

**SAN MATEO COUNTY**  
**DEFERRED COMPENSATION COMMITTEE**  
**AGENDA – FEBRUARY 28, 2019 (9:00 AM– 12:00 PM)**  
**455 COUNTY CENTER, 4<sup>th</sup> Floor- Room 405)**

Committee Members	Appointed As...
Rocio Kiryczun Tiffany Htwe (alternate: Timothy San Juan) Bridget Love Laurel Finnegan Robert Raw Steve Perry Lilibeth Dames Michael Wentworth Victoria Mejia	Human Resources Director Tax Collector-Treasurer Non-Management Appointee Non-Management Appointee Non-Management Appointee Non-Management Appointee Management Appointee Management Appointee Management Appointee

Staff	MassMutual	NFP / SST Benefits
Lisa Okada Marife Viola Jay Castellano	Bob Gleason Caitlin Shipley Jeff Blanchard Patrick Washington	Bill Tugaw Paul Hackleman Vince Learned

CALL TO ORDER / ANNOUNCEMENTS

1. Review and Approve November 1, 2018 Meeting Minutes

ACTION/DECISION ITEMS

2. Committee Education: Brown Act (Dan Valim, County Counsel)
3. Review and Accept Update on Fund Changes Based on November Investment Report (MassMutual)
4. Review and Accept Quarterly Investment Performance Review (MassMutual)
5. Review and Accept Quarterly Plan Summary Report (MassMutual)



6. Discuss and Accept Report on LMS System Changes (County)
7. Discuss and Approve Changes to Target-Date Funds Glide Paths (NFP)
8. Review and Approve 2019 Committee Education
  - May: Fiduciary Briefcase (NFP)
  - August: TBD
9. Identify and Approve Attendees to 2019 NAGDCA Conference (New Orleans, September 8-11) Attendees / Award Consideration (All)
10. Review and Approve Plan Changes Permitting 401a Rollovers (County)
11. Review and Accept Status of Implementing Auto-Enroll, Auto-Escalate (County)
12. Review and Accept Report on EBC Information / Oversight (NFP)
13. Review and Accept Status of Updating Health Reimbursement Account Investment Options (NFP)

**INFORMATIONAL ITEMS**

14. Legislative Update (NFP and MassMutual)
15. Other Items / Issues

**RECURRING QUARTERLY AGENDA ITEMS**

<p><b>May 2019</b></p> <ul style="list-style-type: none"> <li>• Mass Mutual Annual Plan Review</li> <li>• MassMutual Quarterly Investment Review</li> <li>• Plan Summary Information</li> <li>• Finalize NAGDCA conference attendees</li> <li>• Provider Performance Review</li> <li>• Budget / Workplan</li> <li>• Fund Balance Policy</li> <li>• Reserve Policy</li> </ul>	<p><b>November 2019</b></p> <ul style="list-style-type: none"> <li>• MassMutual Quarterly Plan Review</li> <li>• SST Annual Investment Review</li> <li>• Investment Policy Review</li> <li>• 2019 Education Plan for Participants</li> <li>• 2019 Education Plan for Committee</li> <li>• 2020 Meeting Dates</li> <li>• NAGDCA Highlights</li> </ul>
<p><b>August 2019</b></p> <ul style="list-style-type: none"> <li>• MassMutual Quarterly Plan Review</li> <li>• MassMutual Quarterly Investment Review</li> <li>• Discussion of Survey Topics</li> <li>• Education Policy Review</li> <li>• Due Diligence – Special Services</li> </ul>	<p><b>February 2020</b></p> <ul style="list-style-type: none"> <li>• MassMutual Quarterly Plan Review</li> <li>• MassMutual Quarterly Investment Review</li> <li>• Final Education Plan for Committee and Participants</li> <li>• Plan Document Review</li> <li>• Fiduciary Briefcase</li> <li>• NAGDCA Participation / Award Consideration</li> </ul>



**SAN MATEO COUNTY  
SPECIAL DEFERRED COMPENSATION COMMITTEE MEETING  
November 1, 2018 MINUTES**

Committee Attendees	Committee Absentees
Rocio Kiryczun Robert Raw Bridget Love (by phone) Lilibeth Dames Tiffany Htwe Steve Perry Victoria Mejia Laurel Finnegan	Michael Wentworth

Staff	MassMutual	SST Benefits
Lisa Okada Jay Castellano Marife Viola	Bob Gleason Patrick Washington Caitlin Shipley	Paul Hackleman Bill Tugaw Vince Learned

The meeting was convened at 9:06.

Description of Item for Discussion	Action Taken by Committee
1. Approval of Meeting Minutes	The Meeting minutes of August 23, 2018 were unanimously approved with one correction (i.e., Bill Tugaw should not be listed as an August 23 attendee). Because there were new Committee participants, a round of introductions was completed.
2. Introduction of Treasurer Tax Collector Representative	Tiffany Htwe was introduced as the Treasurer/Tax Collector.
3. Review and Approve Investment Policy	Jay discussed his consideration of integrating fee policy descriptions into the Investment Policy Statement (IPS). Bill indicated that NFP Counsel recommended against that inclusion as it could hamstring Committee decisions. The Committee expressed the belief that both



	<p>fee equalization and fee disclosure were sufficient and accepted NFP's recommendation. Neither NFP nor MassMutual had any other suggested changes to the Investment Policy Statement. As a result, the Committee unanimously approved the IPS without changes.</p>
<p>4. Committee Education</p>	<p>Paul indicated that the education for February's meeting was the Fiduciary Briefcase offered by NFP. Vince will call in to that February meeting to describe this tool and what it can provide to the Committee. Next November (2019) education will cover the Investment Review information so the Committee will review in February the educational sessions it would like for May and August.</p>
<p>5. NFP Annual Investment Review</p>	<p>Vince summarized the 3<sup>rd</sup> quarter market review indicating that there was much more volatility than was experienced in 2017. Nevertheless, equity was up 7.1% while International Equity was up slightly for the quarter (0.7%) but down for the year (-3.1%) and Fixed Income was flat for the quarter but down 1.6% for the year. The economy in terms of jobs was strong.</p> <p>Vince then provided an educational summary of NFP's Scorecard and used large cap growth as an example of how the Scorecard viewed each of the ten criteria upon which mutual funds are based.</p> <p>Vince then reviewed each of the under-performing funds, two of which (Oakmark Equity and Loomis Sayles Bond Institution) were recommended for deletion without replacement. This would provide an opportunity to thin the menu and make the overall portfolio more efficient. People in these funds would be mapped to the age-appropriate Target Date Fund (TDF). Vince also recommended that three funds (JP Morgan Small Cap Value R6, Oppenheimer Developing Markets and Oppenheimer International Bond) be placed on watch listed.</p> <p>The Committee discussed at some length the issue of replacing or eliminating without replacement the two recommended deleted funds and agreed ultimately that the opportunity to reduce the portfolio and map</p>



	<p>individuals to appropriate QDIA TDF funds was appropriate. The Committee unanimously approved the NFP recommendations.</p> <p>MassMutual will determine the date when fund changes and mapping will occur and will draft a letter to participants regarding the changes. Also, MassMutual, NFP and staff will coordinate with EBC to make matching investment line-up changes in the retiree health plan.</p>
6. Plan Document Changes	<p>Bob indicated that the new legislative changes regarding loans did not necessitate a change to the 457 Plan document but it did require a change to the 401(a) document (as an amendment). He will provide the amendment to the County which can be attached to the current plan document. He will also communicate in writing that the 457 Plan document without a change is in compliance with federal and state legislative and regulatory requirements (per the performance standard) and with the amendment of the 401(a) document it too will be in compliance. The Committee approved these actions.</p>
7. Review and Approve Survey Topics	<p>Bob briefly highlighted the survey which did include a question regarding the call-in center satisfaction. The Committee agreed that the survey could go out and the County would coordinate with MassMutual (through the Benefits Newsletter) to augment the electronic address with written survey information. MassMutual will report on the status of survey results at the February meeting.</p>
8. Review and Accept Quarterly Plan Review	<p>Bob highlighted some of the key changes this quarter. Plan assets grew from \$461M to \$478M, distributions and withdrawals were down, expenses were up 6% based on 205 net increase in participants with total plan participation at 83%. Thirty percent of assets are in the SAGIC which is currently paying 3.56%.</p>
9. Comparison of TDF Options	<p>Given the remaining time, Paul recommended that this item be postponed to the February meeting. After discussion, the Committee agreed that they would continue to look at the NFP custom TDF as well as the Blackrock and JP Morgan but asked NFP to identify other custom options. Ultimately, if it appears the</p>



	<p>Committee is leaning toward the NFP custom option then the Committee will also have to discuss a process to make sure that there is no issue with NFP making money off of that product and that the Committee can document its due diligence in consideration of this matter.</p>
10. 2019 Participant Education	<p>Caitlin recommended that the 2019 education focus on Financial Wellness. This would include SamCERA, financial consulting, the Credit Union. Paul indicated that this kind of coordinated message from multiple sources might be a good choice for NAGDCA Award consideration but probably not until 2020 to make sure there were sufficient metrics to identify what impact this coordination had on participant actions.</p>
11. 2019 Committee Education	<p>Paul indicated that the Committee had scheduled the fiduciary briefcase training for February and the 2019 November training will focus on the Investment Review. In February, the Committee will look at the educational sessions for May and August.</p>
12. NAGDCA Highlights	<p>Bill summarized some of the important takeaways from the NAGDCA conference in Philadelphia. He began by discussing the Washington Legislative Update session which indicated that the recurring Congressional interest in eliminating the 457 exemption of the 10% penalty characteristic of qualified plans may be declining because the Congressional Budget Office has scored the change as revenue negative because people might take distributions later which would decrease taxes earlier. He also highlighted the future efforts of NAGDCA lobbyists covering first day of the month rule, non-spousal rollovers and allowance of collective trusts in 403(b) plans He comments that the ESG seminar was a bit one-sided in the sense that it did not discuss fully the DOL proscriptions that ESG funds must still be primarily evaluated on investment return. He summarized some of the best practices regarding enrollment practices citing the University of New York's efforts in this area. He discussed the session covering engaging participants by emphasizing the positive not the negative aspects of participation and the avoidance of confusing language instead of plain-spoken English.</p>



	This is even more important as one of the other sessions talked about the fact that employers now have five different generations in today's workforce and each generation has a different preference for how they want to receive information. Committee members who attended the conference mentioned the sessions that consultants could not attend and indicated that the County was questioned on its auto enrollment as many other jurisdictions were seeking to move in that direction. Jay added that his overall impression was that the County is on the forefront of actions.
13. Phone Performance Activities	Because cyber-security protocols are making phone call response lengthier the Committee agreed that it would modify the standard to include a requirement that MassMutual provide a quarterly report which discussed phone response time metrics, include a question in the current survey regarding participant satisfaction and that a draft communication would be developed for the February meeting acknowledging that wait times may be longer because of this focus on security.
14. Reserve Policy / Fund Balance Policy	Jay summarized the policy reserve amounts which would include \$50K for RFP which is scheduled for 2021, 25% of annual amount for general reserves. The Committee unanimously approved the policy adjustments
15. 2018-2019 Budget and Workplan	Jay discussed the current budget and projected 2019 budget and the Committee unanimously approved the budget report.
16. News and Views	Paul highlighted that the Ways and Means Committee had indicated that they do not intend to pursue Roth-ification (post tax DC contributions) in the future. Paul also announced that the 2019 contribution maximums were \$19,000 and the 50+ contributions had not changed. MassMutual did not have any additions to make to the legislative and regulatory updates.
17. 2019 Committee Dates	The Committee approved the 2019 meeting dates as February 21, May 16, August 15 and November 7
18. Public Comments	This item was actually taken as the first item. A current County participant asked the County to consider modifying its plan documents to permit 401(a) money to be rolled into the 457 plan or to SamCERA to purchase



	eligible service credit, and to allow an SDBA within 401(a). The Committee agreed that the County, SamCERA and MassMutual would work together to address the rollover issue and report out at the February, 2019 meeting.
19. Other Issues	Lisa asked that the new LMS Education Training System be agendized for the February, 2019 meeting.

The Committee adjourned at 12:07.



# SO YOU'RE SUBJECT TO THE BROWN ACT ...

SAN MATEO COUNTY COUNSEL

FEBRUARY 2019

# WHAT IS THE BROWN ACT?

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- Enacted in 1953
- Law's intent is that the actions of California's public Boards, Commissions, and Councils should be taken openly and their deliberations should be public
- Law attempts to balance public's right to access most proceedings and the need to conduct some proceedings with confidential candor



Ralph M. Brown

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- Presumption is in favor of public access
  - Privacy (“closed session”) for specified topic areas only
  - Exceptions to public access are construed narrowly
  - The Brown Act can be found at California Government Code §§ 54950 et seq.

