LACERS
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Board of Administration Agenda

REGULAR MEETING

TUESDAY, JUNE 23, 2020

TIME: 10:00 A.M.

MEETING LOCATION:

In conformity with the Governor's Executive Order N-29-20 (March 17, 2020) and due to the concerns over COVID-19, the LACERS Board of Administration's June 23, 2020, meeting will be conducted via telephone and/or videoconferencing.

Important Message to the Public

Information to call-in to participate:
Dial: (669) 900-6833 or (346) 248-7799
Meeting ID# 986 5860 1125

Instructions for call-in participants:

1- Dial in and enter Meeting ID
2- Automatically enter virtual "Waiting Room"
3- Automatically enter Meeting
4- During Public Comment, **press *9** to raise hand
5- Staff will call out the last 3-digits of your phone number to make your comment

Information to listen only: Live Board Meetings can be heard at: (213) 621-CITY (Metro), (818) 904-9450 (Valley), (310) 471-CITY (Westside), and (310) 547-CITY (San Pedro Area).

Disclaimer to participants
Please be advised that all LACERS Board and Committee Meeting proceedings are audio recorded.

Notice to Paid Representatives
If you are compensated to monitor, attend, or speak at this meeting, City law may require you to register as a lobbyist and report your activity. See Los Angeles Municipal Code §§ 48.01 *et seq*. More information is available at ethics.lacity.org/lobbying. For assistance, please contact the Ethics Commission at (213) 978-1960 or ethics.commission@lacity.org.

Request for services
As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

Sign Language Interpreters, Communication Access Real-Time Transcription, Assistive Listening Devices, Telecommunication Relay Services (TRS), or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the meeting you wish to attend. Due to difficulties in securing Sign Language Interpreters, five or more business days' notice is strongly recommended. For additional information, please contact: Board of Administration Office at ***(213) 855-9348*** and/or email at ***ani.ghoukassian@lacers.org***.

CLICK HERE TO ACCESS BOARD REPORTS

I. PUBLIC COMMENTS AND GENERAL PUBLIC COMMENTS ON MATTERS WITHIN THE BOARD'S JURISDICTION AND COMMENTS ON ANY SPECIFIC MATTERS ON THE AGENDA – *THIS WILL BE THE ONLY OPPORTUNITY FOR PUBLIC COMMENT* - **PRESS *9 TO RAISE HAND DURING PUBLIC COMMENT PERIOD**

II. APPROVAL OF MINUTES FOR REGULAR BOARD MEETING OF JUNE 9, 2020 AND POSSIBLE BOARD ACTION

III. BOARD PRESIDENT VERBAL REPORT

IV. GENERAL MANAGER VERBAL REPORT

   A. REPORT ON DEPARTMENT OPERATIONS

   B. UPCOMING AGENDA ITEMS

V. RECEIVE AND FILE ITEMS

   A. MONTHLY REPORT ON SEMINARS AND CONFERENCES FOR MAY 2020

VI. COMMITTEE REPORT(S)

   A. INVESTMENT COMMITTEE VERBAL REPORT ON THE REGULAR MEETING OF JUNE 9, 2020

VII. DISABILITY RETIREMENT APPLICATION(S)

   A. CONSIDER THE DISABILITY RETIREMENT APPLICATION OF RAYMOND GALOOSTIAN AND POSSIBLE BOARD ACTION (HEARING)

VIII. BOARD/DEPARTMENT ADMINISTRATION

   A. CONSIDERATION OF PROPOSED ASSUMPTION CHANGES BASED ON ACTUARIAL EXPERIENCE STUDY AND POSSIBLE BOARD ACTION

   B. PROPOSED LIST OF PRE-APPROVED BOARD EDUCATIONAL SEMINARS FOR FISCAL YEAR 2020-21 AND POSSIBLE BOARD ACTION

   C. EMERGENCY PURCHASES AND EXPENDITURES REPORT FOR COVID-19 AND POSSIBLE BOARD ACTION

   D. CONTRACT AWARD TO MOSS ADAMS FOR EXTERNAL AUDITING SERVICES AND POSSIBLE BOARD ACTION

IX. INVESTMENTS

   A. CHIEF INVESTMENT OFFICER VERBAL REPORT

B. INVESTMENT MANAGER CONTRACT WITH BARROW, HANLEY, MEWHINNEY & STRAUSS, LLC REGARDING THE MANAGEMENT OF AN ACTIVE NON-U.S. EQUITIES DEVELOPED MARKETS VALUE PORTFOLIO AND POSSIBLE BOARD ACTION

C. REAL ESTATE FISCAL YEAR 2020-21 STRATEGIC PLAN AND POSSIBLE BOARD ACTION

X. LEGAL/LITIGATION

A. APPROVAL OF CONTRACTS WITH KUTAK ROCK LLP, NOSSAMAN LLP, AND OLSON REMCHO LLP, FOR OUTSIDE FIDUCIARY COUNSEL SERVICES, AND POSSIBLE BOARD ACTION

XI. OTHER BUSINESS

XII. NEXT MEETING: The next Regular meeting of the Board is scheduled for Tuesday, July 14, 2020 at 10:00 a.m. in the LACERS Ken Spiker Boardroom, 202 West First Street, Suite 500, Los Angeles, CA 90012-4401 and/or via telephone and/or videoconferencing. Please continue to view the LACERS website for updated information on public access to Board meetings while public health concerns relating to the novel coronavirus continue.

XIII. ADJOURNMENT

MINUTES OF THE REGULAR MEETING
BOARD OF ADMINISTRATION
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

In conformity with the Governor's Executive Order N-29-20 (March 17, 2020)
and due to the concerns over COVID-19, the
LACERS Board of Administration's
June 9, 2020, meeting was conducted
via telephone and/or videoconferencing.

Agenda of: **June 23, 2020**

Item No: **II**

June 9, 2020

10:07 a.m.

PRESENT via Zoom Meeting:	President:	Cynthia M. Ruiz
	Vice President:	Michael R. Wilkinson
	Commissioners:	Annie Chao Elizabeth Lee Sandra Lee Nilza R. Serrano Sung Won Sohn
	Manager-Secretary:	Neil M. Guglielmo
	Legal Counselor:	Anya Freedman
PRESENT at LACERS offices:	Executive Assistant:	Ani Ghoukassian

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The Items in the Minutes are numbered to correspond with the Agenda.

I

PUBLIC COMMENTS AND GENERAL PUBLIC COMMENTS ON MATTERS WITHIN THE BOARD'S JURISDICTION AND COMMENTS ON ANY SPECIFIC MATTERS ON THE AGENDA – *THIS WILL BE THE ONLY OPPORTUNITY FOR PUBLIC COMMENT* - **PRESS *9 TO RAISE HAND DURING PUBLIC COMMENT PERIOD** – President Ruiz asked if any persons wished to speak on matters within the Board's jurisdiction, to which there was no response.

II

APPROVAL OF MINUTES FOR REGULAR BOARD MEETING OF MAY 26, 2020 AND POSSIBLE BOARD ACTION – Commissioner Serrano moved approval of the minutes for the Regular Meeting of May 26, 2020, seconded by Commissioner Chao, and adopted by the following vote: Ayes, Commissioners Chao, Elizabeth Lee, Sandra Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz -7; Nays, None.

III

BOARD PRESIDENT VERBAL REPORT – President Ruiz thanked staff and Commissioners for participation and hard work on continuing virtual Board Meetings.

IV

GENERAL MANAGER VERBAL REPORT

A. REPORT ON DEPARTMENT OPERATIONS – Neil M. Guglielmo, General Manager, advised the Board on the following items:

- Protests – Impact to staff and operations
- All Staff Safety Committee Meeting - Addressing staff and questions about going forward with phasing back into office
- NAPPA Presentation on setting Actuarial Assumptions
- Retirement Benefit Retro Calculations
- Retiree Health Insurance 2021 Renewals
- Financial Resilience Zoom Workshops
- LAWA Separation Incentive Program (SIP) Update

B. UPCOMING AGENDA ITEMS – Neil M. Guglielmo, General Manager, advised the Board on the following upcoming agenda items:

- Experience Study on June 23rd for Board consideration

V

RECEIVE AND FILE ITEMS

A. MARKETING CESSATION REPORT NOTIFICATION TO THE BOARD – This report was received by the Board and filed.

B. BENEFITS PAYMENTS APPROVED BY GENERAL MANAGER – This report was received by the Board and filed.

C. EDUCATION AND TRAVEL EXPENDITURE REPORT FOR THE QUARTER ENDING MARCH 31, 2020 – This report was received by the Board and filed.

VI

COMMITTEE REPORT(S)

A. GOVERNANCE COMMITTEE VERBAL REPORT ON THE REGULAR MEETING OF MAY 26, 2020 – Commissioner Serrano stated the Committee was presented with the proposed LACERS City Attorney Conflict of Interest Policy and the Board procedures on Officer Elections.

B. BENEFITS ADMINISTRATION COMMITTEE VERBAL REPORT ON THE REGULAR MEETING OF JUNE 9, 2020 – Commissioner Wilkinson stated the Committee was presented with the 2021 Health Plan Contract renewal update and the Health Plan Financial and Health Management Dashboards.

VII

BOARD/DEPARTMENT ADMINISTRATION

A. PROPOSED LACERS CITY ATTORNEY CONFLICT OF INTEREST POLICY AND POSSIBLE BOARD ACTION – Edeliza Fang, Senior Management Analyst II with Administration Division, presented this item to the Board highlighting the discussion points brought up at the Governance Committee. Commissioner Serrano moved approval, seconded by Vice President Wilkinson, and adopted by the following vote: Ayes, Commissioners Chao, Elizabeth Lee, Sandra Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz -7; Nays, None.

B. CAPITAL, OPERATING, AND ADMINISTRATIVE BUDGETS RELATING TO PROPERTY AT 977 NORTH BROADWAY AND POSSIBLE BOARD ACTION – This item was presented by Horacio Arroyo, Senior Management I, Isaias Cantu, Senior Management Analyst II with Administration Division, Kristina Lewison, Director-Asset Management with Invesco US, Neil M. Guglielmo, General Manager, Todd Bouey, Assistant General Manager, and Rod June, Chief Investment Officer. A robust one-hour discussion occurred examining the soft vs hard costs with recommendation from Commissioners Elizabeth Lee and Chao to reach out to other City departments for comparison to other Capitol Improvement Project budgets. Staff was directed by the Board to report back on the status on a quarterly basis. Commissioner Elizabeth Lee moved approval of the following Resolution:

977 NORTH BROADWAY
APPROVAL OF THE CAPITAL, OPERATING, AND ADMINISTRATIVE BUDGETS TOTALING $22,519,976 FOR FISCAL YEAR 2020-21 (FY21) EXPENSES
AND
DELEGATION OF AUTHORITY TO THE GENERAL MANAGER TO APPROVE FUNDING REQUESTS AND DOCUMENTS RELATED TO THE IMPLEMENTATION OF THE FY21 BUILDING ANNUAL PLAN

RESOLUTION 200609-A

Whereas, on October 23, 2019, LACERS closed escrow on a purchase of an office building at 977 North Broadway ("Broadway Building"), Los Angeles California; the property is a real estate asset held in a separate account in the LACERS Trust Fund, and the LACERS Board of Administration has sole and exclusive plenary authority over the assets of the trust fund, including engaging an Asset Advisor to develop an Asset Annual Plan and Budget; to manage the asset; and select, engage, and oversee third-party service providers to execute the Plan; and to report to the Board, as necessary;

Whereas, Invesco Advisers, Inc. ("Invesco") began performing Asset Services on October 31, 2019 and obtained Board approval on March 10, 2020 for Capital Projects and Expenses, Operating Expenses and Administrative Expenses for the partial year from October 2019 through June 2020;

Whereas, property expenditures for capital expenses, operating expenses, and administrative expenses have been prepared by Invesco in collaboration with LACERS staff, for the period of July 1, 2020 to June 30, 2021; and such expenditure are reasonable and consistent with LACERS' objectives for the management of the asset;

Whereas, the Capital and Operating Budgets for the Broadway Building will be funded by the LACERS Trust Fund to the external bank account in LACERS' name, administered by Invesco; while funding for the Building Administrative Budget will come from our Department Administrative Budget;

NOW, THEREFORE, BE IT RESOLVED, that the Board:

1. Approve the Capital Expense Budget of $17,086,432, and Operating Budget of $1,478,793 for the implementation of the Broadway Building Annual Plan.
2. Authorize the General Manager to approve funding requests for the Capital and Operating Budgets; to approve transactions and execute documents as necessary to implement the Broadway Building Annual Plan; and to correct typographical or technical errors in the Budget.
3. Approve a Supplemental Appropriation of $3,954,752 to Fund 800, LACERS Administrative Budget, as follows:

FISCAL YEAR 2020-21 – SUPPLEMENTAL BUDGET APPROPRIATION FOR THE HEADQUARTERS BUILDING MOVE

LACERS FUND 800

		Supplemental Budget Appropriation 2020-21
SALARIES		
As Needed	$	19,980
Overtime		18,238
Total Salaries	$	38,218
EXPENSE		
Printing and Binding	$	8,000
Contracts		912,688
Office and Administrative.		33,541
Total Expense	$	954,229
EQUIPMENT		
Furniture, Office and Technical Equipment	$	2,962,305
Total Equipment	$	2,962,305
Total Administrative Expense	**$**	**3,954,752**

Which motion was seconded by Commissioner Serrano, and adopted by the following vote: Ayes, Commissioners Chao, Elizabeth Lee, Sandra Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz -7; Nays, None.

C. BOARD PROCEDURES ON OFFICER ELECTIONS AND POSSIBLE BOARD ACTION – Dale Wong Nguyen, Chief Benefits Analyst with Administration Division presented this item to the Board. Commissioner Serrano moved approval, seconded by Commissioner Elizabeth Lee, and adopted by the following vote: Ayes, Commissioners Chao, Elizabeth Lee, Sandra Lee, Serrano, Sohn, Vice President Wilkinson, and President Ruiz -7; Nays, None.

D. TRANSMITTAL TO THE BOARD OF THE COMMISSION ON REVENUE GENERATION FINAL REPORT TO CITY COUNCIL – Todd Bouey, Assistant General Manager, discussed the findings and Transmittal to the Board for 15-minutes. This report was received by the Board and filed.

President Ruiz re-opened public comment at 11:55 a.m., and asked if any persons wished to speak on matters within the Board's jurisdiction, to which there was no response.

VIII

A. CHIEF INVESTMENT OFFICER VERBAL REPORT

- Total Fund Valuation was $18.01 billion at close of business June 8, 2020; was at $15.1 billion 77 days ago and $18.03 billion on October 7, 2019
- Unaudited fiscal year to date return is 3.0%
- Expect continued volatility in the markets despite the positive performance over the past several weeks
- Asset allocation discussion begins at the end of this year with Board education and continues with the Asset Allocation exercise in early 2021
- Presented the investment manager search report
- Notes on vandalism to several real estate properties but tenant insurance should cover losses
- Barrow Hanley, non-U.S. Developed Markets Value Equities manager was removed from watch this month

B. PRIVATE REAL ESTATE PORTFOLIO PERFORMANCE REVIEW FOR THE PERIOD ENDING DECEMBER 31, 2019 – Chae Hong, Felix Fells and Storm Klyve-Underkofler, from Townsend/AON presented this item to the Board.

C. PRESENTATION BY NEPC, LLC OF THE PORTFOLIO PERFORMANCE REVIEW REPORT FOR THE QUARTER ENDING MARCH 31, 2020 – Caroyn Smith and Kevin Novak of NEPC presented this item to the Board.

D. NOTIFICATION OF COMMITMENT OF UP TO $50 MILLION IN WATERTON RESIDENTIAL PROPERTY VENTURE XIV, L.P. – This report was received by the Board and filed.

IX

OTHER BUSINESS – There was no other business.

X

NEXT MEETING: The next Regular meeting of the Board is scheduled for Tuesday, June 23, 2020 at 10:00 a.m. in the LACERS Ken Spiker Boardroom, 202 West First Street, Suite 500, Los Angeles, CA 90012-4401 and/or via telephone and/or videoconferencing. Please continue to view the LACERS website for updated information on public access to Board meetings while public health concerns relating to the novel coronavirus continue.

XI

ADJOURNMENT - There being no further business before the Board, President Ruiz adjourned the Meeting at 1:05 p.m.

Cynthia M. Ruiz
President

Neil M. Guglielmo
Manager-Secretary

Agenda of:	**JUNE 23, 2020**
Item No:	**V-A**

**MONTHLY REPORT ON SEMINARS AND CONFERENCES
ATTENDED BY BOARD MEMBERS ON BEHALF OF LACERS
(FOR THE MONTH OF MAY 2020)**

In accordance with Section V.H.2 of the approved Board Education and Travel Policy, Board Members are required to report to the Board, on a monthly basis at the last Board meeting of each month, seminars and conferences they attended as a LACERS representative or in the capacity of a LACERS Board Member which are either complimentary (no cost involved) or with expenses fully covered by the Board Member. This monthly report shall include all seminars and conferences attended during the 4-week period preceding the Board meeting wherein the report is to be presented.

BOARD MEMBER:

President Cynthia M. Ruiz
Vice President Michael R. Wilkinson

Commissioner Annie Chao
Commissioner Elizabeth Lee
Commissioner Sandra Lee
Commissioner Nilza R. Serrano
Commissioner Sung Won Sohn

DATE(S) OF EVENT	SEMINAR / CONFERENCE TITLE	EVENT SPONSOR (ORGANIZATION)	LOCATION (CITY, STATE)
	NOTHING TO REPORT		

LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION **MEETING: JUNE 23, 2020**
From: Neil M. Guglielmo, General Manager **ITEM: VIII-A**

SUBJECT: **CONSIDERATION OF PROPOSED ASSUMPTION CHANGES BASED ON ACTUARIAL EXPERIENCE STUDY AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board consider and adopt the actuarial assumptions recommended by LACERS' consulting actuary, Segal, as listed in Appendix B of the attached Actuarial Experience Study (Attachment 1) covering the period from July 1, 2016 to June 30, 2019.

Executive Summary

Actuarial assumptions are used in the actuarial valuation process for measuring the costs and liabilities of the plan and the contribution requirements of the Plan Sponsor (City of Los Angles or Employer). While the City Charter requires that an actuarial experience study be completed every five years, the typical timeframe between experience studies for LACERS has been three years. LACERS' last full experience study was conducted through June 30, 2017. On August 14, 2018, while considering the July 1, 2014 to June 30, 2017 (2014-2017) Experience Study, the Board adopted a motion to consider another full experience study after two years. This Experience Study before the Board is based on the three-year period from July 1, 2016 through June 30, 2019.

Overall, Segal recommends changes to both Economic and Demographic assumptions. The discussion below provides details as to how the assumptions will change and the associated cost impacts. Changes in Actuarial assumptions will be reflected in the June 30, 2020 (2020) Actuarial Valuation to be presented to the Board in November 2020 and factored into the annual Employer contribution for the Fiscal Year (FY) 2021-22 Budget.

Impact on Employer Contribution Rate	***Retirement Plan***	***Health Plan***	***Total***
Increase due to inflation & investment return assumptions	0.42%	0.61%	1.03%
Increase due to all other assumptions	2.99%	0.07%	3.06%
Total increase in average employer rate	**3.41%**	**0.68%**	**4.09%**

Of the recommended Economic assumption changes, the most significant cost impact is from the change in the Investment Return assumption from 7.25% to 7.00%; however, that increase is largely offset by the decrease in cost from the recommended change in the Inflation assumption from 3.00%

to 2.75%. Of the remaining 2.99% in cost increase to the Retirement Plan, 2.10% of the cost impact is from Merit and Promotional Salary Increases, and 0.50% is from the recommended change in Mortality assumptions. Note that the Employer covered payroll for FY 2020-21 is approximately $2.4 billion, thus a 1% cost increase is an approximately $24,000,000 increase in contribution to the Plans.

Discussion

As a result of the July 1, 2016 to June 30, 2019 (2016-2019) Experience Study, Segal recommends changes to the Economic and Demographic assumptions as discussed below.

Economic Assumptions

The Economic assumptions reviewed include:

Assumption	***Current***	***Recommended***
Net Investment Return	7.25%	7.00%
Member Contribution Crediting Rate	3.00%	2.75%
Consumer Price Index	Annual increase of 3.00%	Annual increase of 2.75%
Payroll Growth	Inflation of 3.00% plus “across the board” salary increase of 0.50% annually	Inflation of 2.75% plus “across the board” salary increase of 0.50% annually
Increase in IRC Section 401(a)(17) Compensation Limit	Annual increase of 3.00%	Annual increase of 2.75%
Salary Increases	Merit and promotion rates based on years of service	Merit and promotion increases

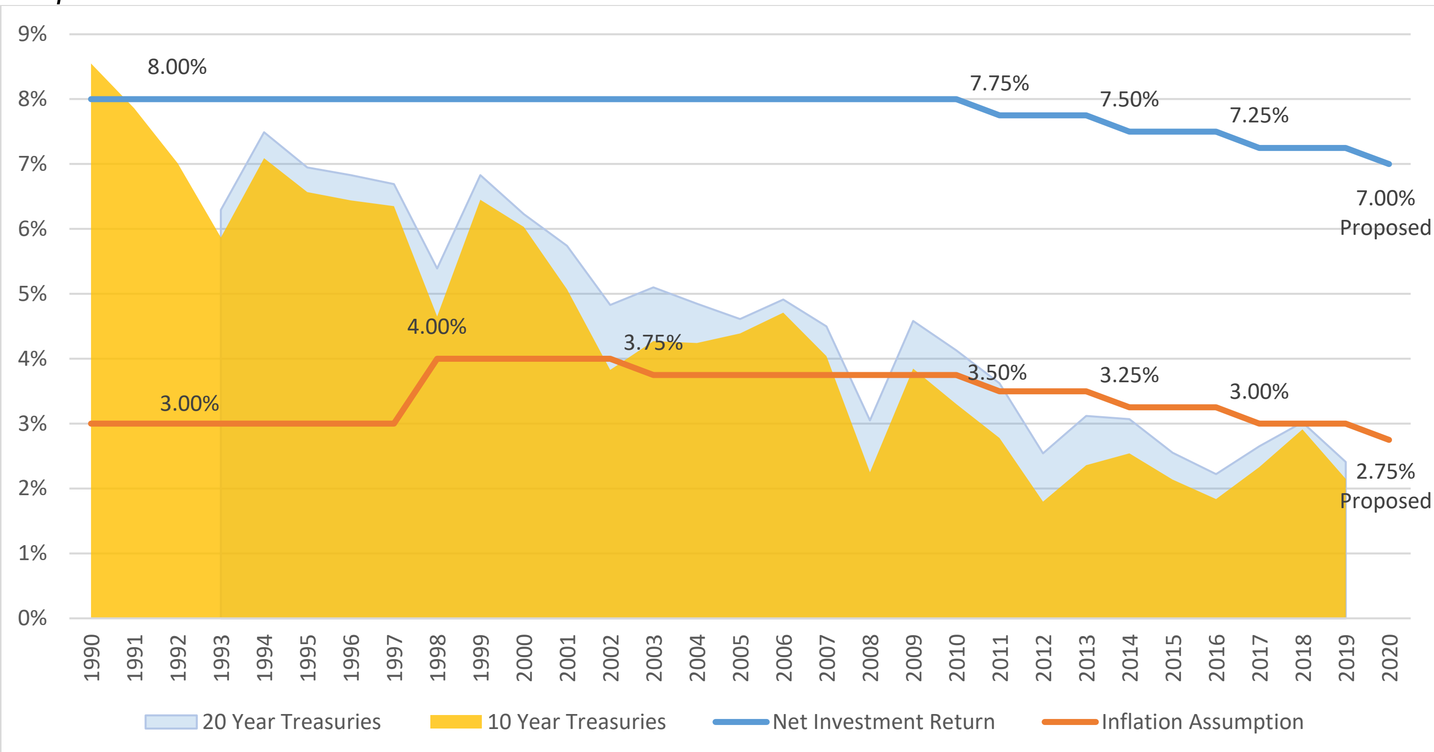
Applied to the June 30, 2019 (2019) Actuarial Valuation, the projected cost impact of Investment Return and Inflation assumptions on the Employer Contribution Rate is an increase of 0.42% of payroll for the Retirement Plan and 0.61% of payroll for the Health Plan, or a total of 1.03. The projected cost impact of the Merit and Promotion Increase assumptions on the Employer Contribution Rate is an increase of 2.10% of payroll for the Retirement Plan.

1. **Inflation and Investment Return**

   As discussed in Segal’s report, inflation is a major driver of recommended changes in key Actuarial Economic Assumptions. Based on the analysis, Segal is recommending reducing the Net Investment Return assumption from 7.25% to 7.00% along with an Inflation Rate reduction from 3.00% to 2.75%. While a reduction from 3.00% to 2.75% helps drive a reduction in the Net Investment Return, it also drives down various other cost factors to the Employer Contribution Rate as active and retiree payroll growth is correspondingly lowered.

   For reference the following chart shows the past 30 years of LACERS’ assumed Net Investment Return, including the Inflation component.

Adopted Assumed Net Investment Return and Inflation Rate with 10 and 20 Year Treasuries[1]



Over the past twenty years, LACERS' assumed Net Investment Return, and corresponding Inflation Rate assumption, have been trending downward, and with an accelerated pace over the past decade. Treasuries, generally deemed to maintain a low risk return have also followed this trend as represented by 10 and 20-year Treasuries. Likewise, public pensions are following suit with respect to their own inflation assumptions as evidenced by the following data presented by Segal.

Other Inflation Assumptions

Entity	***Inflation Assumption***
Public Plans Database Median Inflation assumption of 174 large public retirement funds in 2018	2.65%
CalPERS	2.50%
CalSTRS	2.75%
LACERA and fourteen of the 1937 Act systems	2.75%
LADWP	2.75%
LAFPP	2.75%
Two other 1937 Act systems	2.50%
Three other 1937 Act systems	3.00%
New England Pension Consultants (NEPC)	2.75%
Average Inflation Assumption of seven Investment Advisory Firms surveyed by Segal	2.36%
Social Security Administration 2020 Projected Average Increase in CPI over 75 Years (Intermediate Assumption)	2.40%

[1] 10 and 20 Year Treasuries Index obtained from Bloomberg.

Along with a reduction in the Inflation assumption, Segal's recommendation for a 7.00% Net Investment Return is in line with other California public pension systems as summarized in the table below.

Adopted Investment Return for other Entities

Entity	***Adopted Investment Return***
CalPERS	7.00%
CalSTRS	7.00%
LACERA	7.00%
LADWP	7.00%
LAFPP	7.00%
Mendocino CERA	6.75%
San Jose City	6.75%
San Diego City	6.50%
Sacramento CERS	6.75%
San Mateo CERA	6.50%
Five other 1937 Act systems	7.25%
Eleven other 1937 Act systems	7.00%

2. **Salary Increases**

   Salary increases impact plan costs in two ways: (i) by increasing Members' benefits (since benefits are a function of the Members' highest average pay) and future normal cost collections; and (ii) by increasing total active member payroll which in turn generates lower Unfunded Actuarial Accrued Liability contribution rates. Note that as Salary Increases were not adopted in the prior Experience Study, there are five years of salary changes to reflect in this Experience Study. Salary increases are composed of the following factors:

   i. Inflation - Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed inflation, but over the long term, labor market forces may require an employer to maintain its employees' standards of living. As mentioned earlier, Segal recommends reducing the assumed Rate of Inflation from 3.00% to 2.75%.

   ii. Real "Across the Board" Salary Increases - These increases are typically termed productivity increases since they are considered to be derived from the ability of an organization or an economy to produce goods and services in a more efficient manner. As that occurs, at least some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees "across the board." Segal recommends maintaining the Real "Across the Board" Salary Increase at 0.50%.

   iii. Merit and Promotion Increases – These increases are employee-specific and based on actual increases received net of Inflationary and Real "Across the Board" Salary Increases. Although the City recently adopted new Memoranda of Understanding (MOU) with employee bargaining units that provided cost of living adjustments and retroactive payments, these increases are not reflected in the prior year data. Segal provides its recommended Merit and Promotion Increases assumptions based on years of service as follows:

Years of Service	Current Assumption	Proposed Assumption from Prior Study	Actual Average Increase from Current Study	Actual Average Increase from Current and Prior Two Studies	Proposed Assumption
0 – 1	6.50%	6.50%	7.06%	6.14%	6.70%
1 – 2	6.20%	6.40%	8.32%	7.47%	6.50%
2 – 3	5.10%	5.50%	7.25%	6.22%	5.80%
3 – 4	3.10%	3.30%	5.65%	4.28%	4.00%
4 – 5	2.10%	2.40%	4.98%	3.44%	3.00%
5 – 6	1.10%	1.50%	4.53%	2.61%	2.20%
6 – 7	1.00%	1.30%	4.17%	2.15%	2.00%
7 – 8	0.90%	1.20%	3.51%	1.85%	1.80%
8 – 9	0.70%	1.00%	3.49%	1.77%	1.60%
9 – 10	0.60%	0.90%	3.09%	1.72%	1.40%
10 & Over	0.40%	0.60%	2.46%	1.35%	1.00%

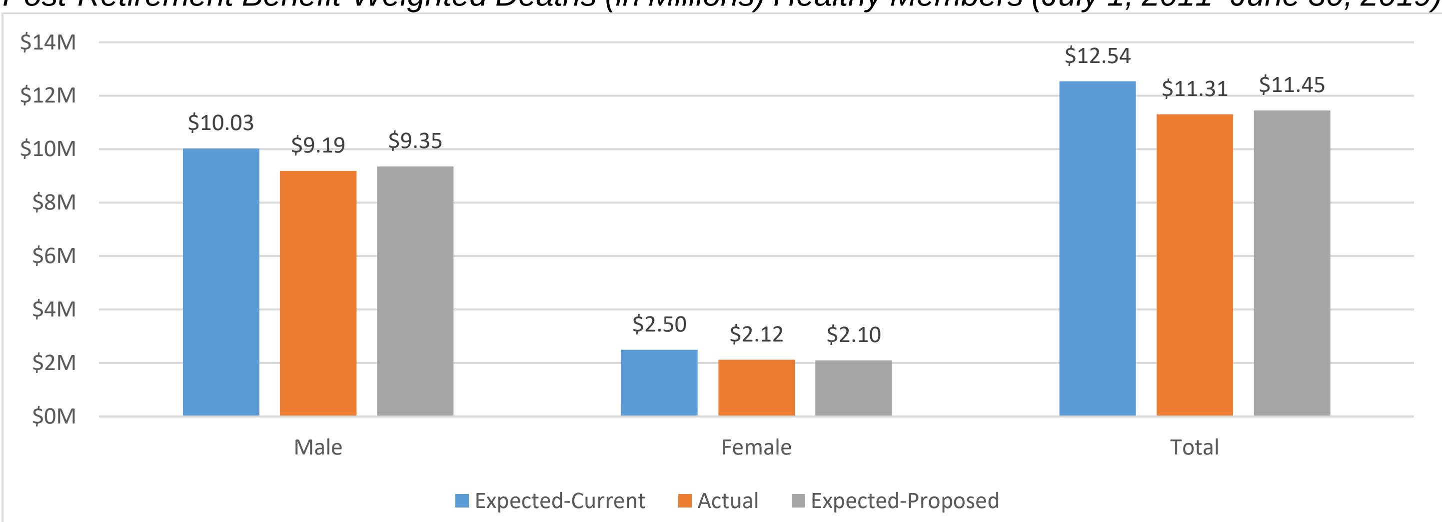
Staff supports the reduction in Inflation and the Rate of Return along with all other actuarial recommended Economic assumptions.

<u>Demographic Assumptions</u>

Demographic assumptions reviewed include:

1. **Mortality Rates:** Anticipate longer life expectancy –

Post-Retirement Benefit-Weighted Deaths (in Millions) Healthy Members (July 1, 2011–June 30, 2019)



As advised by Segal in the last presentation of the Experience Study in 2018, and as recommended by LACERS' audit actuary, Cheiron, in their actuarial audit of LACERS' last Experience Study, the Public Retirement Plans Mortality Tables have been published and determined to match up with LACERS' mortality experience, albeit at above median levels. Based on the 2019 Actuarial Valuation, for the Retirement Plan portion, the projected Employer cost impact of the change in mortality table assumptions is 0.50% of payroll. If adopted the new Mortality tables will be reflected in the 2020 Actuarial Valuation and implemented in LACERS' pension administration system on July 1, 2021.

2. **Retirement Rates:** Increase assumed retirements across all Tiers and most age categories.

3. **Termination Rates:** Decrease assumed termination rates for members with less than five years of service. For members with greater than five years of service, decrease termination rates in age ranges 30-34 and 40-44, and increase termination rates for over age 50.

4. **Disability Incidence Rate:** Decrease assumed disability rates for under age 65, increase the assumed disability rate for over age 65.

LACERS' staff supports the change to Public Retirement Plans Mortality Tables and all other Demographic assumptions as proposed by Segal.

<u>Cost Impact and Employer Contribution Rates</u>

If all the recommended assumptions are adopted, when applied to the 2019 Actuarial Valuation, the projected cost impact on the Employer Contribution Rate is an increase of 4.09% of payroll consisting of 3.41% of payroll for the Retirement Plan and 0.68% of payroll for the Health Plan (based on contribution rates payable at the beginning of the year). The below table breaks down the cost impacts to the Health and Retirement Plans.

Impact on Employer Contribution Rate	***Retirement Plan***	***Health Plan***	***Total***
Increase due to inflation & investment return assumptions	0.42%	0.61%	1.03%
Increase due to all other assumptions	2.99%	0.07%	3.06%
Total increase in average employer rate	**3.41%**	**0.68%**	**4.09%**

These rate adjustments are necessary to pay the increased liabilities associated with the changes anticipated by LACERS' experience.

<u>Change in Plan Liabilities as of June 30, 2019</u>

Plan/Cost Component	***Current Assumptions***	***Proposed Assumptions***	***Increase/ Decrease***	***Proposed Change as % of Payroll***
Retirement Plan				
Normal Cost	$374,967,243	$414,953,447	$39,986,204	1.81%
Actuarial Accrued Liability	$20,793,421,143	$21,299,153,880	$505,732,737	1.60%
Health Plan				
Normal Cost	$76,422,769	$84,753,308	$8,330,539	0.38%
Actuarial Accrued Liability	$3,334,298,549	$3,428,626,759	$94,328,210	0.30%

Commensurate with these increases in liabilities, as applied to the June 30, 2019 Actuarial Valuation, the Retirement Plan funded percentage would decrease from 71.3% to 69.6%; the Health Plan funded percentage would decrease from 84.4% to 82%. A combined 4.09% increase in the Employer Contribution Rate results in an approximately $98 million increase in contributions to LACERS based on a $2.4 billion payroll, which should help improve LACERS' funded ratio going forward assuming positive actuarial results.

Actuarial Audit Applied to the Experience Study

In the Actuarial Audit of the 2014-2017 Experience Study conducted by Cheiron, a number of recommendations were made and the disposition of those recommendations within this 2016-2019 Experience Study are shown in Attachment 2. Upon completion of the June 30, 2020 Actuarial Valuation, staff will report on the disposition of the remaining Actuarial Audit recommendations.

Paul Angelo of Segal will be in attendance at the Board meeting to present the report.

Prepared By: Todd Bouey, Assistant General Manager, Administrative Operations.

NG:TB:EA

Attachments:

1. Analysis of Actuarial Experience during the period July 1, 2016 through June 30, 2019 prepared by Segal
2. Cheiron Audit Recommendations in Review of the Experience Study

Los Angeles City Employees' Retirement System

Actuarial Experience Study

Analysis of Actuarial Experience During the Period July 1, 2016 through June 30, 2019

Board Agenda: 06/23/2020
Item: VIII A
Attachment 1

Segal

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June 17, 2020

Board of Administration
Los Angeles City Employees' Retirement System
202 W. First Street, Suite 500
Los Angeles, CA 90012-4401

Re: Review of Actuarial Assumptions for the June 30, 2020 Actuarial Valuation

Dear Members of the Board:

We are pleased to submit this report of our review of the actuarial experience for the Los Angeles City Employees' Retirement System. This study utilizes the census data for the period July 1, 2016 to June 30, 2019 and provides the proposed actuarial assumptions, both economic and demographic, to be used in the June 30, 2020 valuation.

Please note that our recommended assumptions unique to the health program (e.g., health care trend assumption) will be provided in a separate letter later this year.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

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

Sincerely,

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

ST/jl

Table of Contents

I. Introduction, Summary, and Recommendations

To project the cost and liabilities of the Retirement System, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are modified, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions means that year's experience is treated as temporary and that, over the long run, experience will return to what was originally assumed. For example, it is impossible to determine when and to what extent the economy will rebound after the current crisis caused by the COVID-19 pandemic.[1] Changing assumptions reflects a basic change in thinking about the future, and it has a much greater effect on the current contribution requirements than recognizing gains or losses as they occur.

The use of realistic actuarial assumptions is important in maintaining adequate funding, while paying the promised benefit amounts to participants already retired and to those near retirement. The actuarial assumptions used do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to review the economic and demographic actuarial assumptions and to compare the actual experience with that expected under the current assumptions during the three-year experience period from July 1, 2016 through June 30, 2019. Note that our contract with the Board states that Segal will "Perform one actuarial experience study for the period of July 1, 2017 through June 30, 2019, to be conducted in 2020…" However, in our November 11, 2019 e-mail to LACERS, we asked the System to consider if we can extend that two-year period to include a third year (i.e., July 1, 2016 through June 30, 2017) that was already utilized in the prior study in order to include more actual experience herein. LACERS responded on November 14, 2019, directing Segal to base the experience study on the most recent three years of data (i.e., July 1, 2016 – June 30, 2019).

The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27 "Selection of Economic Assumptions for Measuring Pension Obligations" and ASOP No. 35 "Selection of Demographic and Other Non-Economic Assumptions for Measuring Pension Obligations." These Standards of Practice provide guidance for the selection of the various actuarial assumptions utilized in a pension plan actuarial valuation. Based on the study's results

[1] An analysis of the ongoing impact of the COVID-19 pandemic is beyond the scope of the current experience study.

and expected future experience, we are recommending various changes in the current actuarial assumptions.

We are recommending changes in the assumptions for inflation, investment return, crediting rate for employee contributions, cost-of-living adjustments (COLA), merit and promotion salary increases, retirement from active employment, percentage of members with an eligible spouse or domestic partner, reciprocal salary increases, pre-retirement mortality, healthy life post-retirement mortality, beneficiary mortality, disabled life post-retirement mortality, termination, and disability incidence.

Our recommendations for the major actuarial assumption categories are as follows:

Pg #	Actuarial Assumption Categories	Recommendation
10	**Inflation:** Future increases in the Consumer Price Index (CPI), which drives investment returns and active member salary increases. **Crediting Rate for Employee Contributions:** Future increases in the account balance of a member between the date of the valuation and the date of separation from active service.	Reduce the inflation assumption from 3.00% to 2.75% per annum as discussed in Section (III)(A). Reduce the interest crediting rate for employee contributions from 3.00% to 2.75% per annum as described in Section (III)(A).
13	**Investment Return:** The estimated average net rate of return on current and future assets of the System as of the valuation date. This rate is used to discount liabilities.	Reduce the current investment return assumption from 7.25% to 7.00% per annum as discussed in Section (III)(B).
23	**Individual Salary Increases:** Increases in the salary of a member between the date of the valuation to the date of separation from active service. This assumption has three components: • Inflationary salary increases • Real “across the board” salary increases • Merit and promotion increases	Reduce the current inflationary salary increase assumption from 3.00% to 2.75% and maintain the current real “across the board” salary increase assumption at 0.50%. This means that the combined inflationary and real “across the board” salary increases will decrease from 3.50% to 3.25% per annum. We recommend adjusting the merit and promotion rates of salary increase as developed in Section (III)(C) to reflect past experience. Proposed merit and promotion salary increases are higher in all service categories. The recommended salary increases (taking into account all three components) anticipate higher salary increases overall.
27	**Retirement Rates:** The probability of retirement at each age at which participants are eligible to retire. **Other Retirement Related Assumptions including:** • Retirement age for deferred vested members • Percent married/domestic partner and spousal age differences for members not yet retired • Future reciprocal members and reciprocal salary increases	Adjust the retirement rates to those developed in Section (IV)(A) to anticipate more retirements overall. Maintain the retirement age for deferred vested members of 59. For active and inactive members, maintain the percent married/domestic partner at retirement assumption for males at 76% and increase the assumption from 50% to 52% for females. For active and inactive members, maintain the assumption that male members are 3 years older than their female spouses and that female members are 2 years younger than their male spouses. For future deferred vested members, maintain the percent assumed to work at a reciprocal system at 5%. For all reciprocal members, increase the compensation increase assumption from 3.90% to 4.25% per annum.

