, Aon Hewitt Investment Consulting (AHIC), presented an update on ERS' investment policy draft.

Mr. Tull noted that the updated investment policy draft includes ERS' investment beliefs, a clearer communication of delegation of authority, more succinct asset class descriptions and guidelines, and a risk philosophy and a refined risk management section.

Mr. Tull highlighted that the new investment policy has been reduced to approximately 60 pages from 200 pages in the current policy. He explained the next step in this process is to have the Board and the IAC conduct a final review. He then noted that the draft will be brought as an action item at the March 2019 Joint Meeting of the Board and IAC.

Ms. Kassam highlighted some of the new features of the proposed Investment Policy draft. She explained the two goals of the investment beliefs are to better communicate with external stakeholders and show what ERS thinks is important to the investment program. She added that it is important that these investment beliefs are ones on which the Board, IAC and staff have consensus. She presented tables that clearly illustrated exactly what Board, IAC and staff do in regard to managing aspects of the Trust that are very easy to understand.

Ms. Kassam discussed the change in asset class descriptions and noted that language appearing in multiple sections has been reduced to be a very concise statement on the roles of an asset class. She explained that it would include items such as key metrics and benchmarking, which will be easy for anyone to pick up and review.

Ms. Kassam explained that most of the elements of the asset class guidelines and procedures have been incorporated into the main body of the policy. She noted the risk parameters have been kept to maintain information that is very unique to each asset class and will be incorporated within a tactical plan that is approved by the Board and IAC.

Ms. Kassam noted the risk philosophy section was created similarly to the investment beliefs so that anyone may understand how risk is managed for the Trust. She further noted additional sections within the new investment policy where liquidity, stress testing and risk management are discussed.

She added that the plan is to seek more feedback from the Board and IAC on the policy and to spend time looking at how information is reported back to the Board. She stressed that all reporting to the Board and IAC should be timely, relevant and understandable.

Mr. Tull noted that the policy will be a living document and changes will continue to be incorporated within the document going forward. He added that the document is consistent with best practices and can easily be used by stakeholders. He also welcomed input from the Board and IAC as the process continues.

Ms. Caroline Cooley, IAC Chair, noted that wide tracking error bands at the asset class level allow more risk to be taken at the Trust level. She then asked if tracking error guidelines at the plan level should be considered and if other plans do that.

Mr. Voss explained that some plans do monitor at the plan level but the information may not be illustrative of the type of relative risks at the Trust level. He further explained that the big limitation is how to go about monitoring risk with private assets.

Ms. Kassam noted that she has been working with the Risk Management team on ways to look at the tracking error bands to see how risk can be managed at the plan level. This review will continue and will include feedback from the consultant.

Mr. Ken Mindell asked if tracking error is the best measure of risk. Mr. McCormick noted that through discussions with the Risk Management team and AHIC staff they determined that tracking error and total risk were the two fundamental measurements of risk. He added that there could be additional measurements but they have not been identified.

Ms. Kassam noted that other risk measurements have been discussed but they all have limitations. She added that different risk measurements are still part of discussion and staff will reach out to the Board and IAC when more information is available.

There were no questions or further discussion, and no action was required on this item.

9. INVESTMENTS GENERAL CONSULTANT SERVICES

9.1 Contract Award Recommendation for Investments General Consulting Services – (Action)

Mr. Tom Tull Chief Investment Officer, Ms. Sharmila Kassam, Deputy Chief Investment Officer, and Ms. Gabrielle Schreiber, Director of Procurement and Contract Oversight presented an award recommendation on general investment consulting services.

Mr. Tull provided a background on the investments general consulting relationship and explained that ERS contracted with Aon Hewitt Investment Consulting, Inc. (AHIC) beginning March 9, 2009.

Mr. Tull explained that on July 6, 2018 ERS issued a Request for Proposal (RFP) for a contract term of six years which include services such as asset allocation, asset liability modeling, review and evaluation of the Trust' portfolio, and investment policy review.

Ms. Schreiber explained that 32 companies requested access to the RFP and six responses were received by the August 10, 2018 due date. She discussed the preliminary review phase which evaluated the responses for responsiveness, compliance with RFP and vender performance checks through the state Comptroller.

Ms. Schreiber discussed the minimum requirements of the RFP and noted all six respondents advanced to the next phase. She explained that firm and staff qualifications, methodology and soundness of approach, and price were the main categories scored in the proposal review phase.

Ms. Schreiber highlighted that the finalists were AHIC, NEPC LLC, and Verus Advisory Inc.

Ms. Kassam noted all firms met minimum requirements and had sound approaches. She noted that the finalists had the most resources that were relevant to the ERS investment program and had depth in those areas with customized approaches.

Ms. Schreiber noted the finalist review phase included face-to-face interviews and was weighted 25% on price proposals and 75% on qualifications and services.

Ms. Catherine Melvin asked if the finalist review phase starts over or builds on the previous phase. Ms. Schreiber explained that in this solicitation the decision was made to start the process over.