# THREE MAIN RULES

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1. Notice to the public before any meeting describing when, where, and what for;
2. Opportunity for public participation during the meeting;
3. Exceptions to the public access/participation rules.

# FIVE STAGES OF GRIEF

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- Denial: “Really? That can’t POSSIBLY be against the rules to do.”
- Anger: “How do they expect us to get anything done?”
- Bargaining: “I think I figured out a way to get equal or better transparency without needing to follow these ridiculous rules.”
- Depression: “Every effective way of getting business done is closed off to us.”
- Acceptance: “Let’s just post an agenda for this.”

IS THIS  
“AGENDIZED”?



# COMMON QUESTIONS

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- Who has to comply?
- What do they mean by a “meeting”?
- How do I get something agendaized?
- What is the public entitled to do?
- Can we talk about this in closed session?
- What if there’s a violation?

# WHO HAS TO COMPLY?

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- If you're receiving this training, you do.
- But subsidiary bodies that you create might also be subject to the Brown Act
- Exception: ad hoc advisory subcommittees consisting solely of less than a quorum
- NOT individual decisionmakers

# WHAT DO THEY MEAN BY A “MEETING”?

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- Noticed, agendized public meetings
- Any gathering of a majority of the members in a place to hear, discuss or deliberate on a matter within the subject matter jurisdiction of the body
- Any use of a technological artifice to develop a collective concurrence as to a matter within the subject matter jurisdiction of the body (e.g., e-mail; social media)

# “A MEETING”

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- Includes regular meetings, special meetings, study sessions, board retreats, workshops . . .
- Includes lunches and social gatherings
- Includes telephone calls and e-mail chains
- Includes social media threads and bulletin boards
- Includes using intermediaries or representatives
- Includes circumstances where no action is taken!

# “A MEETING” IS NOT:

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- Individual Committee member discussions with stakeholders
- Attending a conference (without discussing substantive matters together)
- Attending a meeting of another public entity
- Attending a purely social or ceremonial gathering
- Giving testimony to a grand jury
- Attending a meeting of a standing committee (as long as the members creating a quorum *observe only*)

# A “QUORUM”

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- Number required to be present to transact business legally, usually a majority
- What about when a quorum is necessary to have a meeting, but merely a majority of those present and voting is sufficient to carry a motion?

YOUR MAGIC  
NUMBER IS:

4

(INCLUDING YOU)

# WHAT ABOUT SUBCOMMITTEES?

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- Subcommittees created by formal action of the body must also comply with the Brown Act
- A special type of subcommittee, “advisory committees, composed solely of the members of the legislative body that are less than a quorum of the legislative body”, may meet without posting agendas or otherwise complying
  - Basically, to research a distinct complicated issue and report back in open session with a recommendation
- Consult with staff and counsel on the appropriate measures to effectuate your intent

# HOW DO I GET SOMETHING AGENDIZED?

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- The notice of meeting must include a brief summary of each item of business to be conducted
  - Hear, discuss, deliberate (DISCUSSION / ACTION)
  - Must be posted at least 72 hours in advance of a regular meeting (i.e., recurring meetings and those set by the Committee itself or by its organizing documents)
  - Must be posted at least 24 hours in advance of a special meeting (i.e., those set by other action)
  - New items may only be added under special (i.e., rare) circumstances!
  - About 20 words (more is not more!)

# WHAT IS THE PUBLIC ENTITLED TO?

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- To adequate advance notice the time, place, and topics of meetings
- To geographically proximate meetings (within the jurisdiction)
- To accessible meeting locations and assistive devices
- To record the meeting
- To bring new issues to the Committee's attention (public comment)
- To timely receive access to the materials in the Board Packet
- To comment on each item before the Committee deliberates (public hearing)
- To hear the deliberation, to know the (final) actions, and to know who voted how

# WHAT IS THE PUBLIC ENTITLED TO?

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- The right to orderly comment is subject to reasonable rules and regulations
  - Per-speaker time limits
  - Per-item time limits
  - Not content-based (i.e., no rule against public criticism)

# ADDRESSING A SPEAKER

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- The public is allowed to comment on items not on the agenda
- Meanwhile, the Committee is forbidden to “hear, discuss or deliberate” on items not appearing on the agenda
- The Committee members may “briefly respond” to public comment
  - Give information or correct misinformation
  - Refer to staff for followup
  - Ask that matter be agendized for a future meeting

# CAN WE TALK ABOUT THIS IN CLOSED SESSION?

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- Probably not
- Must be one of the specified issues set forth in the statute
- When allowed, must be described on the agenda and noticed to the public
- Public has a right to be heard on closed session items before action is taken
- Nothing else about Brown Act compliance changes
  - Including prohibition on serial meetings
  - Including the right to know who voted how (but not deliberations)

# CAN WE TALK ABOUT THIS IN CLOSED SESSION?

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- Privacy issues: personnel matters (hiring, evaluation and discipline); criminal records; Medi-Cal HMO complaints; certain types of employee requests
- Fiscal matters: labor negotiations; pending litigation; initiation of litigation; real property negotiations; pension board investments; responses to final audit reports; trade secrets; certain insurance claims; various public hospital services, programs and facilities
- Public security: conferences with law enforcement re: threats

# “PENSION FUND INVESTMENTS”

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- “Notwithstanding any other provision of this chapter, a legislative body of a local agency that invests pension funds may hold a closed session to consider the purchase or sale of particular, specific pension fund investments. All investment transaction decisions made during the closed session shall be made by rollcall vote entered into the minutes of the closed session as provided in subdivision (a) of Section 54957.2.”

# CAN I JUST CALL IN TO THE MEETING?

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- The teleconference provisions of the Brown Act were written at a time when “teleconference meeting” was thought to be two public conference rooms, miles apart
- To be a legal meeting, the teleconference provisions of the Act must be strictly followed
- Both (or all) locations must be accessible to the public and have a posted agenda
- Once you find out you can’t just call in to the meeting from your car on I-80 on the way to Tahoe, just missing the meeting looks attractive by comparison

# WHAT IF THERE'S A VIOLATION?

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- Call your staff liaison and ask to consult our office
- May result in reversal of the decision made using an improper process
- Requires that a demand be made, giving you the opportunity to correct your process
- Serious violations involving intentional conduct may result in criminal prosecutions

QUESTIONS?

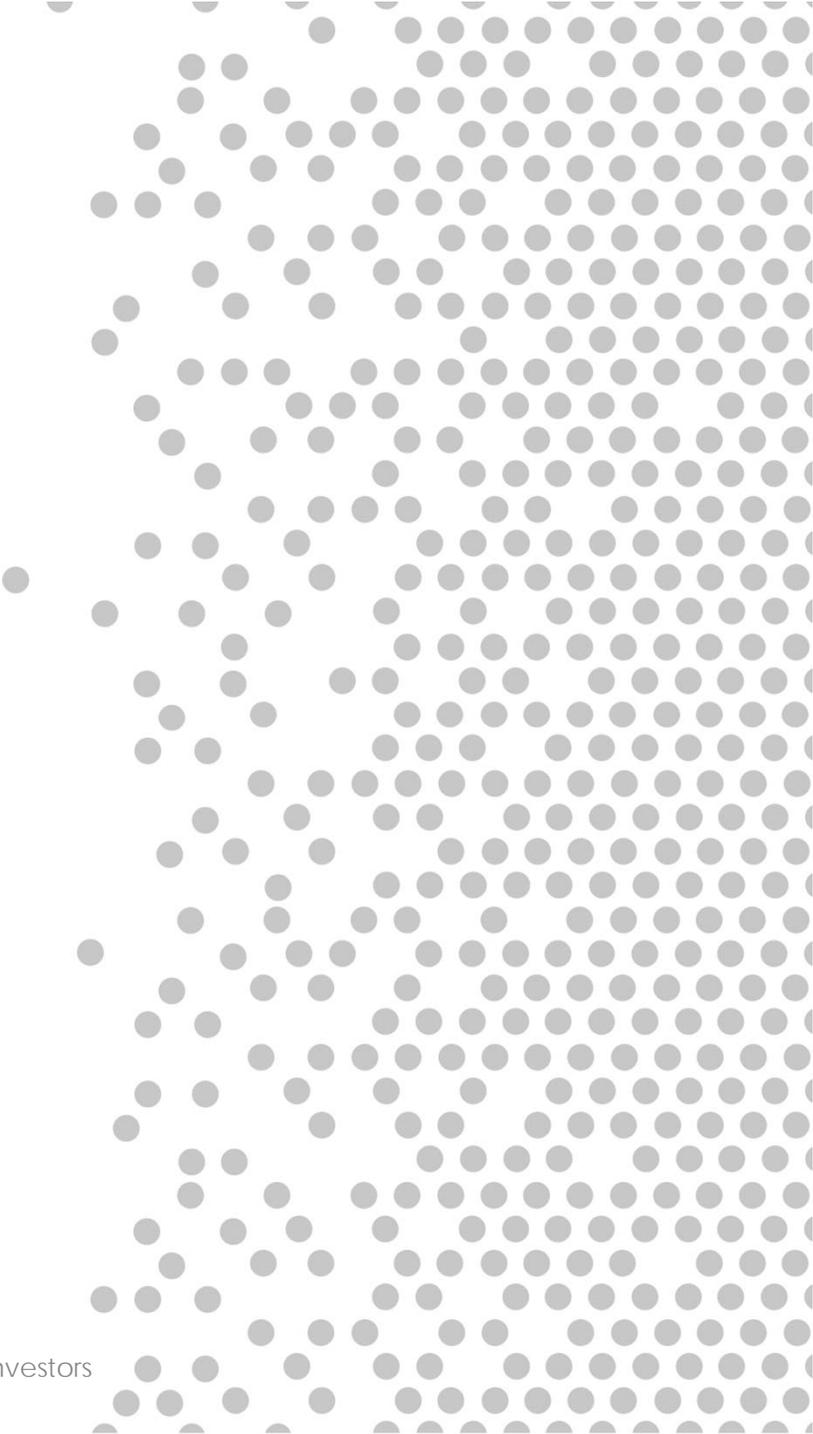
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FEBRUARY 28, 2019

# San Mateo County Fourth Quarter 2018 Investment Review



RS-41492-01 For Advisor and Plan Sponsor use only. Not for use with retail investors or plan participants.

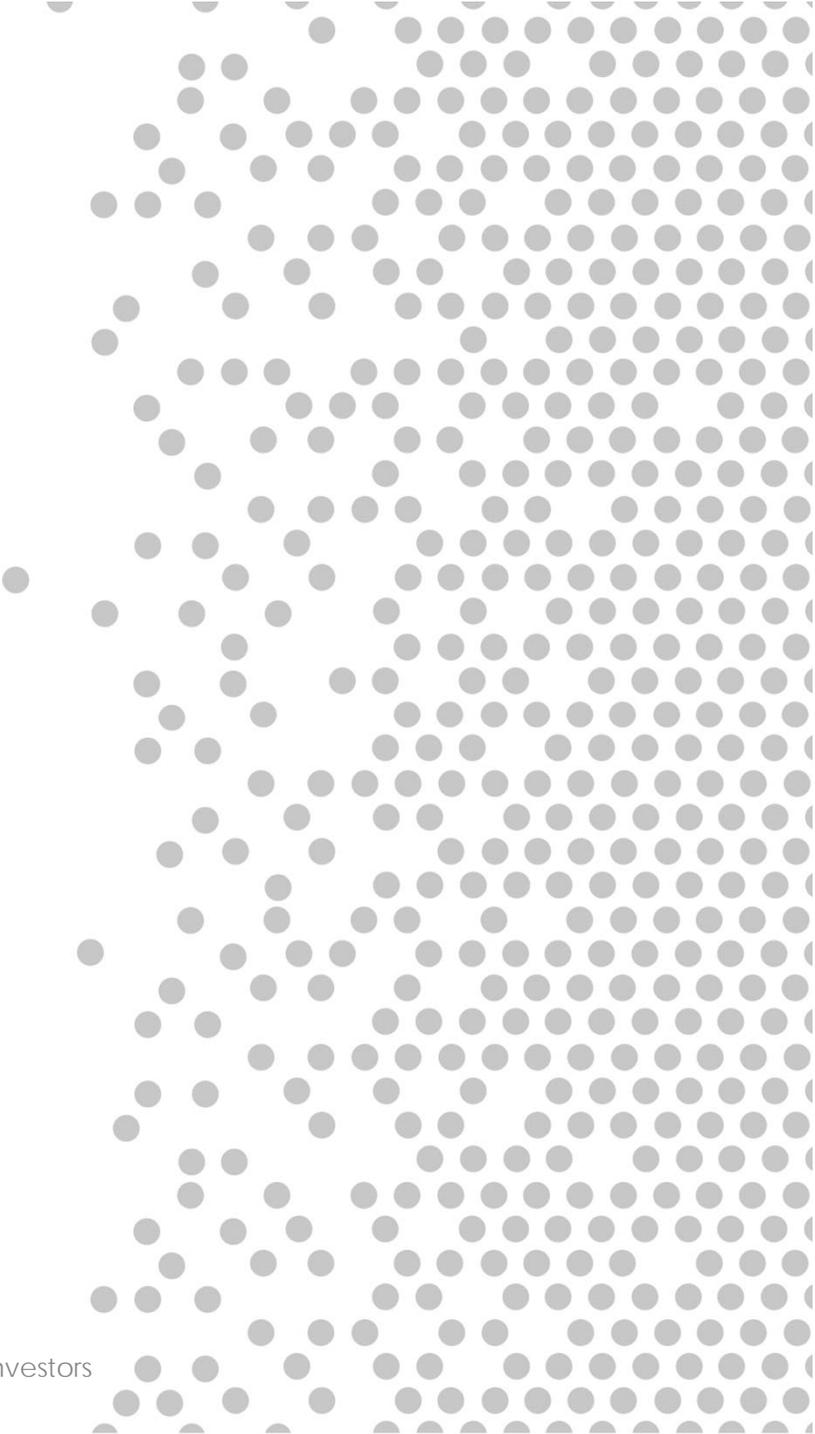


FEBRUARY 28, 2019

# Fourth Quarter 2018 Market & Economic Review



RS-41492-01 For Advisor and Plan Sponsor use only. Not for use with retail investors or plan participants.