Pg #	Actuarial Assumption Categories	Recommendation
36 **43**	**Mortality Rates:** The probability of dying at each age. Mortality rates are used to project life expectancies.	For pre-retirement mortality: Current base table: Headcount-Weighted RP-2014 Employee Mortality Table, multiplied by 90%. Recommended base table for General: For the Retirement Plan - Pub-2010 General Employee Amount-Weighted Above-Median Mortality Table with rates increased by 10%. For the Health plan - Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Table with rates increased by 10%. For healthy retirees: Current base table: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table. Recommended base table: For the Retirement Plan - Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table with rates increased by 10% for males. For the Health Plan - Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Table with rates increased by 10% for males. For all beneficiaries: Current base table: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table. Recommended base table: For the Retirement Plan - Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table with rates increased by 10%. For the Health Plan - Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Table with rates increased by 10%. For disabled retirees: Current base table: Headcount-Weighted RP-2014 Disabled Retiree Mortality Table. Recommended base table: For the Retirement Plan - Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table with rates increased by 10% for males and decreased by 5% for females. For the Health Plan - Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Table with rates increased by 10% for males and decreased by 5% for females. All current tables are projected generationally with the two-dimensional mortality improvement scale MP-2017. All recommended tables are projected generationally with the two-dimensional mortality improvement scale MP-2019. The recommended assumptions will anticipate longer life expectancy.
46	**Termination Rates:** The probability of leaving employment at each age and receiving either a refund of member contributions or a deferred vested retirement benefit.	Adjust the current termination rates to those developed in Section (IV)(D) to anticipate fewer terminations overall. The recommended assumption will anticipate fewer terminations for members with fewer than five years of employment service, and slightly more terminations overall for members with five or more years of employment service.
50	**Disability Incidence Rates:** The probability of becoming disabled at each age.	Adjust the current disability rates to those developed in Section (IV)(E) to reflect lower incidence of disability.

We have estimated the impact of all the recommended economic and demographic assumptions as if they were applied to the June 30, 2019 actuarial valuations. The table below shows the changes in the employer contribution rates due to the proposed assumption changes separately for the recommended inflation and investment return assumption changes (as recommended in Section III of this report) and all other recommended demographic assumption changes (the remaining economic assumptions recommended in Section III as well as the demographic changes recommended in Section IV of this report).

Cost Impact of the Recommended Assumptions Based on June 30, 2019 Actuarial Valuations

Impact on Employer Contribution Rate	Retirement Plan	Health Plan	Total
Increase due to inflation & investment return assumptions	0.42%	0.61%	1.03%
Increase due to all other assumptions	2.99%	0.07%	3.06%
Total increase in average employer rate	3.41%	0.68%	4.09%

Of the economic assumption changes, the most significant cost impact is from the change in the investment return assumption from 7.25% to 7.00%. However, that increase in cost from the investment return assumption for the Retirement Plan is largely offset by the decrease in cost from the change in the inflation assumption from 3.00% to 2.75%. Of the remaining assumption changes for the Retirement Plan, about two thirds (2.10%) of the cost impact is from the change in the merit and promotional salary increase assumption, and about one sixth (0.50%) of the cost impact is from the change in the mortality assumption.

Section II provides some background on the basic principles and methodology used for the experience study and for the review of the economic and demographic actuarial assumptions. A detailed discussion of each assumption and reasons for the proposed changes are found in Section III for the economic assumptions and Section IV for the demographic assumptions. The cost impact of the proposed changes is detailed in Section V.

II. Background and Methodology

In this report, we analyzed both economic and demographic ("non-economic") assumptions. The primary economic assumptions reviewed are inflation, investment return, and salary increases. Demographic assumptions include the probabilities of certain events occurring in the population of members, referred to as "decrements," e.g., termination from service, disability retirement, service retirement, and death before and after retirement. In addition to decrements, other demographic assumptions reviewed in this study include the percentage of members with an eligible spouse or domestic partner, spousal age difference, percent of members assumed to go on to work for a reciprocal system, and reciprocal salary increases.

Economic Assumptions

Economic assumptions consist of:

- **Inflation:** Increases in the price of goods and services. The inflation assumption reflects the basic return that investors expect from securities markets. It also reflects the expected basic salary increase for active members and drives increases in the allowances of retired members.
- **Investment Return:** Expected long-term rate of return on the System's investments after investment expenses. This assumption has a significant impact on contribution rates.
- **Salary Increases:** In addition to inflationary increases, it is assumed that salaries will also grow by real "across the board" pay increases in excess of price inflation. It is also assumed that employees will receive raises above these average increases as they advance in their careers. These are commonly referred to as merit and promotion increases. Payments to amortize any Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase each year by the price inflation rate plus any real "across the board" pay increases that are assumed.

The setting of these economic assumptions is described in Section III.

Demographic Assumptions

In order to determine the probability of an event occurring, we examine the "decrements" and "exposures" of that event. For example, taking termination from service, we compare the number of employees who actually terminate in a certain age and/or service category (i.e., the number of "decrements") with those "who could have terminated" (i.e., the number of "exposures"). For example, if there were 500 active employees in the 20-24 age group at the beginning of the year and 50 of them terminated during the year, we would say the probability of termination in that age group is 50 ÷ 500 or 10%.

The reliability of the resulting probability is highly dependent on both the number of decrements and the number of exposures. For example, if there are only a few people in a high age category at the beginning of the year (number of exposures), we would not lend as much credibility to the probability of termination developed for that age category, especially if it is out of line with the pattern shown for the other age groups. Similarly, if we are considering the death decrement, there may be a large number of exposures in, say, the age 20-24 category, but very few decrements (actual deaths); therefore, we would not be able to rely heavily on the probability of death developed for that category.

One reason we use several years of experience for such a study is to have more exposures and decrements, and therefore more statistical reliability. Another reason for using several years of data is to smooth out fluctuations that may occur from one year to the next. However, we also calculate the rates on a year-to-year basis to check for any trend that may be developing in the later years.

III. Economic Assumptions

A. Inflation

Unless an investment grows at least as fast as prices increase, investors will experience a reduction in the inflation-adjusted value of their investment. There may be times when "riskless" investments return more or less than inflation, but over the long term, investment market forces will generally require an issuer of fixed income securities to maintain a minimum return which protects investors from inflation.

The inflation assumption is long term in nature, so our analysis begins with a review of historical information. Following is an analysis of 15 and 30 year moving averages of historical inflation rates:

Historical Consumer Price Index – 1930 to 2019[2]
(U.S. City Average - All Urban Consumers)

	25th Percentile	Median	75th Percentile
15-year moving averages	2.4%	3.3%	4.4%
30-year moving averages	2.9%	3.7%	4.8%

The average inflation rates have continued to decline gradually over the last several years due to the relatively low inflationary period over the past two decades. Also, the later 15-year averages during the period are lower as they do not include the high inflation years of the mid-1970s and early 1980s.

Based on information found in the Public Plans Data website, which is produced in partnership with the National Association of State Retirement Administrators (NASRA), the median inflation assumption used by 174 large public retirement funds in their 2018 fiscal year valuations was 2.65%.[3] In California, CalSTRS, Los Angeles County and fourteen other 1937 Act CERL systems use an inflation assumption of 2.75%, two 1937 Act CERL systems use an inflation assumption of 2.50%, and the three other 1937 Act CERL systems currently use an inflation assumption of 3.00%. CalPERS has lowered their inflation assumption from 2.75% to 2.50% over a three-year period.

LACERS' investment consultant, New England Pension Consultants (NEPC), anticipates an annual inflation rate of 2.75%, while the average inflation assumption provided by NEPC and six other investment advisory firms retained by Segal's California public sector clients was 2.36%. Note that, in general, investment consultants use a time horizon for this assumption that is shorter than the time horizon we use for the actuarial valuation.[4]

2 Source: Bureau of Labor Statistics – Based on CPI for All Items in U.S. city average, all urban consumers, not seasonally adjusted (Series ID: CUUR0000SA0).

3 Among 188 large public retirement funds, the inflation assumption was not available for 14 of the public retirement funds in the survey data.

4 The time horizon used by the seven investment consultants in our review generally ranges from 10 years to 30 years and NEPC uses 30 years.

To find a forecast of inflation based on a longer time horizon, we referred to the Social Security Administration's (SSA) 2020 report on the financial status of the Social Security program.[5] The projected average increase in the Consumer Price Index (CPI) over the next 75 years under the intermediate cost assumptions used in that report was 2.40%. This report also includes alternative projections using lower and higher inflation assumptions of 1.80% and 3.00%, respectively.

We also compared the yields on the thirty-year inflation indexed U.S. Treasury bonds to comparable traditional U.S. Treasury bonds.[6] As of April 2020, the difference in yields is about 1.39% which provides a measure of market expectations of inflation.

Based on all of the above information, we recommend that the current 3.00% annual inflation assumption be reduced to 2.75% for the June 30, 2020 actuarial valuation.

The setting of the inflation assumption using the information outlined above is a somewhat subjective process, and Segal does not apply a specific weight to each of the metrics in determining our recommended inflation assumption. Based on a consideration of all these metrics, since 2018 we have been recommending the same 2.75% inflation assumption in our experience for our California based public retirement system clients. We will continue to review this assumption in future experience studies.

Crediting Rate for Employee Contributions

We note that the interest crediting rate for employee contributions is based on the average rates of a five-year U.S. Treasury Note. Currently, an assumption of 3.00% is used to approximate that crediting rate, and the 3.00% crediting rate assumption is tied to the current inflation assumption.

In conjunction with our recommendation to lower the current 3.00% annual inflation assumption to 2.75% for the June 30, 2020 valuation, as discussed above, and assuming the Board wishes to maintain the linkage between the two, we would also recommend that the assumed interest crediting rate for employee contributions be lowered from 3.00% to 2.75%.

Retiree Cost-of-Living Increases

In our last experience study as of June 30, 2017, consistent with the 3.00% annual inflation assumption adopted by the Board, the Board maintained the 3.00% retiree cost-of-living adjustment for Tier 1 and a 2.00% retiree cost-of-living adjustment for Tier 3.

Consistent with our recommended inflation assumption, we also recommend reducing the current assumption to value the post-retirement COLA benefit from 3.00% to 2.75% per year for Tier 1,[7] while maintaining the current assumption of 2.00% per year for Tier 3.

[5] Source: Social Security Administration: The 2020 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds

[6] Source: Board of Governors of the Federal Reserve Association.

[7] For current retirees and beneficiaries, we would utilize the accumulated COLA banks to value annual 3.00% COLA increases to Tier 1 members as long as the COLA banks are available.

In developing the COLA assumption, we also considered the results of a stochastic approach that would attempt to account for the possible impact of low inflation that could occur before COLA banks (applicable to Tier 1 only) are able to be established for the member. Although the results of this type of analysis might justify the use of a lower COLA assumption, we are not recommending that at this time. The reasons for this conclusion include the following:

- The results of the stochastic modeling are significantly dependent on assuming that lower levels of inflation will persist in the early years of the projections. If this is not assumed, then the stochastic modeling will produce results similar to our proposed COLA assumptions.
- Using a lower long-term COLA assumption based on a stochastic analysis would mean that an actuarial loss would occur even when the inflation assumption of 2.75% is met in a year. We question the reasonableness of this result.

We do not see the stochastic possibility of COLAs averaging less than those predicted by the assumed rate of inflation as a reliable source of cost savings that should be anticipated in our COLA assumptions. Therefore, we continue to recommend setting the COLA assumptions consistent with the long-term annual inflation assumption, as we have in prior years.

B. Investment Return

The investment return assumption is comprised of two primary components, inflation and real rate of investment return, with adjustments for investment expenses and risk.

Real Rate of Investment Return

This component represents the portfolio's incremental investment market returns over inflation. Theory has it that as an investor takes a greater investment risk, the return on the investment is expected to also be greater, at least in the long run. This additional return is expected to vary by asset class and empirical data supports that expectation. For that reason, the real rate of return assumptions are developed by asset class. Therefore, the real rate of return assumption for a retirement system's portfolio will vary with the Board's asset allocation among asset classes.

The following is the System's current target asset allocation and the assumed real rate of return assumptions by asset class. The first column of real rate of return assumptions are determined by reducing NEPC's total or "nominal" 2019 return assumptions by their assumed 2.75% inflation rate. The second column of returns (except for Emerging International Small Cap Equity, Emerging Market Debt (Local), Non-Core Real Estate, Private Equity, Private Credit/Debt, and REITS) represents the average of a sample of real rate of return assumptions. The sample includes the expected annual real rate of return provided to us by NEPC and six other investment advisory firms retained by Segal's public sector clients. We believe these averages are a reasonable consensus forecast of long-term future market returns in excess of inflation.

LACERS' Target Asset Allocation and Assumed Arithmetic Real Rate of Return Assumptions by Asset Class and for the Portfolio

Asset Class	Percentage of Portfolio	NEPC's Assumed Real Rate of Return[8]	Average Assumed Real Rate of Return from a Sample of Consultants to Segal's California Public Sector Clients[9]
Large Cap U.S. Equity	15.01%	5.94%	5.54%
Small/Mid Cap U.S. Equity	3.99%	6.72%	6.25%
Developed Int'l Large Cap Equity	17.01%	6.81%	6.61%
Developed Int'l Small Cap Equity	2.97%	7.31%	6.90%
Emerging Int'l Large Cap Equity	5.67%	9.72%	8.74%
Emerging Int'l Small Cap Equity	1.35%	10.63%	10.63%[10]
Core Bonds	13.75%	1.79%	1.19%
High Yield Bonds	2.00%	4.45%	3.14%
Bank Loans	2.00%	3.12%	3.70%
TIPS	4.00%	1.45%	0.86%
Emerging Market Debt (External)	2.25%	4.26%	3.55%
Emerging Market Debt (Local)	2.25%	4.75%	4.75%[10]
Core Real Estate	4.20%	4.26%	4.60%
Non-Core Real Estate	2.80%	5.76%	5.76%[10]
Cash	1.00%	0.25%	0.03%
Commodities	1.00%	4.34%	3.33%
Private Equity	14.00%	10.81%	8.97%[10]
Private Credit/Debt	3.75%	6.00%	6.00%[10]
REITS	1.00%	5.98%	5.98%[10]
Total	**100.00%**	**6.07%**	**5.50%**

8 Derived by reducing NEPC's nominal rate of return assumptions by their assumed 2.75% inflation rate. These returns are net of active management fees.

9 These are based on the projected arithmetic returns provided by NEPC and six other investment advisory firms serving the city retirement system of Los Angeles and 16 other city and county retirement systems in California. These return assumptions are gross of any applicable investment expenses, except for NEPC's returns as noted in the footnote above.

10 For these asset classes, NEPC's assumption is applied in lieu of the average because there is a larger disparity in returns for these asset classes among the firms surveyed and using NEPC's assumption should more closely reflect the underlying investments made specifically for LACERS.

It is our understanding that between 2018 and 2019 NEPC changed their capital market assumptions methodology for the Private Equity asset class. Below is a comparison of NEPC's assumptions from 2018 and 2019 for that asset class:

Asset Class	Percentage of Portfolio	NEPC's Assumed Real Rate of Return
2018 NEPC Assumption Provided for 2018 Experience Study		
Private Equity	14.00%	8.97%
2019 NEPC Assumption Provided for 2020 Experience Study		
Private Equity	14.00%	10.81%

Even though the allocation to this asset class did not change, the change in NEPC's capital market assumptions for this single asset class between the two years would lead to a 0.26% increase in the assumed total portfolio real rate of return. As discussed later in this section, in this study we have used the 2018 assumption of 8.97% for Private Equity in developing the real rate of return component of the recommended investment return assumption.

The above are representative of “indexed” returns and do not include any additional returns (“alpha”) from active management. This is consistent with the Actuarial Standard of Practice No. 27, Section 3.6.3.d, which states:

> “Investment Manager Performance - Anticipating superior (or inferior) investment manager performance may be unduly optimistic (or pessimistic). The actuary should not assume that superior or inferior returns will be achieved, net of investment expenses, from an active investment management strategy compared to a passive investment management strategy unless the actuary has reason to believe, based on relevant supporting data, that such superior or inferior returns represent a reasonable expectation over the long term.”

The following are some observations about the returns provided above:

1. The investment consultants to our California public sector clients have each provided us with their expected real rates of return for each asset class, over various future periods of time. However, in general, the returns available from investment consultants are projected over time periods that are much shorter than the durations of a retirement plan’s liabilities.
2. Using a sample average of expected real rates of return allows the System’s investment return assumption to reflect a broader range of capital market information and should help reduce year to year volatility in the investment return assumption.
3. As we note in footnote (10) above, as used in the prior experience study NEPC’s assumed real rate of return assumption for the Private Equity asset class was 8.97% for 2018. This assumption has increased to 10.81% for 2019, as shown above. Since LACERS’ target allocation includes 14.00% allocated to the Private Equity class, this increase in this single NEPC capital market assumption would lead to a 0.26% increase in the total portfolio assumed real rate of return.

   The two primary reasons Segal uses the survey approach in developing the real rate of return assumption for the more common asset classes are (1) to avoid any over weighted influence of one investment consultant’s capital market assumptions on the real rate of return component of the investment return assumption and (2) to reduce the volatility in the return assumptions for each asset class. Consistent with those reasons, we have continued to use NEPC’s 2018 Private Equity capital market assumption of 8.97% in developing the real return component of our recommended investment return assumption. As will be discussed further in the development of the risk adjustment component of the investment return assumption, this allows for a more consistent measure of confidence level in Segal’s risk adjustment model. If the Private Equity asset class does show higher returns than previously assumed, any such superior returns will be recognized as they materialize in future annual actuarial valuations.
4. Therefore, we recommend that the 5.50% portfolio real rate of return developed above be used to determine the System’s investment return assumption. This is 0.13% higher than the return that was used two years ago in the review of the recommended investment return assumption for the June 30, 2018 valuation. The difference is due to changes in the System’s target asset allocation (+0.07%) and changes in the other real rate of return assumptions provided to us by the investment advisory firms (+0.06%).

System Expenses

For funding purposes, the real rate of return assumption for the portfolio needs to be adjusted for administrative and investment expenses expected to be paid from investment income. We understand that NEPC capital market assumptions for Private Equity are net of active management fees. Accordingly, we have netted out the Private Equity management fees and expenses in evaluating the expense component of the investment return assumption.

On a net of active management fees basis, the following table provides the administrative and investment expenses in relation to the actuarial value of assets for the five-year period ending June 30, 2019.

Administrative and Investment Expenses as a Percentage of Actuarial Value of Assets Net of Active Management Fees (Dollars in 000's)

Year Ending June 30	Actuarial Value of Assets[11]	Administrative Expenses[12]	Investment Expenses[13]	Administrative %	Investment %	Total %
2015	$13,895,589	$19,878	$42,278	0.14%	0.30%	0.44%
2016	14,752,103	19,727	39,926	0.13	0.27	0.40
2017	15,686,973	20,244	40,006	0.13	0.26	0.39
2018	16,687,908	20,778	43,292	0.12	0.26	0.38
2019	17,711,462	22,905	45,306	0.13	0.26	0.39
Five-Year Average				**0.13**	**0.27**	**0.40**
Current Assumption				**0.15**	**0.25**	**0.40**
Proposed Assumption				**0.15**	**0.25**	**0.40**

Based on this experience, we have maintained the system expenses component of the investment return assumption at 0.40%.

Note related to investment expenses paid to active managers – As cited above, under Section 3.6.3.d of ASOP No. 27, the effect of an active investment management strategy should be considered "net of investment expenses" when determining whether "the actuary has reason to believe, based on relevant supporting data, that such superior or inferior returns represent a reasonable expectation over the long term." For LACERS, about 1/3 of the investment expenses were paid for expenses associated with active managers, during the year ended June 30, 2019.

We have not performed a detailed analysis to measure how much of the investment expenses paid to active managers might have been offset by additional returns ("alpha") earned by that active management. For now, we will continue to use the current methodology that any "alpha"

[11] As of end of plan year.

[12] Note that some California public retirement systems (including LAFPP) have taken the approach of including an explicit charge for administrative expenses instead of a reduction in the investment return assumption to implicitly defray the administrative expenses.

[13] Includes investment management expenses and investment related administrative expense, net of expenses associated with private equity.

that may be identified would be treated as an increase in the risk adjustment and corresponding confidence level. For example, 0.25% of alpha would increase the confidence level by about 3% (see discussions that follow on definitions of risk adjustment and confidence level).

Risk Adjustment

The real rate of return assumption for the portfolio is adjusted to reflect the potential risk of shortfalls in the return assumptions. The System's asset allocation determines this portfolio risk, since risk levels are driven by the variability of returns for the various asset classes and the correlation of returns among those asset classes. This portfolio risk is incorporated into the real rate of return assumption through a risk adjustment.

The purpose of the risk adjustment (as measured by the corresponding confidence level) is to increase the likelihood of achieving the actuarial investment return assumption in the long term.[14] This is consistent with our experience that retirement plan fiduciaries would generally prefer that returns exceed the assumed rate more often than not.

The 5.50% expected real rate of return developed earlier in this report was based on expected mean or average arithmetic returns. In our model, the confidence level associated with a particular risk adjustment represents the relative likelihood that future investment earnings would equal or exceed the assumed earnings over a 15-year period on an expected value basis.[15] The 15-year time horizon represents an approximation of the "duration" of the fund's liabilities, where the duration of a liability represents the sensitivity of that liability to interest rate variations. Note that, based on the investment return assumptions recently adopted by systems that have been analyzed under this model, we observe a confidence level in the range of 50% to 60%, with LACERS being at the higher end of that range.

Two years ago, the Board adopted an investment return assumption of 7.25%. That return implied a risk adjustment of 0.72%, reflecting a confidence level of 58% that the actual average return over 15 years would not fall below the assumed return, assuming that the distribution of returns over that period follows the normal statistical distribution.[16]

If we use the same 58% confidence level from our last study to set this year's risk adjustment, based on the current long-term portfolio standard deviation of 13.33% provided by NEPC for this study, the corresponding risk adjustment would be 0.73%. Together with the other investment return components, this would result in an investment return assumption of 7.12%, which is lower than the current assumption of 7.25%.

Based on the general practice of using one-quarter percentage point increments for economic assumptions, we evaluated the effect on the confidence level of alternative analyses of the investment return assumption, including the effect of the Private Equity capital market assumption (PE CMA). Those alternatives are summarized in the table below, which shows all the components of the investment return assumption under Segal's risk adjustment model:

[14] This type of risk adjustment is referred to in the Actuarial Standards of Practice as a "margin for adverse deviation."

[15] If a retirement system uses the expected arithmetic average return as the discount rate in the funding valuation, that retirement system is expected to have no surplus or asset shortfall relative to its expected obligations assuming all actuarial assumptions are met in the future.

[16] Based on an annual portfolio return standard deviation of 13.13% provided by NEPC in 2018. Strictly speaking, future compounded long-term investment returns will tend to follow a log-normal distribution. However, we believe the normal distribution assumption is reasonable for purposes of setting this type of risk adjustment.

Comparative Calculations of Investment Return Assumption

Assumption Component	(A) June 30, 2018 Adopted PE CMA = 8.97%	(B) June 30, 2020 Recommended PE CMA = 8.97%	(C) June 30, 2020 Recommended PE CMA = 10.81%
Inflation	3.00%	2.75%	2.75%
Plus Portfolio Real Rate of Return	5.37%	5.50%	5.76%
Minus Expense Adjustment	(0.40)%	(0.40)%	(0.40)%
Minus Risk Adjustment	(0.72)%	(0.85)%	(1.11)%
Total Return	**7.25%**	**7.00%**	**7.00%**
Confidence Level	**58%**	**59%**	**62%**

In this study, the determination of a consistent measure of confidence level is complicated by the extraordinary increase in a single asset class capital market assumption from LACERS' investment consultant, which we understand resulted from a change in methodology. Column A above shows the components of the investment return assumption adopted by LACERS two years ago. That analysis used NEPC's 2018 real return Private Equity Capital Market Assumption (PE CMA) of 8.97%.

In the current study, absent any material changes in the other components, the lower inflation component recommended earlier in this report would lead directly to a lower total return assumption of 7.00%, just as was recommended in Segal's report two years ago. One way to think of this is that the net real return is the nominal return of 7.25% minus 3.00% inflation, or 4.25%. So if inflation is now expected to be 0.25% lower, unless you increase the net real return (from 4.25% to 4.50%) the nominal return will also decrease by 0.25%.

In practice, for the current study, Column B shows that if we reflect the modest changes in asset allocation and capital market assumptions other than Private Equity, that same 7.00% assumption would now have a somewhat higher risk adjustment and confidence level, due to the modest increase in portfolio real return. However the net real return remains unchanged at 4.25%. In the simplest terms, this is the basis for Segal's recommended investment return assumption of 7.00%: absent any material change in asset allocation or broad indicators of capital market expectations, the net real return should remain at 4.25%, with the lower inflation component then leading to a lower nominal return of 7.00%.

For discussion purposes, Column C shows that if we were to reflect NEPC's 2019 PE CMA of 10.81% then as discussed in footnote 10 the portfolio real return would increase by 0.26% to 5.76%. Because we do not believe that this change in this capital market assumption justifies a higher net real return, in our component model we would treat this potential increase in assumed portfolio real return as an increase in the risk adjustment and confidence level, rather than as an increase in the net real return. As shown in Column C, this would produce a risk adjustment of 1.11%, which corresponds to a confidence level of 62%. As shown in a subsequent table, even this 62% confidence level would be generally consistent with some historical confidence levels implicit in the investment return assumptions adopted by the Board. However, because the 62% confidence is the direct result of the extraordinary increase in a single asset class capital market assumption, we believe the 59% confidence level shown in Column B is a more consistent measure.

In effect, by recommending a 7.00% investment return we are recommending that even if the Private Equity asset class does show higher returns than previously assumed, any such superior returns would be recognized only as they materialize in future annual actuarial valuations. In our model that recommendation would be represented by using any such higher assumed returns to increase the confidence level so as to have a greater margin in case those higher returns are not achieved.

For reference, the table below shows the recommended investment return assumption, the risk adjustment, and the corresponding confidence level just discussed compared to the values from prior studies.

Year Ending June 30	Investment Return	Risk Adjustment	Corresponding Confidence Level
2005	8.00%	1.14%	65%
2008	8.00%	1.29%	66%
2011	7.75%	0.57%	57%
2014 (Alternative)	7.75%	0.69%	58%
2014 (Adopted)	7.50%	0.94%	61%
2014 (Adopted Value with Restated Expense Adjustment)	7.50%	0.74%	59%
2017 (Recommended)	7.00%	0.87%	60%
2017 (Alternative; Adopted)	7.25%	0.62%	57%
2018 (Recommended, with 2.75% inflation)	7.00%	0.72%	58%
2018 (Adopted, with 3.00% inflation)	7.25%	0.72%	58%
2020 Recommended	7.00%	0.85%	59%

As we have discussed in prior experience studies, the risk adjustment model and associated confidence level is most useful as a means for comparing how the System has positioned itself relative to risk over periods of time.[17] The use of the 59% confidence level associated with the recommended 7.00% assumption under Segal's model should be considered in context with other factors, including:

- As noted above, the confidence level is more of a relative measure than an absolute measure, and so can be reevaluated and reset for future comparisons.
- The confidence level is based on the standard deviation of the portfolio that is determined and provided to us by NEPC. The standard deviation is a statistical measure of the future

[17] In particular, it would not be appropriate to use this type of risk adjustment as a measure of determining an investment return rate that is "risk-free."

volatility of the portfolio and so is itself based on assumptions about future portfolio volatility and can be considered somewhat of a “soft” number.

- We have not taken into account any additional returns (“alpha”) that might be earned on active management. This means that if active management generates enough alpha to cover its related expenses, this would increase returns. This aspect of Segal’s model is further evaluated below.
- As with any model, the results of the risk adjustment model should be evaluated for reasonableness and consistency. This is discussed in the later section on “Comparison with Other Public Retirement Systems”.

Taking into account the factors above, we have developed our recommended investment return assumption for LACERS’ consideration. Our recommendation is to reduce the net investment return assumption from 7.25% to 7.00%, based on the recommended lower inflation expectation. As discussed above, this return implies a risk adjustment of 0.85% and a confidence level of 59%.

Recommended Investment Return Assumption

The following table summarizes the components of the recommended investment return assumption developed in the previous discussion. For comparison purposes, we have also included similar values from the last study.

Calculation of Investment Return Assumption

Assumption Component	June 30, 2020 Recommended	June 30, 2018 Adopted Value
Inflation	2.75%	3.00%
Plus Portfolio Real Rate of Return	5.50%	5.37%
Minus Expense Adjustment	(0.40)%	(0.40)%
Minus Risk Adjustment	(0.85)%	(0.72)%
Total	**7.00%**	**7.25%**
Confidence Level	**59%**	**58%**

Based on this analysis, we recommend that the investment return assumption be decreased from 7.25% to 7.00% per annum.

Comparison with Alternative Model used to Review Investment Return Assumption

Since our appointment as actuary for LACERS, we have consistently reviewed investment return assumptions based on our model that incorporates expected arithmetic real returns for the different asset classes and for the entire portfolio as one component of that model.[18] The use of "forward looking expected arithmetic returns" is one of the approaches discussed for use in the Selection of Economic Assumptions for measuring Pension Obligations under Actuarial Standards of Practice (ASOP) No. 27.

Besides using forward looking expected arithmetic returns, ASOP No. 27 also discussed setting investment return assumptions using an alternative "forward looking expected geometric returns" approach.[19] Even though expected geometric returns are lower than expected arithmetic returns, those California public retirement systems that have set investment return assumptions using this alternative approach have in practice adopted investment return assumptions that are comparable to those adopted by the Board for LACERS. This is because under the model used by those retirement systems, their investment return assumptions are not reduced to anticipate future investment expenses.[20]

For comparison, we evaluated the recommended 7.00% assumption based on the expected geometric average return for the entire portfolio, but net of only administrative expenses. Under that model, over a 15-year period, there is a 59% likelihood that future average geometric returns will meet or exceed 7.00%.[21]

Comparison with Other Public Retirement Systems

One final test of the recommended investment return assumption is to compare it against those used by other public retirement systems, both in California and nationwide.

We note that an investment return of 7.00% or lower is becoming more common among California public sector retirement systems. In particular, of the twenty 1937 Act CERL systems, eleven use a 7.00% investment return assumption, two use 6.75%, and one uses 6.50%. The remaining six 1937 Act CERL systems currently use a 7.25% earnings assumption. Furthermore, both CalPERS and CalSTRS currently use a 7.00% earnings assumption, while the San Jose and San Diego City retirement systems use investment return assumptions of 6.75% and 6.50%, respectively. Both LADWP and LAFPP have adopted a 7.00% assumption.

The following table compares LACERS' recommended net investment return assumption against those of the 188 large public retirement funds in their 2018 fiscal year valuations based

[18] Again, as discussed in the footnote to "Risk Adjustment", if a retirement system uses the expected arithmetic average return as the discount rate in the funding valuation, that retirement system is expected to have no surplus or asset shortfall relative to its expected obligations assuming all actuarial assumptions are met in the future.

[19] If a retirement system uses the expected geometric average return as the discount rate in the funding valuation, that retirement system is expected to have an asset value that generally converges to the median accumulated value as the time horizon lengthens assuming all actuarial assumptions are met in the future.

[20] This means that if the model were to be applied to LACERS, the expected geometric return would not be adjusted for the approximately 0.40% administrative and investment expenses paid by LACERS.

[21] We performed this stochastic simulation using the capital market assumptions included in the 2019 survey prepared by Horizon Actuarial Services. That simulation was performed using 10,000 trial outcomes of future market returns, using assumptions from 20-year arithmetic returns, standard deviations and correlation matrix that were found in the 2019 survey that included responses from 34 investment advisors.

on information found in the Public Plans Data website, which is produced in partnership with NASRA:[22]

		Public Plans Data[23]		
Assumption	**LACERS**	**Low**	**Median**	**High**
Net Investment Return	7.00%	4.50%	7.25%	8.00%

The detailed survey results show that more than 80% of the systems have an investment return assumption in the range of 6.75% to 7.50%. Also, about one-third of the systems have reduced their investment return assumption during the year. State systems outside of California tend to change their economic assumptions less frequently and so may lag behind emerging practices in this area.

In summary, we believe that both the risk adjustment model and other considerations indicate a lower earnings assumption. The recommended assumption of 7.00% provides for a risk margin within the risk adjustment model and is consistent with LACERS' current practice relative to other public systems.

[22] Among 188 large public retirement funds, the investment return assumption was not available for 6 of the public retirement funds in the survey data.

[23] Public Plans Data website – Produced in partnership with the National Association of State Retirement Administrators (NASRA)

C. Salary Increase

Salary increases impact plan costs in two ways: (i) by increasing members' benefits (since benefits are a function of the members' highest average pay) and future normal cost collections; and (ii) by increasing total active member payroll which in turn generates lower UAAL contribution rates. These two impacts are discussed separately as follows:

As an employee progresses through his or her career, increases in pay are expected to come from three sources:

1. **Inflation:** Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed inflation, but over the long term, labor market forces may require an employer to maintain its employees' standards of living.

   As discussed earlier in this report, we are recommending that the assumed rate of inflation be reduced from 3.00% to 2.75% per annum. This inflation component is used as part of the salary increase assumption.

2. **Real "Across the Board" Pay Increases:** These increases are typically termed productivity increases since they are considered to be derived from the ability of an organization or an economy to produce goods and services in a more efficient manner. As that occurs, at least some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees "across the board". The State and Local Government Workers Employment Cost Index produced by the Department of Labor provides evidence that real "across the board" pay increases have averaged about 0.4% – 0.7% annually during the last ten to twenty years.

   We also referred to the annual report on the financial status of the Social Security program published in April 2020. In that report, real "across the board" pay increases are forecast to be 1.1% per year under the intermediate assumptions.

   The real pay increase assumption is generally considered a more "macroeconomic" assumption that is not necessarily based on individual plan experience. However, recent salary experience with public systems in California as well as anecdotal discussions with plans and plan sponsors indicate lower future real wage growth expectations for public sector employees. We note that for LACERS' active members, the actual average inflation plus "across the board" increase (i.e., wage inflation) over the three year period ending June 30, 2019 was 1.25%, which is less than the change in CPI during that same period. In addition, we have reviewed the average wage inflation compared to the average change in CPI over the last eight years ending June 30, 2019 and while the average wage inflation is still lower than the average change in CPI, the gap is significantly less.

Valuation Date	Actual Average Increase[24]	Actual Change in CPI[25]
June 30, 2012	1.35%	2.04%
June 30, 2013	3.50%	1.08%
June 30, 2014	4.61%[26]	1.35%
June 30, 2015	0.99%	0.91%
June 30, 2016	0.87%	1.89%
Five Year Average	**2.26%**	**1.45%**
June 30, 2017	0.59%	2.79%
June 30, 2018	3.22%	3.81%
June 30, 2019	(0.07)%	3.07%
Three Year Average	**1.25%**	**3.22%**
Eight Year Average	**1.88%**	**2.12%**

Considering these factors, we recommend maintaining the real "across the board" salary increase assumption at 0.50%. This means that the combined inflation and "across the board" salary increase assumption will decrease from 3.50% to 3.25%.

3. **Merit and Promotion Increases:** As the name implies, these increases come from an employee's career advances. This form of pay increase differs from the previous two, since it is specific to the individual. For LACERS, there are service-specific merit and promotion increases.

   The annual merit and promotion increases are determined by measuring the actual increases received by members over the experience period, net of the inflationary and real "across the board" pay increases. This is accomplished by:

   a. Measuring each continuing member's actual salary increase over each year of the experience period on a salary-weighted basis, with higher weights assigned to experience from members with larger salaries;
   b. Excluding any members with increases of more than 50% or decreases of more than 10% during any particular year;
   c. Categorizing these increases into groups by years of service;
   d. Removing the wage inflation component from these increases (assumed to be equal to the increase in the members' average salary during the year);
   e. Averaging these annual increases over the experience period; and
   f. Modifying current assumptions to reflect some portion of these measured increases reflective of their "credibility."

   To be consistent with the other economic assumptions, these merit and promotion assumptions should be used in combination with the 3.25% assumed inflation and real "across the board" increases recommended in this study.

[24] Reflects the increase in average salary for members at the beginning of the year versus those at the end of the year. It does not reflect the average salary increases received by members who worked the full year.
[25] Based on the change in the annual average CPI for the Los Angeles-Long Beach-Anaheim Area compared to the prior year.
[26] Restated after the June 30, 2014 valuation data is finalized.

The following table shows the actual average merit and promotion increases by years of service over the three-year period from July 1, 2016 through June 30, 2019. The current and proposed assumptions are also shown. The actual increases were reduced by the actual average inflation plus “across the board” increase (i.e. wage inflation, estimated as the increase in average salaries) for each year during the experience period (1.25% on average for the three-year period).

As shown in the table below, the proposed increases in the merit and promotion assumptions are relatively larger at the higher service categories. Note that for informational purposes, we have also included in the table the proposed assumptions from the prior study, which were not adopted by the Board. This information is being provided to show that the increase in the proposed rates for this study would have been somewhat mitigated if the prior assumptions were adopted.

Lastly, to get a sense on how merit and promotion increases have progressed after the recovery from the last economic downturn in 2008/2009, we have also looked at the actual experience based on combining results from current three year-period (i.e., July 1, 2016 – June 30, 2019) with the five years included in the prior two studies (i.e., July 1, 2011 - June 30, 2016, excluding July 1, 2016 – June 30, 2017 to avoid double counting that year’s experience). The combined eight year results are provided in the table below.

	Rate (%)				
Years of Service	**Current Assumption**	**Proposed Assumption from Prior Study**	**Actual Average Increase from Current Study**	**Actual Average Increase from Current and Prior Two Studies**	**Proposed Assumption**
0 – 1	6.50	6.50	7.06	6.14	6.70
1 – 2	6.20	6.40	8.32	7.47	6.50
2 – 3	5.10	5.50	7.25	6.22	5.80
3 – 4	3.10	3.30	5.65	4.28	4.00
4 – 5	2.10	2.40	4.98	3.44	3.00
5 – 6	1.10	1.50	4.53	2.61	2.20
6 – 7	1.00	1.30	4.17	2.15	2.00
7 – 8	0.90	1.20	3.51	1.85	1.80
8 – 9	0.70	1.00	3.49	1.77	1.60
9 – 10	0.60	0.90	3.09	1.72	1.40
10 & Over	0.40	0.60	2.46	1.35	1.00

Chart 1 compares actual experience with the current and proposed rates of merit and promotion increases. The proposed rates from the prior study and the actual experience including the current and prior two studies are also included as a comparison.

Based on this experience, we are proposing changes in the merit and promotion salary increases, with increases in all service categories. Overall, total salary increases are assumed to be higher under the proposed assumptions.

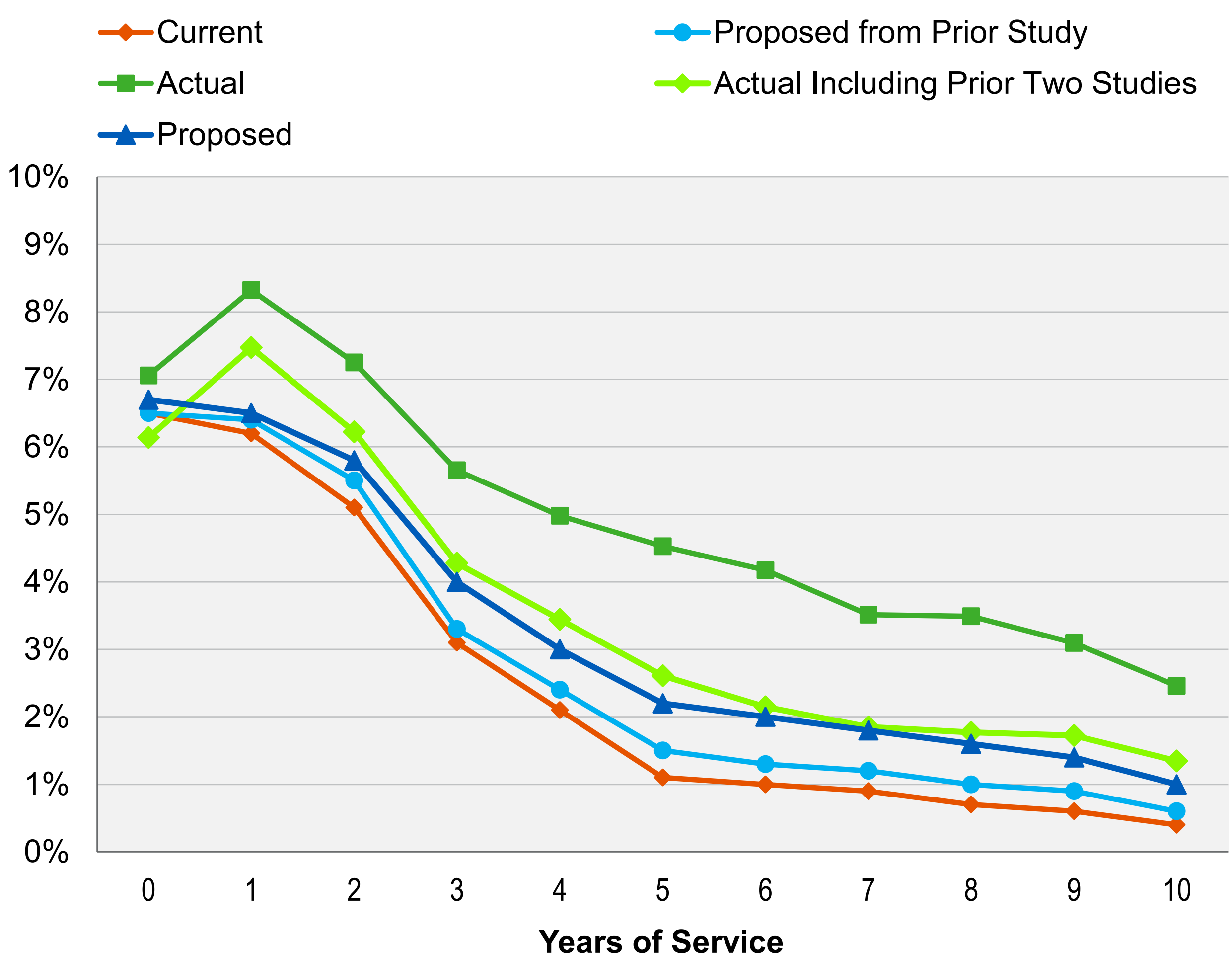
Active Member Payroll

Projected active member payrolls are used to develop the UAAL contribution rate. Future values are determined as a product of the number of employees in the workforce and the average pay for all employees. The average pay for all employees increases only by inflation and real "across the board" pay increases. The merit and promotion increases are not an influence, because this average pay is not specific to an individual.