She further explained that decision varies by solicitation based on areas that will not be considered in the next phase, which is common in larger solicitations. She noted that in this solicitation the evaluators wanted a fresh look at the firms.

Ms. Kassam noted the difficulty of the decision and further noted all of the firms provided robust resources. She explained that the evaluation team considered the next steps for the Trust in terms of asset allocation, risk modeling, and strategies the Trust has yet pursued, and which firm could be the best choice given that assessment. Based on the evaluation team scoring criteria, the staff recommends the contract award go to NEPC for a six year term beginning on or after January 1, 2019.

She reaffirmed her appreciation for the services of AHIC to the Trust, and the long term working relationship ERS has had with the firm.

Mr. Hester commented that staff has more interaction with the consultant than the Board and noted that from his experience AHIC has been very responsive. He also commented that they have been good about answering questions and adding data.

Ms. Jeanie Wyatt noted that NEPC is an excellent firm and noted that she agrees with the recommendation. She explained that given the experience of the IAC she believes they could have been used as subject matter experts. Ms. Wyatt commented that a strong argument for a new consultant is bringing a new perspective.

Mr. I. Craig Hester, Chair, opened the floor for a motion on the approval of the recommended investments general consultant.

The Board of Trustees then took the following action:

> **MOTION** made by Ms. Jeanie Wyatt, seconded by Ms. Cydney Donnell, and opposed by one member that the Board of Trustees approve NEPC to act as the general investment services consultant for ERS pursuant to a contract which will cover a six year term beginning January 1, 2019.

Mr. Hester thanked all the respondents and thanked Mr. Michael McCormick and Mr. Steve Voss, AHIC for their help at meetings and the value they have contributed.

10. INFRASTRUCTURE CONSULTING SERVICES

10.1 Contract Award Recommendation for Infrastructure Consulting Services – (Action)

Mr. Tom Tull, Chief Investment Officer, Mr. Pablo de la Sierra, Director of Private Infrastructure, and Ms. Gabrielle Schreiber, Director of Procurement and Contract Oversight, presented an award recommendation on infrastructure consulting services.

Mr. Tull provided background on the infrastructure consulting relationship and explained that ERS contracted with Pavilion Alternatives Group, previously Altius Associates Ltd., as ERS' private equity consultant for three years beginning August 8, 2007. He noted that after amendments and extensions the contract is set to end August 31, 2020. He further noted that effective August 1, 2013 the contract was amended to include infrastructure related services.

Mr. Tull explained that on March 19, 2018 ERS issued a Request for Qualifications (RFQ) for a contract term of six years which included the analysis and assessment of funds, co-investments, monitoring portfolio performance, assisting and advising the Board, IAC and staff, reviewing ERS' policies and procedures and recommending benchmark changes as necessary.

Ms. Schreiber explained that 33 companies requested access to the RFQ and eight responses were received by the April 19, 2018 due date. She further explained that an RFQ was used instead of an RFP because pricing is a not a scored criteria in an RFQ. She further explained that statute requires

RFQs for architectural and engineering services and since the infrastructure consultant may procure those services, an RFQ was chosen.

Ms. Schreiber discussed the minimum requirements of the RFQ and noted one of the eight respondents failed to meet the requirements and did not move to the next phase. She noted firm and staff qualifications, and methodology and soundness of approach were the main categories scored.

Ms. Schreiber highlighted that the finalists were CBRE Caledon, Pavilion Alternatives Group, and StepStone Group Real Assets LP.

Mr. De la Sierra explained that staff looked for a consultant that could address the main needs of the portfolio program with direct investment experience. He noted that all of the finalists were qualified. He further noted that staff looked for a firm with a global footprint and a number of resources around the world.

Mr. Bob Alley asked if any firm had more of an emerging market presence than the others. Mr. De la Sierra explained that they all had the ability, experience, and presence in some emerging market countries, but direct investment ability was superior to that.

Mr. Mindell asked if the consultant will provide sourcing or just evaluation of deals. Mr. De la Sierra explained that he hopes the consultant can bring sourcing, but the reality is that the Infrastructure team will be sourcing their deals.

Mr. De la Sierra explained that the finalists were very qualified, but CBRE Caledon had a bit more experience in direct investments, 20 offices around the world, and experience working with pensions.

Ms. Schreiber explained that after the choice was made the recommendation was presented to the Executive Office who then gave them the ability to negotiate fair and reasonable pricing. She noted the Executive Office decided that CBRE provided fair and reasonable pricing so that is the recommendation brought to the Board.

Ms. Donnell asked how long this group has been with CBRE. Mr. De la Sierra explained that CBRE acquired Caledon Capital two or three years ago and noted they are a longstanding infrastructure consultant.

Mr. Hester opened the floor for a motion on the approval of the proposed infrastructure consultant.

The Board of Trustees then took the following action:

> **MOTION** made by Ms. Cydney Donnell, seconded by Ms. Jeanie Wyatt, and carried unanimously by the members present that the Board of Trustees approve CBRE Caledon to act as the infrastructure services consultant for ERS pursuant to a contract which will cover a six year term beginning upon execution of the contract by ERS.