# Quarterly Market Recap

as of 12/31/2018

Quarterly Data Center

Equities	Level	Index Returns (%)		
		QTD	YTD	1 Year
S&P 500	2,506.85	-13.52	-4.38	-4.38
Russell 2000	1,348.56	-20.20	-11.01	-11.01
MSCI EAFE	1,719.88	-12.54	-13.79	-13.79
MSCI EM	965.67	-7.47	-14.58	-14.58
NASDAQ	6,635.28	-17.29	-2.84	-2.84

Fixed Income	YTM	QTD	YTD	1 Year
U.S. Aggregate	3.28	1.64	0.01	0.01
U.S. Corporates	4.20	-0.18	-2.51	-2.51
Barclays U.S. High Yield	7.95	-4.53	-2.08	-2.08
Citi WGBI Non-USD	1.51	1.31	-1.82	-1.82

Other / Specialty	Level	QTD	YTD	1 Year
Bloomberg Commodity Index	76.72	-9.41	-11.25	-11.25
FTSE NAREIT Equity REIT Index	599.98	-6.73	-4.62	-4.62
Gold	1,282.49	7.69	-1.56	-1.56
Brent Oil	53.8	-34.96	-19.55	-19.55

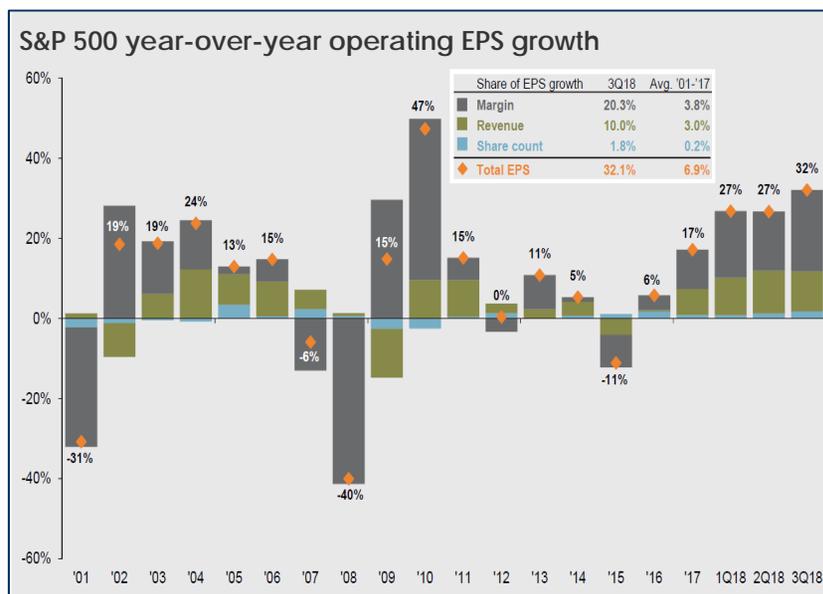
Source: Bloomberg, 12/31/2018

Morningstar Direct, 12/31/2018

Global Market Data	U.S.	EU	Japan	China
GDP Growth (YOY) (%)	3.10	1.40	0.30	6.40
CPI (YOY) (%)	2.20	1.90	1.00	2.20
Unemployment (%)	3.80	8.00	2.40	3.80
Central Bank Rate (Level)	2.50	0.00	-0.10	4.35
10 Year Govt. Yield (%)	2.69	0.24	0.08	3.31

\*Forecasted Q4 2018

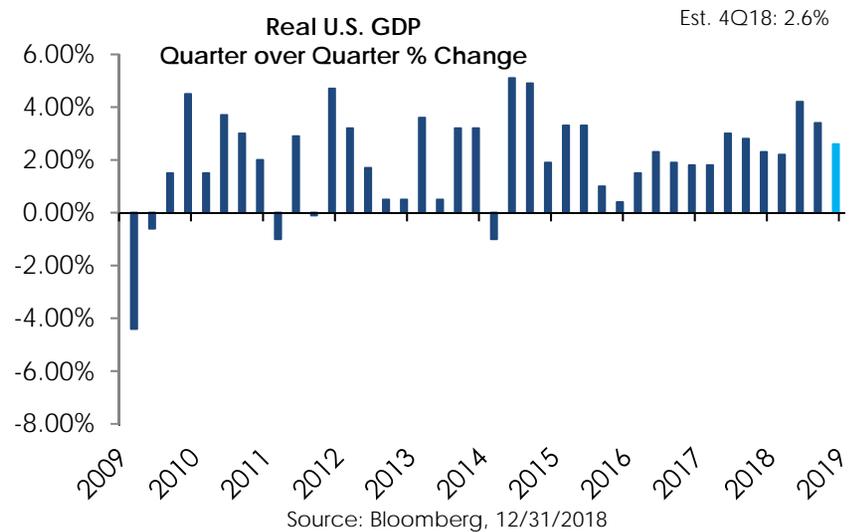
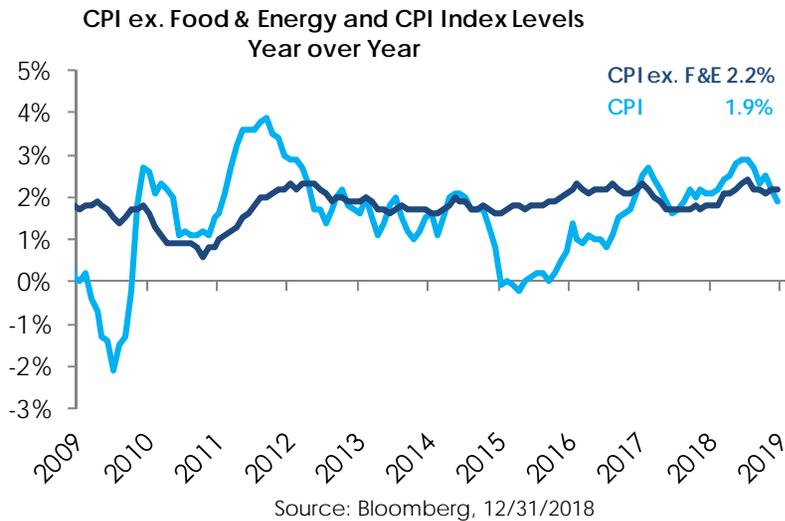
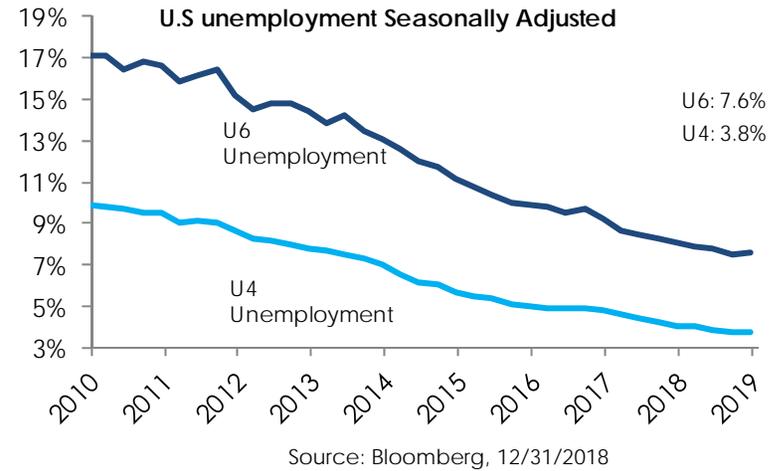
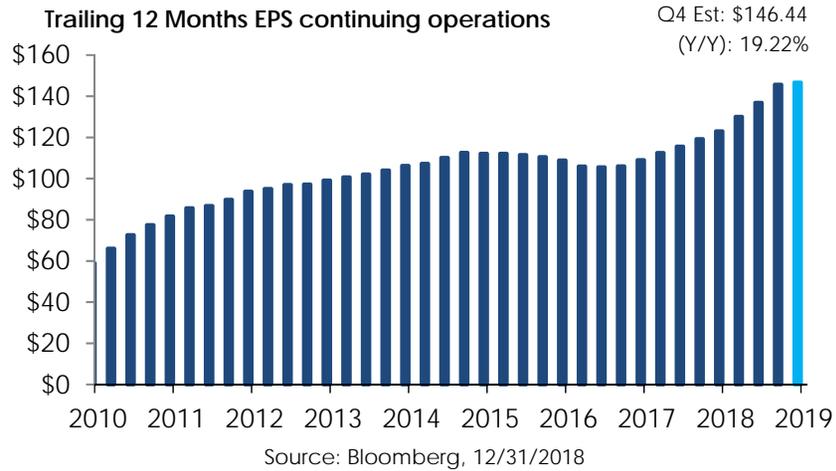
Chart of the Quarter



Source: Compustat, FactSet, Standard & Poor's. J.P. Morgan Asset Management



# U.S. Economic Data



Source: Bloomberg, Bureau of Labor Statistics and Bureau of Economic Analysis.

1) The S&P 500 Index is a broad-based measure of domestic stock market performance. The index is unmanaged, includes the reinvestment of dividends, and cannot be purchased directly by investors. Index performance is shown for illustrative purposes only and does not predict or depict the performance of any particular investment. **Past performance does not guarantee future results.**



# Equity Overview

# U.S. Equity Size and Style Returns (%)

as of 12/31/2018

## Quarter 4

	Value	Core	Growth
Large	-11.72	-13.82	-15.89
Mid	-14.95	-15.37	-15.99
Small	-18.67	-20.20	-21.65

## Year To Date

	Value	Core	Growth
Large	-8.27	-4.78	-1.51
Mid	-12.29	-9.06	-4.75
Small	-12.86	-11.01	-9.31

Key	
	Highest
	Lowest

## 1 Year (Annualized)

	Value	Core	Growth
Large	-8.27	-4.78	-1.51
Mid	-12.29	-9.06	-4.75
Small	-12.86	-11.01	-9.31

## 3 Year (Annualized)

	Value	Core	Growth
Large	6.95	9.09	11.15
Mid	6.06	7.04	8.59
Small	7.37	7.36	7.24

## 5 Year (Annualized)

	Value	Core	Growth
Large	5.95	8.21	10.40
Mid	5.44	6.26	7.42
Small	3.61	4.41	5.13

## 10 Year (Annualized)

	Value	Core	Growth
Large	11.18	13.28	15.29
Mid	13.03	14.03	15.12
Small	10.40	11.97	13.52

Diversification does not guarantee a profit or protect against loss.