Under the Board's current practice, the UAAL contribution rate is developed by assuming that the total payroll for all active members will increase annually over the amortization periods at the same assumed rates of inflation plus real "across the board" salary increase assumptions as are used to project the member's future benefits.

We recommend that the active member payroll increase assumption be reduced from 3.50% to 3.25% annually, consistent with the combined inflation plus real "across the board" salary increase assumptions.

Chart 1: Merit and Promotion Salary Increase Rates



IV. Demographic Assumptions

A. Retirement Rates

The age at which a member retires from service (i.e., who does not retire on a disability pension) will affect both the amount of the benefits that will be paid to that member as well as the period over which funding must take place.

The retirement experience during the current three-year period indicated that there were more actual retirements than expected. In this study, we have adjusted the retirement probabilities to reflect the current three-year experience, as well as prior experience as represented by the current retirement assumptions for members in Tier 1.

All Tier 1 Airport Peace Officers (including certain fire fighters) appointed to their positions before January 7, 2018 who elected to remain at LACERS after January 6, 2018 and who paid their mandatory additional contribution of $5,700 to LACERS before January 8, 2019, or prior to their retirement date, whichever was earlier, are designated as Tier 1 Enhanced. As there was a need to come up with the retirement rates for these members before any actual retirement experience would become available, we estimated that Tier 1 Enhanced members would retire earlier compared to members in Tier 1 (based on comparisons of the benefit level) by applying the rates used for Tier 1 members after increasing those rates by 1% before age 70.

For this study, retirement experience for Tier 1 Enhanced members is only starting to emerge. In setting the proposed retirement rates for Tier 1 Enhanced, we have looked at the actual experience over the full 3-year period ending June 30, 2019, though the available experience would only cover about 1-1/2 years (i.e., from January 2018 through June 2019). As there were a lot more retirements in the first six-month period immediately after the Tier 1 Enhanced benefit was adopted, we believe it would not be unreasonable to assume that some Tier 1 Enhanced members might have been waiting to retire in anticipation of receiving an enhanced benefit after the new plan provisions were adopted, so we have looked only at the experience for the period from July 1, 2018 through June 30, 2019 in setting the proposed Tier 1 Enhanced assumptions. This was done to try to eliminate the effect of possible short-term fluctuation in retirement experience when setting long-term retirement assumptions, although very little experience over that period was available after we excluded retirements in the first six-month period.

Even though there is no actual experience available for Tier 3, we are recommending adjustments in the Tier 3 retirement assumptions to maintain consistency with the changes we are recommending for Tier 1, as the rates for Tier 3 were initially developed based, in part, on the benefit level comparisons to Tier 1.

The tables on the following two pages show the observed service retirement rates for Tier 1 and Tier 1 Enhanced members, respectively, based on the actual experience over the past three years. The observed service retirement rates were determined by comparing those members who actually retired from service to those eligible to retire from service. This same methodology is followed throughout this report and was described in Section II. Also shown are the current rates assumed and the rates we propose.

Tier 1

	Rate of Retirement (%)					
	Current Rate		Actual Rate		Proposed Rate	
Age	Non-55/30	55/30	Non-55/30	55/30	Non-55/30	55/30
50	6.0	0.0	2.5	0.0	5.0	0.0
51	3.0	0.0	3.8	0.0	3.0	0.0
52	3.0	0.0	0.9	0.0	3.0	0.0
53	3.0	0.0	2.6	0.0	3.0	0.0
54	17.0	0.0	20.4	0.0	18.0	0.0
55	6.0	24.0	5.6	30.3	6.0	27.0
56	6.0	16.0	5.9	20.6	6.0	18.0
57	6.0	16.0	5.5	18.7	6.0	18.0
58	6.0	16.0	4.8	20.0	6.0	18.0
59	6.0	16.0	5.4	21.8	6.0	18.0
60	7.0	16.0	7.5	20.9	7.0	18.0
61	7.0	16.0	7.1	18.6	7.0	18.0
62	7.0	16.0	8.6	17.8	7.0	18.0
63	7.0	16.0	7.4	17.5	7.0	18.0
64	7.0	16.0	8.2	21.6	7.0	18.0
65	13.0	20.0	12.8	26.0	14.0	21.0
66	13.0	20.0	16.4	22.5	14.0	21.0
67	13.0	20.0	14.3	20.5	14.0	21.0
68	13.0	20.0	15.6	17.4	14.0	21.0
69	13.0	20.0	16.9	25.0	14.0	21.0
70	100.0	100.0	13.9	21.6	100.0	100.0

As shown above, we are recommending overall increases in the retirement rates for Tier 1 members.

Tier 1 Enhanced

	Rate of Retirement (%)					
	Current Rate		Actual Rate		Proposed Rate	
Age	Non-55/30	55/30	Non-55/30	55/30	Non-55/30	55/30
50	7.0	0.0	0.0	0.0	7.0	0.0
51	4.0	0.0	0.0	0.0	5.0	0.0
52	4.0	0.0	0.0	0.0	5.0	0.0
53	4.0	0.0	0.0	0.0	5.0	0.0
54	18.0	0.0	33.3	0.0	20.0	0.0
55	7.0	25.0	9.1	62.5	8.0	30.0
56	7.0	17.0	0.0	33.3	8.0	22.0
57	7.0	17.0	7.1	0.0	8.0	22.0
58	7.0	17.0	15.4	66.7	8.0	22.0
59	7.0	17.0	25.0	80.0	8.0	22.0
60	8.0	17.0	40.0	42.9	9.0	22.0
61	8.0	17.0	33.3	40.0	9.0	22.0
62	8.0	17.0	50.0	0.0	9.0	22.0
63	8.0	17.0	0.0	0.0	9.0	22.0
64	8.0	17.0	0.0	100.0	9.0	22.0
65	14.0	21.0	0.0	50.0	16.0	26.0
66	14.0	21.0	100.0	0.0	16.0	26.0
67	14.0	21.0	0.0	0.0	16.0	26.0
68	14.0	21.0	0.0	100.0	16.0	26.0
69	14.0	21.0	0.0	100.0	16.0	26.0
70	100.0	100.0	0.0	0.0	100.0	100.0

As shown above, we are recommending overall increases in the retirement rates for Tier 1 Enhanced members.

Tier 3

	Rate of Retirement (%)			
	Current Rate		Proposed Rate	
Age	**Non-55/30**	**55/30**	**Non-55/30**	**55/30**
50	6.0	0.0	5.0	0.0
51	3.0	0.0	3.0	0.0
52	3.0	0.0	3.0	0.0
53	3.0	0.0	3.0	0.0
54	16.0	0.0	17.0	17.0
55	0.0[1]	23.0	0.0[1]	26.0
56	0.0[1]	15.0	0.0[1]	17.0
57	0.0[1]	15.0	0.0[1]	17.0
58	0.0[1]	15.0	0.0[1]	17.0
59	0.0[1]	15.0	0.0[1]	17.0
60	6.0	15.0	6.0	17.0
61	6.0	15.0	6.0	17.0
62	6.0	15.0	6.0	17.0
63	6.0	15.0	6.0	17.0
64	6.0	15.0	6.0	17.0
65	12.0	19.0	13.0	20.0
66	12.0	19.0	13.0	20.0
67	12.0	19.0	13.0	20.0
68	12.0	19.0	13.0	20.0
69	12.0	19.0	13.0	20.0
70	100.0	100.0	100.0	100.0

(1) Not eligible to retire under the provisions of the Tier 3 plan.

As shown above, we are recommending overall increases in the retirement rates for Tier 3 members.

Chart 2 compares actual experience with the current and proposed rates of retirement for Tier 1 members younger than age 55 or with less than 30 years of service. Chart 3 shows the same information for Tier 1 members at least age 55 with at least 30 years of service.

Charts 4 and 5 show the same information as Charts 2 and 3, respectively, for Tier 1 Enhanced members.

Chart 6 compares the current and proposed rates of retirement for Tier 3 members younger than age 55 or with less than 30 years of service. Chart 7 shows the same information for Tier 3 members at least age 55 with at least 30 years of service.

Deferred Vested Members

In prior valuations, deferred vested members were assumed to retire at age 59. The average age at retirement over the current three-year experience study period was 59.7 for all deferred vested members.

We recommend maintaining the assumed retirement age at age 59 for deferred vested participants.

Reciprocity

Based on data available from current inactive vested participants, there is a much lower incidence of members who went to work for a reciprocal system when compared to that observed at our other California public retirement systems. We have observed that as of June 30, 2019, about 4% of all the inactive vested membership has worked for a reciprocal system. In addition, less than 1% of members who left active service and terminated from the System over the 3-year experience study period established reciprocity with another entity. We do not recommend using the less than 1% proportion of only newly terminated employees to set this assumption because it may be the case that not all members had yet reported their reciprocal status. Therefore, we recommend maintaining the reciprocity assumption of 5% for the June 30, 2020 valuation. We will continue to monitor this assumption in future valuations.

For reciprocal members, we recommend increasing the compensation increase assumption from 3.90% to 4.25% per annum, consistent with the recommended salary increase assumptions for active members discussed earlier, and reflecting the recommended promotional and merit increase assumption for members with 10 or more years of service.

Survivor Continuance under Unmodified Option

In prior Retirement Plan valuations, it was assumed that 76% of all active and inactive male members and 50% of all active and inactive female members would be married or have an eligible domestic partner upon retirement. We reviewed experience for new retirees during the three-year period and determined the actual percent of these new retirees that had an eligible spouse or eligible domestic partner at the time of retirement. The results of that analysis are shown below.

New Retirees – Actual Percent with Eligible Spouse or Domestic Partner		
Year Ending June 30	Male	Female
2017	75%	49%
2018	78%	59%
2019	74%	56%
Total	**76%**	**55%**

Based on the above, we recommend maintaining the percent married assumption at 76% for male members and increasing the percent married assumption from 50% to 52% for female members.

Since the value of the survivor's continuance benefit is dependent on the survivor's age and sex, we must also have assumptions for the age and sex of the survivor. Based on the experience for members who retired during the current three-year period and studies done for other retirement systems, we recommend the following:

1. Since almost all of the spouses are actually the opposite sex, we will continue to assume that for all active and inactive members, the survivor's sex is the opposite of the member.
2. The current and proposed assumptions for the age of the survivor for all active and inactive members are shown below. These assumptions will continue to be monitored in future experience studies.

	Member's Age as Compared to Spouse's Age	
	Male Member	Female Member
Current Assumption	3 years older	2 years younger
Actual LACERS Experience	3.0 years older	2.0 years younger
Proposed Assumption	3 years older	2 years younger

As shown above, we recommend maintaining the age difference that male members are 3 years older than their spouse, and the age difference that female members are 2 years younger than their spouse.

Chart 2: Retirement Rates
Tier 1 – "Non-55/30"

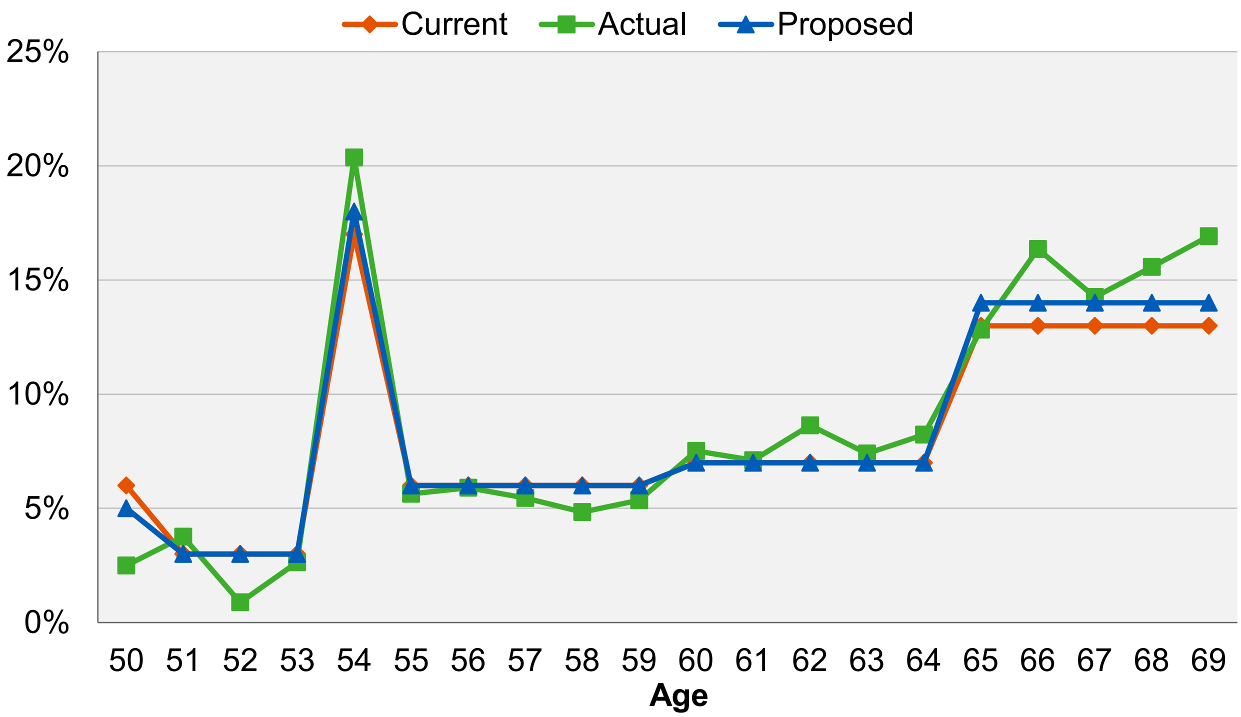


Chart 3: Retirement Rates
Tier 1 – "55/30"

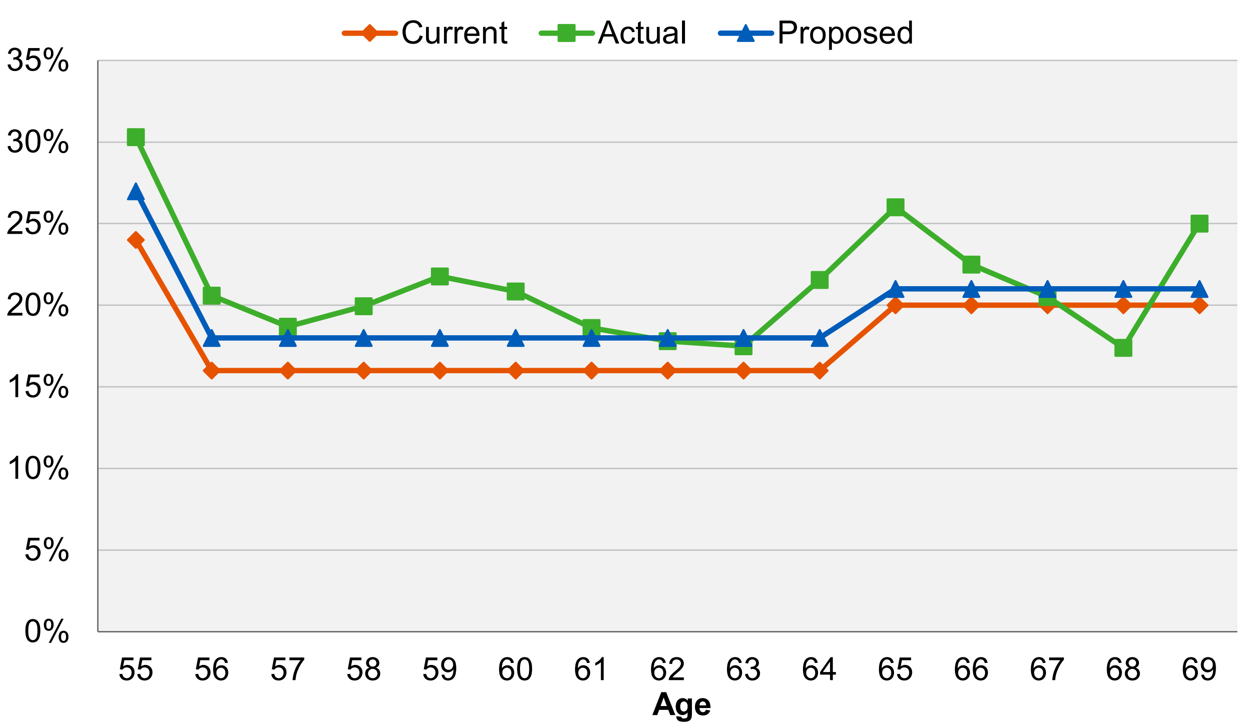


Chart 4: Retirement Rates
Tier 1 Enhanced – "Non-55/30"

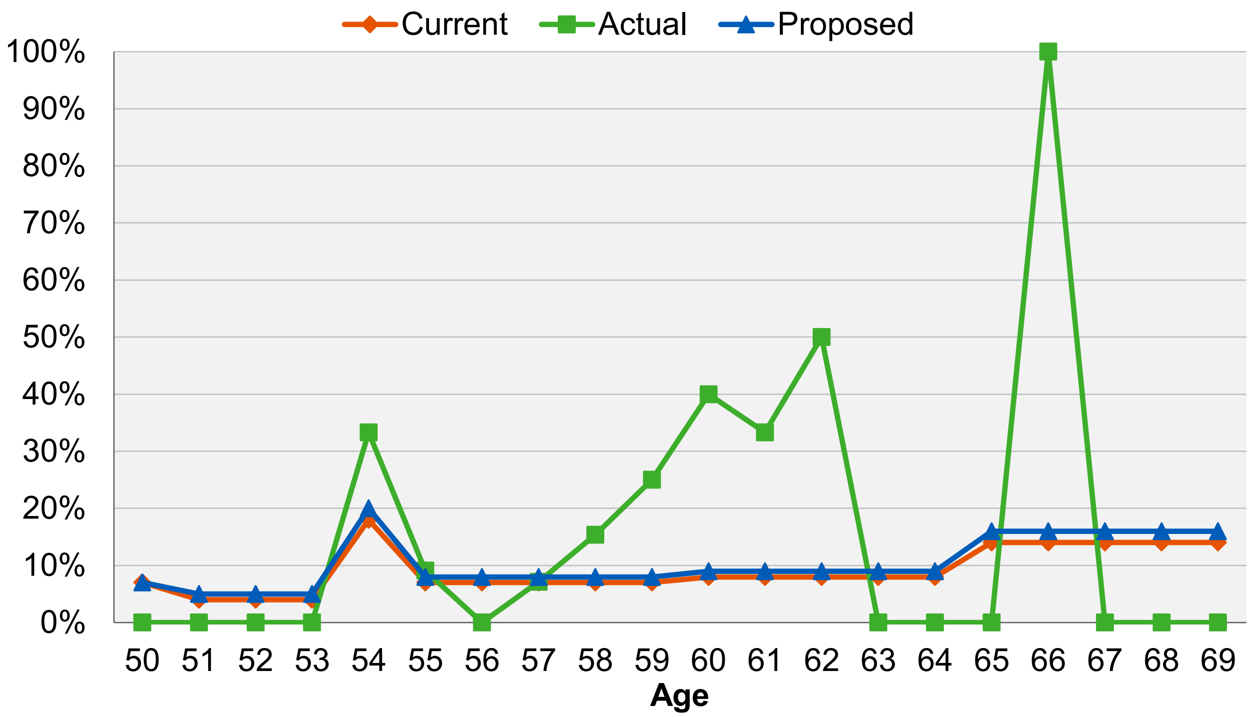


Chart 5: Retirement Rates
Tier 1 Enhanced – "55/30"

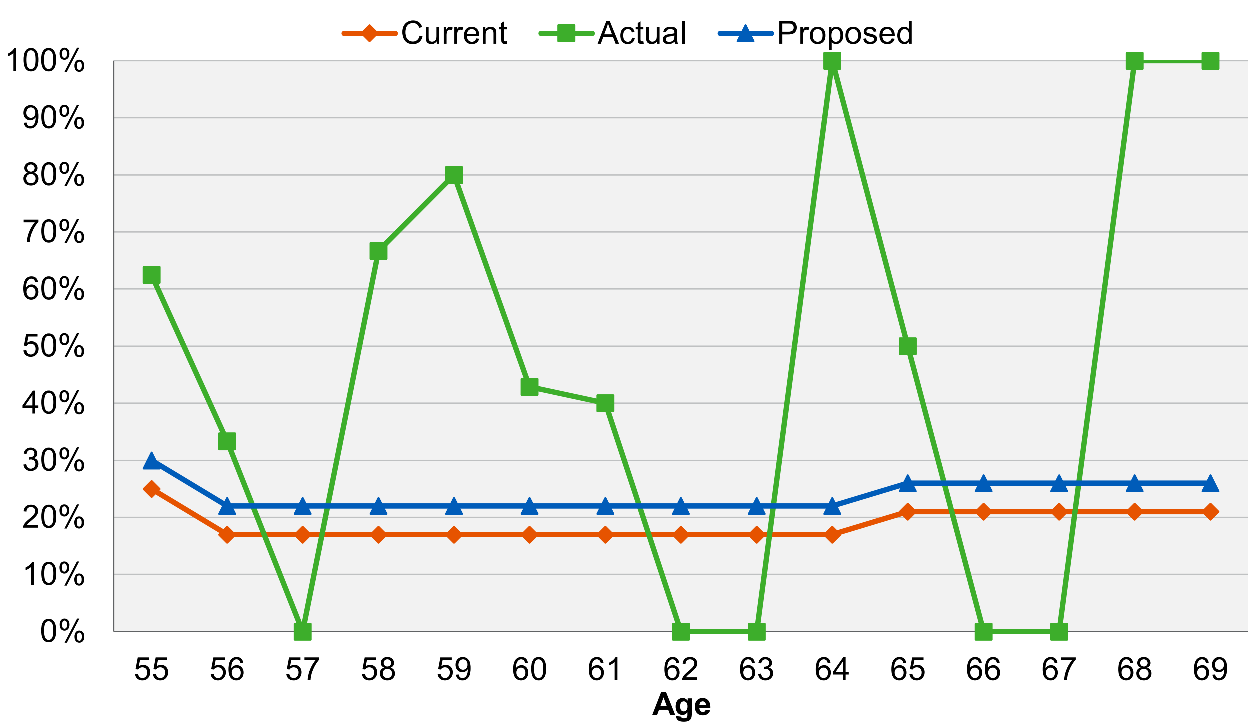


Chart 6: Retirement Rates
Tier 3 – "Non-55/30"

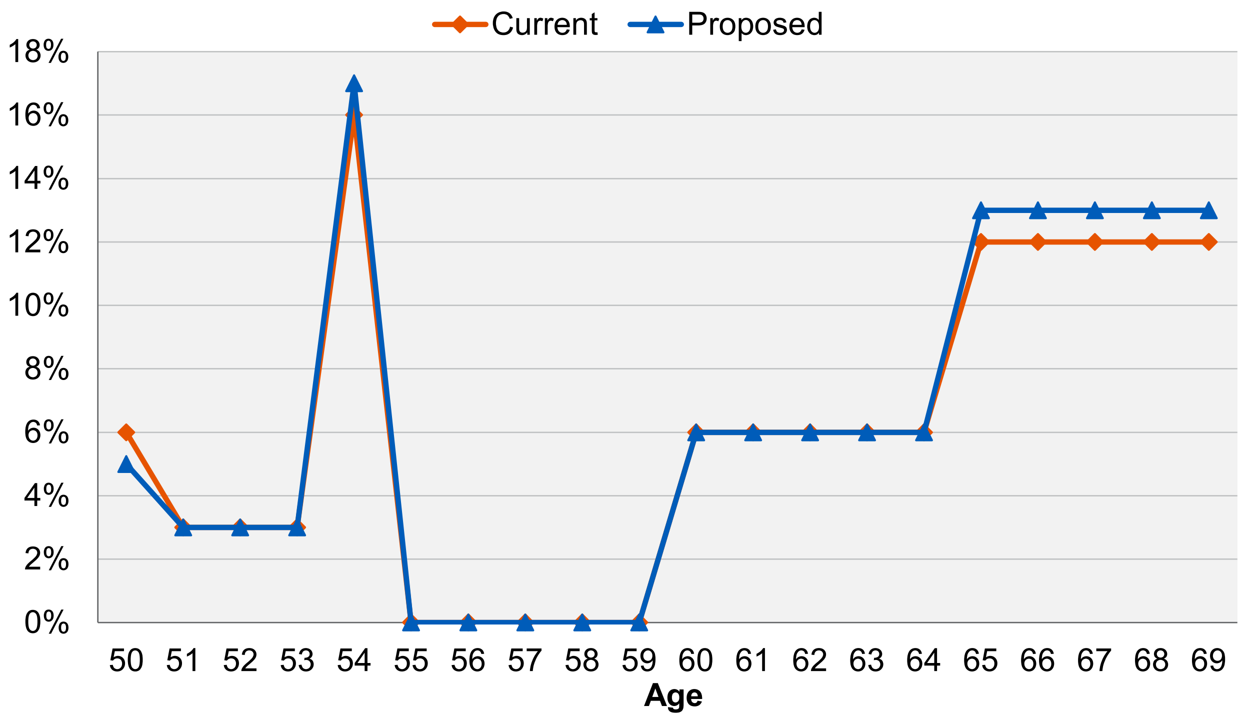
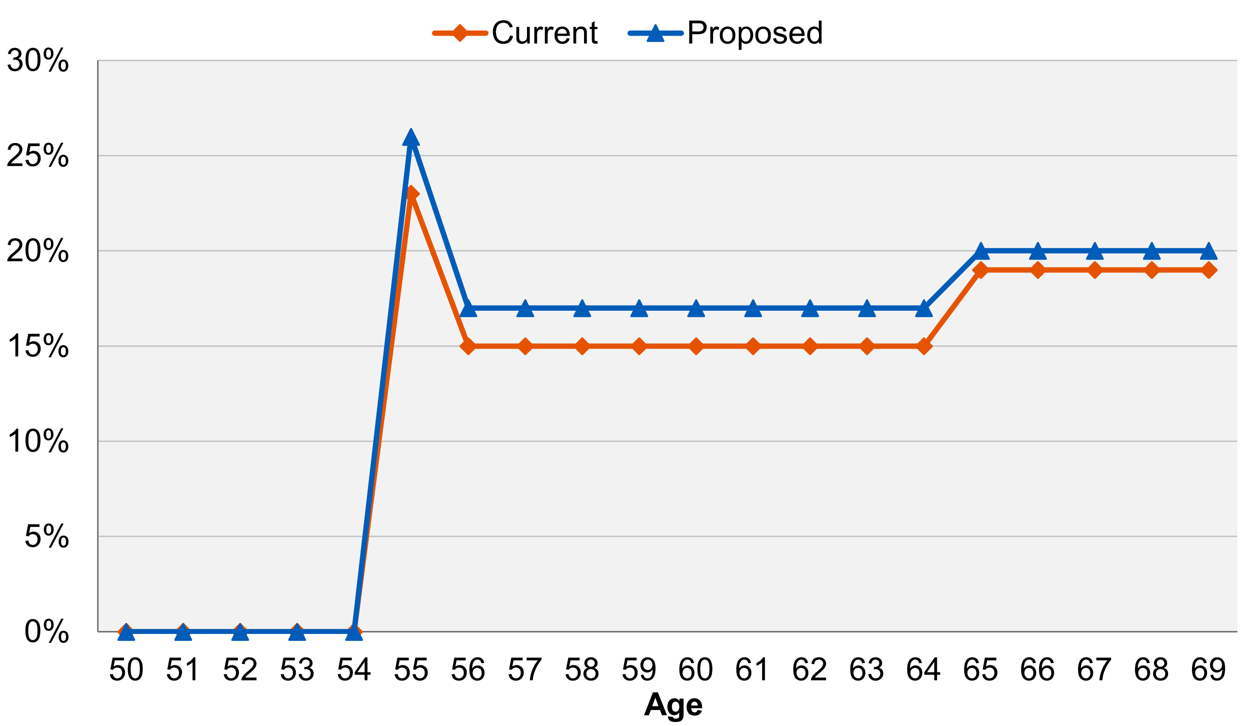


Chart 7: Retirement Rates
Tier 3 – "55/30"



B. Mortality Rates - Healthy

The “healthy” mortality rates project the life expectancy of a member who retires from service (i.e., who did not retire on a disability pension). Also, the “healthy” pre-retirement mortality rates project what proportion of members will die before retirement. The tables currently being used for post-service retirement mortality rates are the Headcount-Weighted RP-2014 Healthy Annuitant Mortality Tables (separate tables for males and females) projected generationally with the two-dimensional mortality improvement scale MP-2017. All beneficiaries are assumed to have the same mortality of a member of the opposite sex who has taken a service (non-disabled) retirement.

When we conducted the last experience study, we alerted the Board that for the Retirement Plan we may recommend a switch from a Headcount-Weighted to a Benefit-Weighted table, but only after the Society of Actuaries (SOA) provides mortality tables based on public sector experience comparable to the RP-2014 mortality tables developed using data collected from private and multi-employer pension plans.

The Retirement Plans Experience Committee (RPEC) of the SOA has recently published the Pub-2010 Public Retirement Plans Mortality Tables (Pub-2010). For the first time, the Pub-2010 mortality tables are based exclusively on public sector pension plan experience in the United States. Within the Pub-2010 family of mortality tables, there are separate tables by job categories of General, Safety, and Teachers. Included with the mortality tables is the analysis prepared by RPEC that continues to observe that benefit amounts for healthy retirees and salary for employees are the most significant predictors of mortality differences within the job categories. Therefore, Pub-2010 includes mortality rates developed for annuitants on a “benefit” weighted basis, with higher credibility assigned to experience from annuitants receiving larger benefits.

As the Pub-2010 study shows that benefit (or salary for employees) is a significant predictor of mortality difference, the Pub-2010 family of mortality tables also includes mortality rates based on population with above-median benefit amount (or salary for employees), below-median benefit amount (or salary for employees) and total population within each job category. The median benefit amounts used to determine the above-median and below-median mortality rates as shown in the Pub-2010 report for General are as follows:

	Median Amounts ($) by Gender, Job Category, and Status			
	Males		Females	
Job Category	Employees	Retirees	Employees	Retirees
General	45,800	21,200	34,700	11,900

Note: Values shown as of 2010.

Even after we adjust the above amounts by a reasonable measure of U.S. price inflation from 2010 to 2019 for a total increase of around 30%, the benefit amounts (or salaries) paid to LACERS’ members were generally higher than the adjusted median amounts shown above. Therefore, we recommend that the above-median version of the General mortality tables be used for the Retirement Plan.

As for the mortality improvement scales, they can be applied in one of two ways. Historically, the more common application is to use a "static" approach to anticipate a fixed level of mortality improvement for all annuitants receiving benefits from a retirement plan. This is in contrast to a "generational" approach where each future year has its own mortality table that reflects the forecasted improvements, using the published improvement scales. While the static approach is still used by some of Segal's California public system clients, as well as CalPERS, the generational approach is now the established practice within the actuarial profession. LACERS currently uses the generational approach.

A generational mortality table provides dynamic projections of mortality experience for each cohort of retirees. For example, the mortality rate for someone who is 65 next year will be slightly less than for someone who is 65 this year. In general, using generational mortality anticipates increases in the cost of the Plan over time as participants' life expectancies are projected to increase. This is in contrast to updating a static mortality assumption with each experience study.

We understand that RPEC intends to publish annual updates to their mortality improvement scales. Improvement scale MP-2019 is the latest improvement scale available. We recommend that given the trend in the retirement industry to move towards generational mortality, it would be reasonable for the Board to adopt the Benefit-Weighted Pub-2010 mortality table (adjusted for LACERS experience), and project the mortality improvement generationally using the MP-2019 mortality improvement scale.

In the prior experience study, we recommended a single mortality table for all members and beneficiaries. However, the Pub-2010 tables have separate tables for General, Safety, and Contingent (survivor) groups, so we are therefore recommending separate tables for members[27] and beneficiaries.

In order to use more LACERS experience in our analysis, we have used experience for an eight-year period by using data from the current (from July 1, 2016 through June 30, 2019) and the last two (from July 1, 2014 to June 30, 2017 and from July 1, 2011 to June 30, 2014) experience study periods in order to analyze this assumption.

With the use of eight years of experience, based on standard statistical theory the data is generally credible. In 2008 the SOA published an article recommending that mortality assumptions include an adjustment for credibility. Under this approach, the number of deaths needed for full credibility for a headcount-weighted mortality table is just over 1,000, where full credibility means a 90% confidence that the actual experience will be within 5% of the expected value. Therefore, in our recommended assumptions, we have generally adjusted the Pub-2010 mortality tables to fit LACERS' experience.

[27] For the members, we have used the Pub-2010 tables provided for the General group. This is the case even for the Airport Peace Officer (APO) members receiving benefits under the Tier 1 Enhanced formula where we have a total of about 500 APO members and about 40 have retired during the last two years. This is not enough mortality experience to determine specifically if the Pub-2010 tables provided for the Safety group may be more suitable for the APO members. Furthermore, since the APO group is a closed group, it is anticipated that future mortality experience will continue to be combined with the experience for the other members of LACERS.

Pre-Retirement Mortality

The table currently being used for pre-retirement mortality rates are the Headcount-Weighted RP-2014 Employee Mortality Tables (separate tables for males and females), multiplied by 90%, projected generationally with the two-dimensional mortality improvement scale MP-2017.

For members in the Retirement Plan valuation, we recommend changing the pre-retirement mortality assumption to follow the Pub-2010 General Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019. For members in the Health Plan valuation, we recommend changing the pre-retirement mortality assumption to follow the Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Post-Retirement Mortality (Service Retirements)

Among all retired members, the actual deaths weighted by benefit amounts under the current assumptions for the last eight years are shown in the table below. We also show the deaths weighted by benefit amount under the proposed assumptions. As noted above, we are recommending the use of a generational mortality table rather than a static mortality table. A generational mortality table incorporates a more explicit assumption for future mortality improvement. Accordingly, the goal is to start with a mortality table that closely matches the current experience (without a margin for future mortality improvement), and then reflect mortality improvement by projecting lower mortality rates in future years.

Also, the proposed mortality table reflects current experience to the extent that the experience is credible based on standard statistical theory. The proposed mortality table (as shown in the table below) after adjustments for credibility has an actual to expected ratio of 99%. In future years the ratio should remain around 99%, as long as actual mortality improves at the same rates as anticipated by the generational mortality tables. The number of actual deaths compared to the number expected under the current and proposed assumptions weighted by benefit amounts[28] for the last eight years are as follows:

[28] The results in the table are "benefit weighted deaths" which are measured in dollar amounts. For instance, there were 2,594 healthy male retiree deaths over the last eight years, as shown on the table on the next page, and the total monthly benefits for those members amounted to $9.19 million, which is shown in the next table.

	Members – Healthy ($ in millions)		
Gender	**Current Expected Weighted Deaths**	**Actual Weighted Deaths**	**Proposed Expected Weighted Deaths**
Male	$10.03	$9.19	$9.35
Female	$2.50	$2.12	$2.10
Total	**$12.54**	**$11.31**	**$11.45**
Actual / Expected	90%		99%

Notes: (1) Experience shown above is weighted by monthly benefit amounts for deceased members instead of by headcounts.

(2) Expected amounts are based on mortality rates from the base year projected with mortality improvements to the experience study period.

(3) Results may not add due to rounding.

For members in the Retirement Plan valuation, we recommend updating the current tables to the Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 10% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019. The recommended mortality tables will have an actual to expected ratio of 99%.

For the purpose of setting the assumptions for the Health Plan valuation, we have also provided in the table below the actual and expected deaths computed without weighting these by benefit amounts. This is similar to how actual and expected death ratios were developed based on the prior headcount approach.

	Members – Healthy		
Gender	**Current Expected Weighted Deaths**	**Actual Weighted Deaths**	**Proposed Expected Weighted Deaths**
Male	2,608	2,594	2,459
Female	869	810	758
Total	**3,477**	**3,404**	**3,217**
Actual / Expected	98%		106%

Notes: (1) Experience shown above is weighted by headcounts for deceased members instead of by monthly benefit amounts.

(2) The proposed expected deaths are based on the Pub-2010 Amount-Weighted Mortality Tables.

For members in the Health Plan valuation, we recommend updating the current tables to the Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 10% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019. The recommended mortality tables will have an actual to expected ratio of 106%.

Chart 8 compares actual to expected deaths on a benefit-weighted basis for members under the current and proposed assumptions over the past eight years.

Chart 9 compares actual to expected deaths on a headcount-weighted basis for members under the current and proposed assumptions over the past eight years.

Chart 10 shows the life expectancies (i.e., expected future lifetime) under the current and the proposed tables for members on a benefit-weighted basis. Life expectancies under the proposed generational mortality rates are based on age as of 2020. In practice, life expectancies will be assumed to increase based on applying the mortality improvement scale.

Beneficiaries Mortality

In studying the mortality for all beneficiaries in our prior experience study, we reviewed the actual deaths compared to the expected deaths and recommended the same mortality tables for healthy retirees and all beneficiaries. However, Pub-2010 has separate mortality tables for healthy retirees and contingent annuitants.

The Pub-2010 Contingent Survivors Table is developed only based on contingent survivor data after the death of the retirees. This is consistent with the mortality experience that we have available for beneficiaries. The Pub-2010 contingent survivor mortality rates are comparable to LACERS' actual mortality experience for beneficiaries.

For all beneficiaries in the Retirement Plan valuation, we recommend changing the mortality assumption to follow the Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019. For all beneficiaries in the Health Plan valuation, we recommend changing the mortality assumption to follow the Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Mortality Table for Determining Actuarial Equivalences

Given that our current and recommended post-retirement mortality assumptions include a generational mortality improvement scale, there are some administrative issues that need to be resolved with LACERS and its vendor maintaining the pension administration software before we could recommend a comparable generational scale to anticipate future mortality improvement. We have already been directed by LACERS to engage in such discussions with the vendor. We will provide a recommendation to LACERS for use in reflecting mortality improvement for determining actuarial equivalences after we conclude those discussions with the vendor.