There were no questions or further discussion, and no action was required on this item.

11. EMERGING MANAGER PROGRAM

11.1 Emerging Manager Market Update and Program Overview

Ms. Sharmila Kassam, Deputy Chief Investment Officer, and Mr. Panayiotis Lambropoulos, Portfolio Manager – Hedge Funds, presented an update on the emerging manager program.

Ms. Kassam noted that statute defines emerging managers as firms that are smaller than $2 billion in AUM. She further noted that the Emerging Manager Program gives the Trust the ability to generate a diversified alpha stream.

Ms. Kassam noted that two-thirds of the Trust is managed internally, which limits the amount of external assets that can be managed. She then noted the emerging manager target is 10% of the Trust's externally managed assets.

Ms. Kassam discussed the calendar year 2019 initiatives for the Emerging Manager Program. She noted the continued work on the ERS and Pacific Alternative Asset Management Company, LLC (PAAMCO) Launchpad initiative, upcoming 2019 ERS & TRS Emerging Manager Conference, exploration of direct relationship with emerging managers, and Private Equity Emerging Manager Program launch.

Ms. Kassam presented the emerging manager program performance for Private Real Estate, Private Equity, and Global Public Equity. She noted that performance ranges from 250 to 300 bps over established managers and explained that part of the outperformance was manager selection and opportunities that can be explored with smaller segments of the market. She highlighted that the performance benefits will always be the ultimate goal of the Emerging Manager Program.

Mr. Lambropoulos provided an updated overview of the ERS PAAMCO Launchpad that seeks to provide a co-investment platform for seeding and supporting emerging hedge fund managers. He explained the goal is to create a farm system within the Trust to invest in tomorrow's hedge fund strong performers. He noted that staff is not looking to build a fund of fund but to invest in standalone opportunities. He further noted that over 200 managers from around the world applied to present at the New York inaugural forum. He highlighted that 35 were ultimately invited to present and these managers will be reviewed further in 2019.

Ms. Kassam noted that the event included discussions and innovative ideas with managers that have very good track records and processes.

Mr. Lambropoulos noted interest by other pension plans. He further noted that an event will be held in the future with other allocators to explain the venture and why it is a unique opportunity.

Mr. Kassam added that the concept of including other investors is to create an ecosystem where other investors may be interested in the manager pool as well as an opportunity to learn about new managers.

Mr. Gene Needles asked if there is a range of capital that will be committed to any one manager. Mr. Lambropoulos explained that each dollar committed by ERS will be matched by PAAMCO and each manager will receive $100 to $150 million.

Ms. Mari Kooi noted that she seeded managers in the past and that it is a big commitment. She explained that it will take quite a bit of staffing and noted that it can be successful if the focus is on managers with domain expertise too small for others to pursue.

Mr. Lambropoulos explained that part of the reason for the partnership was to expand bandwidth by leveraging PAAMCO's resources. He noted that staff can call their equivalent at PAAMCO to get in touch with their industry experts. He further noted that he has communicated with colleagues in London and Asia.

Ms. Kassam noted that Andrew Gitlin who is involved with the PAAMCO Launchpad has been seeding managers for decades and is a big part of the joint venture, which is independent of PAAMCO. She further noted the economics built into the joint venture are aligned and explained that it is unique to have the manager invest alongside the investor.

There were no questions or further discussion, and no action was required on this item.

12. CHIEF INVESTMENT OFFICER'S REPORT

12.1 Chief Investment Officer's Report

Mr. Tom Tull, Chief Investment Officer, presented the Chief Investment Officer's Report.

Mr. Tull thanked the IAC for their expertise on the individual asset classes and additional help with Asset Class Investment Committee meetings. He also highlighted the heavy deal flow over the past year. He also thanked the Office of General Counsel for their legal work and ability to get deals completed in a timely manner. He further thanked Investment Compliance for helping with time-sensitive issues.

Mr. Tull discussed the challenging investment environment facing Fiscal Year 2019 such as increased market volatility, higher interest rates, inflationary pressures, and geopolitical issues. He further discussed reducing risk in portfolios when appropriate.

Mr. Tull highlighted the plan to introduce a tactical plan for the Opportunistic Credit portfolio at the March Board meeting, continued work in the Infrastructure space, and work on the Hedge Fund seeding platform.

Mr. Tull introduced a video highlighting the management of the Trust and noted that there are eight videos that cover the purpose of diversification and each asset class. The videos were part of Ms. Kassam's initiative in conjunction with Kathryn Tesar, Director of Benefits Communications, and her team to explain the investment program to retirees, employees and other external stakeholders who may not always have investment expertise. The project took several months with a collaborative effort among Investments, Benefits Communications, the Project Management Office and the Executive Office.

There were no questions or further discussion, and no action was required on this item.

13. ADJOURNMENT

13.1 Adjournment of the Joint Meeting of the Board of Trustees and Investment Advisory Committee

There were no questions or further discussion, and no action was required on this item.