Source: Morningstar Direct, 12/31/2018. Equity style boxes are based on targeted equity styles as determined by valuation measures. The Russell 1000 Value Index, Russell 1000 Index and Russell 1000 Growth Index are unmanaged indices that measure the performance of large-capitalization value stocks, large-capitalization stocks and large capitalization growth stocks, respectively. The Russell Midcap Value Index, Russell Midcap Index and the Russell Midcap Growth Index are unmanaged indices that measure the performance of mid-cap value stocks, mid-cap stocks and mid-cap growth stocks, respectively. The Russell 2000 Value Index, Russell 2000 Index and Russell 2000 Growth Index are unmanaged indices that measure the performance of small-cap value stocks, small-cap stocks and small-cap growth stocks, respectively. Each index includes reinvested dividends and cannot be purchased directly by investors. Index performance is shown for illustrative purposes only and does not predict or depict the performance of any particular investment. **Past performance does not guarantee future results.**



# S&P 500 Index and Sector Returns (%)

as of 12/31/2018

Sector	Weight	4Q 2018	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Consumer Discretionary	10.30	-16.42	0.83	22.98	6.03	10.11	9.68	43.08	23.92	6.13	27.66	41.30	-33.49	-13.21
Consumer Staples	6.71	-5.21	-8.38	13.49	5.38	6.60	15.98	26.14	10.76	13.99	14.11	14.89	-15.43	14.18
Energy	6.00	-23.78	-18.10	-1.01	27.36	-21.12	-7.78	25.07	4.61	4.72	20.46	13.82	-34.87	34.40
Financials	13.31	-13.11	-13.03	22.18	22.80	-1.53	15.20	35.63	28.82	-17.06	12.13	17.22	-55.32	-18.63
Healthcare	15.05	-8.72	6.47	22.08	-2.69	6.89	25.34	41.46	17.89	12.73	2.90	19.70	-22.81	7.15
Industrials	9.70	-17.29	-13.29	21.03	18.86	-2.53	9.83	40.68	15.35	-0.59	26.73	20.93	-39.92	12.03
Information Technology	20.99	-13.19	-0.29	38.83	13.85	5.92	20.12	28.43	14.82	2.41	10.19	61.72	-43.14	16.31
Materials	2.43	-12.31	-14.70	23.84	16.69	-8.38	6.91	25.60	14.97	-9.75	22.20	48.59	-45.66	22.53
Real Estate	2.66	-3.83	-2.22	10.85	3.39	4.68	30.19	1.60	19.74	11.39	32.32	27.10	-42.31	-17.85
Comm. Services	10.03	-13.19	-12.53	-1.25	23.49	3.40	2.99	11.47	18.31	6.27	18.97	8.93	-30.49	11.94
Utilities	2.83	1.36	4.11	12.11	16.29	-4.85	28.98	13.21	1.29	19.91	5.46	11.91	-28.98	19.38
S&P 500 Index	100%	-13.52	-4.38	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00	5.49

Source of chart data: Morningstar Direct, 12/31/2018. The Global Industry Classification Standard (GICS) methodology has been widely accepted as an industry analysis framework for investment research, portfolio management and asset allocation. The GICS structure consists of 10 sectors. The S&P 500 Index is a broad-based measure of domestic stock market performance that includes the reinvestment of dividends. The index is unmanaged and cannot be purchased directly by investors. Index performance is shown for illustrative purposes only and does not predict or depict the performance of any particular investment. In Q3 2018 there were changes to GICS sector methodology that resulted in the Telecommunications sector being removed and the Communication Services sector being added. Annual performance shown for Communication Services before 2018 is linked to the historical performance of the Telecommunications sector. **Past performance does not guarantee future results.**



# Best & Worst S&P 500 Stocks During 3Q Based on Contribution to Return

as of 12/31/2018

Best S&P 500 Stocks	Average Weight	Total Return	Contribution to Return
Procter & Gamble Co	0.98	11.43	0.10
Merck & Co Inc	0.87	8.49	0.07
Verizon Communications Inc	1.04	6.45	0.06
Starbucks Corp	0.37	13.91	0.04
McDonald's Corp	0.61	6.80	0.04
Eli Lilly and Co	0.47	8.39	0.04
Red Hat Inc	0.12	28.88	0.03
CME Group Inc Class A	0.28	11.99	0.03
American Tower Corp	0.30	9.45	0.02
Coca-Cola Co	0.81	3.33	0.02
<b>Total/Average</b>	<b>5.86</b>	<b>10.91</b>	<b>0.44</b>

Worst S&P 500 Stocks	Average Weight	Total Return	Contribution to Return
Apple Inc	3.88	-29.88	-1.26
Amazon.com Inc	2.98	-25.01	-0.84
Microsoft Corp	3.61	-11.19	-0.40
NVIDIA Corp	0.50	-52.45	-0.36
Facebook Inc A	1.53	-20.29	-0.33
Exxon Mobil Corp	1.46	-18.98	-0.28
JPMorgan Chase & Co	1.58	-12.89	-0.20
Alphabet Inc Class C	1.45	-13.23	-0.20
Citigroup Inc	0.70	-26.94	-0.20
Alphabet Inc A	1.42	-13.43	-0.20
<b>Total/Average</b>	<b>19.11</b>	<b>-22.43</b>	<b>-4.26</b>

The mention of specific companies does not constitute a recommendation.

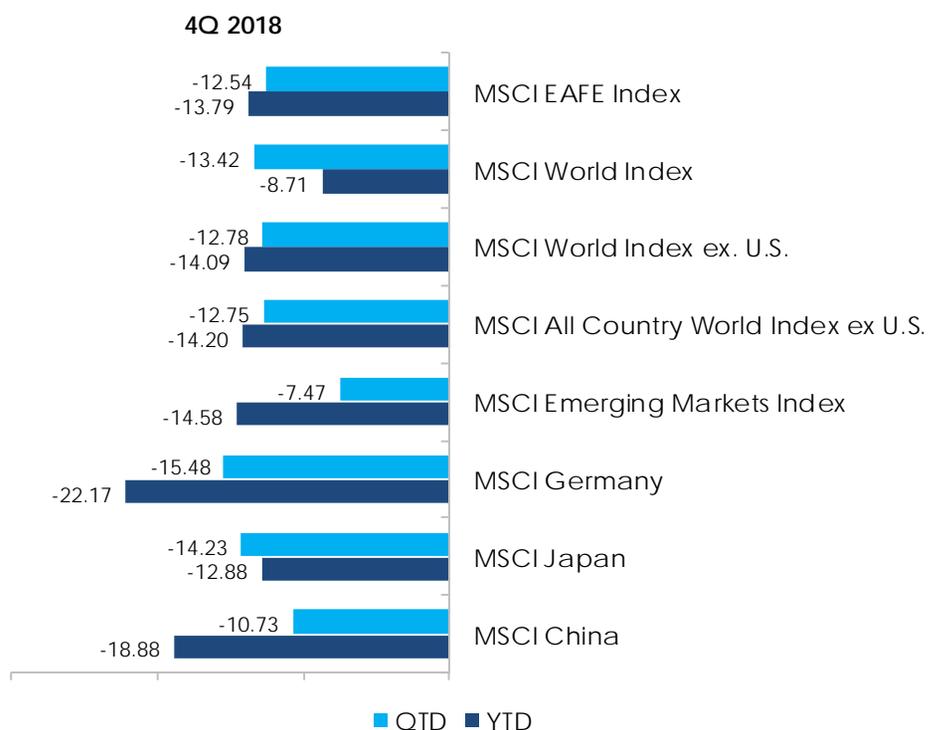
Source of chart data: Morningstar Direct, 12/31/2018. The Global Industry Classification Standard (GICS) methodology has been widely accepted as an industry analysis framework for investment research, portfolio management and asset allocation. The GICS structure consists of 10 sectors. The S&P 500 Index is a broad-based measure of domestic stock market performance that includes the reinvestment of dividends. The index is unmanaged and cannot be purchased directly by investors. Index performance is shown for illustrative purposes only and does not predict or depict the performance of any particular investment. **Past performance does not guarantee future results.**



# Global Equity Market Returns (%)

as of 12/31/2018

## MSCI Indexes



MSCI Indexes: Total Net Return as of 12/31/2018  
 \* 3-Year, 5-Year, and 10-Year returns are annualized

	1-Year	3-Year*	5-Year*	10-Year*
MSCI EAFE Index	-13.79	2.87	0.53	6.32
MSCI World Index	-8.71	6.30	4.56	9.67
MSCI World Index ex. U.S.	-14.09	3.11	0.34	6.24
MSCI All Country World Index ex U.S.	-14.20	4.48	0.68	6.57
MSCI Emerging Markets Index	-14.58	9.25	1.65	8.02
MSCI Germany	-22.17	0.70	-2.13	5.55
MSCI Japan	-12.88	3.41	3.06	5.33
MSCI China	-18.88	8.04	4.65	8.26

Source: Morningstar Direct, 12/31/2018. The MSCI All Country World Index (ACWI) is a free-float-adjusted, market-capitalization-weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI Frontier Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance of frontier markets. The MSCI Emerging Markets Index is designed to measure equity market performance of emerging markets. The MSCI EAFE Index (Europe, Australasia, Far East) is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada. The MSCI World Index ex U.S. is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets and excludes the U.S. The MSCI World Index is designed to measure the equity market performance of developed markets. Each index is unmanaged, includes the reinvestment of dividends and cannot be purchased directly by investors. Index performance is shown for illustrative purposes only and does not predict or depict the performance of any particular investment. **Past performance does not guarantee future results.**



# Fixed Income Overview

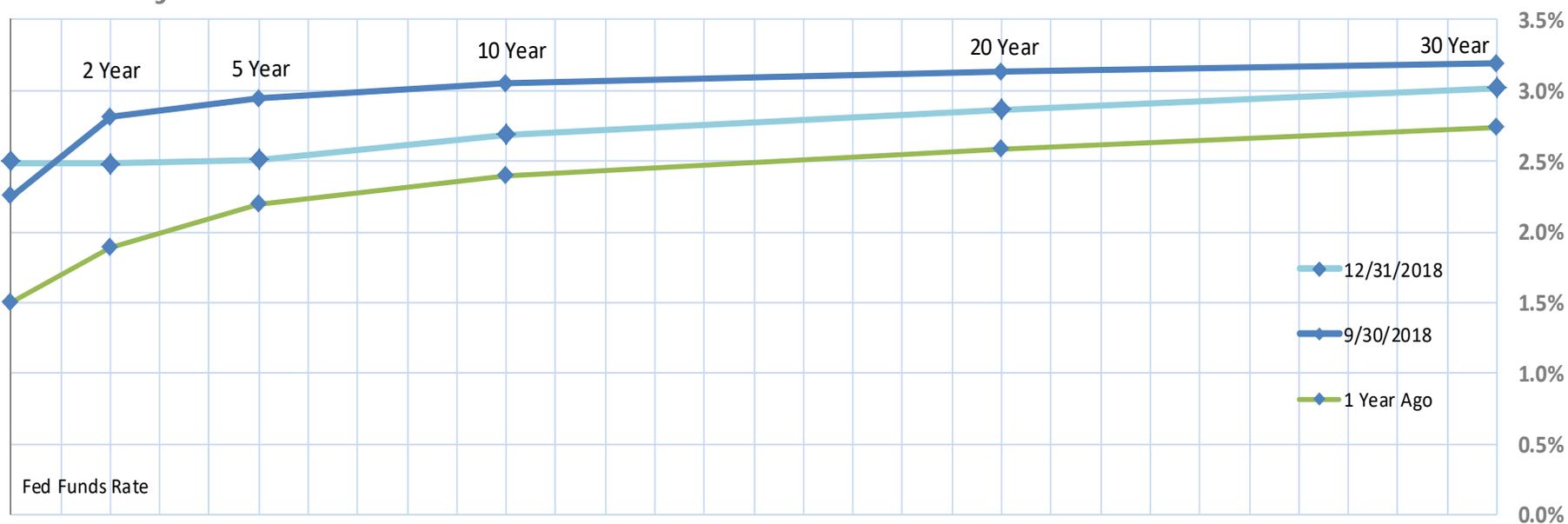
# U.S. Interest Rates and the Yield Curve

as of 12/31/2018

	12/31/2018	9/30/2018	1 Year Ago	Basis Points (bps) Change - QTD	Basis Points (bps) Change - 1 Yr Ago
Fed Funds	2.50%	2.25%	1.50%	25 bps	100 bps
2 Years	2.48%	2.81%	1.89%	-33 bps	59 bps
5 Years	2.51%	2.94%	2.20%	-43 bps	31 bps
10 Years	2.69%	3.05%	2.40%	-36 bps	29 bps
20 Years	2.87%	3.13%	2.58%	-26 bps	29 bps
30 Years	3.02%	3.19%	2.74%	-17 bps	28 bps