Chart 8: Post-Retirement Benefit-Weighted Deaths (In Millions)
Healthy Members (July 1, 2011 through June 30, 2019)

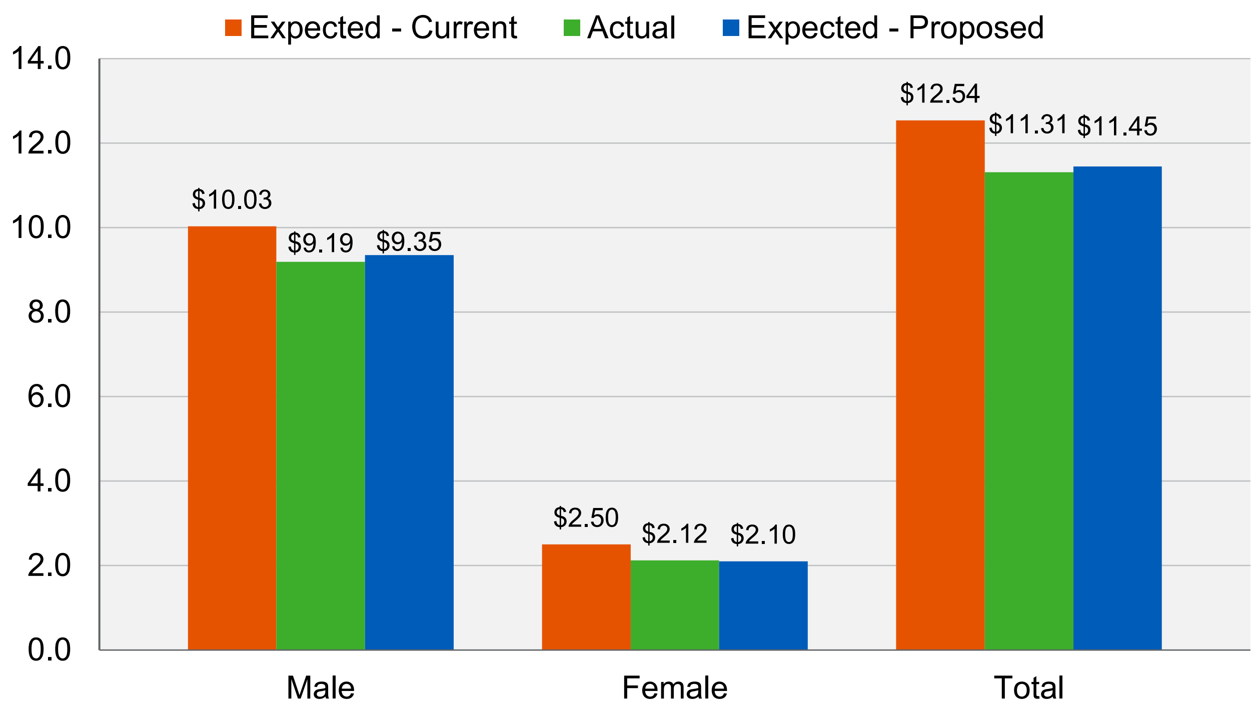


Chart 9: Post-Retirement Headcount-Weighted Deaths
Healthy Members (July 1, 2011 through June 30, 2019)

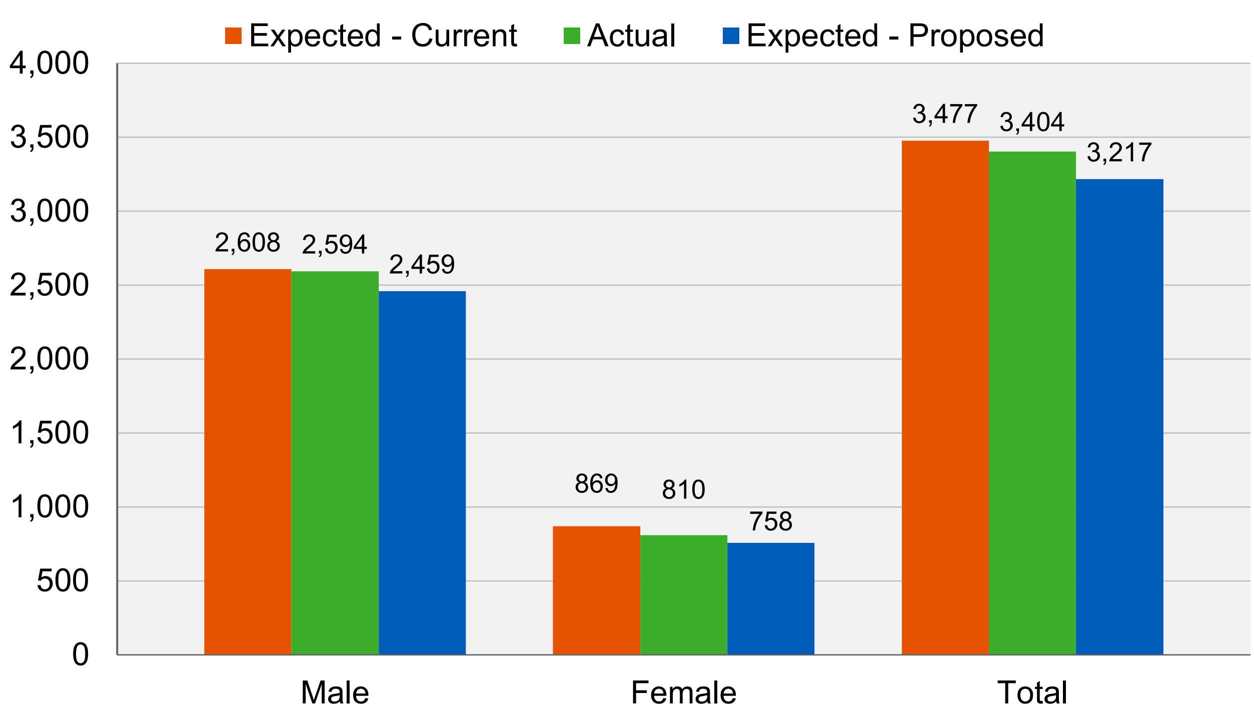
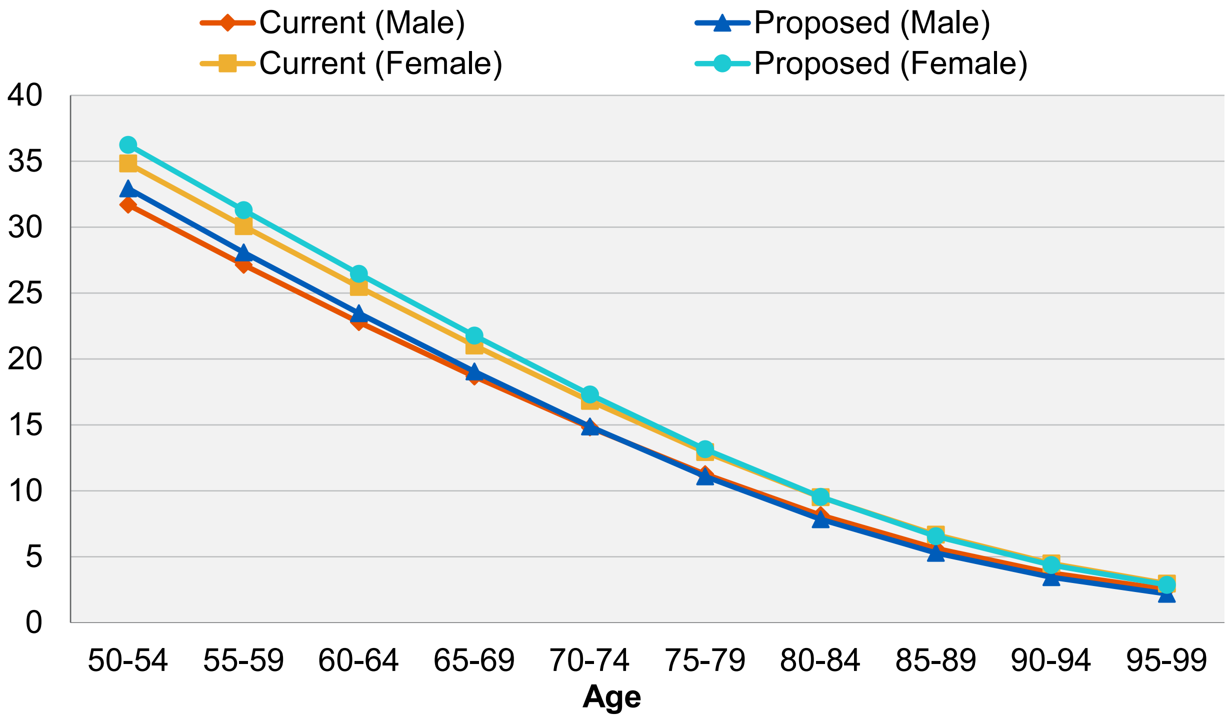


Chart 10: Benefit-Weighted Life Expectancies
Healthy Members



C. Mortality Rates - Disabled

Since mortality rates for disabled members can vary from those of healthy members, a different mortality assumption is often used. The tables currently being used are the Headcount-Weighted RP-2014 Disabled Retiree Tables (separate tables for males and females) projected generationally with the two-dimensional mortality improvement scale MP-2017.

The number of actual deaths compared to the number expected under the current and proposed assumptions weighted by benefit amounts for the last eight years are as follows:

	Members – Disabled ($ in millions)		
Gender	Current Expected Weighted Deaths	Actual Weighted Deaths	Proposed Expected Weighted Deaths
Male	$0.31	$0.30	$0.30
Female	$0.09	$0.09	$0.10
Total	**$0.40**	**$0.39**	**$0.39**
Actual / Expected	98%		100%

Notes: (1) Experience shown above is weighted by monthly benefit amounts for deceased members instead of by headcounts.

(2) Expected amounts are based on mortality rates from the base year projected with mortality improvements to the experience study period.

(3) Results may not add due to rounding.

For disabled members in the Retirement Plan valuation, we recommend updating the current tables to the Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 10% for males and decreased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019. The recommended mortality tables will have an actual to expected ratio of 100%.

For the purpose of setting the assumptions for the Health Plan valuation, we have also provided in the table below the actual and expected deaths computed without weighting these by benefit amounts. This is similar to how actual and expected death ratios were developed based on the prior headcount approach.

	Members – Disabled		
Gender	Current Expected Weighted Deaths	Actual Weighted Deaths	Proposed Expected Weighted Deaths
Male	202	193	195
Female	65	65	66
Total	**267**	**258**	**261**
Actual / Expected	97%		99%

Notes: (1) Experience shown above is weighted by headcounts for deceased members instead of by monthly benefit amounts.

(2) The proposed expected deaths are based on the Pub-2010 Amount-Weighted Mortality Tables.

For disabled members in the Health Plan valuation, we recommend updating the current tables to the Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 10% for males and decreased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019. The recommended mortality tables will have an actual to expected ratio of 99%.

Chart 11 compares actual to expected deaths on a benefit-weighted basis for disabled members under the current and proposed assumptions over the past eight years.

Chart 12 compares actual to expected deaths on a headcount-weighted basis for disabled members under the current and proposed assumptions over the past eight.

Chart 13 shows the life expectancies (i.e., expected future lifetime) under the current and the proposed tables for disabled members on a benefit-weighted basis. Life expectancies under the proposed generational mortality rates are based on age as of 2020. In practice, life expectancies will be assumed to increase based on applying the mortality improvement scale.

Chart 11: Post-Retirement Benefit-Weighted Deaths (In Millions)
Disabled Members (July 1, 2011 through June 30, 2019)

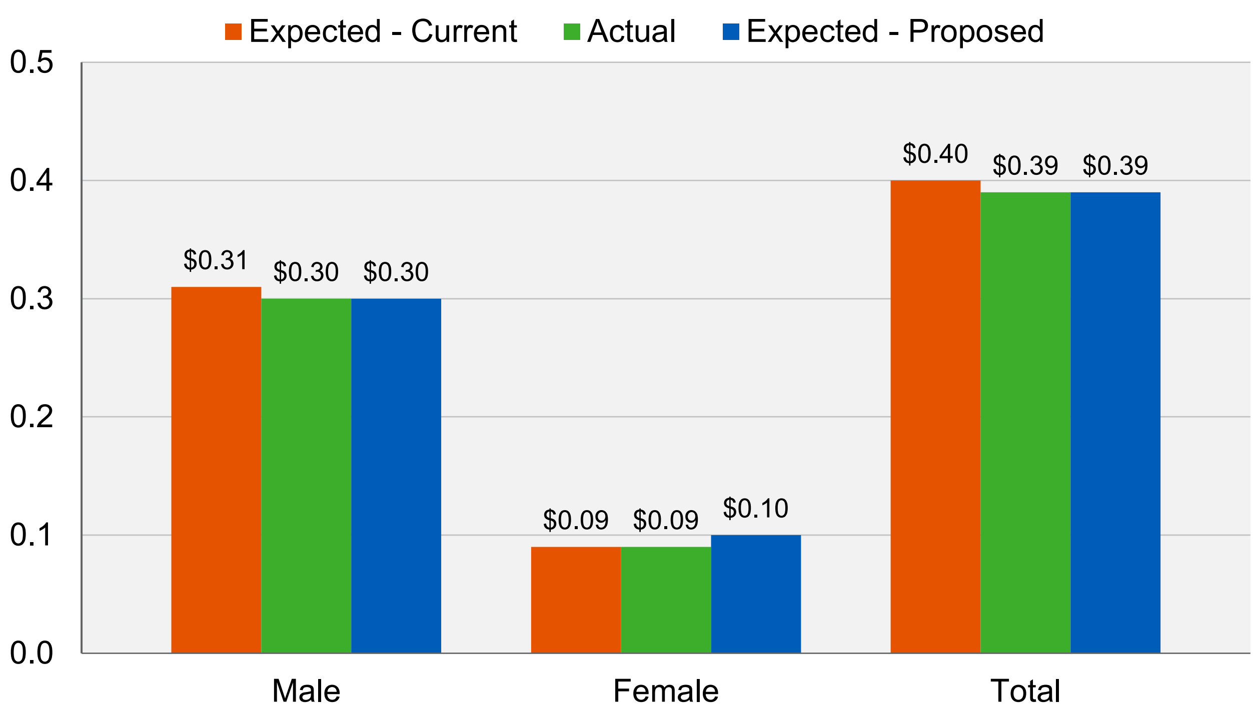


Chart 12: Post-Retirement Headcount-Weighted Deaths
Disabled Members (July 1, 2011 through June 30, 2019)

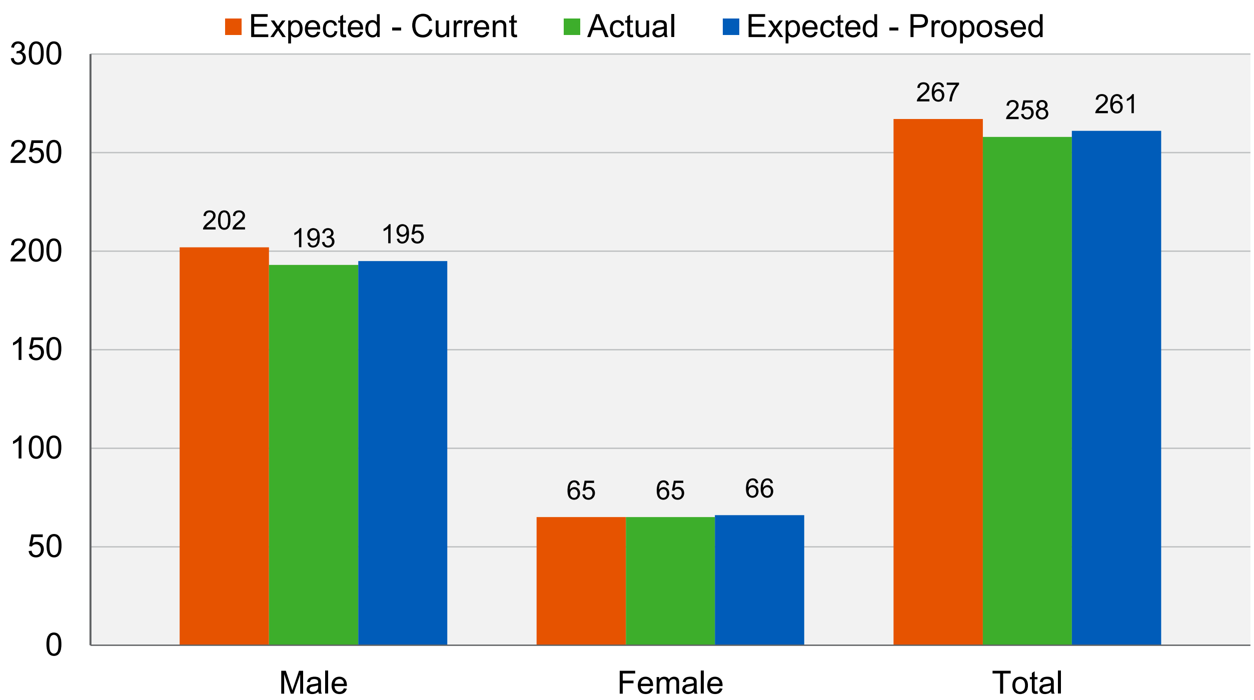
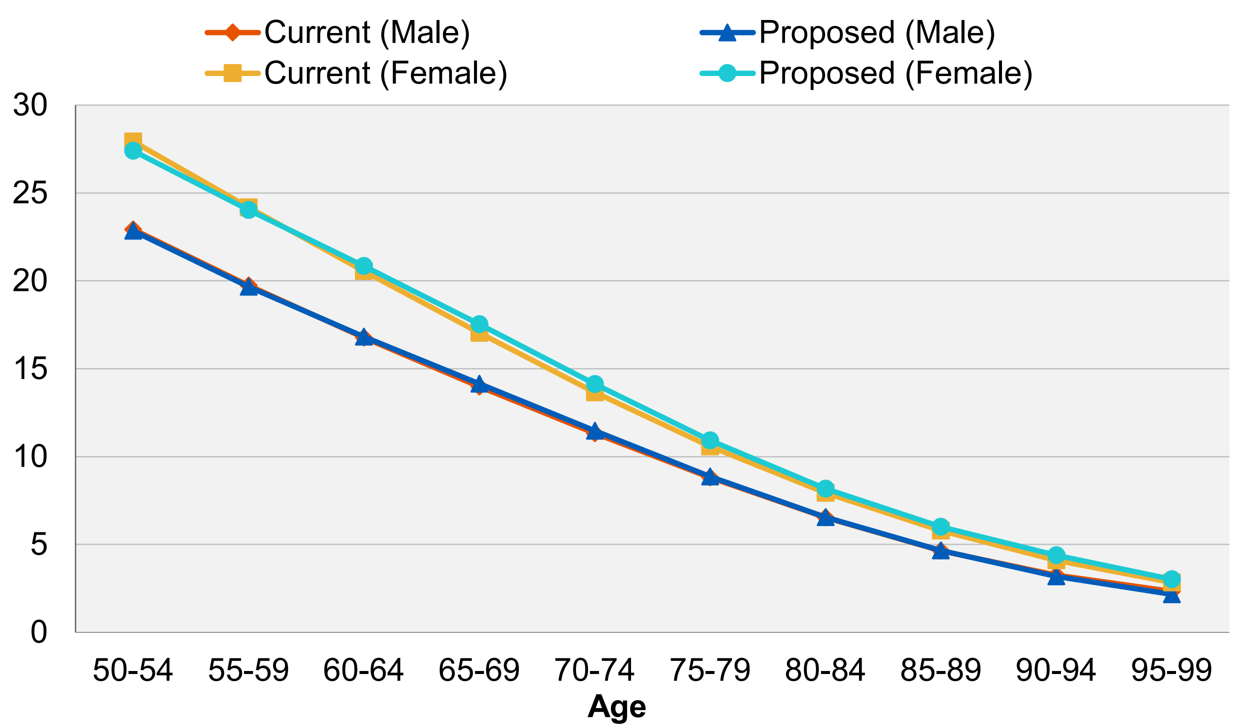


Chart 13: Benefit-Weighted Life Expectancies
Disabled Members



D. Termination Rates

Termination rates include all terminations for reasons other than death, disability, or retirement. Under the current assumptions all members who terminate with less the five years of service are assumed to receive a refund of contributions. For members who terminate with over five years of service, the member is assumed to choose between a refund of contributions or a deferred vested benefit, whichever option is more valuable.

The current termination rates for members with five or more years of service are a function of the members' ages. During this experience study, we reviewed termination experience based on ages and on years of service. We determined that the termination rates correlate well with both ages and years of service for members with five or more years of service. Therefore, we recommend maintaining the termination rates as a function of members' ages for those with five or more years of service.

As we note in the next Subsection E regarding disability incidence rates, the observed disability experience includes members who went from inactive (i.e., terminated) status to disability status. In order to remove the effect of double counting members as both terminations one year and disabilities a subsequent year, we have removed an equal number of inactive to disability records over the experience study period from the active to termination experience herein.

The termination experience over the last three years separated between those members with less than five years of service and those with five or more years of service is shown below. Please note that we have excluded any members that were eligible for retirement.

Rates of Termination – Less than Five Years of Service

	Rates of Termination (%)		
Years of Service	**Current Rate**	**Observed Rate**	**Proposed Rate**
Less than 1	12.00	10.79	11.50
1 – 2	10.00	10.10	10.00
2 – 3	9.00	7.99	8.50
3 – 4	8.25	7.29	7.75
4 – 5	7.75	6.62	7.00

As shown above, we are recommending overall decreases to the assumed termination rates for members with less than 5 years of service.

Rates of Termination – Five or More Years of Service

	Rates of Termination[29] (%)		
Age	Current Rate	Observed Rate	Proposed Rate
20 – 24	7.00	0.00	7.00
25 – 29	7.00	10.31	7.00
30 – 34	7.00	5.47	6.50
35 – 39	4.50	4.12	4.50
40 – 44	3.50	3.01	3.25
45 – 49	3.00	2.64	3.00
50 – 54	2.50	2.08	3.00
55 – 59	2.50	16.63[30]	3.00
60 – 64	2.50	14.20[28]	3.00

As shown above, we are recommending decreases at some younger ages and increases at some older ages for members with 5 or more years of service.

It is important to note that not every service/age category has enough exposures and/or decrements such that the results in that category are statistically credible.

We will continue to assume that termination rates are zero at any age where members are assumed to retire. In other words, at those ages, members will either retire in accordance with the retirement rate assumptions or continue working, rather than terminate and defer their benefit.

Chart 14 compares actual to expected total terminations (withdrawals plus vested terminations) over the past three years for both the current and proposed assumptions.

Chart 15 shows the current and proposed termination rates for members with less than five years of service. Chart 16 shows the current and proposed termination rates for members with five or more years of service.

[29] At central age in age range shown.

[30] We assume that termination rates are zero at any age where members are assumed to retire. When excluding members that were eligible for retirement from the observed terminations, the observed rates become 3.63% for the age 55-59 category and 4.06% for the age 60-64 category.

Chart 14: Actual Number of Terminations Compared to Expected

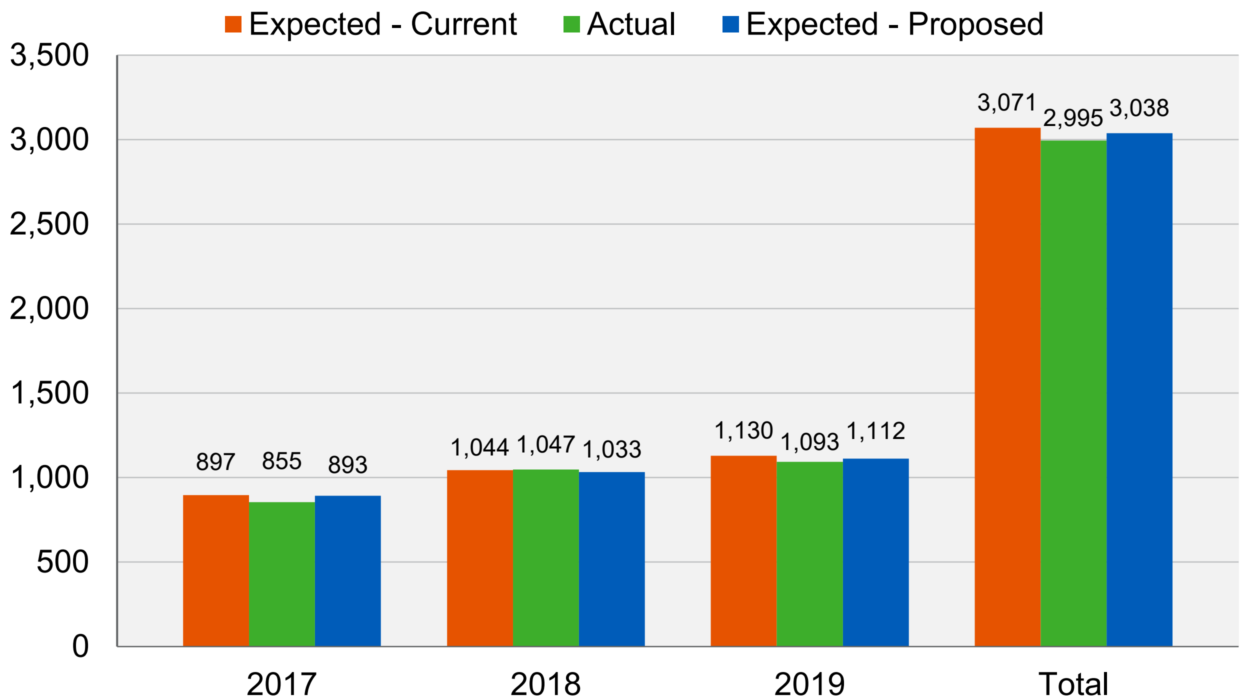


Chart 15: Termination Rates Less Than Five Years of Service

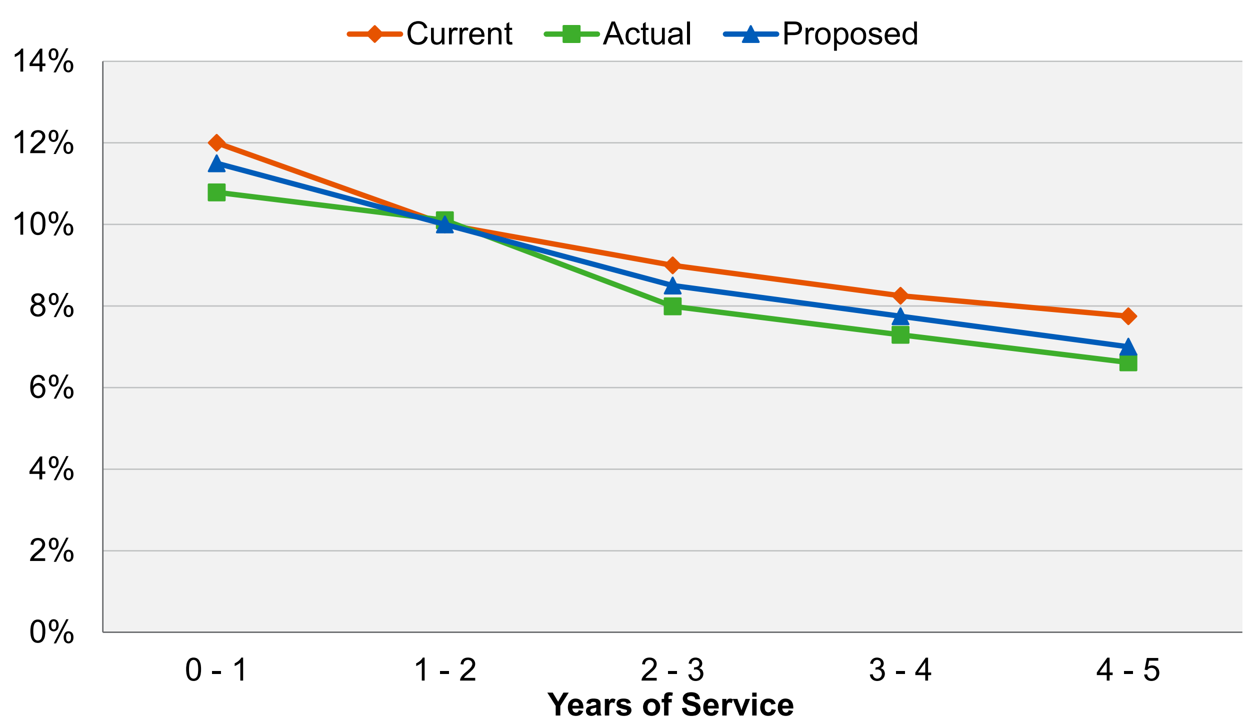
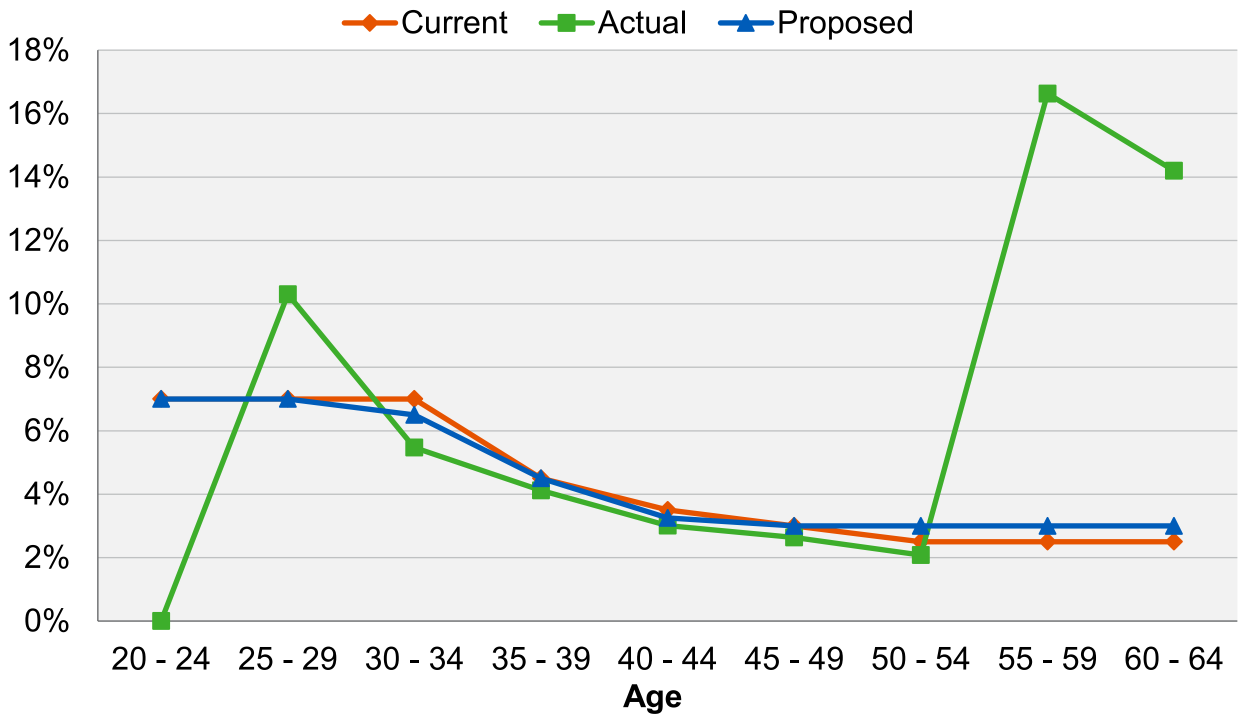


Chart 16: Termination Rates
Five or More Years of Service



E. Disability Incidence Rates

When a member becomes disabled, he or she is generally entitled to a monthly benefit equal to 1/3 of their final average monthly compensation.

The following summarizes the actual incidence of Tier 1 disabilities over the past three years compared to the current and proposed assumptions:[31]

Rates of Disability Incidence

	Disability Incidence Rate[32] (%)		
Age	**Current Rate**	**Observed Rate**	**Proposed Rate**
20 – 24	0.00	0.00	0.00
25 – 29	0.01	0.00	0.01
30 – 34	0.03	0.00	0.03
35 – 39	0.06	0.02	0.04
40 – 44	0.08	0.07	0.08
45 – 49	0.17	0.10	0.14
50 – 54	0.20	0.15	0.18
55 – 59	0.20	0.09	0.18
60 – 64	0.20	0.19	0.18
65 – 69	0.20	0.37	0.25

As shown above, we are recommending overall decreases to the assumed disability rates.

For Tier 1 Enhanced members, their disability benefits will be different based on the type of disability as well as the severity of disability. We recommend maintaining the current assumptions as listed below until we have more actual experience from those members.

For Tier 1 Enhanced, 90% of disability retirements are assumed to be service-connected with service-connected disability benefits based on years of service, as follows:

Service-Connected Disability Benefits	Years of Service	Benefit
	Less than 20	55% of Final Average Monthly Compensation
	20 - 30	65% of Final Average Monthly Compensation
	More than 30	75% of Final Average Monthly Compensation

For Tier 1 Enhanced, 10% of disability retirements are assumed to be nonservice-connected with nonservice-connected disability benefits equal to 40% of Final Average Monthly Compensation

Chart 17 compares the actual number of disabilities over the past three years to that expected under both the current and proposed assumptions. Chart 18 shows the actual disability incidence rates, compared to the assumed and proposed rates.

[31] The Tier 1 experience shown above reflects actual disabilities from the prior years' status of mostly inactive membership. Note that there was no disability experience for Tier 3 members over the experience study period.

[32] At central age in age range shown.

Chart 17: Actual Number of Disabilities Compared to Expected

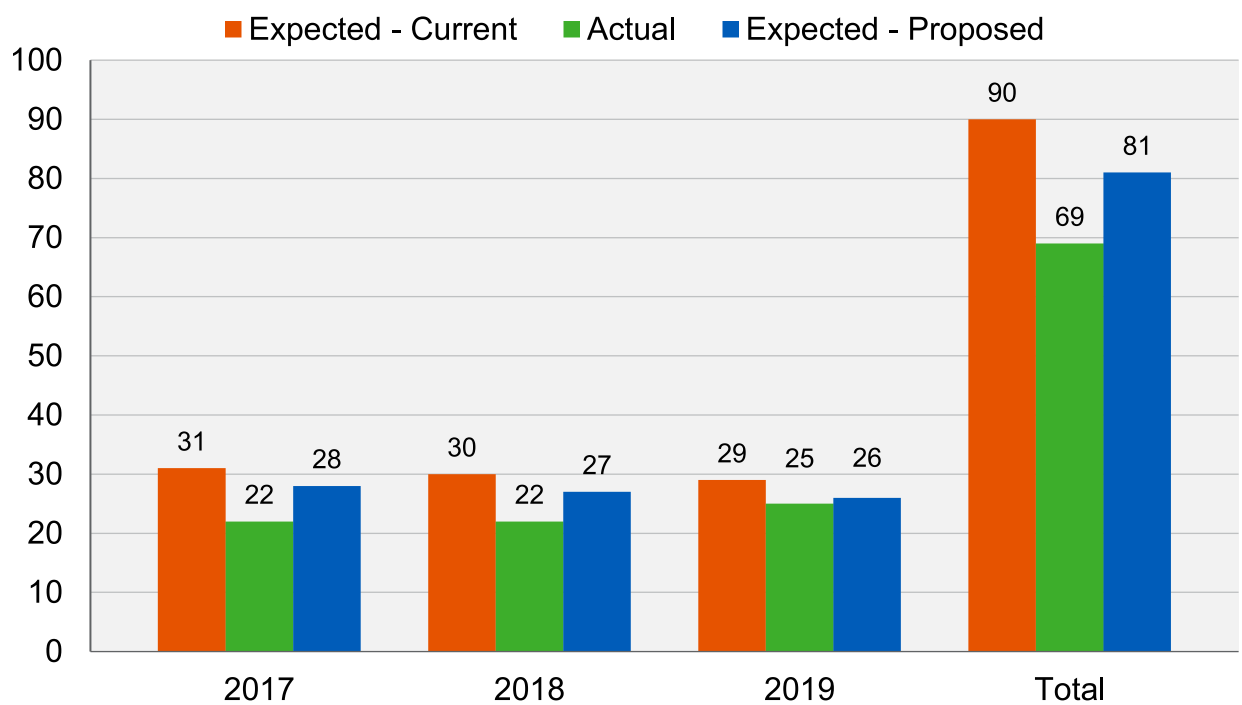
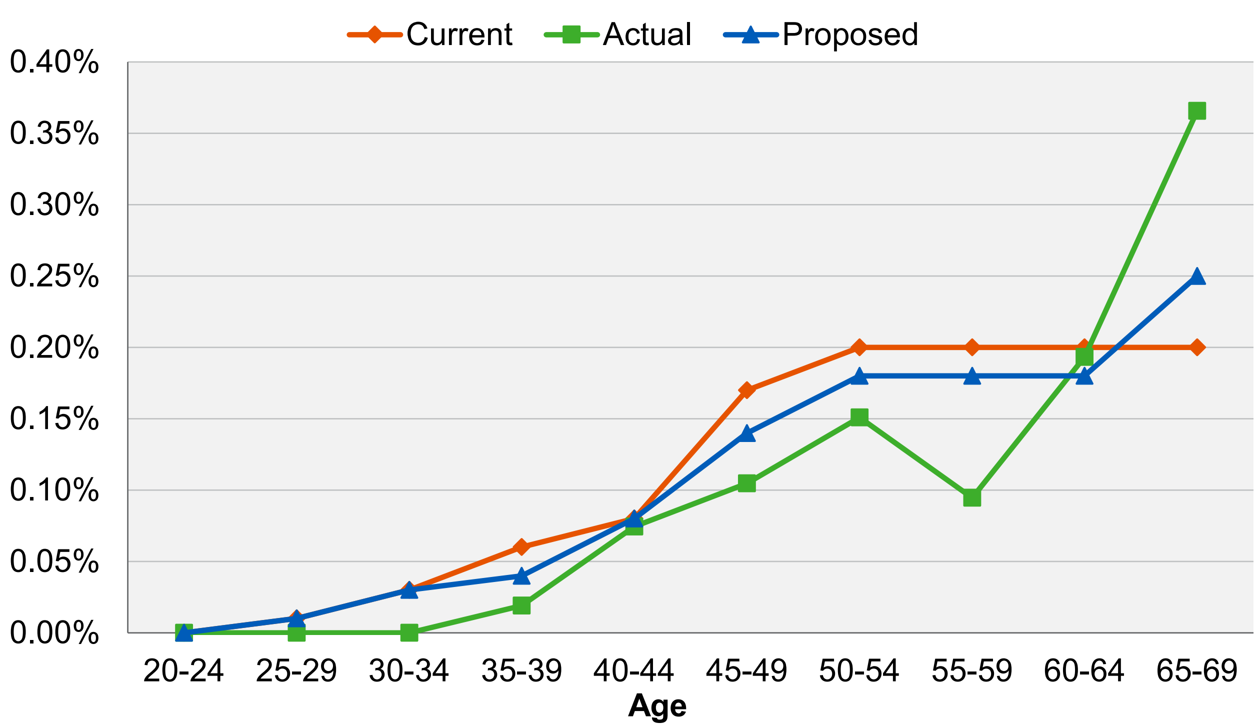


Chart 18: Disability Incidence Rates



V. Cost Impact

We have estimated the impact of all the recommended demographic and economic assumptions as if they were applied to the June 30, 2019 actuarial valuations.

Retirement Plan

The table below shows the changes in the total normal cost and actuarial accrued liability for the Retirement Plan due to the proposed assumption changes, as if they were applied in the June 30, 2019 actuarial valuation. If all of the proposed assumption changes (both economic and demographic) were implemented, the total normal cost for the Retirement Plan would have increased by about $40.0 million and the actuarial accrued liability would have increased by about $505.7 million. The funded percentage would have decreased from 71.3% to 69.6%.

	Change in Plan Liabilities as of June 30, 2019		
	Current Assumptions	**Proposed Assumptions**	**Increase / (Decrease)**
Total Normal Cost	$374,967,243	$414,953,447	$39,986,204
Actuarial Accrued Liability	$20,793,421,143	$21,299,153,880	$505,732,737

If all of the proposed assumption changes (both economic and demographic) were implemented, the aggregate beginning-of-the-year employer contribution rate would have increased by 3.41% of payroll.

Employer Contribution Rate Impact (% of Payroll at Beginning of the Year)	
Contributions	**Proposed Assumptions Total**
Normal Cost	1.81%
UAAL	1.60%
Total	**3.41%**

Health Plan

The table below shows the changes in the total normal cost and actuarial accrued liability for the Health Plan due to the proposed assumption changes, as if they were applied in the June 30, 2019 actuarial valuation. If all of the proposed assumption changes (both economic and demographic) were implemented, the total normal cost for the Health Plan would have increased by about $8.3 million and the actuarial accrued liability would have increased by about $94.3 million. The funded percentage would have decreased from 84.4% to 82.0%.

	Change in Plan Liabilities as of June 30, 2019		
	Current Assumptions	Proposed Assumptions	Increase / (Decrease)
Total Normal Cost	$76,422,769	$84,753,308	$8,330,539
Actuarial Accrued Liability	$3,334,298,549	$3,428,626,759	$94,328,210

If all of the proposed assumption changes (both economic and demographic) were implemented, the aggregate beginning-of-the-year employer contribution rate would have increased by 0.68% of payroll.

Employer Contribution Rate Impact (% of Payroll at Beginning of the Year)	
Contributions	Proposed Assumptions Total
Normal Cost	0.38%
UAAL	0.30%
Total	**0.68%**

Appendix A: Current Actuarial Assumptions

Economic Assumptions

Net Investment Return	7.25%; net of administrative and investment expenses. Expected administrative and investment expenses represent about 0.60% of the Market Value of Assets.
Member Contribution Crediting Rate:	Based on average of 5-year Treasury note rate. An assumption of 3.00% is used to approximate that crediting rate.
Consumer Price Index:	Increase of 3.00% per year, benefit increases due to CPI subject to 3.00% maximum for Tier 1 and 2.00% maximum for Tier 3.
Payroll Growth:	Inflation of 3.00% per year plus real "across the board" salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit	Increase of 3.00% per year from the valuation date.