## Treasury Yields

As of: 12/31/2018

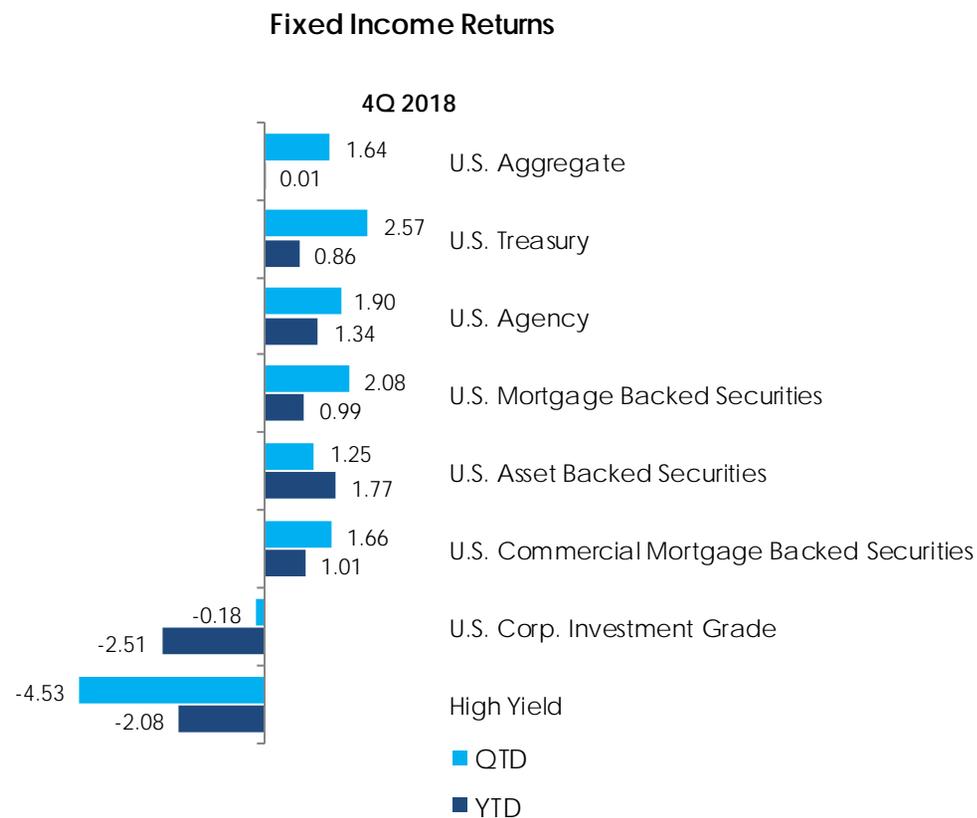


Source: FRED, 12/31/2018. Data shown are on-the-run Treasury yields. **Past performance does not guarantee future results.**



# Fixed Income Returns

as of 12/31/2018



MSCI Indexes: Total Net Return as of 12/31/2018  
\* 3 Year, 5 Year, and 10 year returns are annualized

	1-Year	3-Year*	5-Year*	10-Year*	Duration	YTM
U.S. Aggregate	0.01	2.06	2.52	3.48	5.87	3.28
U.S. Treasury	0.86	1.40	2.01	2.08	6.10	2.61
U.S. Agency	1.34	1.60	1.87	2.07	5.29	3.34
U.S. Mortgage Backed Securities	0.99	1.71	2.53	3.11	4.73	3.39
U.S. Asset Backed Securities	1.77	1.78	1.70	4.55	2.15	3.06
U.S. Commercial Mortgage Backed Securities	1.01	2.67	2.63	7.54	5.17	3.53
U.S. Corp. Investment Grade	-2.51	3.26	3.28	5.92	7.10	4.20
High Yield	-2.08	7.23	3.83	11.12	3.96	7.95

Source: Morningstar, 12/31/2018. 3Q 2018 Chart, Annual Returns  
Bloomberg, 12/31/2018. Duration and YTM  
**Past performance does not guarantee future results.**



# Disclosures

**Past performance does not guarantee future results. Current performance may be lower or higher than that shown. Investment return and principal values fluctuate, so an investor's shares, when redeemed, may be worth more or less than their original cost. Call (866) 444-2601 to obtain performance data current to the most recent month-end.**

MassMutual offers both registered plans and group annuity contracts. The structure of the investments in MassMutual retirement plans may vary depending upon the type of plan chosen. In group annuity contract retirement plans, the plan will purchase units of separate investment accounts, which in turn will purchase shares of corresponding mutual funds or other similar investments. Some plans invest directly in mutual funds or other similar investments. Please note that the use of the word "funds" in this material is generic, referring to both separate investment account investments and investments made directly into mutual funds or other similar investments.

Investments in securities of growth, small-cap and mid-cap companies may be especially volatile. Value investing involves the risk that undervalued securities may not appreciate as anticipated.

Investing in foreign securities involves additional expenses and special risks, such as currency fluctuations, foreign taxes and political and economic factors. Investments in emerging and developing markets may be especially volatile.

Fixed income investing involves credit risk and interest rate risk (when interest rates rise, bond prices generally fall). Below-investment-grade ("junk" or "high yield") bonds are more at risk of default and are subject to liquidity risk.

Asset-backed and mortgage-backed securities are also subject to prepayment risk.

Senior loans are typically lower-rated (more at risk of default) and may be illiquid investments (which may not have a ready market).

A portion of a municipal bond fund's distributions may be taxable and may increase taxes for investors subject to the alternative minimum tax (AMT). Capital gains distributions are taxable as capital gains.

Investing in the commodity markets involves potentially higher volatility and greater risk of loss of principal than traditional equity or debt securities. Commodity-linked investments are considered speculative and have substantial risks, including the risk of loss of a significant portion of their principal value.

Investing in a limited number of sectors, such as gold, oil and real estate, can increase volatility and exposure to issues affecting that sector.

Inflation-indexed debt securities are bonds structured to seek to provide protection against inflation. If inflation declines, the principal amount or the interest rate of an inflation-indexed bond will be adjusted downward. This will result in reduced income and may result in a decline in the bond's price which could cause losses for the fund. Interest payments on inflation-protected debt securities can be unpredictable and will vary as the principal or interest rate is adjusted for inflation. Inflation-indexed debt securities are also subject to the risks associated with investments in fixed income securities.

There is no guarantee that the issuers of dividend paying stocks will declare dividends in the future, or that if dividends are declared, they will remain at their current levels or increase over time.

Diversification does not assure a profit or protect against loss.

This report does not provide individually tailored investment advice. It has been prepared without regard to the individual investment circumstances and objectives of the persons who receive it. The investments discussed in this report may not be suitable for all investors. MassMutual recommends that investors independently evaluate particular investments and strategies, and that investors seek the advice of a financial adviser. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives.





*Investors should consider an investment option's objectives, risks, fees and expenses carefully before investing. This and other information can be found in the applicable prospectuses or summary prospectuses (if available) or investment profiles (fact sheets) for the investment options listed, which are available from MassMutual by calling 1-888-309-3539. Please read them carefully before investing.*

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## Investment Return & Risk

Prepared for

County of San Mateo

December 31, 2018

Section 1

Investment Performance

Section 2

Disclosures

# Investment Performance

## The MassMutual Investment Program Performance as of 12/31/2018

*Notwithstanding some of the terms used in these materials (e.g., plan sponsor or employer), these materials are directed to and are intended for use by the referenced plan's independent fiduciary adviser based on MassMutual's understanding that (a) the independent fiduciary has under management or control total assets of at least \$50 million, or is a broker-dealer, investment adviser, insurance carrier, or bank, as defined in 29 CFR section 2510.3-21(c)(1), (b) the independent fiduciary is responsible for exercising independent judgment in evaluating any transaction between the plan and MassMutual and (c) the independent fiduciary is capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies. Unless you tell us otherwise, MassMutual will assume that our understanding of the independent fiduciary's role and qualifications is correct. MassMutual is not undertaking to provide impartial investment advice, or give advice in a fiduciary capacity, in connection with any investment by, or other transaction of, the plan. MassMutual and its affiliates have a financial interest in any investment made by the plan while a client of MassMutual's and may receive 12(b)(1) fees, sub-transfer agency fees, shareholder servicing fees, revenue sharing, investment advisory fees, administrative fees, asset charges, float, optional services fees and other fees and revenue as a result of any investment by the plan. MassMutual will provide the plan with a complete description of all such fees prior to any investment by the plan and upon request.*

**The performance data given represents past performance and should not be considered indicative of future results. Current performance may be lower or higher than return data quoted herein. For more current information, including month-end performance, please visit [www.massmutual.com/retire](http://www.massmutual.com/retire) or call 1-877-474-5016. Principal value and investment return will fluctuate, so an investor's shares/units when redeemed may be worth more or less than the original investment. Investment portfolio statistics change over time and there are no assurances investment objectives will be achieved.**

**Investors should carefully consider investment objectives, risks, charges and expenses. This and other important information is contained in the fund prospectuses and summary prospectuses, which can be obtained by calling 1-888-309-3539 and should be read carefully before investing.**

Investment results assume all investment distributions are reinvested and reflect applicable fees and expenses. When applicable, investment results reflect fee waivers and/or expense reimbursements, without which the results would have been lower. **Maximum sales charge for investments, including Class A shares, represented is 5.75%. The Maximum sales charge is generally waived for retirement plan accounts.**

**Morningstar Rating™ Details - For each investment with at least a three-year history, Morningstar calculates a Morningstar Rating™ based on how an investment ranks on a Morningstar Risk-Adjusted Return measure against other investments in the category.** This measure takes into account variations in an investment's monthly performance after adjusting for sales loads (except for load-waived A shares), redemption fees, and the risk-free rate, placing more emphasis on downward variations and rewarding consistent performance. The top 10% of investments in each category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars and the bottom 10% receive 1 star. The Overall Morningstar Rating for an investment is derived from a weighted average of the ratings for the three-, five- and ten-year (if applicable) time periods. Load-waived A share star ratings do not include any front-end sales load and are intended for those investors who have access to such purchase terms, such as participants in MassMutual-serviced retirement plans. The Overall Morningstar Rating for an investment option is derived from a weighted average of the ratings for the 3-, 5-, and 10-year (if applicable) time periods. Load-waived A share star ratings do not include any front-end sales load and are intended for those investors who have access to such purchase terms, such as participants in MassMutual-serviced retirement plans.

**Retail Money Market and Government Money Market Investments** - You could lose money by investing in the fund. Although the fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. The fund may impose a fee upon the sale of your shares or may temporarily suspend your ability to sell shares if the fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.

**Target Date Funds** - Generally target retirement date (lifecyle) investment options are designed to be held beyond the presumed retirement date to offer a continuing investment option for the investor in retirement. The year in the investment option name refers to the approximate year an investor in the option would plan to retire and likely would stop making new contributions to the investment option. However, investors may choose a date other than their presumed retirement date to be more conservative or aggressive depending on their own risk tolerance.

**Target retirement date (lifecyle) investment options are designed for participants who plan to withdraw the value of their accounts gradually after retirement. Each of these options follows its own asset allocation path ("glide path") to progressively reduce its equity exposure and become more conservative over time. Options may not reach their most conservative allocation until after their target date. Others may reach their most conservative allocation in their target date year. Investors should consider their own personal risk tolerance, circumstances and financial situation.**

These options should not be selected solely on a single factor such as age or retirement date. Please consult the prospectus (if applicable) pertaining to the options to determine if their glide path is consistent with your long-term financial plan. Target retirement date investment options' stated asset allocation may be subject to change. **Investments in these options are not guaranteed and you may experience losses, including losses near, at, or after the target date. Additionally, there is no guarantee that the options will provide adequate income at and through retirement.**

Performance As of: 12-31-2018

**Average Annual Total Returns (%)**

**Performance less than 1 year is not annualized**

Inv. Type	Name / Benchmark & Morningstar Category Info	Share Class Type	Ticker	Overall Morningstar Rating™	Gross Exp Ratio (%)	Net Exp Ratio <sup>1</sup> (%)	3-Mo	YTD	1-Yr	3-Yr	5-Yr	10-Yr/ Since Incep*	Perf Incep Date	3-Yr Risk
<b>US Fund Money Market - Taxable</b>														
	<b>MassMutual Premier US Govt Mny Mkt R5</b>	S	MKSXX		0.50	0.50	0.44	1.36	1.36	0.58	0.35	0.19	09/30/1994	0.18
	Morningstar Ratings													
	# of Funds in Category								532	459	423	360		
	Morningstar Peer Rating %													
	ICE BofAML USD 3M Dep OR CM TR USD						0.57	2.08	2.08	1.28	0.86	0.67	12/30/1994	0.19
	US Fund Money Market - Taxable				0.56	0.49	0.44	1.41	1.41	0.66	0.40	0.22	10/1/1972	0.17
<b>US OE Intermediate-Term Bond</b>														
MF	<b>Vanguard Total Bond Market Index I</b>	Inst	VBTIX	★★★	0.04	0.04	1.62	-0.01	-0.01	2.04	2.47	3.45	09/18/1995	2.97
	Morningstar Ratings									★★★	★★★	★★		
	# of Funds in Category								1019	876	767	560		
	Morningstar Peer Rating %								30	53	38	76		
MF	<b>PIMCO Total Return Instl</b>	Inst	PTRX	★★★	0.55	0.55	1.39	-0.26	-0.26	2.47	2.56	4.71	05/11/1987	2.78
	Morningstar Ratings									★★★	★★★★	★★★		
	# of Funds in Category								1019	876	767	560		
	Morningstar Peer Rating %								39	32	31	36		
	BBgBarc US Agg Bond TR USD						1.64	0.01	0.01	2.06	2.52	3.48	1/1/1976	2.88
	US Fund Intermediate-Term Bond				1.84	0.76	0.87	-0.50	-0.50	2.15	2.27	4.31	11/1/1954	2.52
<b>US OE Inflation-Protected Bond</b>														
	<b>PIMCO Long-Term Real Return Instl</b>	Inst	PRAIX	★★★★★	1.29	1.29	-2.77	-6.52	-6.52	3.15	2.57	5.46	11/12/2001	6.87
	Morningstar Ratings									★★★★★	★★★★★	★★★★★		
	# of Funds in Category								228	203	167	106		
	Morningstar Peer Rating %								97	8	5	3		
	BBgBarc US Treasury US TIPS TR USD						-0.42	-1.26	-1.26	2.11	1.69	3.64	04/15/1998	3.10
	US Fund Inflation-Protected Bond				0.94	0.74	-0.95	-1.64	-1.64	1.86	1.14	3.11	04/01/1988	2.65
<b>US OE World Bond</b>														
MF	<b>Oppenheimer International Bond I</b>	Inst	OIBIX	★★★★	0.61	0.59	-0.44	-5.53	-5.53	3.88	1.78	3.58	01/27/2012	6.35
	Morningstar Ratings									★★★★	★★★★	★★★		
	# of Funds in Category								310	260	244	138		
	Morningstar Peer Rating %								91	19	28	52		
	FTSE WGBI NonUSD USD						1.31	-1.82	-1.82	3.32	0.28	1.27	11/1/1986	7.77
	US Fund World Bond				7.08	0.91	0.29	-1.48	-1.48	2.74	1.01	3.63	2/1/1981	3.87

Performance As of: 12-31-2018

Inv. Type	Name / Benchmark & Morningstar Category Info	Share Class Type	Ticker	Overall Morningstar Rating™	Gross Exp Ratio (%)	Net Exp Ratio <sup>1</sup> (%)	3-Mo	YTD	1-Yr	3-Yr	5-Yr	10-Yr/ Since Incep*	Perf Incep Date	3-Yr Risk
<b>US OE Multisector Bond</b>														
MF	<b>Loomis Sayles Bond Instl</b>	Inst	LSBDX	★★★★	0.66	0.66	-3.74	-2.87	-2.87	4.28	2.04	8.11	05/16/1991	4.76
	Morningstar Ratings									★★★★	★★★	★★★★		
	# of Funds in Category								326	292	218	132		
	Morningstar Peer Rating %								69	35	67	17		
	BBgBarc US Universal TR USD						1.17	-0.25	-0.25	2.56	2.72	4.06	12/31/1998	2.71
	US Fund Multisector Bond				1.47	1.09	-1.51	-1.52	-1.52	3.76	2.51	6.19	4/1/1977	2.66
<b>US OE High Yield Bond</b>														
MF	<b>MassMutual Premier High Yield I</b>	Inst	MPHZX	★★★★★	0.54	0.54	-5.31	-2.80	-2.80	6.45	4.14	9.78	03/01/2011	4.34
	Morningstar Ratings									★★★★	★★★★★	★★★★		
	# of Funds in Category								695	604	507	329		
	Morningstar Peer Rating %								51	25	5	34		
	ICE BofAML US High Yield TR USD						-4.67	-2.26	-2.26	7.27	3.82	10.99	8/29/1986	4.70
	US Fund High Yield Bond				2.41	1.04	-4.33	-2.59	-2.59	5.59	2.71	9.25	9/1/1935	3.95
<b>US OE Allocation--50% to 70% Equity</b>														
MF	<b>Oakmark Equity And Income Investor</b>	No Load	OAKBX	★★★	0.88	0.78	-9.26	-8.33	-8.33	5.20	3.50	7.83	11/01/1995	8.52
	Morningstar Ratings									★★★★	★★★	★★		
	# of Funds in Category								775	697	610	440		
	Morningstar Peer Rating %								87	33	59	64		
	Morningstar Mod Tgt Risk TR USD						-6.81	-4.76	-4.76	5.84	4.08	7.97	02/18/2009	6.32
	US Fund Allocation--50% to 70% Equity				1.70	1.13	-8.64	-5.76	-5.76	4.71	3.67	8.33	7/1/1929	6.79
<b>US OE Target-Date Retirement</b>														
MF	<b>Vanguard Target Retirement Income Inv</b>	Inv	VTINX	★★★	0.12	0.12	-3.20	-1.99	-1.99	3.82	3.35	5.92	10/27/2003	3.40
	Morningstar Ratings									★★★	★★★★	★★★		
	# of Funds in Category								187	164	129	93		
	Morningstar Peer Rating %								21	32	18	49		
	Morningstar Lifetime Mod Incm TR USD						-4.12	-2.20	-2.20	4.01	2.94	5.88	02/18/2009	3.82
	US Fund Target-Date Retirement				3.19	0.77	-3.79	-3.16	-3.16	3.44	2.62	5.74	03/01/1994	3.70
<b>US OE Target-Date 2015</b>														
MF	<b>Vanguard Target Retirement 2015 Inv</b>	Inv	VTXVX	★★★★	0.13	0.13	-4.65	-2.97	-2.97	4.72	4.03	7.84	10/27/2003	4.63
	Morningstar Ratings									★★★	★★★★	★★★★		
	# of Funds in Category								142	118	82	49		
	Morningstar Peer Rating %								20	38	17	39		
	Morningstar Lifetime Mod 2015 TR USD						-5.20	-3.54	-3.54	4.79	3.61	7.55	2/18/2009	4.96
	US Fund Target-Date 2015				4.64	0.72	-5.41	-3.86	-3.86	4.39	3.36	7.49	09/01/1990	4.85

Performance As of: 12-31-2018

Inv. Type	Name / Benchmark & Morningstar Category Info	Share Class Type	Ticker	Overall Morningstar Rating™	Gross Exp Ratio (%)	Net Exp Ratio <sup>1</sup> (%)	3-Mo	YTD	1-Yr	3-Yr	5-Yr	10-Yr/ Since Incep*	Perf Incep Date	3-Yr Risk
<b>US OE Target-Date 2025</b>														
MF	<b>Vanguard Target Retirement 2025 Inv</b>	Inv	VTVX	★★★★	0.13	0.13	-7.74	-5.15	-5.15	5.73	4.66	9.06	10/27/2003	6.74
	Morningstar Ratings									★★★★	★★★★★	★★★★		
	# of Funds in Category								226	189	146	73		
	Morningstar Peer Rating %								42	18	5	24		
	Morningstar Lifetime Mod 2025 TR USD						-7.01	-4.90	-4.90	5.69	4.16	9.05	2/18/2009	6.42
	US Fund Target-Date 2025				1.70	0.77	-7.47	-5.34	-5.34	5.05	3.71	8.55	10/01/2003	6.45
<b>US OE Target-Date 2035</b>														
MF	<b>Vanguard Target Retirement 2035 Inv</b>	Inv	VTHX	★★★★	0.14	0.14	-9.93	-6.58	-6.58	6.41	4.99	10.04	10/27/2003	8.36
	Morningstar Ratings									★★★★	★★★★	★★★★		
	# of Funds in Category								221	184	141	68		
	Morningstar Peer Rating %								32	24	12	21		
	Morningstar Lifetime Mod 2035 TR USD						-9.95	-6.82	-6.82	6.72	4.61	10.17	2/18/2009	8.53
	US Fund Target-Date 2035				2.27	0.78	-10.13	-7.04	-7.04	5.83	4.14	9.44	10/1/2003	8.38
<b>US OE Target-Date 2045</b>														
MF	<b>Vanguard Target Retirement 2045 Inv</b>	Inv	VTIVX	★★★★	0.15	0.15	-11.78	-7.90	-7.90	6.78	5.13	10.26	10/27/2003	9.55
	Morningstar Ratings									★★★	★★★★	★★★★		
	# of Funds in Category								221	184	141	67		
	Morningstar Peer Rating %								43	21	12	23		
	Morningstar Lifetime Mod 2045 TR USD						-11.67	-8.17	-8.17	7.05	4.60	10.32	02/18/2009	9.66
	US Fund Target-Date 2045				2.42	0.79	-11.71	-8.14	-8.14	6.13	4.30	9.78	10/1/2003	9.45
<b>US OE Target-Date 2055</b>														
MF	<b>Vanguard Target Retirement 2055 Inv</b>	Inv	VFFVX	★★★★	0.15	0.15	-11.76	-7.89	-7.89	6.77	5.10	9.09	08/18/2010	9.53
	Morningstar Ratings									★★★	★★★★			
	# of Funds in Category								221	182	115	9		
	Morningstar Peer Rating %								37	24	17			
	Morningstar Lifetime Mod 2055 TR USD						-11.84	-8.57	-8.57	7.04	4.42	10.19	02/18/2009	9.81
	US Fund Target-Date 2055				3.25	0.79	-12.12	-8.44	-8.44	6.21	4.42	10.41	3/1/2001	9.70
<b>US OE Large Value</b>														
MF	<b>American Funds American Mutual R6</b>	Retirement	RMFGX	★★★★★	0.30	0.30	-7.95	-1.78	-1.78	9.90	7.87	12.12	05/01/2009	9.00
	Morningstar Ratings									★★★★	★★★★★	★★★★		
	# of Funds in Category								1244	1100	937	686		
	Morningstar Peer Rating %								4	8	8	20		
	Russell 1000 Value TR USD						-11.72	-8.27	-8.27	6.95	5.95	11.18	12/31/1978	10.98
	US Fund Large Value				1.22	1.01	-12.49	-8.53	-8.53	6.85	5.37	10.91	5/1/1931	10.90

Performance As of: 12-31-2018

Inv. Type	Name / Benchmark & Morningstar Category Info	Share Class Type	Ticker	Overall Morningstar Rating™	Gross Exp Ratio (%)	Net Exp Ratio <sup>1</sup> (%)	3-Mo	YTD	1-Yr	3-Yr	5-Yr	10-Yr/ Since Incep*	Perf Incep Date	3-Yr Risk
<b>US OE Large Blend</b>														
MF	<b>American Funds Fundamental Invs R6</b>	Retirement	RFNGX	★★★★	0.30	0.30	-12.40	-6.33	-6.33	9.37	8.19	13.21	05/01/2009	10.34
	Morningstar Ratings									★★★★★	★★★★	★★★★		
	# of Funds in Category								1402	1208	1071	805		
	Morningstar Peer Rating %								59	12	19	16		
MF	<b>Vanguard Total Stock Mkt Idx Inv</b>	Inv	VTSMX	★★★★	0.14	0.14	-14.28	-5.26	-5.26	8.88	7.79	13.13	04/27/1992	11.35
	Morningstar Ratings									★★★★	★★★★	★★★★		
	# of Funds in Category								1402	1208	1071	805		
	Morningstar Peer Rating %								43	29	32	18		
MF	<b>Vanguard Institutional Index I</b>	Inst	VINIX	★★★★	0.04	0.04	-13.53	-4.42	-4.42	9.22	8.46	13.11	07/31/1990	10.96
	Morningstar Ratings									★★★★	★★★★★	★★★★		
	# of Funds in Category								1402	1208	1071	805		
	Morningstar Peer Rating %								27	15	10	19		
MF	<b>Parnassus Core Equity Institutional</b>	Inst	PRILX	★★★★	0.64	0.64	-9.54	0.05	0.05	8.93	8.12	12.80	04/28/2006	10.08
	Morningstar Ratings									★★★	★★★★	★★★★		
	# of Funds in Category								1402	1208	1071	805		
	Morningstar Peer Rating %								3	27	21	31		
	Russell 1000 TR USD						-13.82	-4.78	-4.78	9.09	8.21	13.28	12/31/1978	11.11
	US Fund Large Blend				2.68	0.97	-13.53	-6.27	-6.27	7.66	6.65	11.99	07/01/1924	10.83
<b>US OE Large Growth</b>														
MF	<b>American Funds Growth Fund of Amer R6</b>	Retirement	RGAGX	★★★	0.33	0.33	-15.06	-2.60	-2.60	10.27	9.22	13.85	05/01/2009	12.27
	Morningstar Ratings									★★★★	★★★	★★★		
	# of Funds in Category								1405	1247	1107	799		
	Morningstar Peer Rating %								53	31	38	48		
	Russell 1000 Growth TR USD						-15.89	-1.51	-1.51	11.15	10.40	15.29	12/31/1978	12.30
	US Fund Large Growth				1.78	1.09	-15.43	-2.09	-2.09	8.98	8.16	13.74	12/01/1925	12.33
<b>US OE Mid-Cap Value</b>														
MF	<b>American Century Mid Cap Value R6</b>	Retirement	AMDVX	★★★★	0.66	0.63	-14.88	-12.66	-12.66	6.40	6.81	12.54	07/26/2013	12.08
	Morningstar Ratings									★★★	★★★★★	★★★★		
	# of Funds in Category								417	363	306	218		
	Morningstar Peer Rating %								48	31	6	33		
	Russell Mid Cap Value TR USD						-14.95	-12.29	-12.29	6.06	5.44	13.03	12/31/1985	12.13
	US Fund Mid-Cap Value				2.38	1.12	-15.72	-12.86	-12.86	5.42	3.88	11.66	07/01/1949	12.45
<b>US OE Mid-Cap Blend</b>														
MF	<b>Vanguard Mid Cap Index Institutional</b>	Inst	VMCIX	★★★★★	0.04	0.04	-15.47	-9.24	-9.24	6.39	6.22	13.89	05/21/1998	12.21
	Morningstar Ratings									★★★★	★★★★	★★★★★		
	# of Funds in Category								464	382	335	235		
	Morningstar Peer Rating %								32	50	14	10		
	Russell Mid Cap TR USD						-15.37	-9.06	-9.06	7.04	6.26	14.03	12/31/1978	12.15
	US Fund Mid-Cap Blend				1.30	1.07	-16.19	-11.15	-11.15	5.54	4.00	11.92	07/01/1938	12.13