Salary Increases

The annual rate of compensation increase includes: inflation at 3.00%, plus real "across the board" salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases	
Years of Service	**Rate (%)**
Less than 1	6.50
1 – 2	6.20
2 – 3	5.10
3 – 4	3.10
4 – 5	2.10
5 – 6	1.10
6 – 7	1.00
7 – 8	0.90
8 – 9	0.70
9 – 10	0.60
10 & Over	0.40

Demographic Assumptions

Mortality Rates – Healthy

- Headcount-Weighted RP-2014 Healthy Annuitant Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017.

Mortality Rates – Disabled

- Headcount-Weighted RP-2014 Disabled Retiree Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017.

Mortality Rates – Beneficiary

- Headcount-Weighted RP-2014 Healthy Annuitant Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017.

The RP-2014 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.

Mortality Rates – Pre-Retirement

- Headcount-Weighted RP-2014 Employee Mortality Tables (separate tables for males and females), with no setback for males and females, multiplied by 90%, projected generationally with the two-dimensional mortality improvement scale MP-2017.

	Rate (%)	
Age	**Male**	**Female**
20	0.05	0.02
25	0.06	0.02
30	0.05	0.02
35	0.06	0.03
40	0.07	0.04
45	0.11	0.07
50	0.19	0.12
55	0.31	0.19
60	0.51	0.27
65	0.88	0.40

Generational projections beyond the base year (2014) are not reflected in the above mortality rates.

For Tier 1 Enhanced, 100% of pre-retirement death benefits are assumed to be service-connected.

Disability Incidence Rates

Disability Incidence	
Age	**Rate (%)**
25	0.01
30	0.02
35	0.05
40	0.07
45	0.13
50	0.19
55	0.20
60	0.20
65	0.20

For Tier 1 Enhanced, 90% of disability retirements are assumed to be service-connected with service-connected disability benefits based on years of service, as follows:

Service-Connected Disability Benefits	Years of Service	Benefit
	Less than 20	55% of Final Average Monthly Compensation
	20 - 30	65% of Final Average Monthly Compensation
	More than 30	75% of Final Average Monthly Compensation

For Tier 1 Enhanced, 10% of disability retirements are assumed to be nonservice-connected with nonservice-connected disability benefits equal to 40% of Final Average Monthly Compensation

Termination Rates – Less than Five Years of Service

Termination (<5 Years of Service)	
Years of Service	**Rate (%)**
Less than 1	12.00
1 – 2	10.00
2 – 3	9.00
3 – 4	8.25
4 – 5	7.75

Termination Rates – Five or More Years of Service

Termination (5+ Years of Service)	
Age	**Rate (%)**
25	7.00
30	7.00
35	5.50
40	3.90
45	3.20
50	2.70
55	2.50
60	2.50

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Retirement Rates

	Rate (%)					
	Tier 1		Tier 1 Enhanced		Tier 3	
Age	Non-55/30	55/30	Non-55/30	55/30	Non-55/30	55/30
50	6.0	0.0	7.0	0.0	6.0	0.0
51	3.0	0.0	4.0	0.0	3.0	0.0
52	3.0	0.0	4.0	0.0	3.0	0.0
53	3.0	0.0	4.0	0.0	3.0	0.0
54	17.0	0.0	18.0	0.0	16.0	0.0
55	6.0	24.0	7.0	25.0	0.0[1]	23.0
56	6.0	16.0	7.0	17.0	0.0[1]	15.0
57	6.0	16.0	7.0	17.0	0.0[1]	15.0
58	6.0	16.0	7.0	17.0	0.0[1]	15.0
59	6.0	16.0	7.0	17.0	0.0[1]	15.0
60	7.0	16.0	8.0	17.0	6.0	15.0
61	7.0	16.0	8.0	17.0	6.0	15.0
62	7.0	16.0	8.0	17.0	6.0	15.0
63	7.0	16.0	8.0	17.0	6.0	15.0
64	7.0	16.0	8.0	17.0	6.0	15.0
65	13.0	20.0	14.0	21.0	12.0	19.0
66	13.0	20.0	14.0	21.0	12.0	19.0
67	13.0	20.0	14.0	21.0	12.0	19.0
68	13.0	20.0	14.0	21.0	12.0	19.0
69	13.0	20.0	14.0	21.0	12.0	19.0
70 & Over	100.0	100.0	100.0	100.0	100.0	100.0

[1] Not eligible to retire under the provisions of the Tier 3 plan.

Retirement Age and Benefit for Inactive Vested Members	Pension benefit paid at the later of age 59 or the current attained age. For reciprocals, 3.90% compensation increases per annum.
Other Reciprocal Service	5% of future inactive vested members will work at a reciprocal system.
Service	Employment service is used for eligibility determination purposes. Benefit service is used for benefit calculation purposes.
Future Benefit Accruals	1.0 year of service credit per year.
Unknown Data for Members	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Form of Payment	All active and inactive Tier 1 and Tier 3 members who are assumed to be married or with domestic partners at retirement are assumed to elect the 50% Joint and Survivor Cash Refund Annuity. For Tier 1 Enhanced, the continuance percentage is 70% for service retirement and nonservice-connected disability, and 80% for service-connected disability. Those members who are assumed to be un-married or without domestic partners are assumed to elect the Single Cash Refund Annuity.
Percent Married/Domestic Partner	For all active and inactive members, 76% of male members and 50% of female members are assumed to be married or with domestic partner at pre-retirement death or retirement.
Age and Gender of Spouse	For all active and inactive members, male members are assumed to have a female spouse who is 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.

Appendix B: Proposed Actuarial Assumptions

Economic Assumptions

Net Investment Return	Recommended: 7.00%; net of administrative and investment expenses. Expected administrative and investment expenses represent about 0.40% of the Actuarial Value of Assets.
Member Contribution Crediting Rate:	Based on average of 5-year Treasury note rate. An assumption of 2.75% is used to approximate that crediting rate.
Consumer Price Index:	Increase of 2.75% per year, benefit increases due to CPI subject to 2.75% maximum for Tier 1 and 2.00% maximum for Tier 3. (For Tier 1 members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3% per year.)
Payroll Growth:	Inflation of 2.75% per year plus real “across the board” salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit	Increase of 2.75% per year from the valuation date.

Salary Increases

The annual rate of compensation increase includes: inflation at 2.75%, plus real “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases	
Years of Service	**Rate (%)**
Less than 1	6.70
1 – 2	6.50
2 – 3	5.80
3 – 4	4.00
4 – 5	3.00
5 – 6	2.20
6 – 7	2.00
7 – 8	1.80
8 – 9	1.60
9 – 10	1.40
10 & Over	1.00

Demographic Assumptions

Mortality Rates – Healthy

- For the Retirement Plan - Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table with rates increased by 10% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019.
- For the Health Plan - Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Table with rates increased by 10% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Mortality Rates – Disabled

- For the Retirement Plan - Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table with rates increased by 10% for males and decreased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019.
- For the Health Plan - Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Table with rates increased by 10% for males and decreased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Mortality Rates – Beneficiary

- For the Retirement Plan - Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table with rates increased by 10% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2019.
- For the Health Plan - Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Table with rates increased by 10% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2019.

The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Mortality Rates – Pre-Retirement

- For the Retirement Plan - Pub-2010 General Employee Amount-Weighted Above-Median Mortality Table with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019.

	Rate (%)	
Age	**Male**	**Female**
20	0.04	0.01
25	0.03	0.01
30	0.03	0.01
35	0.05	0.02
40	0.06	0.04
45	0.09	0.06
50	0.14	0.08
55	0.21	0.12
60	0.30	0.19
65	0.45	0.30

Generational projections beyond the base year (2010) are not reflected in the above mortality rates.

For Tier 1 Enhanced, 100% of pre-retirement death benefits are assumed to be service-connected.

For the Health Plan - Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Table with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Disability Incidence Rates

Disability Incidence	
Age	**Rate (%)**
25	0.01
30	0.02
35	0.04
40	0.06
45	0.12
50	0.16
55	0.18
60	0.18
65	0.22

For Tier 1 Enhanced, 90% of disability retirements are assumed to be service-connected with service-connected disability benefits based on years of service, as follows:

Service-Connected Disability Benefits	Years of Service	Benefit
	Less than 20	55% of Final Average Monthly Compensation
	20 - 30	65% of Final Average Monthly Compensation
	More than 30	75% of Final Average Monthly Compensation

For Tier 1 Enhanced, 10% of disability retirements are assumed to be nonservice-connected with nonservice-connected disability benefits equal to 40% of Final Average Monthly Compensation

Termination Rates – Less than Five Years of Service

Termination (<5 Years of Service)	
Years of Service	**Rate (%)**
Less than 1	11.50
1 – 2	10.00
2 – 3	8.50
3 – 4	7.75
4 – 5	7.00

Termination Rates – Five or More Years of Service

Termination (5+ Years of Service)	
Age	**Rate (%)**
25	7.00
30	6.70
35	5.30
40	3.75
45	3.10
50	3.00
55	3.00
60	3.00

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Retirement Rates

	Rate (%)					
	Tier 1		Tier 1 Enhanced		Tier 3	
Age	Non-55/30	55/30	Non-55/30	55/30	Non-55/30	55/30
50	5.0	0.0	7.0	0.0	5.0	0.0
51	3.0	0.0	5.0	0.0	3.0	0.0
52	3.0	0.0	5.0	0.0	3.0	0.0
53	3.0	0.0	5.0	0.0	3.0	0.0
54	18.0	0.0	20.0	0.0	17.0	0.0
55	6.0	27.0	8.0	30.0	0.0(1)	26.0
56	6.0	18.0	8.0	22.0	0.0(1)	17.0
57	6.0	18.0	8.0	22.0	0.0(1)	17.0
58	6.0	18.0	8.0	22.0	0.0(1)	17.0
59	6.0	18.0	8.0	22.0	0.0(1)	17.0
60	7.0	18.0	9.0	22.0	6.0	17.0
61	7.0	18.0	9.0	22.0	6.0	17.0
62	7.0	18.0	9.0	22.0	6.0	17.0
63	7.0	18.0	9.0	22.0	6.0	17.0
64	7.0	18.0	9.0	22.0	6.0	17.0
65	14.0	21.0	16.0	26.0	13.0	20.0
66	14.0	21.0	16.0	26.0	13.0	20.0
67	14.0	21.0	16.0	26.0	13.0	20.0
68	14.0	21.0	16.0	26.0	13.0	20.0
69	14.0	21.0	16.0	26.0	13.0	20.0
70 & Over	100.0	100.0	100.0	100.0	100.0	100.0

(1) Not eligible to retire under the provisions of the Tier 3 plan at these ages with less than 30 years of service. If a member has at least 30 years of service at these ages, they would be subject to the “55/30” rates.

Retirement Age and Benefit for Inactive Vested Members	Pension benefit paid at the later of age 59 or the current attained age. For reciprocals, 4.25% compensation increases per annum.
Other Reciprocal Service	5% of future inactive vested members will work at a reciprocal system.
Service	Employment service is used for eligibility determination purposes. Benefit service is used for benefit calculation purposes.
Future Benefit Accruals	1.0 year of service credit per year.
Unknown Data for Members	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Form of Payment	All active and inactive Tier 1 and Tier 3 members who are assumed to be married or with domestic partners at retirement are assumed to elect the 50% Joint and Survivor Cash Refund Annuity. For Tier 1 Enhanced, the continuance percentage is 70% for service retirement and nonservice-connected disability, and 80% for service-connected disability. Those members who are assumed to be un-married or without domestic partners are assumed to elect the Single Cash Refund Annuity.
Percent Married/Domestic Partner	For all active and inactive members, 76% of male members and 52% of female members are assumed to be married or with domestic partner at pre-retirement death or retirement.
Age and Gender of Spouse	For all active and inactive members, male members are assumed to have a female spouse who is 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.

Board Agenda: 06/23/2020
Item: VIII A
Attachment 2

CHEIRON AUDIT
RECOMMENDATIONS IN REVIEW OF THE EXPERIENCE STUDY 2014-2017

Cheiron Recommendations	Audit Report Page	Disposition of Recommendation
Use a benefit-weighted approach to developing LACERS' mortality assumption.	2	Segal is recommending benefit-weighted mortality tables.
Review the rates of vested terminated members retiring from reciprocal and non-reciprocal status when determining the likelihood of future terminating members establishing reciprocity and the newly terminated employees during the experience study period, rather than just basing the assumption on the percentage of all terminated members reporting reciprocity.	2	Segal reviewed the reciprocity assumption by observing the incidence of reciprocity for both newly terminated members and all terminated members.
Provide the active mortality experience data and consider the credibility of the data before making any adjustments to the standard table.	14	Segal's practice has been to utilize the same family of mortality tables for pre- and post-retirement mortality but will take the suggestion to include active mortality experience data under advisement for future studies. Segal has included credibility analysis in the recommended mortalty assumptions.
Review the members who terminated more recently (i.e., during the last two previous experience study period) to see if the experience differs from that of the entire inactive vested population.	15	For the last experience study, Segal had also reviewed the incidence of reciprocity for newly terminated members This was done again for the current experience study. Since the incidence of reciprocity for newly terminated members was significantly low over both periods, it was not deemed necessary to include a third experience study period in this analysis.
Disclose the number of exposures, actual and expected decrements, and the actual-to-expected (A/E) ratios for each of the demographic assumptions. In addition to giving a reviewer the information necessary to evaluate the proposed assumptions, providing this information will also allow better assessment of what credibility to give the observed experience versus the rates developed based on the historical experience.	15	Segal has already included some of these disclosures in the report, but will take it under advisement to include additional disclosures in subsequent reports.
Perform a more in-depth analysis of retirement, termination, mortality, and disability incidence by developing confidence intervals for age or service ranges.	16	Segal is considering the use of confidence intervals in future experience studies.
Risk Adjustment: In defining "confidence level", Segal's approached is related to average arithmetic return. Cheiron suggests average geometric return as another accepted standard to determine the likelihood that the investment return will exceed the assumed return, when compunded over a given period of time.	17-18	Segal has added a discussion that the arithmetic approach is one of the approaches discussed for use in the Selection of Economic assumptions for measuring Pension Obligations under Actuarial Standards of Practice No. 27. Segal has expanded their report to include an analysis under the geometric approach and discussed that the results under the arithmetic approach are comparable to those under the geometric approach.
Noted that Segal's recommendation to move to a 2.75% inflation assumption and the Board's decision to maintain a 3.00% assumption were both reasonable; however, is is also noted that NEPC's and Social Security's forecasts are below 3.00%. Recommend that Segal and the Board continue to monitor this assumption and consider further reductions if inflation expectations remain low.	18	Segal is recommending a 2.75% inflation rate.

LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION **MEETING: JUNE 23, 2020**
From: Neil M. Guglielmo, General Manager **ITEM: VIII-B**

SUBJECT: **PROPOSED LIST OF PRE-APPROVED BOARD EDUCATIONAL SEMINARS FOR FISCAL YEAR 2020-21 AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board approve the Proposed List of Pre-Approved Board Educational Seminars for FY 2020-21.

Executive Summary

Pursuant to the LACERS Board Administrative Policy, staff reports the Pre-Approved List of Educational Seminars recommended for the Board.

Discussion

The LACERS' Board Education Travel Policy is intended to affirm education as an essential component of a trustee's fiduciary responsibility. The aim of the policy is to ensure that each Trustee fulfils the "Prudent Person Standard" requisite by developing and maintaining their knowledge of public pension administration through exposure to current benefit, financial, and policy information to develop a sound understanding of issues and topics that may directly impact LACERS. This fiduciary responsibility imposes a continuing need for Board Members to attend professional and educational conferences, seminars, and other educational events. Pursuant to the Policy, the maximum annual allocation for Trustee is $10,000 for conference and other travel expenses.

Prior to the beginning of each fiscal year, the Board pre-approves, for administrative efficiency, the travel authority for a list of designated conferences/educational seminars. This list will include all conferences deemed by the Board to meet the standard of having a solid reputation for quality program content.

Also attached to this report are conferences that were brought to the Board for consideration and approved on a case-by-case basis. These conferences may be included, in part or whole, in the designated list of pre-approved educational seminars for the coming fiscal year, at the discretion of the Board based on the standards indicated above.

As per the Board Policy, Article II, Section 1.0, Board Members shall attend conferences or seminars that have a solid reputation for quality program content; i.e., agendas with a minimum of five hours of substantive educational content. Content shall not be geared toward marketing or the promotion of investment management and related sponsors. Topics covered during the conference or seminar must be related to the pension fund industry. Conferences not adopted in the Pre-Approved List of Educational Seminars for Fiscal Year 2020-21 will require direct Board approval.

Prepared By: Ani Ghoukassian, Commission Executive Assistant II

NMG:ag

Attachments: 1. Proposed list of Educational Seminars for Fiscal Year 2020-21
2. Additional Educational Seminars Approved by the Board during Fiscal Year 2019-20

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM
LIST OF EDUCATIONAL SEMINARS – FISCAL YEAR 2020-21

**Local Conference*

CONFERENCE / SEMINAR / MEETING	SUBJECT MATTER	TRUSTEE EVALUATION		
		TRUSTEE RATING Rate seminar with:		LEVEL
		A	*Excellent*	▪ *Introductory* ▪ *Intermediate* ▪ *Advanced*
		B	*Very Good*	
		C	*Good*	
		D	*Not Beneficial*	
California Association of Public Retirement Systems (**CALAPRS**) – General Assembly ▪ March 6 – 9, 2021 (Monterey, CA)	▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning	**A**	(Sohn, 2016) (Wilkinson 2018) (Chao, Sohn 2020)	Intermediate
CALAPRS – Principles of Pension Management For Trustees ▪ August 18 - 26, 2020 (Virtual)	▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning	**A**	(Serrano, Wilkinson 2015)	Intermediate
CALAPRS – Advanced Principles of Pension Management For Trustees ▪ March 31 – April 2, 2021 (Los Angeles, CA)*	▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning			Advanced
CALAPRS – Trustees' Roundtable ▪ October 23, 2020 (San Jose, CA)	▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning	**B**	(Chao, 2016)	Intermediate
Council of Institutional Investors (**CII**) – Conferences ▪ **Fall Conference:** September 21 – 23, 2020 (San Francisco, CA) ▪ **Spring Conference:** March 8 - 10, 2021 (Washington, DC)	▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning	**A** **B**	(Chao, 2017) (Wilkinson 2015)	Intermediate Advanced
International Foundation of Employee Benefit Plans (**IFEBP**) – Annual Employee Benefits Conference ▪ November 15 - 18, 2020 (Honolulu, HI)	▪ Benefits Admin ▪ Investments ▪ Plan Admin			

International Foundation of Employee Benefit Plans (**IFEBP**) – Trustees and Administrators Institute ▪ 2021 Dates and Location **TBD**	▪ Benefits Admin ▪ Investments ▪ Plan Admin			
International Foundation of Employee Benefit Plans (**IFEBP**) – Health Benefit Plan Basics – Certificate Series ▪ October 14 – October 15, 2020 (Las Vegas, NV)	▪ Benefits Admin			
International Foundation of Employee Benefit Plans (**IFEBP**) – New Trustees Institute ▪ **Level I: Core Concepts:** November 14 - 16, 2020 (Honolulu, HI) ▪ **Level II: Concepts in Practice:** November 14 - 15, 2020 (Honolulu, HI)	▪ Benefits Admin ▪ Investments ▪ Plan Admin			
International Foundation of Employee Benefit Plans (**IFEBP**) – The Wharton School Advanced Investments Management ▪ 2021 Dates and Location **TBD**	▪ Investments ▪ Corporate Governance			
International Foundation of Employee Benefits Plan (**IFEBP**) – The Wharton School Portfolio Concepts and Management Course ▪ September 14 – 17, 2020 (Philadelphia, PA)	▪ Investments			
National Conference on Public Employee Retirement Systems (**NCPERS**) – Annual Conference & Exhibition ▪ May 23 - 26, 2021 (Denver, CO)	▪ Benefits Admin ▪ Investments ▪ Corporate Governance	**A** **B**	(Wilkinson, 2017, Sohn 2018) (Ruiz, 2016)	
National Conference on Public Employee Retirement Systems (**NCPERS**) – Trustee Educational Seminar (TEDS) ▪ May 22 - 23, 2021 (Denver, CO)	▪ Benefits Admin ▪ Investments ▪ Corporate Governance	**A**	(Sohn, 2016)	Intermediate
National Conference on Public Employee Retirement Systems (**NCPERS**) – Legislative Conference ▪ January 24 - 26, 2021 (Washington, DC)	▪ Benefits Admin ▪ Investments ▪ Corporate Governance			

Nossaman Annual Public Pensions and Investments' Fiduciaries' Forum Annual Update ▪ TBD	▪ Legislative Governance			
Pension Real Estate Association (**PREA**) Spring Conference ▪ March 25 - 26, 2021 (Seattle, WA)	▪ Investments	**A**	(Chao, 2017)	Intermediate
Pension Real Estate Association (**PREA**) Annual Institutional Investor Conference ▪ Sept. 30 - Oct. 2, 2020 (Boston, MA)	▪ Investments	**A**	(Chao, 2017)	Intermediate
Pacific Pension & Investments Institute (**PPI**) ▪ **Summer Roundtable**: July 14 - 16, 2020 (Virtual) ▪ **Winter Roundtable**: TBD	▪ Investments ▪ Corporate Governance			
Robert F. Kennedy (**RFK**) Human Rights Compass Conference ▪ 2021 Dates and Location **TBD**	▪ Investments ▪ Corporate Governance			
State Association of County Retirement Systems (**SACRS**) Conference ▪ **Fall Conference**: November 10 - 13, 2020 (Indian Wells, CA) ▪ **Spring Conference**: May 11 - 14, 2021 (Long Beach, CA)*	▪ Benefits Admin ▪ Investments ▪ Corporate Governance	**A** **B**	(Wilkinson, 2015, 2017, 2018) (Chao, 2017)	Intermediate
State Association of County Retirement Systems (**SACRS**) / **UC Berkeley Program** – Public Pension Investment Management Program ▪ July 28 – August 13, 2020 (Berkeley, CA)	▪ Investments	**A**	(Wilkinson, 2015)	Intermediate
United Nations Principles in Responsible Investing (**UN-PRI**) ▪ 2021 Dates and Location **TBD**	▪ Investments ▪ Corporate Governance			
Western Economic Association International – Annual Conference ▪ June 27-July 1, 2021 (Honolulu, HI) ▪ June 29-July 3, 2022 (Portland, OR)	▪ Investments			

Women’s Alternative Investment Summit ▪ November 12-13, 2020 (New York, NY)	▪ Investments			
Women’s Private Equity Summit ▪ March 10 – 21, 2021 (Dana Point, CA)	▪ Investments			

BOARD Meeting: 06/23/20
Item VIII-B
Attachment 2

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

ADDITIONAL EDUCATIONAL SEMINARS APPROVED BY THE BOARD FY 2019-20

CONFERENCE TITLE	DATE(S)	LOCATION	COMMISSIONER
NCPERS Public Pension Funding Forum	September 11-13, 2019	New York, NY	Chao
CII Pension Fund Trustee Training	October 4, 2019	Berkeley, CA	Sandra Lee
International Atlantic Economic Conference	March 25-28, 2020	Rome, Italy	Sohn
Harvard Executive Education – Leadership Decision Making: Optimizing Organizational Performance	June 7-12, 2020	Cambridge, MA	Serrano

LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION **MEETING: JUNE 23, 2020**
From: Neil M. Guglielmo, General Manager **ITEM: VIII – C**

SUBJECT: **EMERGENCY PURCHASES AND EXPENDITURES FOR COVID-19 AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board approves $638.18 of purchases paid by LACERS' Emergency Credit Card for Business Continuity Plan caused by the COVID-19 Pandemic.

Executive Summary

Since LACERS activated its Business Continuity Plan in March 2020, staff have reported to the Board regarding LACERS emergency purchases paid by Emergency Credit Card, and the Board approved $17,733.28 and $1,696.09 in April and May, respectively.

During the billing cycle ending on June 2, 2020, this card was used to purchase $638.18 of various personal protection supplies for the staff working in office. Since its activation, the total accumulated purchases and expenses paid by this emergency card is $20,067.55 as of June 2, 2020.

Discussion

The $638.18 of emergency purchases paid by the Emergency Cards for the last billing cycle are summarized and attached (Attachment 1). All cardholders are required to submit invoices and receipts, and Fiscal Management Division verifies the transactions. Potentially, costs incurred during COVID-19 Pandemic may be reimbursable from Federal/State funds.

Strategic Plan Impact Statement

This action meets the Benefit Delivery Goal by ensuring timely payment of benefits in accordance with the plan documents codified in the Los Angeles Administrative Code.

Prepared By: Mikyong Jang, Departmental Chief Accountant IV

NG/TB/MJ

Attachment: 1. Summary of emergency purchases and expenses

BOARD Meeting: 06/23/20
Item VIII - C
Attachment 1

Summary of Emergency Purchases and Expenses Paid by Emergency Corporate Credit Card

Purchase Date	Items	Description/Purpose	Card Holder	Amount
05/15/20	8 Boxes (400 pieces) of Disposable Masks	Personal Protection Supplies for LACERS Staff working in the Office.	JK	$ 289.03
05/15/20	15 Boxes (1,500 pieces) of Nitlile Gloves		JK	282.50
05/15/20	5 pieces of Face Shields		JK	46.97
05/15/20	Sanitizers and Alcohol Swaps		JK	19.68
Total Emergency Purchases & Expenses from Emergency Credit Card for Cycle Ending 06/02/20				**$ 638.18**

REPORT TO BOARD OF ADMINISTRATION
From: Rahoof "Wally" Oyewole, Dept. Audit Manager
Rahoof Oyewole

MEETING: JUNE 23, 2020
ITEM: VIII - D

SUBJECT: **CONTRACT AWARD TO MOSS ADAMS LLP FOR EXTERNAL AUDITING SERVICES AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board:

1. Award a three-year contract to Moss Adams LLP to provide external auditing services, for a total fee not-to-exceed $277,500; and
2. Authorize the General Manager to execute the agreement with Moss Adams, substantially consistent with the attached Proposed Resolution (Attachment 1) and subject to satisfactory business and legal terms.

Executive Summary

The contract with the current External Auditor, Brown Armstrong Accountancy Corporation (Brown Armstrong) is set to expire this month. On February 25, 2020, the Board authorized a release of a Request for Proposal (RFP) for LACERS' External Auditor. The RFP was published on March 2, 2020, with proposals due on April 17, 2020. Seven interested firms submitted proposals. After careful review of the proposals, and interview of the top three ranked firms, staff recommends that the Board consider Moss Adams for contract award to provide external auditing services. Given that the current Auditor has provided services to LACERS for over a decade, Moss Adams would provide LACERS a fresh set of eyes as well as fee savings of approximately $20,000 over the three-year contract.

Discussion

Background

LACERS utilizes the services of an external auditor to audit LACERS' annual financial statements prepared pursuant to the City Charter Section 1158(d). Financial statements audits are conducted in accordance with Generally Accepted Auditing Standards, and results in the publication of an independent opinion by the auditor on whether the financial statements are fairly presented. Audited financial statements are necessary to comply with Section 7504.c of California Government Code which requires that all California Public Retirement Systems furnish audited financial statements to the State

Controller annually within six months of the close of each fiscal year. The City also requires information from LACERS audited financial statements to be included in the Citywide Comprehensive Annual Financial Report (CAFR).

In June 2011, as a result of an RFP process, the Board approved a three-year contract with Brown Armstrong for external auditing services. The contract was subsequently extended in June 2014, June 2016 and June 2018. The extensions were necessary to provide stability during the go-live of the Department's Pension Administration System, as well as to ensure successful implementation of two new Governmental Accounting Standards Board (GASB) Statements, No. 67 (*Financial Reporting for Pension Plans—an amendment of GASB Statement No. 25)* and No. 74 (*Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans)*.

With the most recent contract extension with Brown Armstrong expiring in June 2020, the Board authorized the release of a new RFP on February 25, 2020. The RFP was published on March 2, 2020, with proposals due on April 17, 2020. The RFP was advertised on the Department's website and the Daily Journal, as well as the Los Angeles Business Assistance Virtual Network (BAVN). The RFP was also emailed to accounting firms on the City Controller's master agreement listing. Proposals were received from seven firms listed below, with three-year audit fee ranging from $252,000 to $363,000:

- BDO
- Brown Armstrong
- CliftonLarsonAllen (CLA), LLP
- Eide Bailly LLP
- Williams, Adley & Co.
- Macias Gini & O'Connell LLP
- Moss Adams

Evaluation of Proposals

Staff evaluated the proposals based on three levels of review as published in the RFP. Levels 1 & 2 were completed by Administrative Division staff while Level 3 review and final interviews were completed by a panel of three senior staff from Internal Audit and Fiscal Management Divisions. The evaluation results are described below:

Level 1 Review – Administrative Responsiveness

Staff conducted a preliminary evaluation of the proposals to determine compliance with proposal requirements and mandatory document submissions. All seven proposers submitted requested information and forms within the required timeframe and manner requested in the RFP. Five of the seven firms provided acknowledgement of acceptance of the City and LACERS' standard contracting terms while Moss Adams and BDO submitted substitutions for consideration. Staff determined that all seven firms successfully passed level 1 review, and moved them forward to level 2 review.

Level 2 Review – Minimum Qualifications & Experience

Proposals were then reviewed for minimum qualifications and demonstration of positive record as a responsible contractors. All seven firms exceeded the required minimum qualifications of previous experience in auditing large governmental agencies/retirement systems with at least one billion dollars in plan net assets. All seven firms also proposed an engagement partner licensed to practice in the State of California as a certified public accountant to lead LACERS' financial audit engagements. All seven proposals were then moved forward to Level 3 review to be ranked by an evaluation panel.

Level 3 Review- Panel Ranking

Three senior staff with Internal Audit and Fiscal Management Division ranked the proposals based on scoring criteria and corresponding weightings published in the RFP, as follows:

Criteria	Weight/Max Points
Qualifications, Experience, and Accomplishments	35
Proposed Scope of Services	30
Value of Cost	20
Professionalism	15

Panel members individually rated the bids. Individual scores were averaged and tabulated to compute the overall final score for each firm. Based on the panel's average scores, as indicated in Attachment 2, the following firms ranked as the top three:

- Moss Adams
- Eide Bailly
- CLA

Interviews

All three firms are fully qualified and would provide good value to LACERS. Panel members interviewed the three firms on topics including, but not limited to, anticipated audit changes due to COVID-19, transition process, auditing of private investment assets, quality control process, review of actuarial valuation numbers, and the nature of assistance provided to clients on implementation of GASB and other pension accounting and financial reporting standards. Staff also conducted reference checks on the three firms to gain additional insights from past or current clients. In addition, staff performed additional due diligence efforts on firms' past relationships with non-pension clients.

The goal of the RFP is to survey the marketplace to identify other interested qualified firms and to secure services at a reasonable cost which best fits LACERS' needs. In accordance with proposal review and the additional interviews conducted, the RFP panel believes Moss Adams provides the best overall value to LACERS.

Moss Adams is a national firm with the largest employee benefits plan practice in California. The firm has dedicated teams who have deep understanding of public retirement systems. The firm has consistently been recognized for its diversity and its efforts to attract, develop, retain, and advance women as well as its commitment to building programs to help nurture talent. Moss Adams is an active member of the American Institute of Certified Public Accountants' Pension Task Force, Employee Benefits Plan Audit Quality Center and GFOA Technical Review program. Staff believe LACERS would benefit greatly from not just the fresh perspective but also the industry expertise that Moss Adams team would bring to LACERS auditing engagements.

Scope of Required Audit and Related Services

The auditor will be expected to: (1) perform the audit to express an opinion on fair presentation of LACERS' basic financial statements (Retirement Plan & Postemployment Health Care Plan); (2) perform the audit to express an opinion on schedules related to GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27*, and GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*; (3) issue a separate audit opinion on Section 115 Trust Fund financial statements; and (4) provide ongoing advisory services regarding GASB pension accounting and reporting requirements, as well as technical matters related to filing for the Certificate in Excellence in Financial Reporting from the Governmental Finance Officers Association.

As part of the audit engagement, the independent auditor will be required to:

- Test an appropriate sample of: (1) active member accounts for verification of service credit and total on deposit, (2) benefits granted during the year which include service retirements, active death survivorships and lump-sum payments, (3) disability payments.

- Select sample records of the active, inactive, and retired participants, and test the underlying data of selected participants to obtain sufficient appropriate evidence that the census data reported to the actuary is complete and accurate.

- Examine investments to ascertain the documented existence of securities, to verify cost data with accounting records, and to review the accumulation of reported cost, book value, and market value of the various investment portfolios.

- Review "subsequent events" of LACERS as required annually by the City Controller to match the closing date on the Citywide financial statements.

- Issue a Management Letter to the Board and/or the Audit Committee (Committee) on internal control deficiencies discovered during the audit and opportunities for cost reduction and efficiency in operations.

- Present audited financial statements and other reports to the Committee and/or the full Board.

Fees

LACERS paid approximately $99,000 for audit services for the most recent fiscal year ended June 30, 2019. Moss Adams' proposed fee, to include all out-of-pocket type expenses for each year, are as follows:

- June 30, 2020 Audit Fee – $91,500
- June 30, 2021 Audit Fee – $92,500
- June 30, 2022 Audit Fee – $93,500

The new proposed contract with Moss Adams would result in fee savings of $20,000 over the three-year term.

If the Board approves the contract, Internal Audit and Fiscal Management staff are ready to work with Brown Armstrong to facilitate a smooth transition to the new auditor in time for the next audit cycle set to begin after the end of the fiscal year on June 30, 2020.

Strategic Plan Impact Statement

The Board Governance Goal is to "uphold good governance practices which affirm transparency, accountability and fiduciary duty." The external auditor helps the Board in meeting this goal by providing the Board and other LACERS stakeholders an independent assurance that the financial statements prepared by management present a 'true and fair' view of LACERS' financial position and results of operations in conformity with generally accepted accounting principles and all applicable federal and state laws, regulations and rules.

Prepared By: Rahoof "Wally" Oyewole, Departmental Audit Manager

NMG/RO

Attachments: 1. Proposed Resolution
2. Level 3 Review Result - Panel Ranking of Proposals

BOARD Meeting: 6/23/20
Item VIII D
Attachment 1

CONTRACT WITH MOSS ADAMS LLP
FOR EXTERNAL AUDITING SERVICES

PROPOSED RESOLUTION

WHEREAS, LACERS desires to engage the services of a public accounting firm to provide external auditing services, included but not limited to: (1) performing the audit to express an opinion on fair presentation of LACERS' basic financial statements (Retirement Plan & Postemployment Health Care Plan); (2) performing the audit to express an opinion on schedules related to Governmental Accounting Standards Board (GASB) Statement No. 68, *Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27*, and GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*; (3) issuing a separate audit opinion on Section 115 Trust Fund financial statements; and (4) providing ongoing advisory services regarding GASB pension accounting and reporting requirements, as well as technical matters related to filing for the Certificate in Excellence in Financial Reporting from the Governmental Finance Officers Association;

WHEREAS, LACERS issued a Request for Proposal for External Auditor on March 2, 2020 and received seven proposals for the external auditing engagement by the April 17, 2020 deadline;

WHEREAS, Moss Adams LLP was selected by a review panel as the best qualified firm to meet LACERS' needs;

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby approves a contract with Moss Adams, and authorizes the General Manager to execute the necessary documents, within the following terms, subject to City Attorney review:

EXTERNAL AUDITOR:	Moss Adams LLP
TERM:	July 1, 2020 to June 30, 2023
AMOUNT:	$277,500, as follows:

- FYE June 30, 2020 Audit Fee – $91,500
- FYE June 30, 2021 Audit Fee – $92,500
- FYE June 30, 2022 Audit Fee – $93,500

June 23, 2020

BOARD Meeting: 6/23/20
Item VIII -D
Attachment 2

EXTERNAL AUDITOR RFP 2020
LEVEL 3 REVIEW - PANEL RANKING

Focus Areas		BDO	Brown Armstrong	CLA	Eide Bailly	MGO	William Adley	Moss Adams
Professionalism [Weight 15%]								
Proposer demonstrated professionalism in the response to the RFP, such as: RFP presentation, well-written summary of the important, features of the RFP, provide response to all questions, etc.	Rater 1	12.00	13.00	12.00	14.00	13.00	11.00	13.00
	Rater 2	14.00	15.00	14.00	14.00	15.00	14.00	14.00
	Rater 3	12.00	12.00	14.00	14.00	10.00	12.00	14.00
	Average Score	**12.67**	**13.33**	**13.33**	**14.00**	**12.67**	**12.33**	**13.67**
Proposed Scope of Services Description and Methodology [Weight 30%]								
Proposer demonstrated strong understanding of LACERS' objectives and provides a proposed methodology and further refinement of the RFP Scope of Services to meet LACERS' objectives, audit timeline, and budget.	Rater 1	25.00	25.00	27.00	26.00	26.00	23.00	28.00
	Rater 2	26.00	26.00	26.00	26.00	30.00	26.00	26.00
	Rater 3	30.00	25.00	30.00	30.00	24.00	20.00	25.00
	Average Score	**27.00**	**25.33**	**27.67**	**27.33**	**26.67**	**23.00**	**26.33**
Qualifications, Experience, and Accomplishments [Weight 35%]								
Demonstrated commitment to the governmental audit practice; Strength of experience in proving audit services for public pension systems; Demonstration of expertise in/knowledge of the proposed team in providing the scope of services and value-add; Strength of favorable references during the due diligence review process.	Rater 1	29.00	34.00	33.00	32.00	34.00	29.00	31.00
	Rater 2	29.00	29.00	28.00	30.00	32.00	29.00	30.00
	Rater 3	30.00	32.00	32.00	34.00	30.00	32.00	30.00
	Average Score	**29.33**	**31.67**	**31.00**	**32.00**	**32.00**	**30.00**	**30.33**
Value of Cost [Weight 20%]								
Proposed Audit Fee (3-Year Contract)		$ 294,000	$ 282,000	$ 262,500	$ 251,820	$ 363,346	$ 323,015	$ 277,500
Score		**16.65**	**17.60**	**19.15**	**20.00**	**11.14**	**14.35**	**17.96**
Total Weighted Ranking								
	Rater 1	82.65	89.60	91.15	92.00	84.14	77.35	89.96
	Rater 2	85.65	87.60	87.15	90.00	88.14	83.35	87.96
	Rater 3	88.65	86.60	95.15	98.00	75.14	78.35	86.96
	Composite Score	**85.6**	**87.9**	**91.2**	**93.3**	**82.5**	**79.7**	**88.3**

LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION

From: Investment Committee
Sung Won Sohn, Chair
Elizabeth Lee
Nilza R. Serrano

MEETING: JUNE 23, 2020
ITEM: IX – B

SUBJECT: **INVESTMENT MANAGER CONTRACT WITH BARROW, HANLEY, MEWHINNEY & STRAUSS, LLC REGARDING THE MANAGEMENT OF AN ACTIVE NON-U.S. EQUITIES DEVELOPED MARKETS VALUE PORTFOLIO AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board:

1. Approve a three-year contract renewal with Barrow, Hanley, Mewhinney & Strauss, LLC for the management of an active non-U.S. equities developed markets value portfolio.

2. Authorize the General Manager to approve and execute the necessary documents, subject to satisfactory business and legal terms.

Discussion

On June 9, 2020, the Committee considered the attached staff report (Attachment 1) recommending a three-year contract renewal with Barrow, Hanley, Mewhinney & Strauss, LLC (BHMS). BHMS has managed an active non-U.S. equities developed markets value portfolio for LACERS since November 2013; the current contract expires on September 30, 2020. As of May 31, 2020, LACERS' portfolio was valued at $448 million. BHMS was placed "On Watch" for an initial one-year period effective April 17, 2019 pursuant to the LACERS Manager Monitoring Policy. Staff, in concurrence with NEPC, LLC (NEPC), LACERS' General Fund Consultant, has determined that recent outperformance warranted removal of BHMS from "On Watch" status, effective June 1, 2020. Further, the Committee discussed the firm's organizational changes, ownership structure, and fees. Based on the discussion and responses by staff and NEPC, the Committee concurs with the staff recommendation for a three-year contract renewal with BHMS.

Strategic Plan Impact Statement

A contract renewal with BHMS will allow the fund to maintain a diversified exposure to the non-U.S. equities developed markets, which is expected to help optimize long-term risk adjusted investment returns (Goal IV). The discussion of the investment manager's profile, strategy, performance, and management fee structure is consistent with Goal V (uphold good governance practices which affirm transparency, accountability, and fiduciary duty).

Prepared By: Ellen Chen, Investment Officer I, Investment Division

RJ/BF/EC:jp

Attachments: 1. Investment Committee Recommendation Report dated June 9, 2020
2. Proposed Resolution

LACERS
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

REPORT TO INVESTMENT COMMITTEE **MEETING: JUNE 9, 2020**
From: Neil M. Guglielmo, General Manager **ITEM: III**

SUBJECT: **INVESTMENT MANAGER CONTRACT WITH BARROW, HANLEY, MEWHINNEY & STRAUSS, LLC REGARDING THE MANAGEMENT OF AN ACTIVE NON-U.S. EQUITIES DEVELOPED MARKETS VALUE PORTFOLIO AND POSSIBLE COMMITTEE ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Committee recommend to the Board a three-year contract renewal with Barrow, Hanley, Mewhinney & Strauss, LLC for the management of an active non-U.S. equities developed markets value portfolio.