Performance As of: 12-31-2018

Inv. Type	Name / Benchmark & Morningstar Category Info	Share Class Type	Ticker	Overall Morningstar Rating™	Gross Exp Ratio (%)	Net Exp Ratio <sup>1</sup> (%)	3-Mo	YTD	1-Yr	3-Yr	5-Yr	10-Yr/ Since Incep*	Perf Incep Date	3-Yr Risk
<b>US OE Mid-Cap Growth</b>														
MF	<b>MassMutual Select Mid Cap Growth I</b>	Inst	MEFZX	★★★★★	0.72	0.72	-13.67	-3.10	-3.10	8.65	8.96	15.92	11/15/2010	12.29
	Morningstar Ratings									★★★★	★★★★★	★★★★★		
	# of Funds in Category								605	542	489	341		
	Morningstar Peer Rating %								24	33	9	8		
	Russell Mid Cap Growth TR USD						-15.99	-4.75	-4.75	8.59	7.42	15.12	12/31/1985	13.00
	US Fund Mid-Cap Growth				2.54	1.20	-17.57	-6.65	-6.65	7.27	5.61	13.16	09/01/1935	13.34
<b>US OE Small Value</b>														
MF	<b>JPMorgan Small Cap Value R6</b>	Retirement	JSVUX	★★★	0.76	0.74	-18.46	-13.85	-13.85	5.14	2.38	10.89	02/22/2005	15.99
	Morningstar Ratings									★★★	★★★	★★★		
	# of Funds in Category								417	373	327	228		
	Morningstar Peer Rating %								35	47	48	52		
	Russell 2000 Value TR USD						-18.67	-12.86	-12.86	7.37	3.61	10.40	12/31/1978	15.98
	US Fund Small Value				2.63	1.26	-19.16	-15.46	-15.46	5.12	1.86	11.00	06/01/1968	15.14
<b>US OE Small Blend</b>														
MF	<b>Vanguard Small Cap Index I</b>	Inst	VSCIX	★★★★★	0.04	0.04	-18.34	-9.32	-9.32	7.64	5.26	13.60	07/07/1997	14.30
	Morningstar Ratings									★★★★	★★★★	★★★★★		
	# of Funds in Category								769	644	541	393		
	Morningstar Peer Rating %								20	23	13	8		
	Russell 2000 TR USD						-20.20	-11.01	-11.01	7.36	4.41	11.97	12/31/1978	16.01
	US Fund Small Blend				3.04	1.17	-19.38	-12.72	-12.72	5.90	3.20	11.60	06/01/1956	14.79
<b>US OE Small Growth</b>														
MF	<b>Wells Fargo Small Company Growth Inst</b>	Inst	WSCGX	★★★★	1.00	0.95	-20.89	-3.63	-3.63	7.78	5.38	15.68	03/31/2008	17.52
	Morningstar Ratings									★★★	★★★	★★★★		
	# of Funds in Category								676	583	516	391		
	Morningstar Peer Rating %								33	61	46	13		
	Russell 2000 Growth TR USD						-21.65	-9.31	-9.31	7.24	5.13	13.52	12/31/1978	16.69
	US Fund Small Growth				1.91	1.24	-20.82	-5.76	-5.76	8.47	5.12	13.36	06/01/1946	15.67
<b>US OE Foreign Large Blend</b>														
MF	<b>Vanguard Developed Markets Index Inv</b>	Inv	VDVIX	★★★★	0.17	0.17	-13.06	-14.56	-14.56	3.37	0.74	6.16	12/19/2013	11.22
	Morningstar Ratings									★★★	★★★★	★★★		
	# of Funds in Category								741	639	508	380		
	Morningstar Peer Rating %								52	36	27	42		
	MSCI ACWI Ex USA NR USD						-11.46	-14.20	-14.20	4.48	0.68	6.57	1/1/2001	11.54
	US Fund Foreign Large Blend				2.41	1.05	-12.68	-14.59	-14.59	2.63	0.10	5.89	12/01/1961	10.90

Performance As of: 12-31-2018

Inv. Type	Name / Benchmark & Morningstar Category Info	Share Class Type	Ticker	Overall Morningstar Rating™	Gross Exp Ratio (%)	Net Exp Ratio <sup>1</sup> (%)	3-Mo	YTD	1-Yr	3-Yr	5-Yr	10-Yr/ Since Incep*	Perf Incep Date	3-Yr Risk
<b>US OE Foreign Large Growth</b>														
MF	<b>American Funds Europacific Growth R6</b>	Retirement	RERGX	★★★★	0.49	0.49	-12.59	-14.91	-14.91	4.08	1.86	7.69	05/01/2009	11.90
	Morningstar Ratings									★★★★	★★★★	★★★		
	# of Funds in Category								439	364	315	228		
	Morningstar Peer Rating %								58	33	36	42		
	MSCI ACWI Ex USA Growth NR USD						-12.20	-14.43	-14.43	4.19	1.69	7.15	1/1/2001	11.72
	US Fund Foreign Large Growth				1.49	1.15	-13.87	-14.08	-14.08	3.21	1.38	7.43	5/1/1981	11.67
<b>US OE Diversified Emerging Mkts</b>														
MF	<b>Oppenheimer Developing Markets I</b>	Inst	ODVIX	★★★★	0.87	0.87	-7.78	-11.79	-11.79	8.63	1.13	10.21	12/29/2011	13.41
	Morningstar Ratings									★★★★	★★★★	★★★★★		
	# of Funds in Category								836	708	533	238		
	Morningstar Peer Rating %								13	29	41	7		
	MSCI EM NR USD						-7.47	-14.58	-14.58	9.25	1.65	8.02	12/29/2000	14.81
	US Fund Diversified Emerging Mkts				2.92	1.37	-7.47	-16.07	-16.07	6.99	0.53	7.61	9/1/1989	13.29
<b>US OE World Large Stock</b>														
MF	<b>American Funds Capital World Gr&amp;Inc R6</b>	Retirement	RWIGX	★★★	0.44	0.44	-11.60	-9.97	-9.97	6.36	4.26	9.39	05/01/2009	10.14
	Morningstar Ratings									★★★	★★★	★★★		
	# of Funds in Category								901	729	618	360		
	Morningstar Peer Rating %								56	39	40	50		
	MSCI ACWI NR USD						-12.75	-9.41	-9.41	6.60	4.26	9.46	1/1/2001	10.62
	US Fund World Large Stock				2.20	1.17	-12.94	-9.64	-9.64	5.69	3.72	9.33	11/1/1954	10.35
<b>US OE Real Estate</b>														
MF	<b>Invesco Real Estate R5</b>	Retirement	IARIX	★★★★	0.89	0.89	-6.33	-5.28	-5.28	3.07	7.53	11.56	04/30/2004	12.47
	Morningstar Ratings									★★★★	★★★★	★★★		
	# of Funds in Category								251	223	193	139		
	Morningstar Peer Rating %								49	28	39	59		
	S&P United States REIT TR USD						-6.09	-3.79	-3.79	2.88	7.78	12.16	12/31/1992	13.77
	US Fund Real Estate				2.32	1.19	-7.19	-5.97	-5.97	2.45	6.92	11.50	3/1/1985	12.45
<b>US OE Utilities</b>														
MF	<b>Vanguard Utilities Index Adm</b>	Inst	VUIAX	★★★	0.10	0.10	0.78	4.45	4.45	11.35	10.77	10.73	04/28/2004	11.99
	Morningstar Ratings									★★★	★★★★	★★★		
	# of Funds in Category								63	60	58	51		
	Morningstar Peer Rating %								29	17	3	37		
	S&P 1500 Utilities TR						0.98	4.41	4.41	11.30	10.91	10.99	1/28/2011	12.11
	US Fund Utilities				1.24	1.15	-1.52	2.76	2.76	9.94	8.31	9.81	10/1/1948	10.34

Performance As of: 12-31-2018

Inv. Type	Name / Benchmark & Morningstar Category Info	Share Class Type	Ticker	Overall Morningstar Rating <sup>TM</sup>	Gross Exp Ratio (%)	Net Exp Ratio <sup>1</sup> (%)	3-Mo	YTD	1-Yr	3-Yr	5-Yr	10-Yr/ Since Incep*	Perf Incep Date	3-Yr Risk
US OE Health														
MF	<b>Hartford Healthcare HLS IA</b>	Inst	HIAHX	★★★	0.90	0.90	-15.60	-2.67	-2.67	2.92	9.47	15.18	05/01/2000	16.78
	Morningstar Ratings									★★★	★★★	★★★		
	# of Funds in Category								140	130	121	98		
	Morningstar Peer Rating %								68	60	47	44		
	S&P 1500 Health Care TR						-9.60	6.71	6.71	8.58	11.40	15.16	1/28/2011	13.83
	US Fund Health				1.33	1.27	-16.28	-0.40	-0.40	3.68	8.90	15.10	7/1/1981	17.41

## Net Expense Ratio Details

Name	Waiver Type	Expiration Date
Oppenheimer International Bond I	Contractual	11/29/2019
Oakmark Equity And Income Investor	Contractual	1/27/2020
American Century Mid Cap Value R6	Contractual	7/31/2019
JPMorgan Small Cap Value R6	Contractual	10/31/2019
Wells Fargo Small Company Growth Inst	Contractual	9/30/2019

Expense waivers and expense reimbursements are listed above, if applicable. Please see the most recent prospectus for details.

The Net Expense Ratio reflects expense waivers and the removal of interest and dividend expense, as reported in the investment's prospectus. Expense Waivers may be voluntary or contractual, and can be set to expire at a particular date or timeframe. Waivers are assumed to be voluntary if no disclosure is made in the prospectus to the contrary. Waiver expiration dates are provided if they are disclosed in the prospectus. All available information about investment expense waivers is current and complete as of the date of this report. If information regarding the waivers is incomplete, it is because our third-party data provider was unable to make the information available. For more information, please see the investment profile or the prospectus that corresponds to the investment, which are both available from MassMutual. Contact your MassMutual Retirement Services professional or call 1-877-474-5496.

The Gross Expense Ratio for each investment option (expressed as an annualized percentage of fund assets) refers to the amount paid from the investment's assets for investment management and other services and expenses (including any 12b-1 fees). Portfolio or brokerage costs, as well as initial or deferred sales charges are not included in the expense ratio.

Denotes a since-inception return comprising fewer than 10 years of performance. The Since Inception time period provided is based on the Share Class Inception Date shown, unless otherwise noted in the "Investment Disclosures" below.

**SV = Fixed Rate Stable Value**

**UI = Unitized Investment**

**SIA = Separate Investment Account**

**STK = Company Stock Account**

**MF = Mutual Fund**

**CIT = Collective Investment Trust**

Collective Investment Trusts (CIT), Separate Investment Accounts (SIA), Company Stock Accounts (STK) and Unitized Investments (UI) are not Mutual Funds (MF), are not registered with the Securities and Exchange Commission (SEC), are not insured by the Federal Deposit Insurance Commission (FDIC), and are not guaranteed by any bank, insurance company or credit union. These investment types may lose value and are subject to investment risk, including the possible loss of the principal amount invested. Fixed Rate Stable Value (FSV) investments provide a guarantee of principal backed by a book value guarantor.

Investments are not FDIC-insured, nor are they deposits of or guaranteed by a bank or any other entity, so they may lose value.

This information may be provided for plan sponsor use in meeting fiduciary obligations. This document provides important explanatory notes for the performance summary. Not all investment options are available for all plans.

**Investment Disclosures**

Benchmarks - Indexes and benchmarks are not actively managed, do not incur fees or expenses, and are not available for direct investment. For a full list of benchmark definitions, please visit [www.massmutual.com/benchmarks](http://www.massmutual.com/benchmarks).

**Information in this document is current as of 12/31/2018 and is subject to change without notice.**

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# Disclosures

# About MassMutual



Founded in 1851, MassMutual is a leading mutual life insurance company that is run for the benefit of its members and participating policyholders. The company has a long history of financial strength and strong performance, and although dividends are not guaranteed, MassMutual has paid dividends to eligible participating policyholders consistently since the 1860s.