Executive Summary

Barrow, Hanley, Mewhinney & Strauss, LLC (BHMS) has managed an active non-U.S. equities developed markets value portfolio for LACERS since November 2013. LACERS' portfolio was valued at $448 million as of May 31, 2020. BHMS' current contract expires on September 30, 2020. Staff and NEPC, LLC, (NEPC) LACERS General Fund Consultant, recommend a three-year contract renewal with BHMS.

Discussion

Background
BHMS has managed an active non-U.S. equities developed markets value portfolio for LACERS since November 2013, and is benchmarked against the MSCI EAFE Value Index. BHMS' fundamental research-based and value-oriented investment strategy emphasizes companies with low price/earnings ratios, low price/book ratios, and high dividend yields to provide a measure of protection in down markets, as well as participation in improving economic cycles. The portfolio is managed by Rand Wrighton and TJ Carter, who have 20 years and 16 years of industry experience, respectively. LACERS' portfolio was valued at $448 million as of May 31, 2020.

BHMS was hired through the 2013 Active Non-U.S. Equities Developed Markets Manager Search and three-year contracts were authorized by the Board on June 11, 2013 and on June 28, 2016. The Board subsequently authorized a one-year contract extension on July 23, 2019; the current contract expires on September 30, 2020.

Organization

BHMS is an investment management firm that specializes in long-only value investing. The firm is a majority owned affiliate of BrightSphere Investment Group (BSIG), a public company listed on the New York Stock Exchange (Ticker Symbol: BSIG). BSIG was formerly branded as OM Asset Management, plc. Under this structure, Barrow Hanley operates its business independently and autonomously. BHMS is headquartered in Dallas and has 97 employees, including 55 investment professionals. As of March 31, 2020, the firm managed $40 billion in total assets with $1.6 billion in the non-U.S. value equities strategy.

Due Diligence

BHMS' organizational structure, investment philosophy, strategy, and process have not changed over the one-year contract period. Until December 2019, BHMS had served as a long-time sub-advisor to Vanguard's Windsor II and Selected Value mutual funds. In mid-December, Vanguard ended its relationship with BHMS, resulting in the loss of approximately $21 billion in assets under management (AUM) from BHMS' domestic equities strategies. BHMS' total AUM declined from approximately $72 billion as of September 30, 2019 to approximately $52 billion as of December 31, 2019. Staff evaluated the severed relationship and the loss of assets with Vanguard and concluded that this event had no adverse impact on the management of BHMS' non-U.S. value equities strategy.

Performance

As of May 31, 2020, BHMS outperformed its benchmark over all time periods based on unaudited performance data, as presented in the table below.

Annualized Performance, Unaudited as of 5/31/20 (Net-of-Fees)						
	3-Month	1-Year	2-Year	3-Year	5-Year	Since 11/30/13
BHMS	-9.90	-7.49	-10.09	-4.57	-1.92	-0.74
MSCI EAFE Value	-10.68	-13.03	-10.66	-5.45	-2.89	-1.79
% of Excess Return	*0.78*	*5.54*	*0.57*	*0.88*	*0.97*	*1.05*

Calendar year performance is presented in the table below as supplemental information.

Calendar Year Performance, Unaudited as of 5/31/20 (Net-of-Fees)								
	1/1/20-5/31/20	2019	2018	2017	2016	2015	2014	11/30/13-12/31/13
BHMS	-22.43	26.12	-18.12	23.12	3.23	-6.56	-2.06	2.26
MSCI EAFE Value	-22.05	16.09	-14.78	21.44	5.02	-5.68	-5.39	1.36
% of Excess Return	*-0.38*	*10.03*	*-3.34*	*1.68*	*-1.79*	*-0.88*	*3.33*	*0.90*

Pursuant to LACERS Manager Monitoring Policy (Policy), BHMS was placed "On Watch" last year on April 17, 2019 for an initial one-year period due to underperformance as of March 31, 2019. At the end of the one-year monitoring period, BHMS' performance (as of March 31, 2020) was in compliance with the Policy criteria. Therefore, staff and NEPC have removed BHMS from “On Watch” status. BHMS continues to outperform the benchmark through period end May 31, 2020.

Fees
LACERS pays BHMS an effective fee of 52 basis points (0.52%), which is approximately $2.3 million annually based on the value of LACERS’ assets as of May 31, 2020. The fee ranks in the 27th percentile of fees charged by similar managers in the eVestment database (i.e., 73% of like-managers have higher fees).

General Fund Consultant Opinion
NEPC concurs with this recommendation.

Strategic Plan Impact Statement

A contract renewal with BHMS will allow the fund to maintain a diversified exposure to the non-U.S. equities developed markets, which is expected to help optimize long-term risk adjusted investment returns (Goal IV). The discussion of the investment manager’s profile, strategy, performance, and management fee structure is consistent with Goal V (uphold good governance practices which affirm transparency, accountability, and fiduciary duty).

Prepared By: Ellen Chen, Investment Officer I, Investment Division

RJ/BF/EC:jp

Attachment: 1. Consultant Recommendation – NEPC

NEPC, LLC

To: Los Angeles City Employees' Retirement System Investment Committee

From: NEPC, LLC

Date: June 9, 2020

Subject: Barrow, Hanley, Mewhinney & Strauss, LLC - Contract renewal

Recommendation

NEPC recommends Los Angeles City Employees' Retirement System (LACERS) renew the contract with Barrow, Hanley, Mewhinney & Strauss, LLC ('BHMS') for a period of three years from the date of contract expiry.

Background

BHMS was hired to manage a Non-U.S. Equity portfolio in 2013 and thus provides the Plan with public equity exposure across international developed countries/markets. The portfolio's strategy is benchmarked against the MSCI EAFE Value Index and has a performance inception date of November 30, 2013.

As of April 30, 2020, BHMS managed $429.5 million, or 2.5% of Plan assets in an international developed markets separately managed account. The performance objective is to outperform the MSCI EAFE Value Index, net of fees, annualized over a full market cycle (normally three-to-five years).

BHMS was founded and registered with the SEC in July of 1979 to manage U.S. tax-exempt portfolios for institutional clients. In January of 1988, BHMS sold themselves to United Asset Management Corporation (UAM), a Boston-based holding company, listed on the New York Stock Exchange. On October 5, 2000, UAM was acquired by Old Mutual plc, an international financial services group based in London. Following the acquisition, Old Mutual plc renamed UAM, "Old Mutual Asset Management". In 2014, Old Mutual plc conducted an initial public offering of Old Mutual Asset Management. OM Asset Management plc rebranded as BrightSphere Investment Group plc in March 2018, following its separation from Old Mutual plc. BrightSphere Investment Group plc is a publicly-listed company traded on the New York Stock Exchange (Ticker symbol: BSIG). Many key employees, including portfolio managers and analysts, have economic ownership in BHMS through a limited partnership that owns a 24.9% equity interest in BHMS LLC.

In early January 2020 Vanguard announced meaningful sub-advisory changes to the investment manager line up within the firms' Vanguard Windsor II and Vanguard Selected Value Strategies, US stock portfolios. These changes resulted in the loss of approximately $21 billion in assets under management ('AUM') for BHMS or approximately 29% of AUM. BHMS had been a manager for the Vanguard Windsor II fund for approximately 34 years. BHMS managed $72.2 billion as of September 30, 2019 and the termination of the Vanguard relationship resulted in firm AUM falling to $51.7 billion as of December 31, 2019. As of March 31, 2020, the firm's AUM is $39.8 billion.

The LACERS portfolio is managed by two portfolio managers, Rand Wrighton and TJ Carter. Mr. Wrighton has been a lead portfolio manager on the strategy since 2006. In March of 2018 David Hodges, Co-Portfolio Manager, retired after having built the non-US Value portfolio capability at BHMS with Mr. Wrighton. TJ Carter was promoted into the portfolio manager role when David Hodges retired. In addition, Charlie Radtke was brought aboard as a third Portfolio Manager. Mr. Radtke left the firm in September of 2018. Mr. Radtke had been with the firm for approximately a year and he did not have a significant impact on the names in the portfolio, therefore, a replacement has not been pursued.

BHMS' approach to the equity market is based on the underlying philosophy that markets are inefficient. These inefficiencies can best be exploited through adherence to a value-oriented investment process dedicated to the selection of securities on a bottom-up basis. No attempt to time the market or rotate in and out of broad market sectors is used, as they believe that it is difficult, if not impossible, to add incremental value on a consistent basis by top-down or thematic market timing. BHMS stays fully invested with a defensive, conservative orientation, based on the belief that superior returns can be achieved while taking below-average risks. They implement this strategy by constructing portfolios of individual stocks that reflect value characteristics such as: price/earnings, price/book, and enterprise value/free cash flow ratios at or below the market (MSCI EAFE Index), and dividend yields at or above the market.

BHMS' value investing strategy emphasizes low price/earnings ratios, low price/book ratios, and high dividend yields as a way to add protection in down markets, as well as participation in improving economic cycles. Within a broad universe of more than 4,000 non-U.S. stocks, there are approximately 2,600 stocks with market capitalizations greater than $1 billion with levels of liquidity that they consider sufficient. This subset of stocks is the starting point for their Non-US Value stock selection process. This universe is reduced to the least expensive portion of the universe resulting in approximately 250 stocks that receive the highest ranking by the screening model. These stocks are then placed on BHMS' Non-U.S. Security Guidance List. They then perform bottom-up, fundamental securities analysis on these stocks for potential inclusion in the Non-US Value portfolio. The Security Guidance List is reviewed weekly.

The firm seeks to build equally-weighted portfolios generally consisting of 50 to 70 stocks. While the "core" position size is approximately 2%, positions may be larger if the conviction level is unusually high or the target company's weight in the Index mandates a larger weight in order to generate sufficient alpha. However, no more than 5% of the portfolio, at market value, will be invested in any one security. Sector and country weightings are a residual of the bottom-up stock selection process and they may vary meaningfully at times from the respective weightings in the MSCI EAFE Index. Sector weightings are limited to an absolute weight of 40% of the portfolio. Individual country weightings are limited to 25%, at market value (ex-Japan and the UK). While the Non-US Value strategy is primarily invested in companies domiciled in developed non-U.S. markets, BHMS may, on an opportunistic basis, invest in companies domiciled in emerging markets, as defined by MSCI.

Performance

Referring to Exhibit 1, as of April 30, 2020, the portfolio has outperformed the benchmark since inception by 0.86% (-1.41% vs. -2.27%). In the past year, ended April 30, 2020 the portfolio outperformed the benchmark by 2.49% (-17.99% vs. -20.48%). Referring to Exhibit 2, since inception ended March 31, 2020, the strategy has outperformed the MSCI EAFE Value Index by 0.25%, returning -2.85%, net of fees. The portfolio ranked in the 74th percentile in its peer universe since November 30, 2013. The information ratio was 0.06 and active risk, as measured by tracking error was 3.82%. In the one-year period ended March 31, 2020, the portfolio outperformed the index by 0.02% and ranked in the 67th percentile in its peer universe.

Since November 30, 2013, referring to Exhibit 3, historical cumulative performance had been positive when compared to the benchmark until the second quarter of 2018. Relative outperformance through 2019 has resulted in positive cumulative performance versus the benchmark. This was primarily related to stock selection in Energy, Industrials and Consumer Discretionary sectors.

The BHMS account is currently on Watch due to performance according to LACERS' manager monitoring policy. Since being put on Watch status last year, performance has improved and the portfolio is now in compliance with LACERS' manager monitoring policy. Therefore, NEPC and Staff have determined that BHMS should be removed from Watch status due to their improved performance profile.

Fees

The portfolio has an asset-based fee of 0.52% (52 basis points) annually. This fee ranks in the 27th percentile among its peers in the eVestment EAFE All Cap Value Universe. In other words, 73% of the 28 products included in the peer universe have a higher fee than the LACERS account.

Conclusion

BHMS has performed within the range of anticipated outcomes against its benchmark since inception in a time period in which value equity investments have not been favored by markets. Since being placed on Watch, BHMS has been able to turn around the portfolio's relative performance versus the benchmark. The firm has had some turnover in portfolio management and executive ranks, though a founding member of the team is still with the firm/product as the lead portfolio manager. The investment process and philosophy have remained intact. BHMS has lost significant assets since the end of Q4 2019 and we should be cognizant of what this may mean as the firm digests the reduction in revenue and continue to monitor the asset levels at the firm. NEPC recommends a contract renewal for a period of three years from the period of contract expiry.

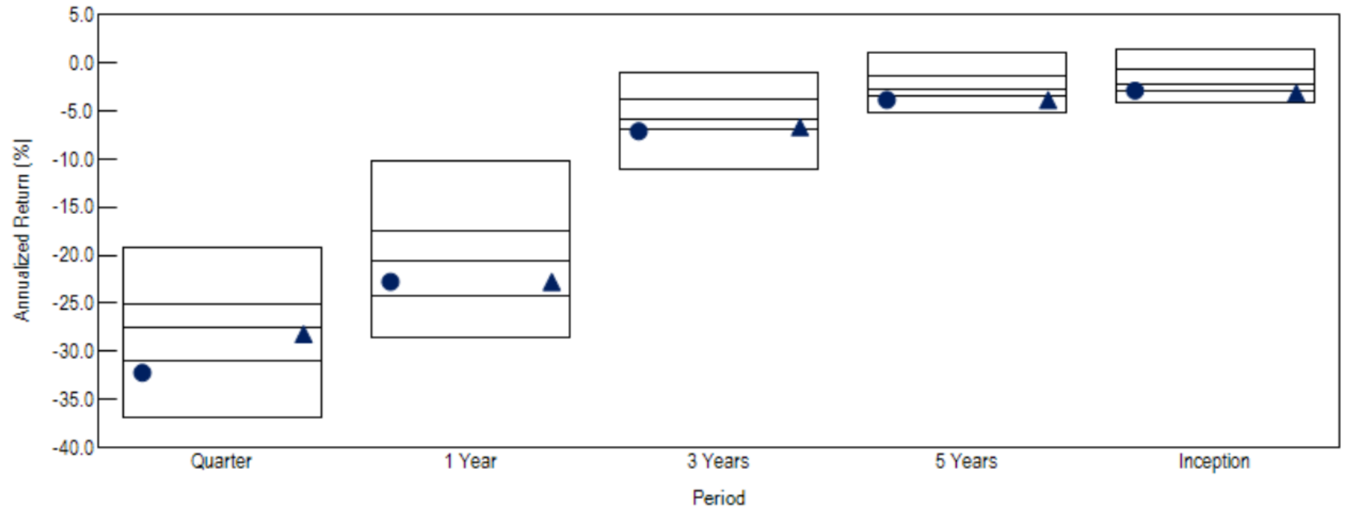
The following tables provide specific performance information, net of fees referenced above.

Exhibit 1

	Ending April 30, 2020 Market Value($)	1 Mo(%)	3 Mo(%)	YTD(%)	Fiscal YTD(%)	1 Yr(%)	3 Yrs(%)	5 Yrs(%)	10 Yrs(%)	Inception (%)	Inception Date
Barrow Hanley	429,477,033	9.68	-22.36	-25.66	-17.99	-17.99	-5.00	-2.84	--	-1.41	13-Nov
MSCI EAFE Value		5.35	-21.52	-24.35	-19.86	-20.48	-5.67	-3.66	1.35	-2.27	13-Nov
Over/Under		*4.33*	*-0.84*	*-1.31*	*1.87*	*2.49*	*0.67*	*0.82*		*0.86*	

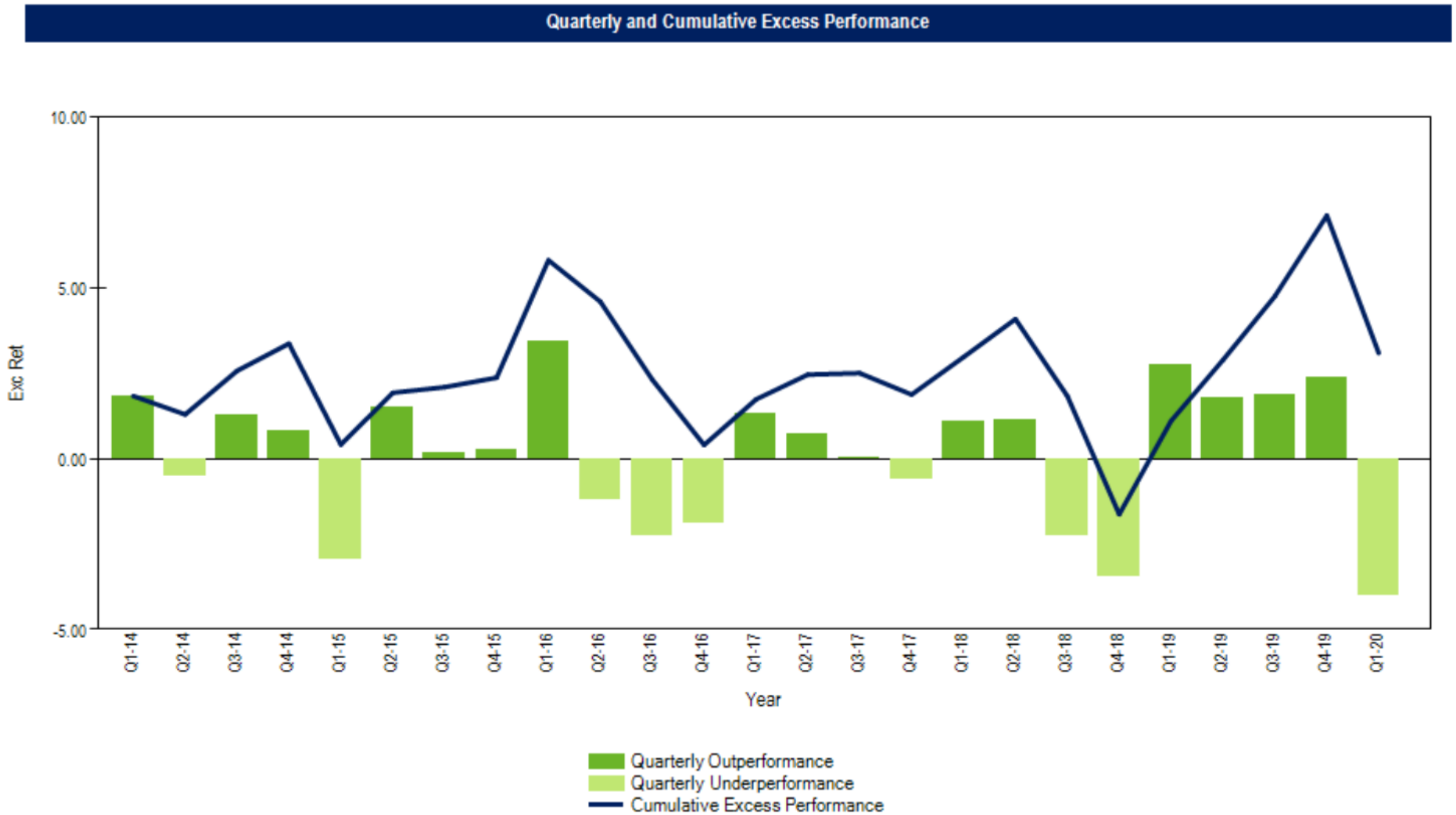
Exhibit 2

eV EAFE Value Equity Net Return Comparison
Ending March 31, 2020



Return (Rank)	Quarter		1 Year		3 Years		5 Years		Inception	
5th Percentile	-19.20		-10.20		-1.07		1.01		1.39	
25th Percentile	-25.05		-17.41		-3.72		-1.35		-0.66	
Median	-27.51		-20.67		-5.80		-2.75		-2.17	
75th Percentile	-31.00		-24.21		-6.95		-3.39		-2.89	
95th Percentile	-36.92		-28.65		-11.09		-5.18		-4.08	
# of Portfolios	58		58		53		47		46	
● Barrow Hanley	-32.22	(85)	-22.74	(67)	-7.07	(78)	-3.81	(82)	-2.85	(74)
▲ MSCI EAFE Value	-28.20	(58)	-22.76	(67)	-6.65	(69)	-3.83	(82)	-3.10	(83)

Exhibit 3


Quarterly and Cumulative Excess Performance
10.00
5.00
0.00
-5.00
Exc Ret
Q1-14
Q2-14
Q3-14
Q4-14
Q1-15
Q2-15
Q3-15
Q4-15
Q1-16
Q2-16
Q3-16
Q4-16
Q1-17
Q2-17
Q3-17
Q4-17
Q1-18
Q2-18
Q3-18
Q4-18
Q1-19
Q2-19
Q3-19
Q4-19
Q1-20
Year
Quarterly Outperformance
Quarterly Underperformance
Cumulative Excess Performance

CONTRACT RENEWAL
BARROW, HANLEY, MEWHINNEY & STRAUSS, LLC
ACTIVE NON-U.S. EQUITIES DEVELOPED MARKETS VALUE
PORTFOLIO MANAGEMENT

PROPOSED RESOLUTION

WHEREAS, LACERS' current one-year contract extension with Barrow, Hanley, Mewhinney & Strauss, LLC (BHMS) for active non-U.S. equities developed markets value portfolio management expires on September 30, 2020; and,

WHEREAS, BHMS is in compliance with the LACERS Manager Monitoring Policy; and,

WHEREAS, a contract renewal with BHMS will allow the fund to maintain a diversified exposure to the active non-U.S. equities developed markets; and,

WHEREAS, on June 23, 2020, the Board approved the Investment Committee's recommendation to approve a three-year contract renewal with BHMS.

NOW, THEREFORE, BE IT RESOLVED, that the General Manager is hereby authorized to approve and execute a contract subject to satisfactory business and legal terms and consistent with the following services and terms:

Company Name:	Barrow, Hanley, Mewhinney & Strauss, LLC
Service Provided:	Active Non-U.S. Equities Developed Markets Value Portfolio Management
Effective Dates:	October 1, 2020 through September 30, 2023
Duration:	Three years
Benchmark:	MSCI EAFE Value Index
Allocation as of May 31, 2020:	$448 million

June 23, 2020

LACERS
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

REPORT TO BOARD OF ADMINISTRATION

From: Investment Committee
Sung Won Sohn, Chair
Elizabeth Lee
Nilza R. Serrano

MEETING: JUNE 23, 2020
ITEM: IX – C

SUBJECT: **REAL ESTATE FISCAL YEAR 2020-21 STRATEGIC PLAN AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board adopt the Real Estate Fiscal Year 2020-21 Strategic Plan.

Discussion

On June 9, 2020, the Committee considered the attached report regarding the Real Estate Fiscal Year 2020-21 Strategic Plan. The Committee heard a presentation from Chae Hong, Felix Fels, and Storm Klyve-Underkofler of The Townsend Group (Townsend), LACERS' Real Estate Consultant. The plan, developed by Townsend with input from staff, establishes strategic objectives and investment plan recommendations for the Fiscal Year 2020-21. The Committee inquired about Townsend's higher proposed annual commitment to non-core funds relative to core funds, as well as potential real estate opportunities arising from the dislocated market environment caused by the COVID-19 pandemic. Based on this discussion, the Committee concurs with the staff recommendation to adopt the plan. Townsend will be present at the Board meeting of June 23, 2020, should the Board desire to hear a presentation of the plan.

Strategic Plan Impact Statement

The annual real estate strategic plan assists the Board in building a diversified real estate portfolio to optimize long-term risk-adjusted returns (Goal IV). Development and adoption of such a plan also promotes good governance practices (Goal V).

Prepared By: Eduardo Park, Investment Officer II, Investment Division

RJ/BF/WL/EP:jp

Attachment: 1. Investment Committee Recommendation Report dated June 9, 2020

LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM

REPORT TO INVESTMENT COMMITTEE **MEETING: JUNE 9, 2020**
From: Neil M. Guglielmo, General Manager **ITEM: IV**

SUBJECT: **REAL ESTATE FISCAL YEAR 2020-21 STRATEGIC PLAN AND POSSIBLE COMMITTEE ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Committee recommend to the Board the adoption of the Real Estate Fiscal Year 2020-21 Strategic Plan.

Discussion

The Townsend Group (Townsend), LACERS Real Estate Consultant, with input from staff, has developed the proposed Real Estate Fiscal Year 2020-21 Strategic Plan, which considers strategic objectives and investment plan recommendations for the next fiscal year. Staff has reviewed the plan and recommends its adoption. Townsend will present the proposed plan.

Strategic Plan Impact Statement

The annual real estate strategic plan assists the Board in building a diversified real estate to optimize long-term risk-adjusted returns (Goal IV). Development and adoption of such a plan also promotes good governance practices (Goal V).

Prepared By: Eduardo Park, Investment Officer II, Investment Division

RJ/BF/WL/EP:jp

Attachment: 1. Proposed Real Estate Strategic Plan – The Townsend Group

TOWNSEND® GROUP
an Aon company

MEMORANDUM

TO:	**The Board of Los Angeles City Employees' Retirement System**
DATE:	June 2020
SUBJECT:	Real Estate Strategic & Investment Plan for Fiscal Year 2020-2021 – Executive Summary
FROM:	**The Townsend Group**

Executive Summary

The purpose of this report is to review the Los Angeles City Employees' Retirement System ("LACERS" or the "System") Real Estate Strategic Plan ("Strategic Plan") and outline the corresponding Real Estate Investment Plan ("Investment Plan"). The Investment Plan includes actions which will help LACERS to capitalize on current market opportunities while still meeting the guidelines set forth in the proposed Strategic Plan.

Townsend was re-engaged by LACERS's Board in 2014 to serves as its real estate consultant. Since that time, Townsend has worked with LACERS Staff to successfully transition the Portfolio to reflect a more conservative risk profile. The investment strategy from 2014 to-date has emphasized $255 million of investments into Core funds, $245 million into tactical Non-Core funds and close monitoring of pre-GFC underperforming investments which have begun to mature and liquidate.

In April 2018, LACERS Board adopted changes to its Asset Allocation targets, as advised by its general consultant. The impact to real estate was to increase capital from 5.0% of Total Plan Assets to 7.0% of Total Plan Assets.

Townsend has no recommended changes to the Strategic Plan. Investment Plan recommendations are summarized below.

FY 2020-2021 Investment Recommendations

The LACERS Program (the "Program") has a 7.0% allocation target (with an allowable range of ± 2.0%). As of December 31, 2019, the market value of the Portfolio was $896 million on a committed and funded basis (4.7% of Total Plan Assets). With the combination of the recently approved increased allocation to real estate, and planned liquidations, LACERS will need to deploy significant capital in order to reach its 7.0% allocation target over the coming years.

Townsend recommends the following 2020-2021 Goals to LACERS for consideration:

	LACERS Annual Investment Plan FY 2020-2021
Core	
Capital	**$30 M - $70 M**
Number of Funds	0-1
Target Average Commitment per Fund	$55 M
Non-Core	
Capital	**$100 M - $140 M**
Number of Funds	2-3
Target Average Commitment per Fund	$50 M
Total Annual Commitments	***$130 M - $210 M***

Overall Portfolio Goals

- Monitor market conditions closely to capitalize on opportunities created by market stress and actively manage risk.
- For compelling opportunities, consider increasing average commitment size to reflect the new real estate allocation.

Core Portfolio Goals

- Evaluate existing Open-End Core fund portfolio and consider rebalancing the portfolio to improve diversification and returns, as necessary, while ensuring that LACERS does not redeem at temporarily depressed valuations due to current market stress.

- Consider top-up commitments to existing high-conviction funds.

Non-Core Portfolio Goals

- Focus on up to three incremental commitments in Non-Core (ranging from $35 to $50 million per investment), emphasizing blind-pool funds which target distress, as well as thematic investments arising from the current economic and health crisis's impact on the real estate sector.

- Target commitments to preferred property types and regions based on LACERS Portfolio exposures:
    - **High-Conviction Opportunities**
        - Retain the ability to commit to niche, high-conviction "Best Idea" Opportunistic Non-Core strategies that offer attractive risk-adjusted returns or unique exposures.
        - Pursue blind-pool opportunistic funds with managers capable of taking advantage of market distress.
            - Temporary periods of market volatility, illiquidity, and stressed properties/ownership historically tend to hallmark better vintages for higher risk/return Opportunistic funds.
    - **Industrial**: Consider increasing exposure to strategies that are complementary to those of LACERS' Core Industrial holdings, which currently represent the majority of LACERS' exposure to the property type. While LACERS is slightly overweight to the Industrial property type (22.7% vs. 20.3% NFI-ODCE), a larger overweight may be appropriate. Additionally, Non-Core exposure to Industrial properties is only 3.2% and should be increased.
    - **US Apartments**: Increase Non-Core Apartment exposure with a best-in-class manager.
        - Consider a value-added, diversified manager to increase Apartment exposure.
            - This action has been approved by the Board as of 5/26/2020.
    - **Ex-U.S. Exposure**
        - Evaluate Non-Core diversification and consider an ex-U.S. strategy if a compelling thematic opportunity is available.

END OF INVESTMENT RECOMMENDATIONS

Board Meeting: 06/23/20
Item IX-C
Attachment 1

IC Meeting: 06/09/20
Item IV
Attachment 1

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Real Estate Portfolio

Fiscal Year 2020-2021 Investment Plan

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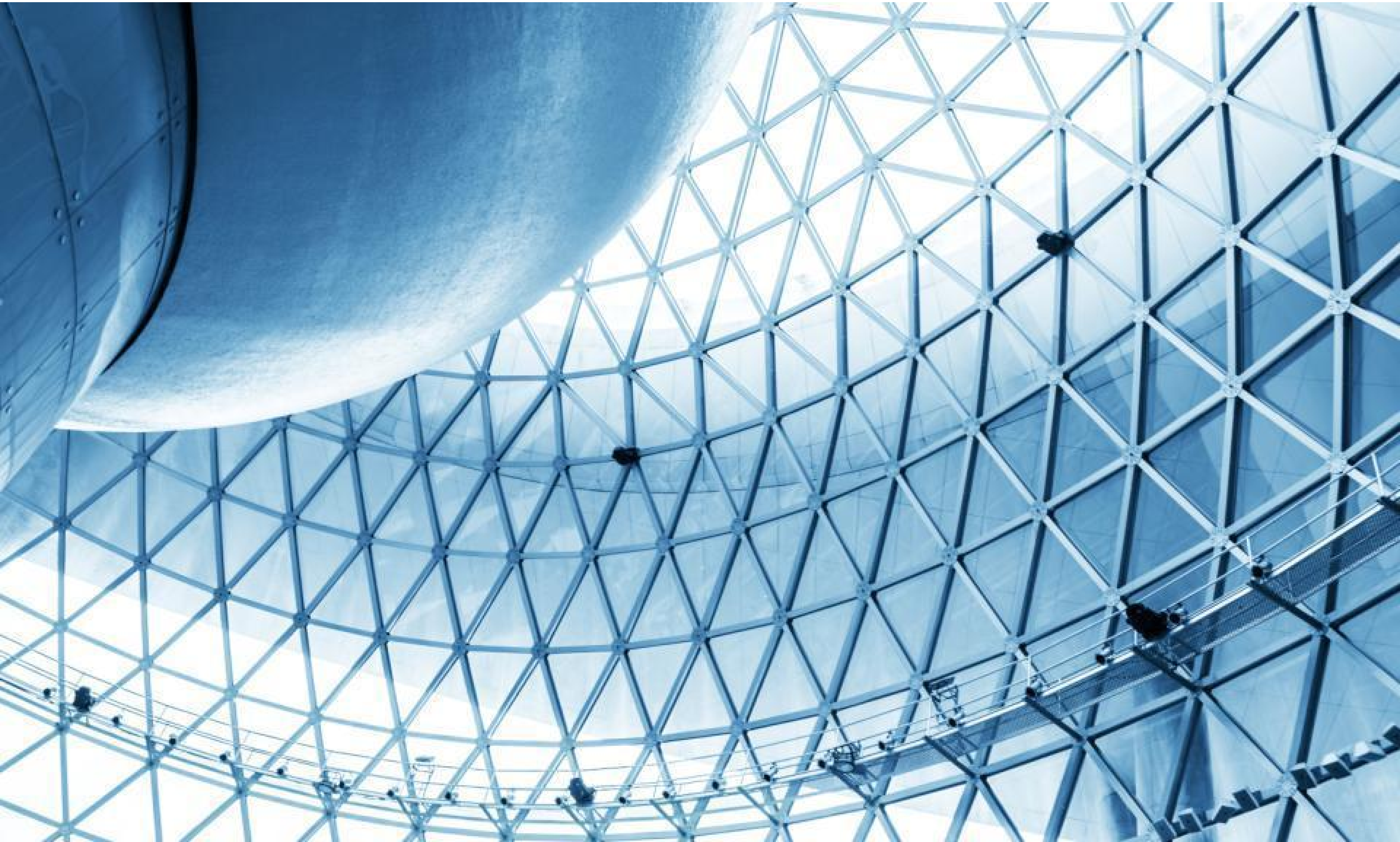
Table of Contents

A. LACERS Real Estate Program Overview



LACERS Real Estate Program Overview

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- LACERS began investing in Real Estate in 1989.
- In April 2018, LACERS' Board elected to increase its real estate allocation from 5.0% to 7.0% of Total Plan Assets (with an allowable range of ± 2.0%).
- As of December 31, 2019, the market value of the Portfolio was $777 million (4.1% of Total Plan Assets).
  - Employing March 31, 2020 numbers for LACERS' Total Plan Assets, LACERS' real estate portfolio rises to 4.6% of Total Plan Assets, a result of negative public markets performance due to COVID-19.
- Forecasts show that several investments will be liquidating from the Portfolio over the next three-year period.

	Market Value ($ millions)*	% LACERS Plan*
LACERS Total Plan Assets	18,868	
Real Estate Target	1,321	7.0%
RE Market Value:		
Core	572	
Non-Core	185	
Timber	19	
Total RE Market Value	777	4.1%
Unfunded Commitments	119	0.6%
RE Market Value & Unfunded Commitments	896	4.7%
Remaining Allocation	425	2.3%

*Figures may not add due to rounding. Unfunded commitments exclude commitments made after 12/31/19.

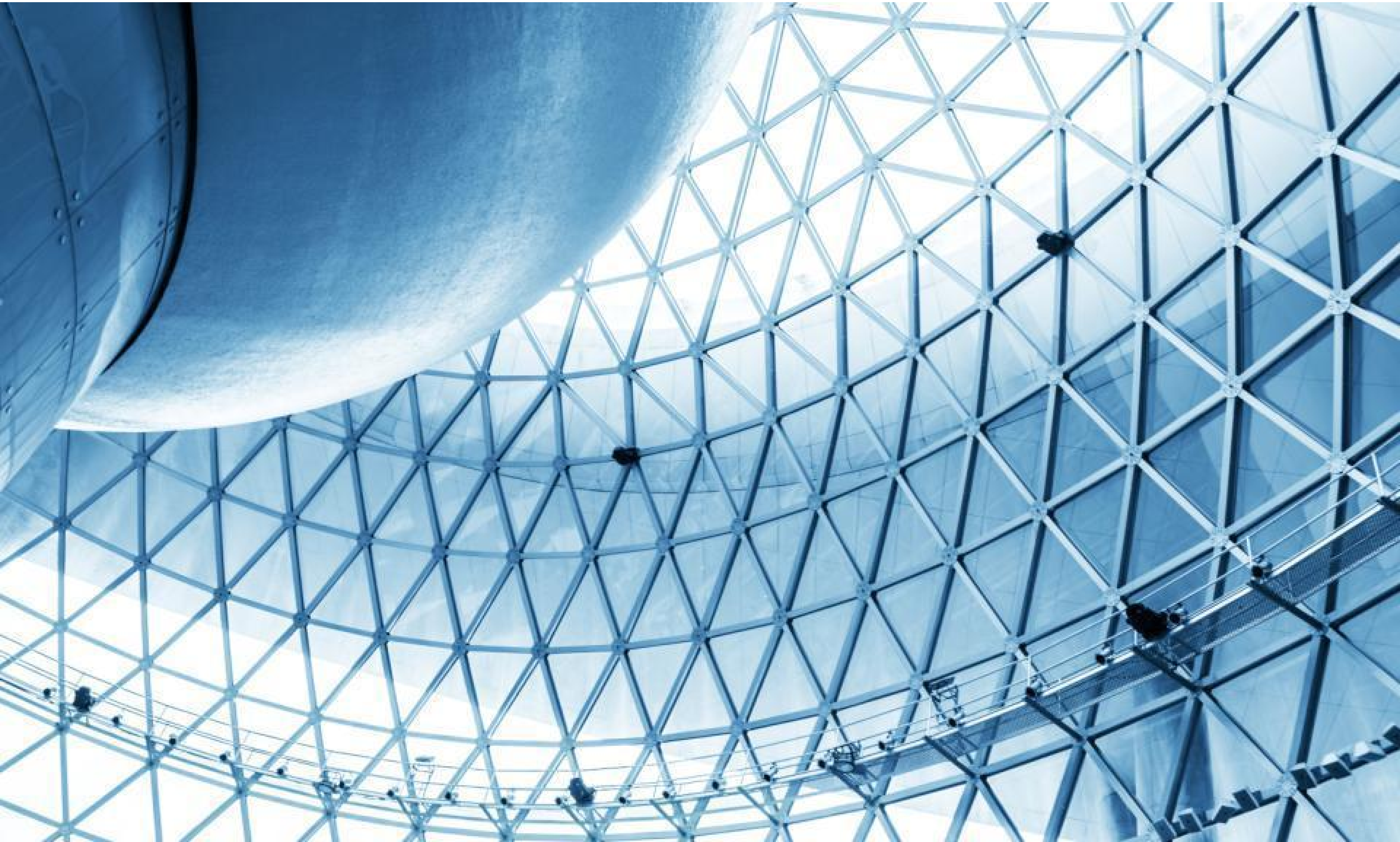
LACERS Real Estate Program Overview (continued)

	Strategic Targets		*Portfolio Composition (12/31/2019)**	
	Target Allocation	**Tactical Range**	**Market Value**	**Market Value & Unfunded Commitments**
Core	**60%**	**40% - 80%**	**73.7%**	**65.9%**
Non-Core	**40%**	**20% - 60%**	**23.9%**	**31.9%**
Value Add Portfolio	*N/A*	*N/A*	*12.2%*	*17.1%*
Opportunistic Portfolio	*N/A*	*N/A*	*11.7%*	*14.8%*
Timber	**N/A**	**N/A**	**2.5%**	**2.1%**

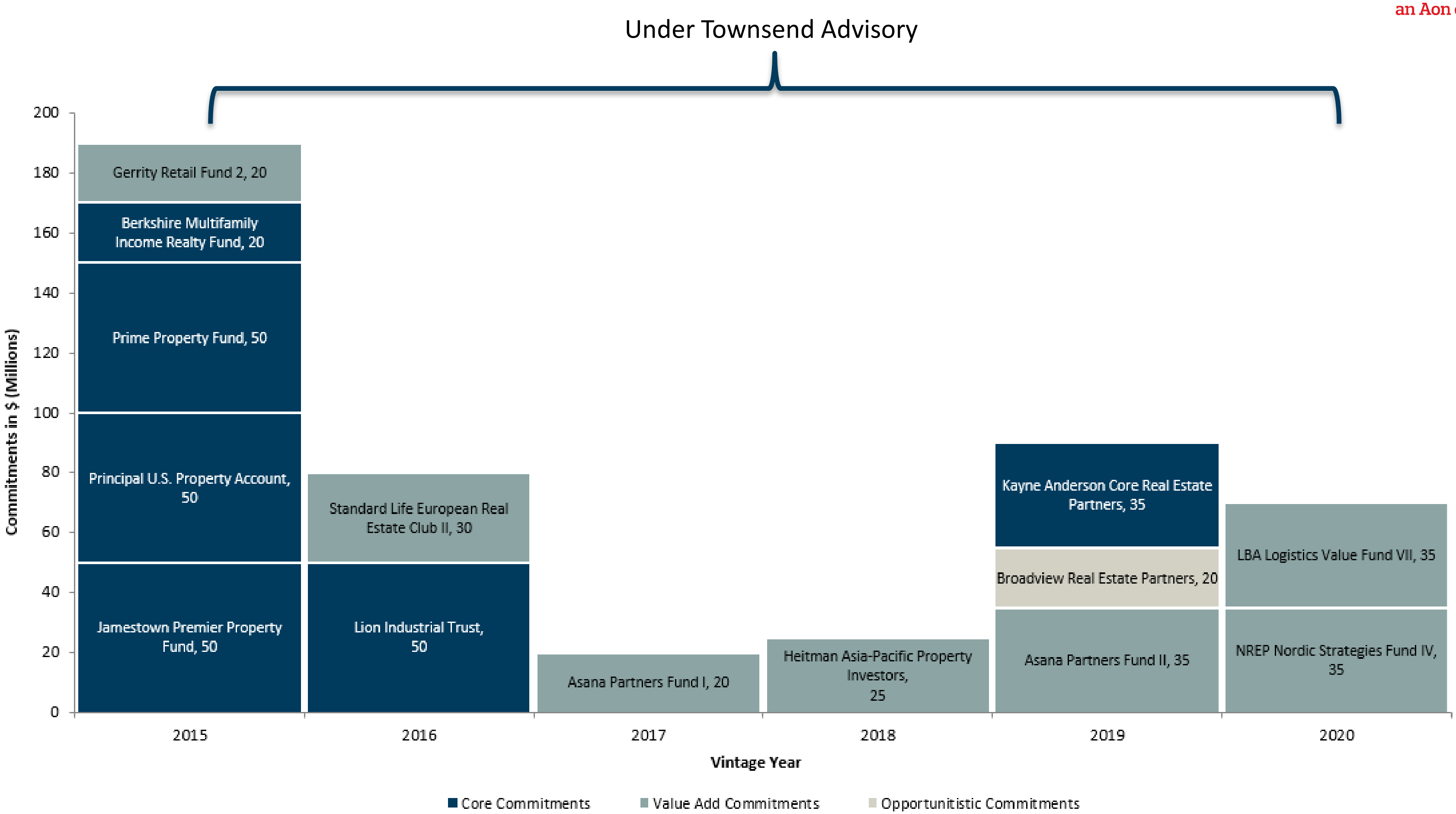
- In May 2014, the Board approved the strategic targets displayed above in order to reflect a more conservative risk profile going-forward. At the time, the Portfolio had 30% exposure to Core and 70% exposure to Non-Core.
- Since 2014, in an effort to transition the Portfolio, the LACERS Board has approved $255 million in Core commitments, which have all been funded in full, with the exception of a $35 million commitment to Kayne Anderson Core Real Estate Fund.
- The LACERS Board approved $220 million in Non-Core investments since 2015. These investments mainly focused on Value Add strategies with pre-specified portfolios, embedded value and/or an element of current income. The only Opportunistic commitment since 2015 has been Broadview Real Estate Partners, a niche strategy and a Townsend "Best Idea".
- On a funded as well as a funded and committed basis, the LACERS Core and Non-Core allocations are in line with the strategic targets.
- The Core Portfolio utilizes 25.9% leverage, measured on a loan-to-value (LTV) basis, well below the 40.0% constraint.
- The Non-Core Portfolio has a 47.1% LTV ratio, well below the 75.0% constraint.

*Figures may not add due to rounding. Funded & Committed figures exclude commitments made after 12/31/19.

B. LACERS Commitment History



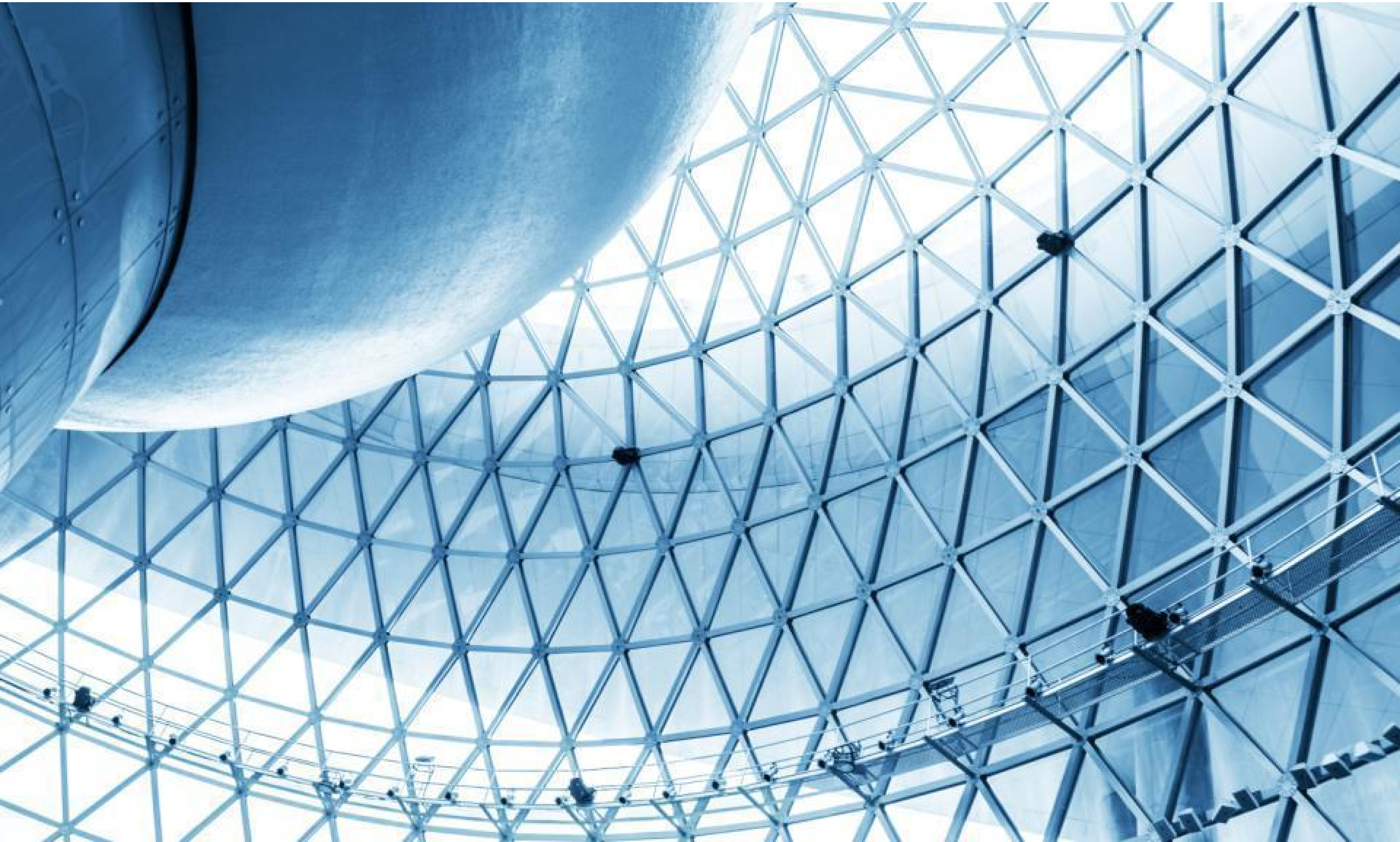
LACERS Commitment History – Last Five Years



- LACERS has committed $475* million since 2015 while under advisement of Townsend.
- 34% of Non-Core commitments since 2015 (Gerrity, Asana, Broadview) met LACERS Emerging Manager guidelines. In the Core open-end fund space, there are currently no managers meeting these guidelines.
- Vintage year classifications are based on LACERS' first capital call (or expected capital call), though commitments may have been approved in prior years.

*Inclusive of investments made through 4Q19. LACERS total presented in USD.

C. LACERS 2020-2024 Objectives and Investment Plan



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Market Update: Real Estate Four Quadrants Summary
May 11 – May 22

Real Estate Private Equity

- Open end fund redemption queues remain elevated at roughly $14.4 billion (doubled since year end). Open end Fund managers are suspending or limiting redemptions to preserve cash and to protect assets of the funds.
- Early reported Q1 2020 returns saw little impact on real estate valuations. It remains to be seen how closed end funds and separate account managers will adjust valuations as of March 31. Larger impacts are expected in Q2 and Q3.
- Closed-end commingled funds have pushed out business plans including development and sale of assets due to the uncertainty of valuations and market views
- Multi-family assets are holding up surprisingly well in this prolonged market downturn. The National Multifamily Housing Council found May apartment rent collections to reach 87.7% , which is down 2.1% from April. The retail sector is being hit the hardest in this regard, with reports of lower than 40% rent collection.
- Townsend maintains its positive outlook on blind pool funds that offer the potential to have capital available when new opportunity sets present themselves.

Real Estate Public Equity

- Although non-store retail rose by 8%, including e-commerce, the increase was unable to offset the overall decline in retail sales of -16.8% demonstrating the continued and accelerated decline of brick and mortar stores after the pandemic ends.
- Despite the wide shutdowns, the share of rent collected in May was unchanged from April indicating that while REITs' tenants continue to face challenges, their ability to pay rent didn't worsen in May.
- The inconsistency in nationwide protocols for reopening the economy from the lockdowns had a negative effect on REITs and the broader equities market.
- FTSE NANAREIT All Equity REITs index declined to a -8.2% return for the week ending May 15th from a 2.1% return for the week ending Mayth.
- All property sectors recorded negative total returns for the week of May 15th including the most resilient ones. While diversified, timber, office, lodging/resort and retail REITs had double-digits declines, data centers and infrastructure saw single digits negative returns.

Real Estate Private Debt

- The impact of COVID-19 is not yet visible in most private valuations because capital market activity has slowed significantly, leaving investors with few benchmarks to guide valuations.
- Anecdotally, debt funds have delayed investing due to pressures on liquidity. Those who have re-entered the market are targeting subordinated debt and/or senior loans with wider spread levels due to a lack of lending options.
- Depressed interest rates are offset by increased spreads, leading to higher all-in debt costs. Wider spreads have lead to all-in debt costs 20-30 basis points higher than Q4 2019.
- Local and regional bank lending continues to focus on top customer relationships, decreasing the availability of commercial real estate financing. With demand exceeding the current financing supply, private lenders have the chance to capitalize on the opportunity to step in and offer lending with much wider spreads than previously available.

Real Estate Public Debt

- Spreads on AAA Conduit CMBS are about 165 bps, down from 185 bps, which has created renewed interest.
- BBB CMBS paper spreads are unchanged, sitting around 1150 bps even as buyer fatigue starts to set in.
- The significant widening of spreads has been exacerbated by forced selling by mortgage REITs and debt funds in order to satisfy margin calls with their repo lenders
- There's a dispersion in pricing between what the market perceives as "good" deals and "bad" deals (as an example, the range on single A- paper trading over the past week was anywhere from S+490 to upwards of S+1200).
- Fed intervention via the Primary Market Corporate Credit Facility, which will allow the Fed to buy AAA-BBB rated corporate bonds may help narrow spreads across markets as liquidity is injected into riskier asset classes. The Fed expects the program to be up and running by the end of the month.

*Source: Green Street Advisors, NAREIT, NCREIF, Townsend

Market Update: Property Type Summary
May 11 – May 22

Property Type	Market Sentiment	Commentary
Multifamily	↑	According to NCREIF, Multifamily rent collections (91.7%) remain strongest amongst other property types. Gov't stimulus and shelter-in-place edicts should continue to support the apartments during the pandemic. Pre-COVID-19 secular tailwinds, coupled with recent home price increases, should support ongoing demand. As such, we have upgraded our market sentiment.
Office	↔	Some prominent tech firms indicate that employees may never return to the office. On the other hand, firms requiring their employees to return to the office may demand more space per employee in order to comply with social distancing. A recent poll supported by Duetsche Bank indicated workers felt they were more efficient and would rather work from home. A return to the office seems inevitable, however the way in which we work remains purely conjecture at this point.
Industrial	↑	Industrial property fundamentals have remained strong and demand for logistics assets continues to grow. First quarter transaction activity was up 85.8% year over year, but vacancy rose 10 bps year over year in the first quarter. NCREIF industrial funds collected 81.2% of rents during the month of April, with rent relief requested by retail operated warehouses.
Retail	↓	National lockdown has led to significant decreases in foot traffic over the first quarter, as well as unprecedented brick and mortar job losses. Green Street forecasts more than half of mall-based department stores will be closed by the end of 2021. Strip centers were the worst performers with 47% of typical April rents collected. However, this was on the higher end of analyst estimates of 30% - 50% normal rent collection.
Hotel	↓	Given the steep initial drop in occupancy, and assuming an occupancy-led recovery over the next 12-24 months, along with a trajectory for ADR growth that mirrors what occurred following the 2008-09 GFC, it may take four to five years for the industry to achieve "prior peak" (January 2020) RevPAR levels.
Other	↔	**Senior Housing**: Communities across the country have halted move-ins of new residents, alongside which increased supplies and increased labor costs are expected to have a significant financial impact on the sector. However, operators are still marketing, and demand still grows. **Student Housing**: The future for student housing is still unknown. A decline in international student intakes creates a risk for the sector, as does the announcement that some universities (such as the California State University system) plan to continue classes online through the fall semester.

*Source: Green Street Advisors, Evercore, Townsend
Townsend's views are as of this date of this publication and may be changed or modified at any time without further notice

Market Update – Townsend Response

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- Given the sharp correction witnessed in public real estate debt and equity, Townsend believes significant write-downs in the private markets over the coming quarters is likely.
  - As a result, Townsend recommends halting commitments to open and closed-end funds with pre-specified portfolios, as the carrying value of these assets may not reflect current (lower) market values.
  - Similarly, Townsend recommends pausing the funding of recent open-end investments, to the extent possible.
  - Additionally, new commitments will need to be re-evaluated in context of recent market events.
- Townsend expects the magnitude of distress to create opportunities for limited partners going forward.
  - Specifically, Townsend looks favorably on blind-pool, opportunity driven closed-end funds that are capable of executing in and capitalizing on asset and portfolio level distress.
- A full Townsend Market Update is presented in **Attachment A.**

LACERS Investment Plan Summary – Fiscal Year 2020-2021

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	LACERS Annual Investment Plan FY 2020-2021
Core	
Capital	**$30 M - $70 M**
Number of Funds	0-1
Target Average Commitment per Fund	$55 M
Non-Core	
Capital	**$100 M - $140 M**
Number of Funds	2-3
Target Average Commitment per Fund	$50 M
Total Annual Commitments	***$130 M - $210 M***

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LACERS Real Estate Return Projections

- Yearly, Townsend conducts an in-depth analysis of expected real estate returns by segment. These projections consider historical returns as well as macro-economic and asset class specific characteristics.
- Overall, real estate returns are expected to moderate towards long term averages of 5%-7%, meaningfully lower than realized returns in the last 5 years.
- Core strategies are expected to return 6.0%, Value-Added 6.5% and Opportunistic 9.0%.
- All returns are nominal and net of fees.

Nominal Return Assumptions*			
Risk and Return	Core	Value Add	Opportunistic
Net Expected Return	6.00%	6.50%	9.00%
Standard Deviation	8.65%	10.95%	11.30%

*Return projections reflect conditions prior to the COVID-19 pandemic. Return forecasts will be updated as new information becomes available.

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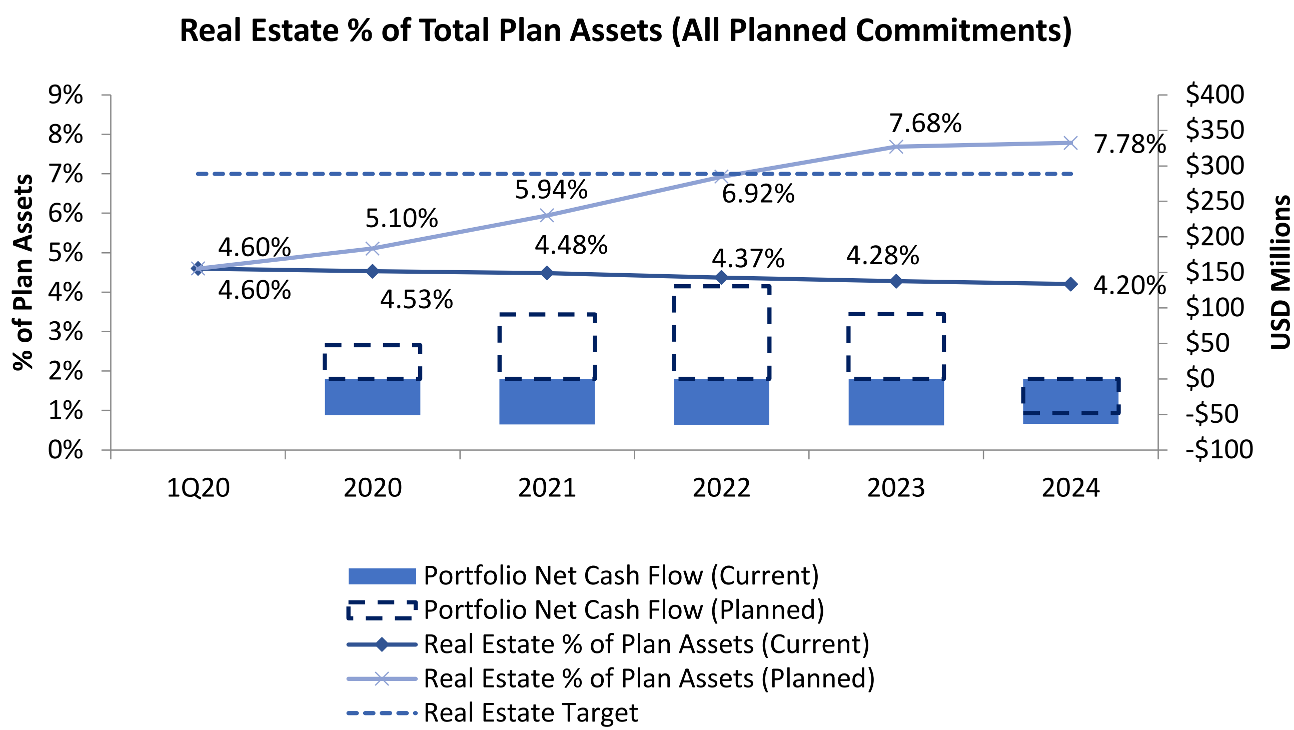
LACERS 2020-2024 Objectives

Projected Growth

- The below capital projections assume a 6.0% annual growth rate for Core strategies, a 6.5% annual growth rate for Value Add strategies, and a 9.0% annual growth rate for Opportunistic strategies. Total plan growth is projected at 4.0%.
- According to Townsend's capital projections, LACERS requires annual private real estate commitments in excess of $100 million in order to grow its allocation to 7.0% of Plan Assets by 2023.
- Townsend will work with Staff to carefully manage LACERS investment exposure.
  - Preserve investment capacity to allow LACERS to take advantage of opportunities during all market cycles (not all capital needs to be deployed at once).
  - Monitor contribution and distribution/withdrawal activities, and forecasts provided by LACERS' managers.



LACERS 2020-2024 Investment Plan

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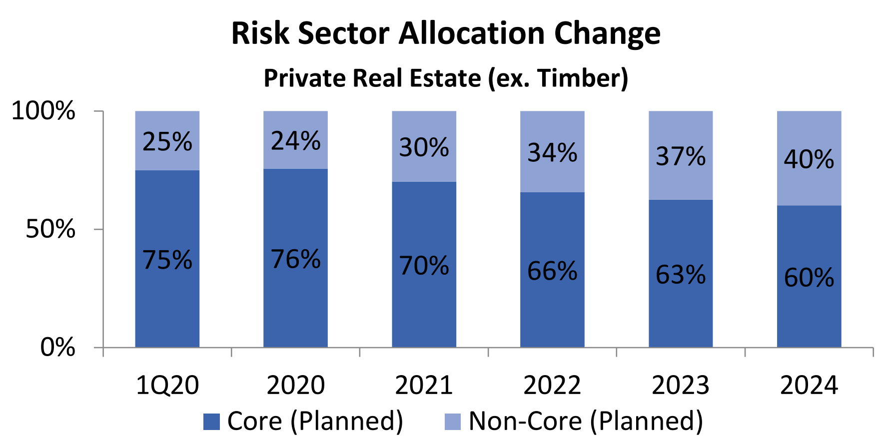
Real Estate Program Proposed Plan

- Vintage year diversification is a tool to control risk by reducing exposure to market cycles.
  - Tactical adjustments to overweight or underweight a particular vintage are based on market views and portfolio exposure relative to the 7.0% allocation target and benchmark.
  - Adjustments may be made based upon specific opportunities presented.
- If the real estate market continues to face headwinds and stress, consider a more opportunity-driven capital deployment schedule, with commitments focused on providing exposures to distressed plays and targeted non-core strategies.
  - This may result in greater or fewer commitments in 2020-2021, depending on market conditions and available opportunities. Additionally, commitments may be to focused/tactical strategies that capitalize on market dislocation, provide downside protection to the portfolio, or provide complimentary exposures to current holdings.
- Identify opportunities to strategically rebalance the Core portfolio to increase income and expected performance.
  - Consider top-up commitments to existing high-conviction funds.
  - Ensure that any redemptions do not occur at unfavorable valuations.
- Remain mindful of the strategic targets of 60% Core/40% Non-Core, and of the Total Real Estate Benchmark (ODCE+80bps).
  - Currently the portfolio is trending towards the higher end of the Core allocation target range, which will lead to difficulty outperforming the Benchmark. New proposed annual commitments of approximately $55 M to Core and $120 M to Non-Core strategies would bring the portfolio closer to its target, as illustrated below.



LACERS 2020-2024 Investment Plan

2020-2021 Overall Portfolio Activity

- Monitor market conditions closely to capitalize on opportunities created by market stress and actively manage risk.
- For compelling opportunities, consider increasing average commitment size to reflect the new real estate allocation.

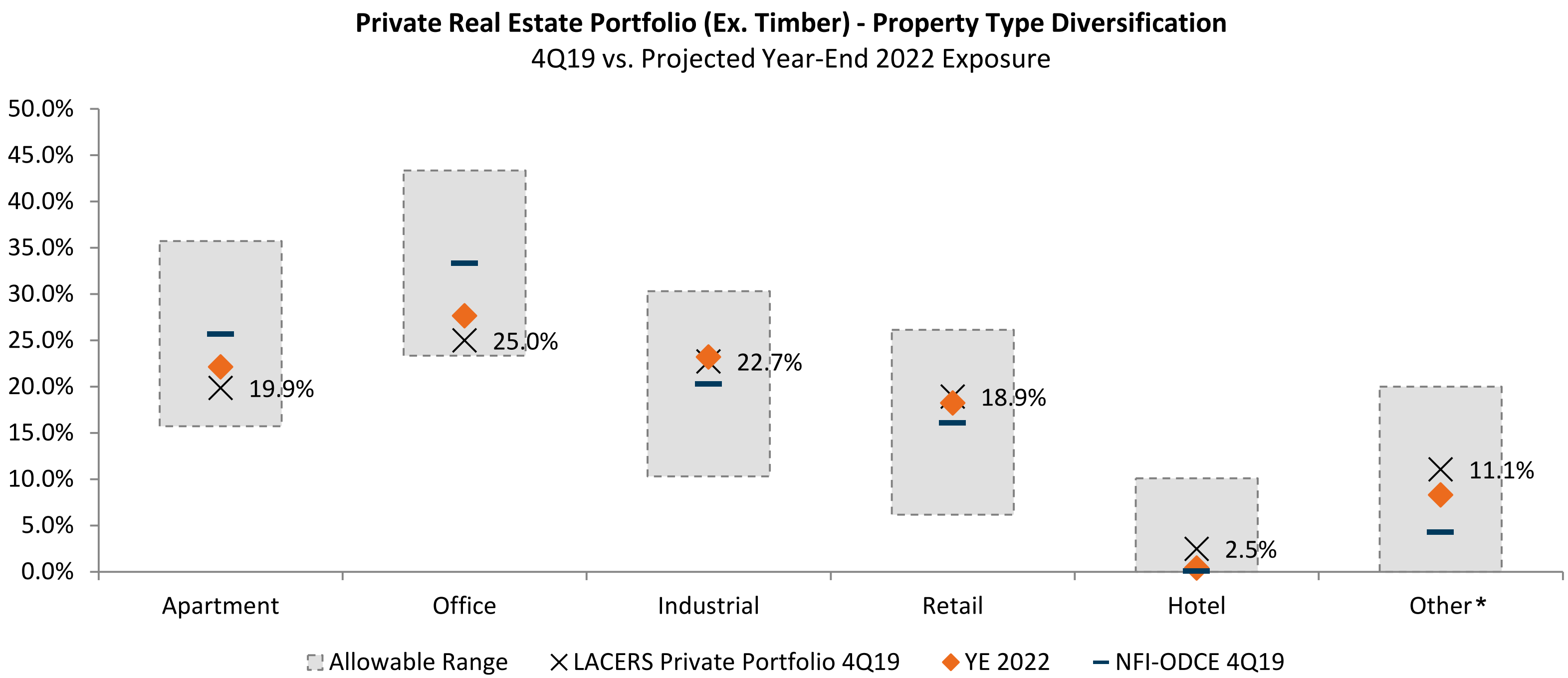
2020-2021 Core Activity

- Evaluate existing Open-End Core fund portfolio and consider rebalancing the portfolio to improve diversification and returns, as necessary, while ensuring that LACERS does not redeem at temporarily depressed valuations due to current market stress.
- Consider top-up commitments to existing high-conviction funds.

2020-2021 Non-Core Activity

- Focus on up to three incremental commitments in Non-Core (ranging from $35 to $50 million per investment), emphasizing blind-pool funds, as well as thematic investments arising from the current economic and health crisis's impact on the real estate sector.
- Target commitments to preferred property types and regions based on LACERS Portfolio exposures:
  - **High-Conviction Opportunities**
    - Retain the ability to commit to niche, high-conviction "Best Idea" Non-Core strategies that offer attractive risk-adjusted returns or unique exposures.
    - Pursue blind-pool opportunistic funds with managers capable of taking advantage of market distress.
      - Temporary periods of market volatility, illiquidity, and stressed properties/ownership historically tend to hallmark better vintages for higher risk/return Opportunistic funds.
  - **Industrial**: Consider increasing exposure to strategies that are complementary to those of LACERS' Core Industrial holdings, which currently represent the majority of LACERS' exposure to the property type. While LACERS is overweight to the Industrial property type (22.7% vs. 20.3% NFI-ODCE), a larger overweight may be appropriate. Additionally, Non-Core exposure to Industrial properties is only 3.2% and should be increased.
  - **US Apartments**: Increase Non-Core Apartment exposure with a best-in-class manager.
    - Consider a value-added, diversified manager to increase Apartment exposure.
  - **Ex-U.S. Exposure**
    - Evaluate Non-Core diversification and consider an ex-U.S. strategy if a compelling thematic opportunity is available.

LACERS Diversification Projections

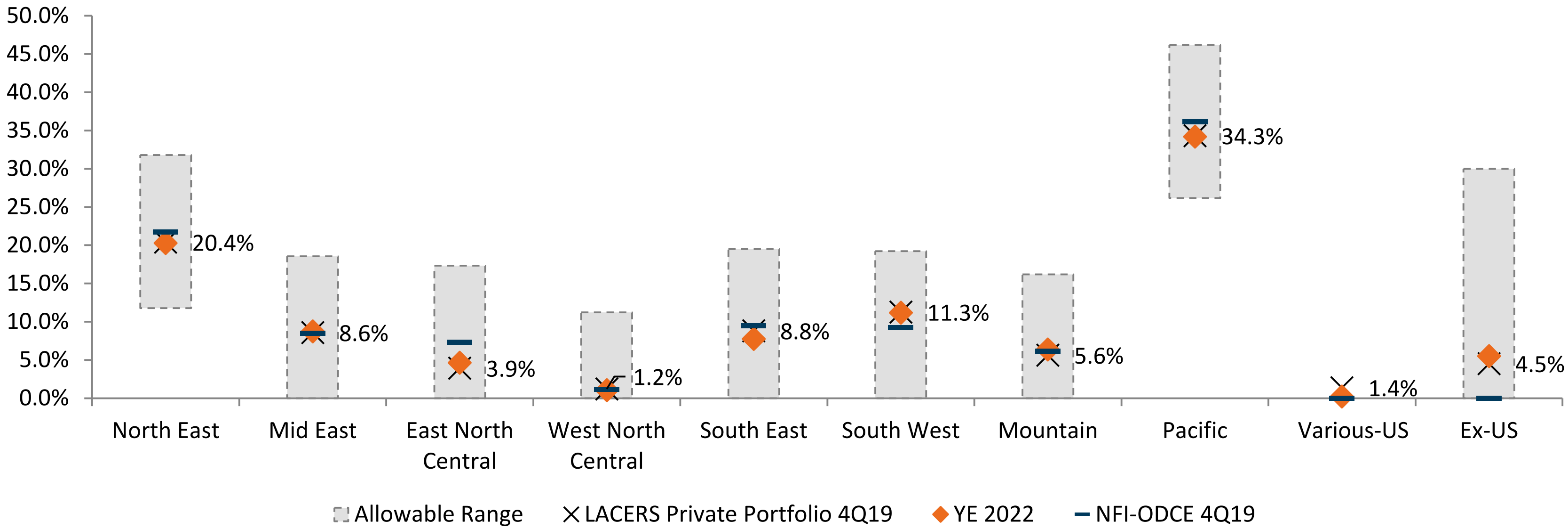


- LACERS continues to be underweight to Office and Apartment.
  - An Office underweight is supported by Townsend's View of the World, due to the sector's correlation to the economic cycle and current market conditions.
  - An increase in Apartment exposure should be targeted due to the sector's defensive nature. This could be done partially through a commitment to a diversified Apartment specialist, paired with a rebalancing of current Core positions.
    - The 2022 projections assume a $50 million commitment to an Apartment specialist, however Townsend supports bringing Apartment exposure to an overweight position.
- LACERS may consider further increasing the Industrial overweight, as well as Ex-US Industrial options that provide further diversification.

*'Other' reflects properties that do no fit into the traditional classifications (apartment, industrial, office, retail), such as self-storage, data centers, and other property types.

LACERS Diversification Projections

Private Real Estate Portfolio (Ex. Timber) – Geographic Diversification
4Q19 vs. Projected Year-End 2022 Exposure

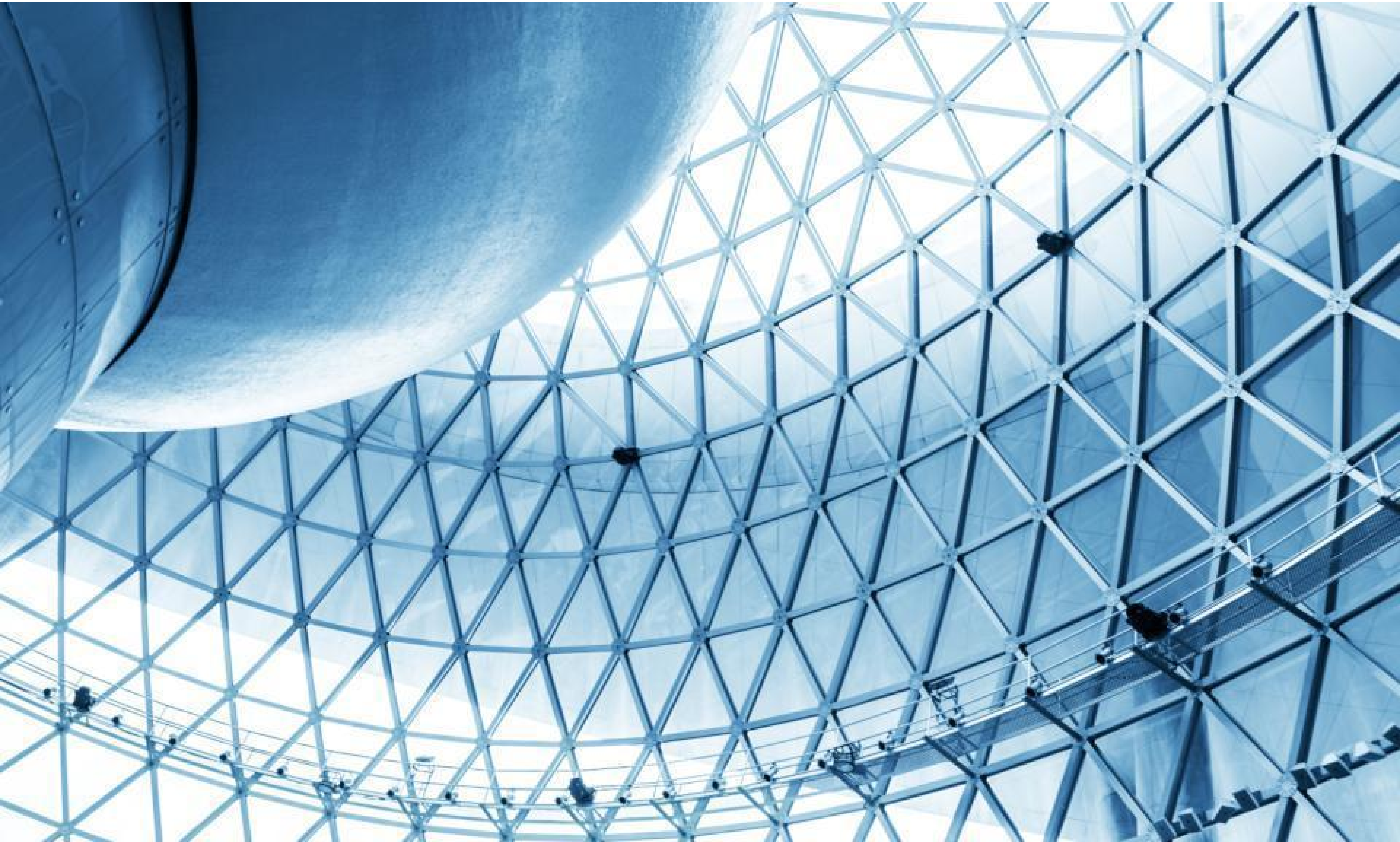


- LACERS continues to be underweight to the North East, East North Central and the Pacific regions. The Pacific, in particular, is a market that has been outperforming and is expected to continue to do so.
  - Continue to seek exposure to Sunbelt regions (Pacific, South East, South West)
  - Consider modest tactical opportunities in the North East.
  - Maintain relative underweight to the East North Central region.
- Consider additional Ex-US opportunities to enhance geographic diversification and returns.
  - As of 4Q19, LACERS held a 4.5% Ex-US exposure, composed primarily of three large regional exposures: Asia (2.5%), Europe (1.5%), and Emerging Americas (0.5%).

Board Meeting: 06/23/20
Item IX-C
Attachment 1

IC Meeting: 06/09/20
Item IV
Attachment 1

D. Sourcing and Deal Flow



Manager Sourcing & Due Diligence

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Core and Core Plus Fund Sourcing and Selection

- Townsend's dedicated open-end fund team reviews and monitors the open-end universe on a monthly and quarterly basis.
- As of June 30, 2019, the statistics for the existing open-end fund universe were as follows:
  - 24 Core Diversified Funds,
  - 17 Core Plus Funds,
  - 14 Specialty Funds (Property Type Specific and Debt Funds).
- Townsend also evaluates Core closed-end funds, though fewer exist.
- Comprehensive review, evaluation and selection process:
  - Sourcing and evaluation of new fund launches,
  - Quarterly data collection and analysis,
  - On-site meetings and quarterly reviews,
  - Advisory board participation,
  - Ongoing platform assessment,
  - Continual due diligence.

Emerging Manager Sourcing Process

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Emerging Manager Sourcing

- Townsend focuses on identifying emerging managers during its sourcing and monitoring process.
  - Network and establish new relationships through regular sourcing channels, outreach and conference attendance.
  - Seek new and unique opportunities that align with Townsend View of the World.
  - Uncover experienced niche operating partners interested in raising third-party capital.
  - Oversight and management of dedicated Emerging Manager programs across the firm.
  - Maintain active pipeline of Emerging Manager candidates.
  - Actively vetting new owner/operators as potential Emerging Manager candidates.

LACERS Emerging Manager Efforts

- LACERS has been focused on de-risking the Portfolio over the past four years, resulting in more Core search activity.
- Majority of Emerging Manager opportunity set is in the Non-Core segment:
  - 2014-2015: 50% of LACERS Non-Core commitments qualified under the LACERS Emerging Manager Program.
  - 2016: In 2H2016, Townsend conducted a LACERS-specific Emerging Manager search resulting in the recommendation of a $20 million Non-Core commitment to Asana Partners I, which was approved by the Board in August 2016.
  - 2019: A $20 million commitment to Broadview Real Estate Partners was approved by the Board.
- In 2019, LACERS updated its Emerging Manager Policy to the following:
  - The General Partner will have no more than $2 billion in firm-wide assets.
  - First- or second-time institutional fund for a given General Partner.
  - The Fund shall have a minimum size of $150 million in committed capital inclusive of LACERS pending commitment.
  - The firm must have been in existence for a minimum of one year.
  - The team must have a minimum track record of five years.
  - No person or entity, other than the principals and/or employees of the firm, shall own more than forty-nine percent (49%) interest of the firm.
  - No client can represent more than 30% of the total Fund’s capital.
  - LACERS commitment in the strategy being considered shall not exceed 10% of the projected final closing fund size or $30 million, whichever is lower.

Manager Sourcing & Due Diligence

Non-Core Fund Sourcing and Selection

- In addition to the work completed for open-end commingled funds (evaluation process outlined on the previous page), Townsend is continuously analyzing the universe of Non-Core closed-end funds available for investment.
- As of December 31, 2019, Townsend's statistics for the Non-Core fund universe were as follows:
  - 283 funds screened.
  - 252 funds in initial due diligence.
  - 50 funds approved for client investment.
  - 72% North America/Global, 16% Europe, 4% Asia, and 8% Rest of the World.
- Detailed due diligence follows a three-phase due diligence process:
  - Sourcing and evaluation of new fund launches.
  - On-site due diligence meetings.
  - Evaluation of investment characteristics includes, but is not limited to the following:
    - *Executive Summary:* Strategy Overview, Comparative Advantages, Potential Issues and Concerns.
    - *Strategy:* Overview, Leverage, Investment Guidelines, Pipeline.
    - *Sponsor*: Organizational Background/History, Turnover, Compensation, and Retention.
    - *Investment Process:* Overview, Investment Committee, Affiliate Transactions, Limited Partner Advisory Committee, Exclusivity and Allocations, Valuations.
    - *Fund Structure:* Key Terms, Fees and Distributions, Analysis of Fees.
    - *Performance:* Detailed Summary of Prior Vehicles, Vintage Year Comparison, Dispersion of Returns, Investment Highlights.
- Ongoing due diligence includes fund coverage, investment monitoring, reporting, advisory board representation and client advocacy.

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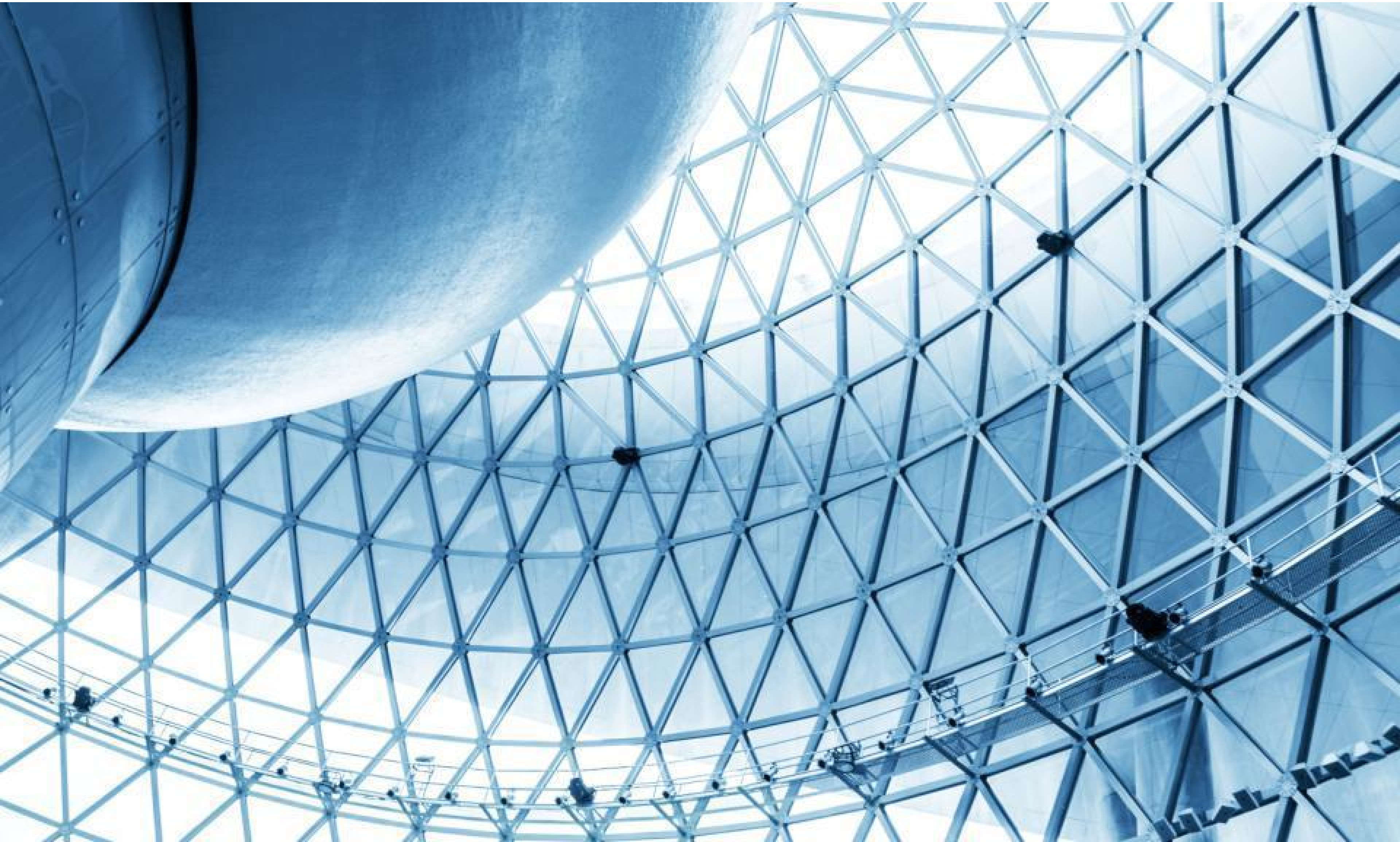
Attachment A: Townsend Market Update



Board Meeting: 06/23/20
Item IX-C
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COVID-19 Real Estate Market Update

PROPRIETARY & CONFIDENTIAL
MAY 2020

Economic Outlook

Economic Uncertainty At Historic Levels

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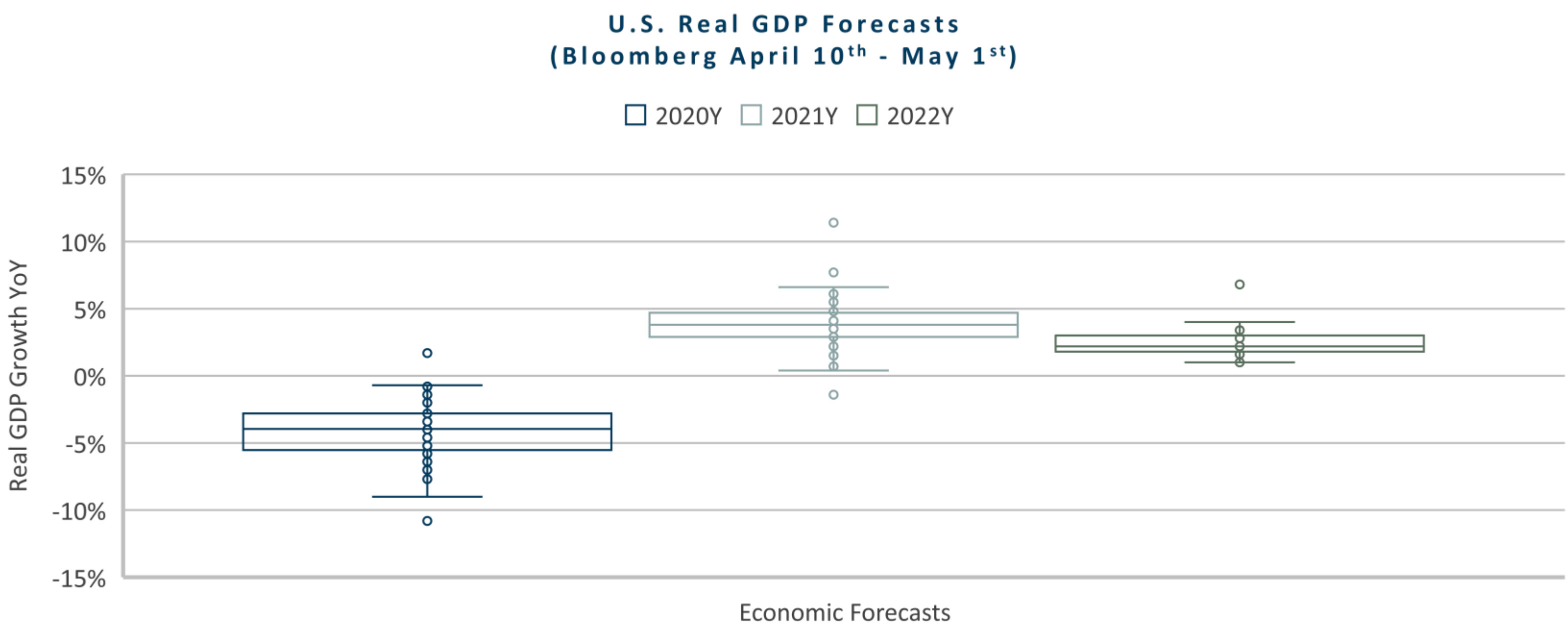
CHALLENGING TO QUANTIFY: IMPACT OF CORONAVIRUS HAS RESULTED IN DIVERGENCE BETWEEN FORECASTS



- Economic uncertainty is growing day-by-day and is reflected by the wide dispersion of Real GDP forecasts
  - The above example is specific to the United States, but virus driven uncertainty is a global phenomenon
- Material information is coming out on an almost daily basis, and thus economic forecasts are changing rapidly
- High levels of uncertainty are expected to persist until more data is available on COVID-19 (e.g. infection fatality rate, infectivity, developed treatments)
  - Implied market volatility is still 3-4x pre-coronavirus levels

Source: Bloomberg (05.01.20)
Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice.

Staggering Job Losses To Impact Consumption

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LEADING INDICATORS POINTING TO SUBSTANTIAL CONTRACTION IN CONSUMPTION

- April unemployment is expected to jump to 16.0%; estimates are generally in the 15-18% range
  - All Jobs created during the recovery have been wiped out
- Personal saving rates have spiked as consumer confidence has tumbled
  - Personal consumption, a substantial portion of GDP, declined 7.5% in March alone
- Retail sales fell 8.7% in March, a historic decline
- Unemployment and declines in consumption are happening across the globe; individuals are shoring up their balance sheets and cutting discretionary expenditures

Source: St. Louis Fed

Central Banks Have Quickly Intervened

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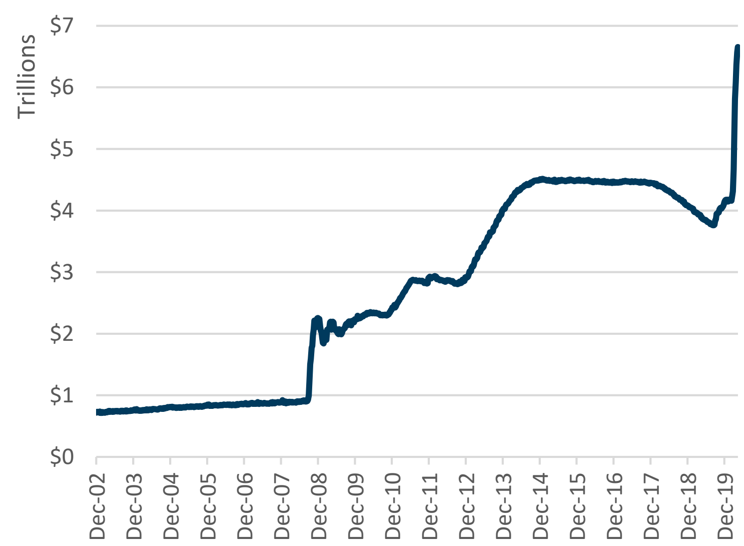
GLOBALLY MONETARY POLICY HAS STEPPED IN TO SOFTEN THE DOWNTURN

country/region	current rate	previous rate	Change	Date
Russia	5.50%	6.00%	-0.50%	4/24/2020
Turkey	8.75%	9.75%	-1.00%	4/22/2020
China	3.85%	4.05%	-0.20%	4/20/2020
South Africa	4.25%	5.25%	-1.00%	4/14/2020
Poland	0.50%	1.00%	-0.50%	4/8/2020
Israel	0.10%	0.25%	-0.15%	4/6/2020
Chile	0.50%	1.00%	-0.50%	3/31/2020
Canada	0.25%	0.75%	-0.50%	3/27/2020
India	4.40%	5.15%	-0.75%	3/27/2020
Czech Republic	1.00%	1.75%	-0.75%	3/26/2020
Mexico	6.50%	7.00%	-0.50%	3/20/2020
Norway	0.25%	1.50%	-1.25%	3/20/2020
Australia	0.25%	0.50%	-0.25%	3/19/2020
Great Britain	0.10%	0.25%	-0.15%	3/19/2020
Brazil	3.75%	4.25%	-0.50%	3/18/2020
South Korea	0.75%	1.25%	-0.50%	3/16/2020
New Zealand	0.25%	1.00%	-0.75%	3/16/2020
Saudi Arabia	1.00%	1.75%	-0.75%	3/16/2020
United States	0.25%	1.25%	-1.00%	3/15/2020
Indonesia	6.50%	6.75%	-0.25%	6/16/2016
Hungary	0.90%	1.05%	-0.15%	5/24/2016
Europe	0.00%	0.05%	-0.05%	3/10/2016
Japan	-0.10%	0.00%	-0.10%	2/1/2016
Denmark	0.05%	0.20%	-0.15%	1/19/2015

U.S. Federal Reserve Total Assets



- Central banks have quickly exercised tools that were developed and successful during the GFC
  - Intervention has been deployed substantially faster than prior declines
- Unprecedented levels of monetary easing have taken place to soften the economic impact
- Substantial quantitative easing has helped markets maintain liquidity in the near-term

Source: global-rates.com (05.01.20)

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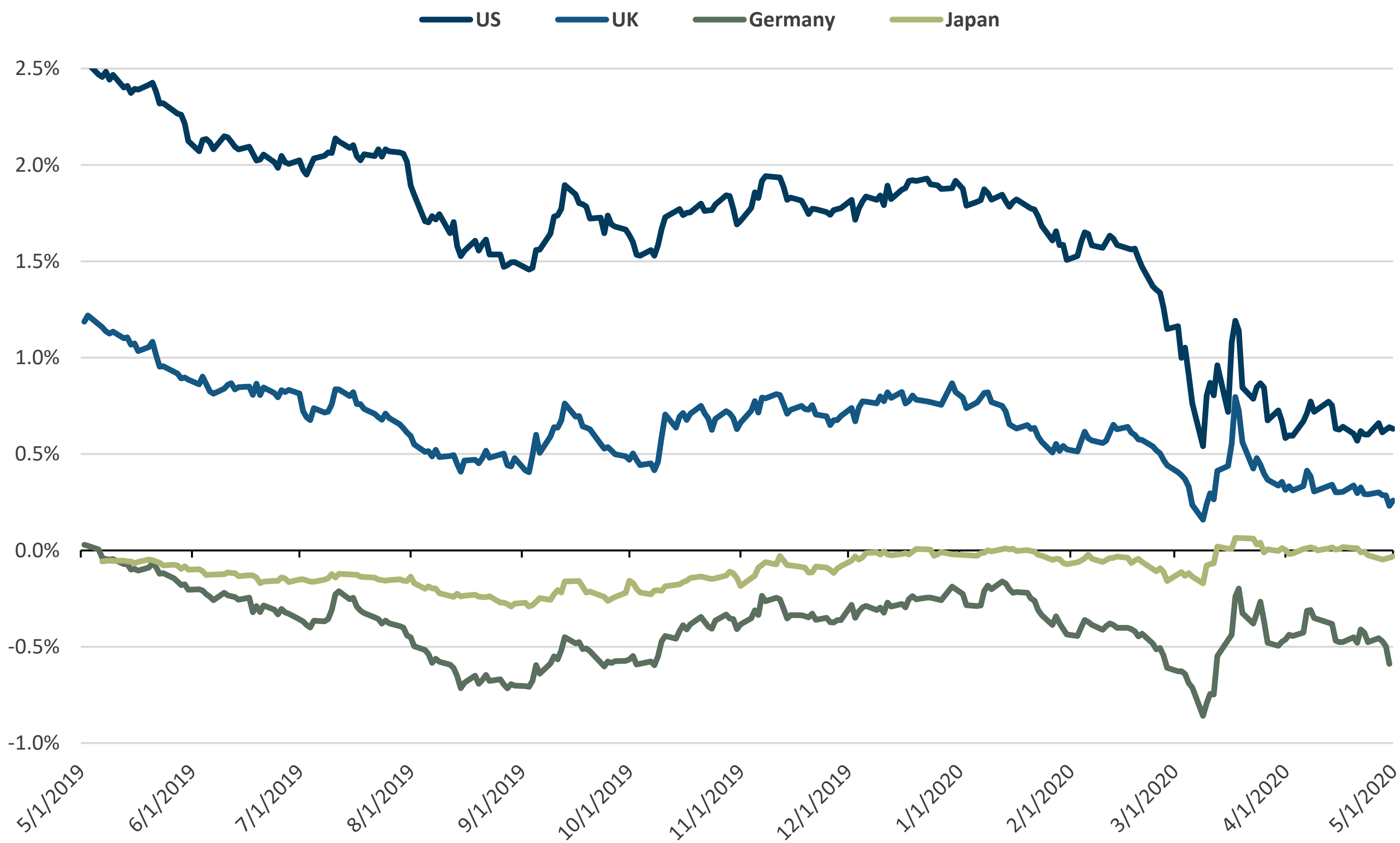
Interest Rates Decline As Investors Seek Safety

LOW RATES SHOULD LEND SUPPORT TO ASSET VALUATIONS

10 Year Government Bond Yields



Source: Bloomberg (05.01.20)
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What Does The Recovery Look Like?

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GO FORWARD SCENARIOS

V Shaped Recovery (Market Base Case)

- Lockdowns manage to flatten the curve
- Disease outbreak recedes by May; antibody testing allows the economy to reopen, and we get back to work by June
- Swift policy response keeps financial markets functioning
- Substantial recovery in 2H20

U Shaped Recovery

- Deeper recession with much sharper contraction in GDP
- Dislocation in labor market and a decline in sentiment
- Both a demand and supply shock
- Policy supports economic recovery in mid-2021 and stronger recovery in 2022

W Shaped Recovery (Downside)

- Challenging process of stabilizing the economy
- Persistent virus risk creates a financial crisis
- GDP to fall in 2020 (each quarter), stabilize in 2021, begin recovery in 2022

Source: The Townsend Group
Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Actual results and developments may differ materially from those expressed or implied herein.

Real Estate Valuations

Pre COVID-19 Global Economic Outlook And Real Estate Investment Opportunities

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Macro Factors	U.S.	Europe	Australia	Japan
GDP ('20)	1.7%	1.3% (U.K. 1.1%, DE 0.8%, FR 1.2%)	2.4%	0.3%
Unemployment ('19)	3.6%	6.3% (U.K. 3.7%, DE 3.1%, FR 8.5%)	5.2%	2.4%
Key Real Estate Themes	Fundamentals diverge significantly across property sectors and submarkets Core offers good income and protection against a potential slowdown Non-Core selectively mispriced	Levered income returns typically higher than in the U.S., but low growth environment expected to persist Repositioning opportunities attractive	Superannuation funds dominate Core real estate market and benefit from lower cost of capital Non-Core opportunities offer attractive growth outlook	Low growth despite easing Existing stock old provides attractive repositioning opportunities Low debt cost offers good leverage without adding much risk
Office	Select markets offer good rent growth; southern markets witnessing net migration likely to benefit Repositioning and high income-producing investments likely to outperform low cap rate opportunities	Limited growth potential, but attractive income generation given low cost of debt In the U.K., Brexit-related uncertainty continues to weigh on the market	Strong leasing demand driving up rents, with limited near-term supply risks Sydney cap rates higher than those in NY, London, and Tokyo	Fundamentals are healthy, but new supply expected to temper rent growth Old stock in good locations in Tokyo/ Osaka offers attractive upgrading opportunities
Industrial	E-commerce and imports driving demand at record high level Supply rising in hotbeds, requiring focus on quality and infill assets	Strong demand from logistic players and e-commerce Yields continue to offer attractive cash returns boosted by low-cost debt	Demand for modern buildings fueled by growth of e-commerce Core asset pricing bid up by domestic capital, but Value-Add assets more appropriately priced	Strong demand for modern logistics assets driven by 3PLs Supply building in town peripheries that is likely to limit rent growth
Retail	E-commerce reshaping landscape and forcing consolidation of retailers' space Neighborhood retail presents interesting side play	E-commerce driven reshaping is putting retail at risk; U.K. retail is challenged E-commerce usage remains muted on the continent but projected to increase	Investor sentiment driving down asset pricing	Select repositioning opportunities appear attractive given poor existing asset quality E-commerce likely to be a headwind
Residential	Rent affordability remains stretched; evolving regulatory environment threatens affordable housing rent growth Suburban product offers higher yield and stands to benefits from aging millennials	Most large cities undersupplied with dwellings Evolving regulatory environment may limit rent growth	While demand for housing and rental units is strong, institutional investment opportunities with established operators are limited	Attractive residential development opportunities in high-growth cities like Tokyo and Osaka Secular demand growth for aged care

Actively Pursuing | Neutral | Selectively Pursuing

Sources: The Townsend Group, Consensus Estimates: Bloomberg (October 2019), OECD (2Q19 Harmonized Unemployment).
Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Past performance is not indicative of future results.

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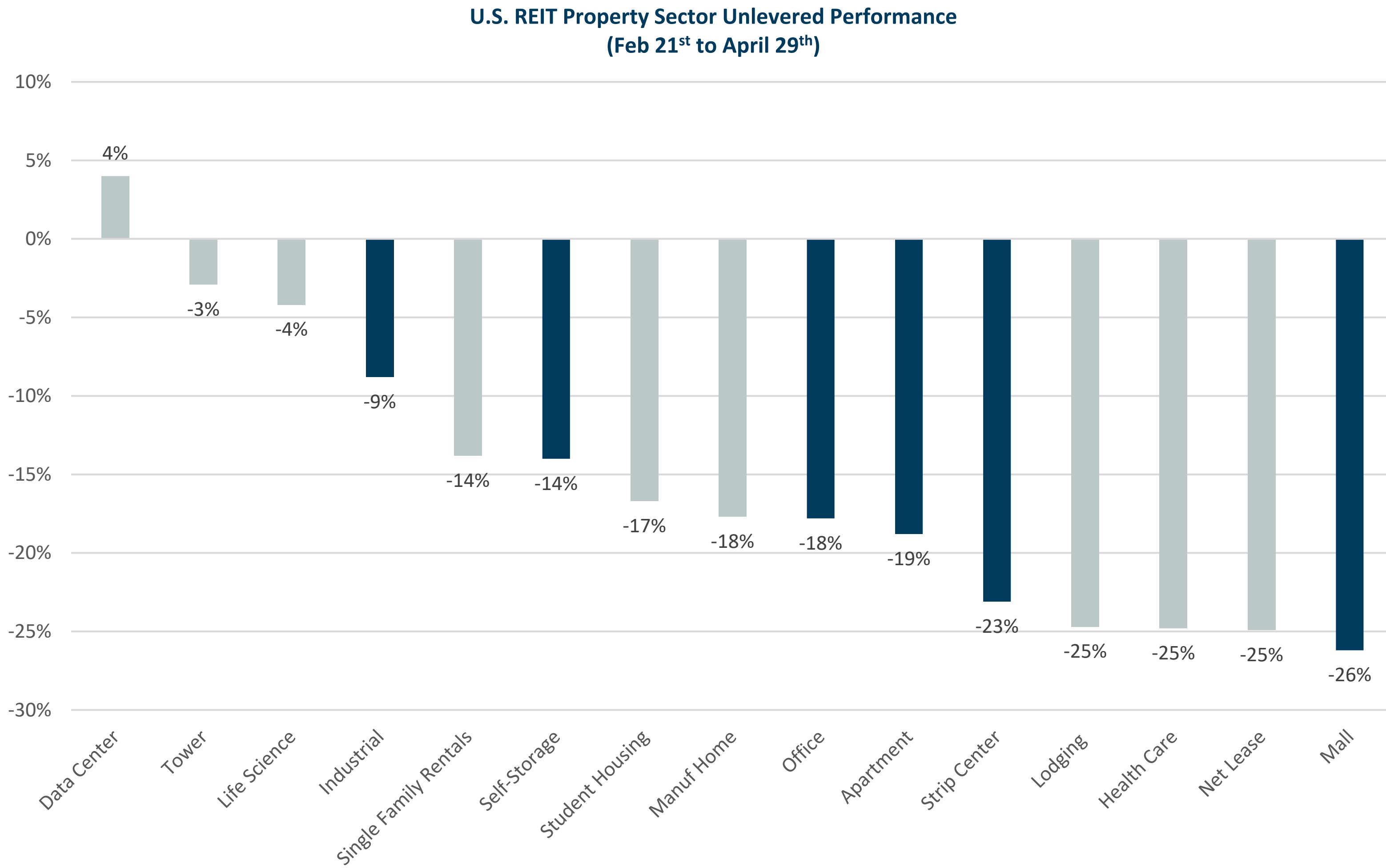
Public Market Initial Reactions

LARGE DIVERGENCE IN EXPECTED PROPERTY SECTOR IMPACT



Source: Green Street (04.29.20)
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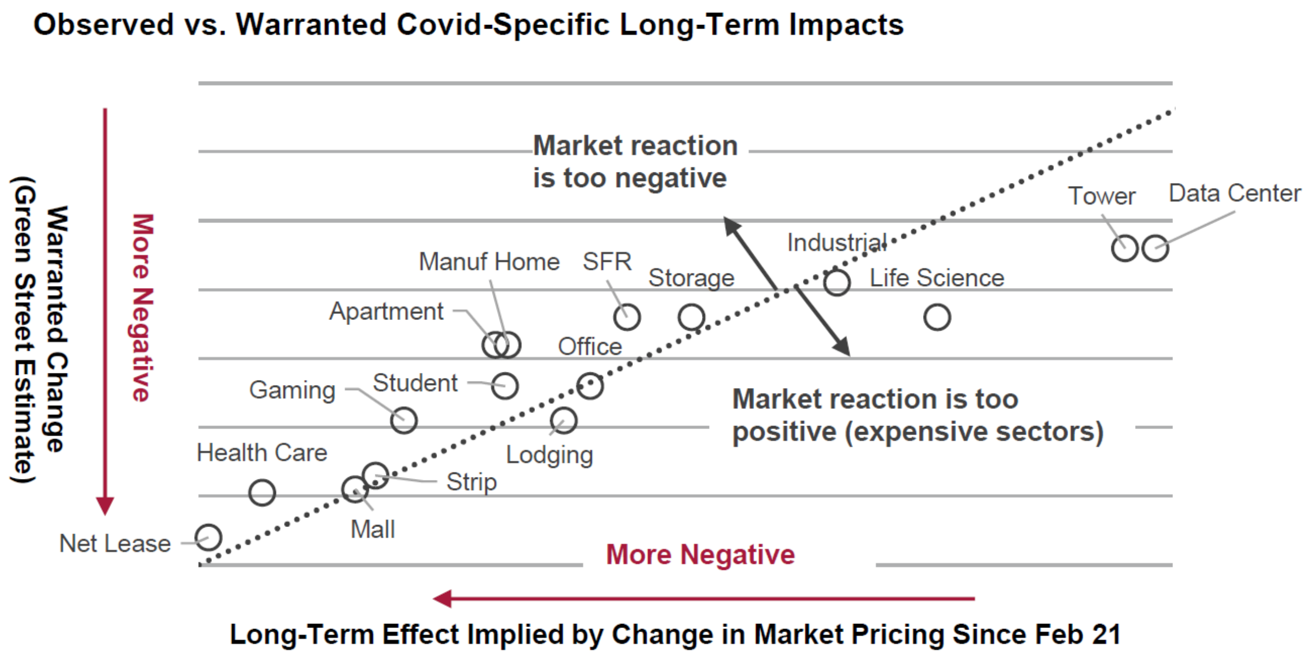
Preliminary Property Sector Impact and Outlook



- The above analysis base case assumes that a recovery to 2019 GDP occurs by end of 2022
- In addition, this assumes consumer behavior reverts to normal once herd immunity is achieved
  - Unfortunately, people are unpredictable and new material information may still emerge
  - There is additional tail risk that may have an outsized impact on sectors at risk such as Malls, Net Lease, Strip Centers, and Lodging

Source: Green Street (04.16.20)

Public Market Implied Premium/Discount To Private Market Values

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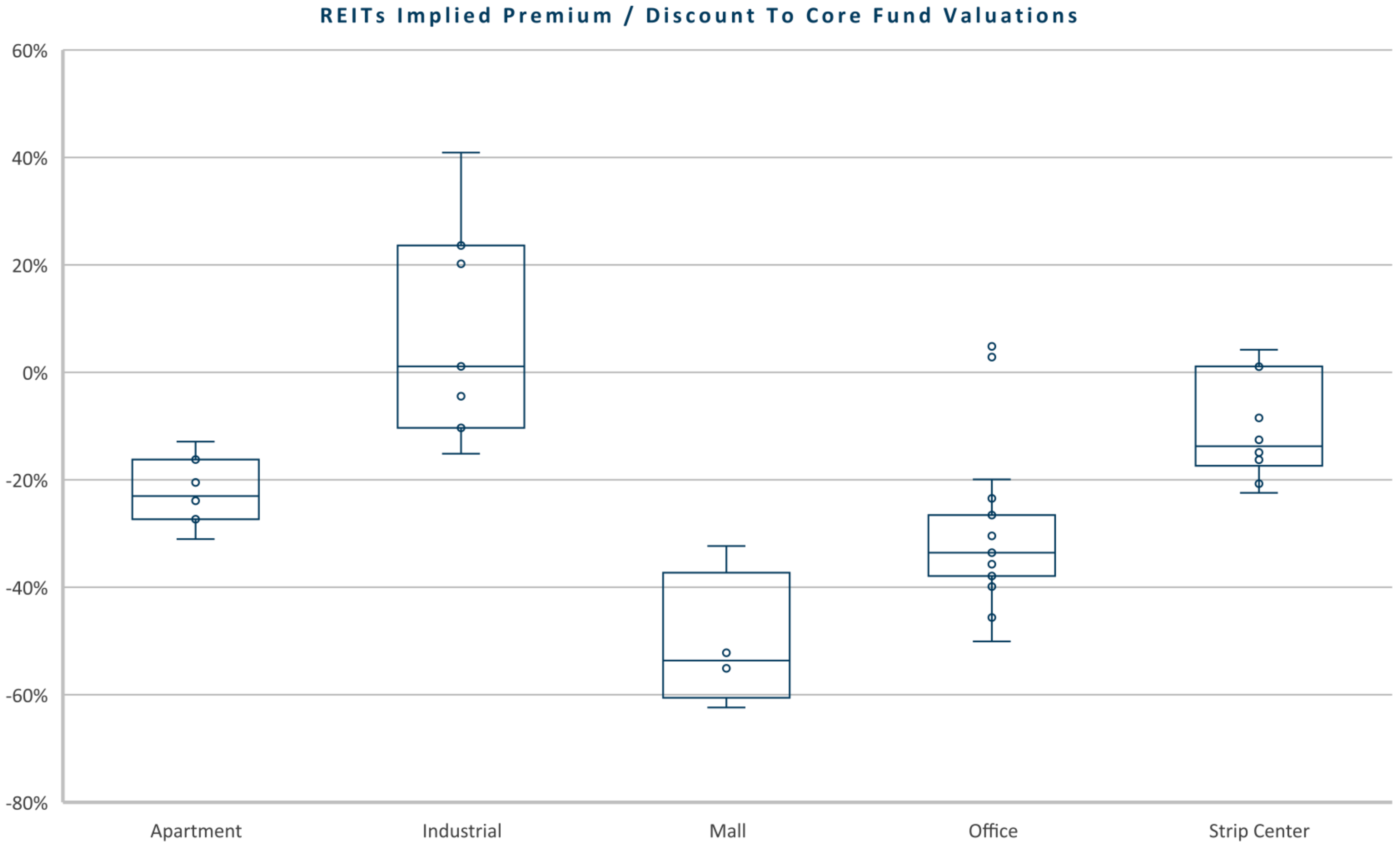
THE MARKET CONTINUES TO FAVOR INDUSTRIAL AND OTHER TECHNOLOGY DRIVEN REAL ESTATE



Source: Green Street (04.27.20), NCREIF
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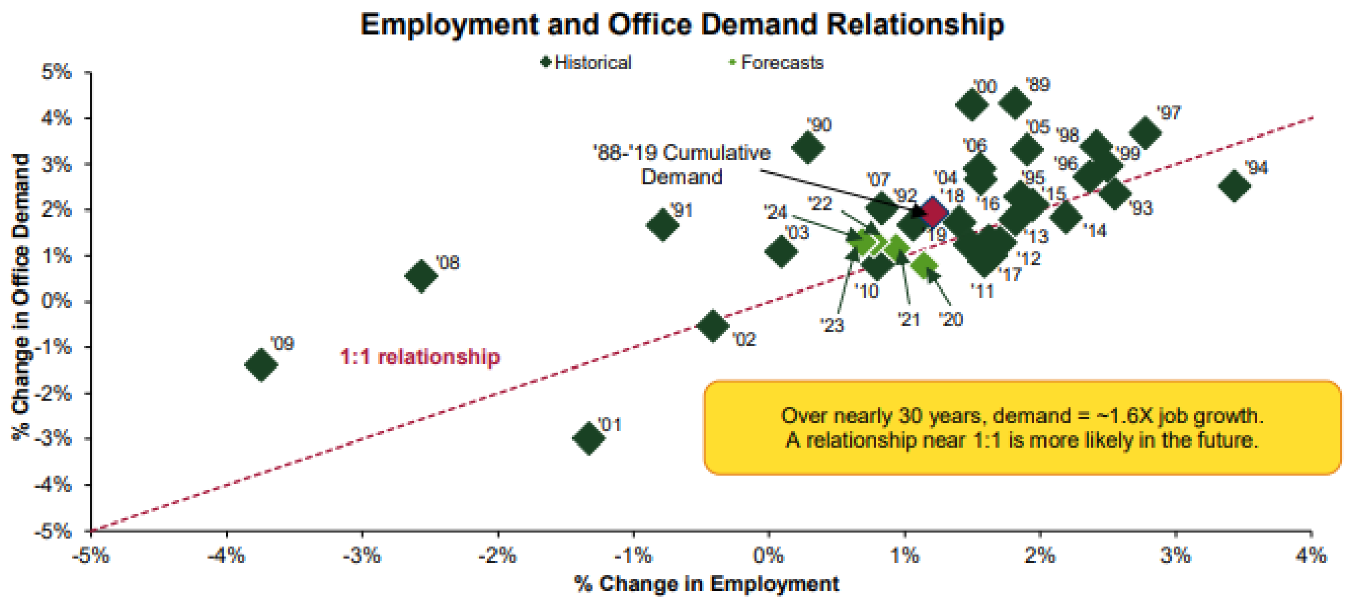
Volatility Creates Opportunity

INVESTING POST-CORONAVIRUS

- Public markets have been quick to react and several investment opportunities appear attractive
- Blind pool commingled funds that line up with the readjusted long-term real estate trends of the post-coronavirus world will be particularly compelling investment opportunities
- Seek opportunistic real estate investments to tactically take advantage of dislocation
- Preliminarily, we expect the following property sectors to react accordingly:
  - **Positive: enable consumption in a socially distanced and movement restricted world**
    - Industrial
    - Data Centers
  - **Neutral: uncertain or limited impact of social distancing and movement restrictions**
    - Single Family Housing
    - Apartments
    - Office
  - **Negative: heavily impacted by social distancing and movement restrictions**
    - Retail
    - Senior Housing
    - Lodging

Office Sector: New Structural Headwinds Emerging



- Employment and office demand are highly correlated; a decline in jobs will result in an immediate decline in demand
- Structurally, a broad shift to work from home and a transition to hoteling concepts represents a bigger challenge going forward
  - A typical office has 175-200 SF / employee, but hoteling and shift work can actually decrease the demand to 110 SF / employee because only 2/3 or less of employees show up each day.
  - Hoteling reduces space needed by ~35-45%, a 25% shift to hoteling would reduce demand 9-12%
- The rapid shift toward work from home and potential long-term shift towards hoteling concepts could create substantial headwinds to office demand going forward
  - A countervailing trend, the need to social distance could potentially buck densification trends and create demand for more space; it seems more likely companies adopt hoteling, rather than spend additional money on leases

Source: Green Street, The Townsend Group

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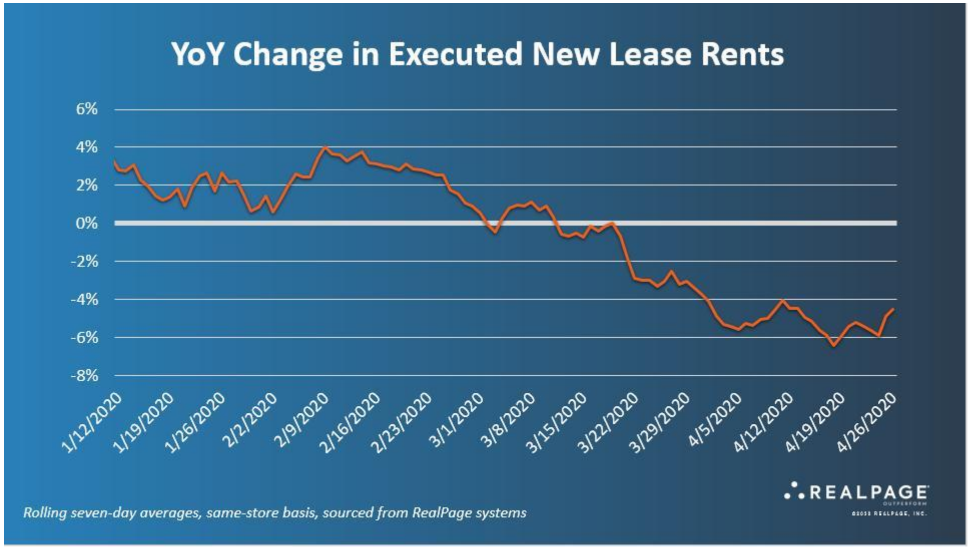
Apartments: Finding A Safe Space



- Historically, apartment occupancy has not dipped below 90%, and we expect occupancy to be resilient but rents to rebase lower
  - Currently eviction protections combined with high retention rates, since its challenging to even visit new apartments, are keeping occupancy levels high
- Go forward demand for apartments is expected to remain resilient as a result of the following trends:
  - Individuals remain in apartments as lending standards tighten for mortgages
  - Forecasted wave of divorces will increase household formation
- Expect a meaningful decline in rents, apartment rent growth is highly correlated to office-jobs growth (a 15% loss of jobs = 11% decline in rents)
- New trends will emerge post COVID-19, but its still to early to tell how demand for housing is reshaped
- Apartments remain an attractive and defensively positioned property sector long-term

Source: RealPage, The Townsend Group
Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Past performance is not indicative of future results.

Industrial: E-commerce Enabling Consumption At A Distance

TOWNSEND® GROUP
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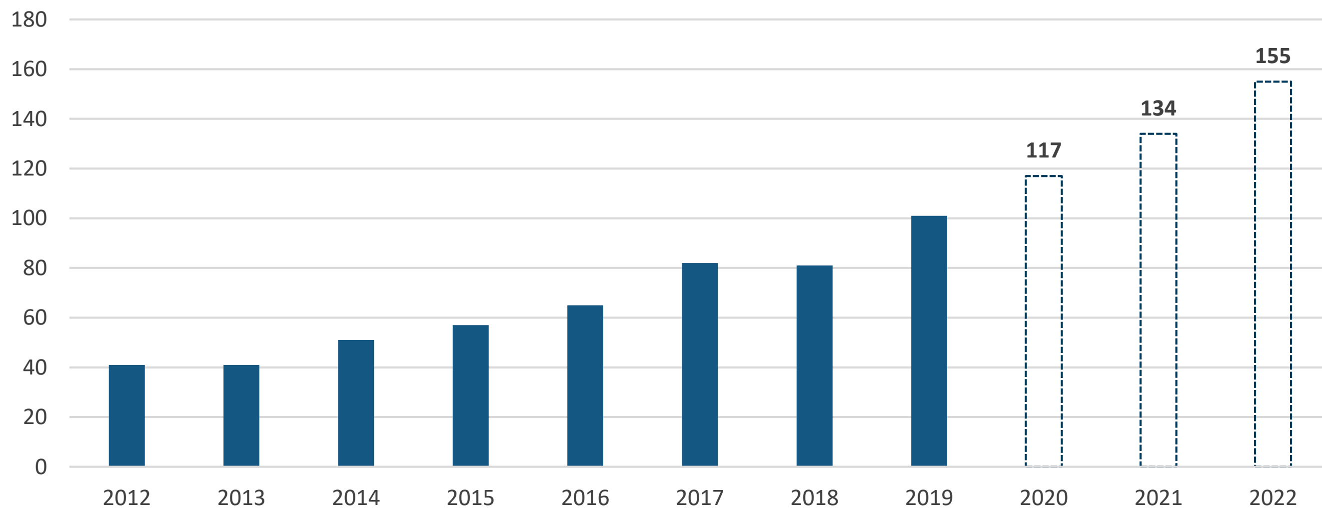
Incremental Demand for Warehouse From E-commerce Growth (Millions of SF)

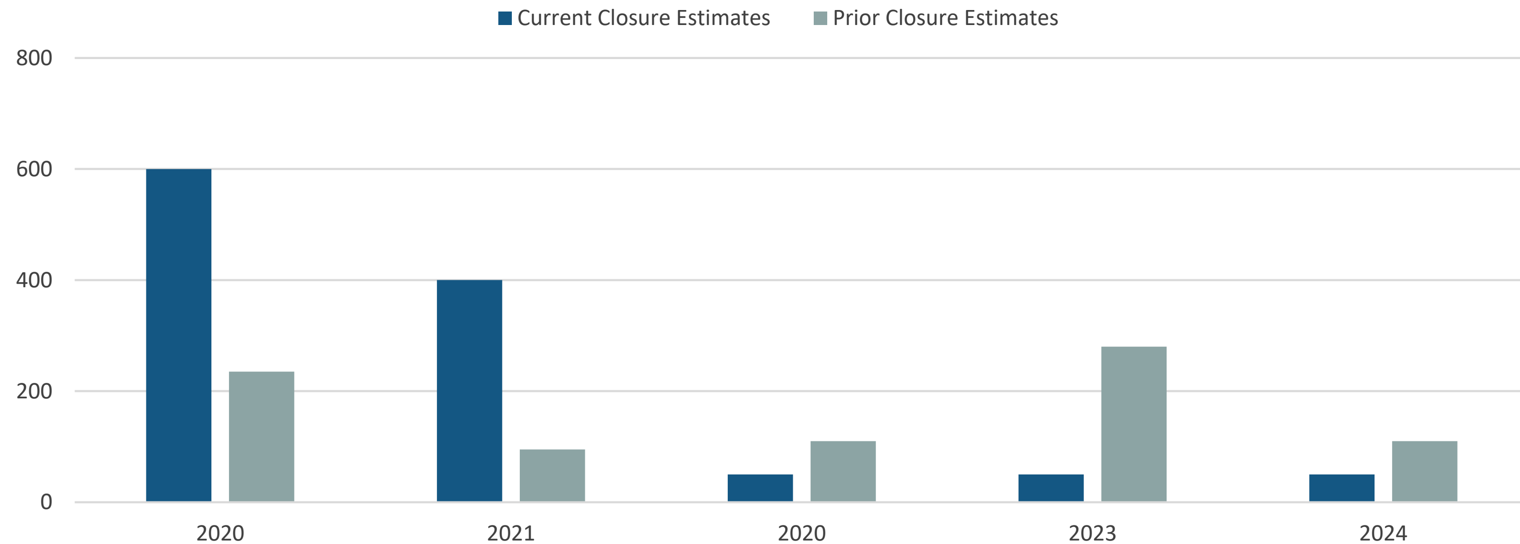


- E-commerce is expected to drive strong demand for warehouse space
- Social distancing has demonstrated the absolute critical need for an online presence and an omnichannel supply chain
- While consumption has retracted, it is expected e-commerce will benefit from capturing a large portion of retail sales
  - As reported, Amazon was adding 100,000 jobs and limiting delivery to "essentials" because of outsized/unexpected demand
  - Amazon Q1 forward guidance suggests net sales growth of 18-28% YoY
- Infill and large diversified industrial is trading at a premium to private market valuations, indicating the market believes in the e-commerce demand so strongly
- Industrial remains well positioned to benefit from shifting consumption habits, but near-term demand is expected to face some challenges because a large number of industrial tenants are smaller

Source: Duke Realty (March 2020), CBRE, Cushman & Wakefield, NAIOP, Assumes 15% E-commerce growth rate, Amazon

Retail: The Straw That Broke The Camel's Back

Forecasted Mall Department Store Closures



- Retail sales contracted at a historic rate in March; shelter in place orders rolled out and jobless claims began to spike in the second half of March
- Retail rent collections in April substantially lagged other property sectors (<40% collected)
- Underlying tenant financial strength was deteriorating prior to COVID-19, bankruptcies and store closures will accelerate
- Consumers' lack of confidence will likely curtail the strength of a rebound in discretionary spending
- A huge tail risk exists for brick and mortar stores if social distancing behavior remains persistent
- Low quality mall REITs will likely breach debt covenants and have to raise equity
  - CBL, PEI, and WPG equity values have declined substantially and have unsustainable levels of debt
- Go forward, the retail sector will face a challenging period of price discovery as rents rebase and occupancy rates broadly decline

Source: Green Street, Company Disclosures, NCREIF
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