With whole life insurance as its foundation, MassMutual provides products to help meet the financial needs of clients, such as life insurance, disability income insurance, long term care insurance, retirement/401(k) plan services, and annuities. In addition, the company's strong and growing network of financial professionals helps clients make good financial decisions for the long-term.



<sup>1</sup>



22 PSCA Signature Awards (2013-2015) for Educational Excellence



MassMutual Named 2016 Insurer of the Year



<sup>2</sup>



ContactCenterWorld top-performing call center 9 years in a row (2008-2016)



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<sup>2</sup>Ethisphere Institute, an independent center of research promoting best practices in corporate ethics and governance, March 2016.

# Disclosures

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**Morningstar Rating™:** for each fund with at least a three-year history, rating is based on a Morningstar risk adjusted return measure that accounts for variation in a fund's monthly performance (including the effects of sales charges, loads, and redemption fees), placing more emphasis on downward variations and rewarding consistent performance. These ratings change monthly. The top 10% of funds in an investment category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a fund is derived from a weighted average of the performance figures associated with its 3-, 5-, and 10- year (if applicable) Morningstar Ratings. A fund's total-return percentile rank is relative to all funds that have the same Morningstar Category (peers). The highest (or most favorable) percentile rank is 1 and the lowest (or least favorable) percentile rank is 100. The top-performing fund in a category will always receive a rank of 1. The percentile rank by category figures allow for a direct comparison of a fund's performance within its Morningstar Category.

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**Beta** is a measure of sensitivity to market movements. The beta of the market is 1.00. A beta of 1.10 shows that the fund's excess return is expected to be 10% better than the market's excess return in an up market or 10% worse in a down market. A beta of .85 indicates that the fund's excess return is expected to perform 15% less than the market's excess return during up markets and 15% greater during down markets.

**Standard deviation** is a statistical measurement, which for a mutual fund depicts how widely the returns varied over a certain period of time. When a fund has a high standard deviation, performance is wide, implying greater volatility.

**R-squared** measures the degree of relationship between the performance of the fund and that of the index. The higher the R- squared, the more related the fund's performance is to its index.

**Sharpe ratio** measures risk adjusted performance; it is calculated as the real total return of the fund (total return-risk free rate) divided by the risk of the fund (standard deviation).

# Disclosures

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**Expense Ratio** is the percentage of fund assets paid for operating expenses and management fees as per a fund's most recent prospectus. The expense ratio typically includes the following types of fees: accounting, administrator, advisor, auditor, board of directors, custodial, distribution (12b-1), legal, organizational, professional, registration, shareholder reporting, sub-advisor, and transfer agency. The expense ratio does not reflect the fund's brokerage costs or any investor sales charges.

**Gross Expense Ratio** does not reflect any fee waivers in effect during the time period, in contrast to the net expense ratio. Also known as the Total Annual Fund Operating Expense Ratio, Morningstar pulls the prospectus gross expense ratio from the fund's most recent prospectus. Prospectus expense ratios reflect material changes to the expense structure for the current period.

**Net Expense Ratio** is the net operating expenses are the expenses you are currently paying to own the Fund. If the net operating expenses shown are lower than the gross operating expenses, then the net operating expenses reflect voluntary fee waivers and/or expense reimbursements from the investment advisor that may be discontinued at any time. For more information on fee waivers and/or expense reimbursements, please see the expense table in the prospectus.

Money market investments are not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although these investments seek to preserve the value of your investment at \$1.00 per share, it is possible to lose money by investing in a money market option.

Generally target retirement date (lifecycle) investment options are designed to be held beyond the presumed retirement date to offer a continuing investment option for the investor in retirement. The year in the investment option name refers to the approximate year an investor in the option would plan to retire and likely would stop making new contributions to the investment option. However, investors may choose a date other than their presumed retirement date to be more conservative or aggressive depending on their own risk tolerance.

Target retirement date (lifecycle) investment options are designed for participants who plan to withdraw the value of their accounts *gradually* after retirement. Each of these options follows its own asset allocation path ("glide path") to progressively reduce its equity exposure and become more conservative over time. Options may not reach their most conservative allocation until *after* their target date. Others may reach their most conservative allocation *in* their target date year. Investors should consider their own personal risk tolerance, circumstances and

financial situation. These options should not be selected solely on a single factor such as age or retirement date. Please consult the prospectus (if applicable) pertaining to the options to determine if their glide path is consistent with your long-term financial plan. Target retirement date investment options' stated asset allocation may be subject to change. Investments in these options are not guaranteed and you may experience losses, including losses near, at, or after the target date. Additionally, there is no guarantee that the options will provide adequate income at and through retirement.

Risks of investing in bond and debt securities investments include the risk that a bond issuer will default by failing to repay principal and interest in a timely manner (credit risk) and/or the risk that the value of these securities will decline when interest rates increase (interest rate risk).

# Disclosures

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Risks of investing in inflation-protected bond investments include credit risk and interest rate risk. Neither the bond investment nor its yield is guaranteed by the U.S. government.

High-yield bond investments are generally subject to greater market fluctuations and risk of loss of income and principal than lower-yielding debt securities investments.

Investments that track a benchmark index are professionally managed. However, the benchmark index itself is unmanaged and does not incur fees or expenses and cannot be purchased directly for investment.

Investments in value stocks may remain undervalued for extended periods of time, and the market may not recognize the intrinsic value of these securities.

Investments in growth stocks may experience price volatility due to their sensitivity to market fluctuations and dependence on future earnings expectations.

Investments in companies with small or mid market capitalization ("small caps" or "mid caps") may be subject to special risks given their characteristic narrow markets, limited financial resources, and less liquid stocks, all of which may cause price volatility.

International/global investing can involve special risks, such as political changes and currency fluctuations. These risks are heightened in emerging markets.

A significant percentage of the underlying investments in aggressive asset allocation portfolio investments have a higher than average risk exposure. Investors should consider their risk tolerance carefully before choosing such a strategy.

An investment with multiple underlying investments may be subject to the expenses of those underlying investments in addition to those of the investment itself.

The Barclays U.S. 1-3 Year Government Bond Index is an unmanaged index of U.S. government bonds with one to three years remaining to the scheduled payment of principal.

The Barclays U.S. Aggregate Bond Index is an unmanaged index of fixed-rate investment-grade securities with at least one year to maturity, combining the Barclays U.S. Treasury Bond Index, the Barclays U.S. Government-Related Bond Index, the Barclays U.S. Corporate Bond Index, and the Barclays U.S. Securitized Bond Index.

The Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L) is an unmanaged index that measures the broad performance of U.S. Treasury inflation-indexed bonds.

The Barclays U.S. Corporate High-Yield Bond Index covers the universe of fixed rate, non-investment-grade debt from corporate sectors.

# Disclosures

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The S&P Target Date® Index Series consists of 11 multi-asset class indexes: the S&P Target Date Retirement Income Index and 10 indexes, each of which corresponds to a specific target retirement date (ranging from 2010 through 2055+). The benchmark asset allocation and glide path represent a market consensus across the universe of target date fund managers. The index does not reflect any deduction for fees, expenses, or taxes and cannot be purchased directly by investors.

The S&P 500® Index is a widely recognized, unmanaged index representative of common stocks of larger capitalized U.S. companies.

The Russell 1000® Index is a widely recognized, unmanaged index representing the performance of common stocks of larger capitalized U.S. companies.

The Russell 1000 Value Index is an unmanaged index consisting of those Russell 1000 securities (representing the 1,000 largest U.S. companies, based on market capitalization) with greater than average value orientation that tend to exhibit lower price-to-book ratios and lower forecasted growth rates than securities in the growth universe.

The Russell 1000 Growth Index is an unmanaged index consisting of those Russell 1000 securities (representing the 1,000 largest U.S. companies based on market capitalization) with greater than average growth orientation that tend to exhibit higher price-to-book ratios and higher forecasted growth rates than securities in the value universe.

The S&P Midcap 400® Index is a widely recognized, unmanaged index representative of common stocks of mid-capitalized U.S. companies.

The Russell Midcap® Value Index is a widely recognized, unmanaged index that measures the performance of those Russell Midcap companies (representing mid-capitalization U.S. common stocks) with lower price-to-book ratios and lower forecasted growth rates than securities in the growth universe.

Russell Midcap® Growth Index is a widely recognized, unmanaged index that measures the performance of those Russell Midcap companies (representing mid-capitalization U.S. common stocks) with higher price-to-book ratios and higher forecasted growth rates than securities in the value universe.

The Russell 2000 Index is a widely recognized, unmanaged index representative of common stocks of smaller capitalized U.S. companies.

The Russell 2000 Value Index is a widely recognized, unmanaged index that measures the performance of those Russell 2000 Index Companies (representing small-capitalization U.S. common stocks) with lower price-to-book ratios and lower forecasted growth rates than securities in the growth universe.

The Russell 2000 Growth Index is a widely recognized, unmanaged index that measures the performance of those Russell 2000 Index companies (representing small-capitalization U.S. common stocks) with higher price-to-book ratios and higher forecasted growth rates than securities in the value universe.

The MSCI EAFE Index is a widely recognized, unmanaged index representative of equity securities in developed markets, excluding the U.S. and Canada.

# Disclosures

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The MSCI EAFE Value Index is a subset of the widely recognized, unmanaged MSCI EAFE Index and constituents of the Index include securities from Europe, Australasia, and the Far East.

The MSCI All Country World Index (ACWI) is an unmanaged index representative of stocks domiciled in global developed and emerging markets, including the United States.

The MSCI All Country World Index (ACWI) ex USA is an unmanaged index representative of stocks domiciled in global developed and emerging markets, excluding the United States.

The FTSE World Index is an unmanaged, market-capitalization weighted index representing the performance of the large and mid cap stocks from the Developed and Advanced Emerging segments of the FTSE Global Equity Index Series that covers 90%-95% of the investable market capitalization.

The MSCI Emerging Markets (EM) Index is an unmanaged market capitalization-weighted index of equity securities of companies domiciled in various countries. The Index is designed to represent the performance of emerging stock markets throughout the world and excludes certain market segments unavailable to U.S.-based investors.



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**MassMutual@WORK**

# Your Plan Review

## MassMutual @work for you

### **San Mateo County Deferred Compensation Plan**

Current Period: October 1, 2018 - December 31, 2018

Prior Period: July 1, 2018 - September 30, 2018

# Executive Summary

Plan Statistics			
	9/30/2018	12/31/2018	Plan Trend
<b>Total Plan Assets</b>	\$478,194,150	\$443,030,729	▼ 7%
<b>Total Outstanding Loan Balances</b>	\$6,937,230	\$6,865,091	▼ 1%
<b>Participant Contributions</b>			
<b>Participant</b>			
<b>EE Pre-Tax</b>	\$6,725,469	\$5,523,800	-22%
<b>EE Roth</b>	\$1,150,112	\$992,491	-16%
<b>Rollover</b>	\$672,912	\$1,438,119	▲ 114%
<b>Transferred Assets</b>	\$13,379	\$16,303	▲ 22%
<b>Distributions</b>			
<b>Withdrawals</b>	(\$568,402)	(\$2,424,717)	▲ 327%
<b>Terminations</b>	(\$5,091,017)	(\$5,467,227)	▲ 7%
<b>Loans</b>	(\$653,746)	(\$558,738)	▼ 15%
<b>Expenses*</b>	(\$68,943)	(\$46,776)	▼ 32%
<b>Investment Income</b>	\$14,069,624	(\$35,308,796)	▼ 351%
<b>Notes</b>	<b>Terminations = termination and retirement</b> <b>Withdrawals = in-service withdrawal, death benefit, minimum distribution, installment payment, loan default</b>		

\*The expenses shown reflect expenses deducted from plan assets. Expenses billed directly to the plan sponsor or expenses related to the expense ratio of investments under the plan are not reflected. The Contribution data displays the combined dollar value of Contributions & Loan Repayments, if applicable.

# Executive Summary

## Participant Activity

	9/30/2018	12/31/2018	Plan Trend
<b>Total Participants</b>	7,745	7,875	▲ 2%
<b>Participation Rates: Average Percentage</b>	83%	82%	0%
<b>Average Account Balance</b>	\$61,742	\$56,258	▼ 9%
<b>Average Number of Investments</b>	4.8	5.1	▲ 6%
<b>Number of Outstanding Loans</b>	680	671	▼ 1%
<b>Percent of Participants With a Loan</b>	8%	8%	◀ ▶ 0%
<b>Average Loan Balance</b>	\$10,202	\$10,231	▲ 0%
<b>Total Visits to Website</b>	16,565	16,234	▼ 2%
<b>Notes</b>	3Q 2018 eligible – 5,655 (does not include extra help) total # contributing – 4,712 – 83% 4Q 2018 eligible – 5,726 (does not include extra help) total # contributing – 4,669 – 82%		

# 457 Plan Balances by Investment

Asset Allocation										
Investment Options	Balances as of 9/30/2018	Percentage*	Plan Activity October 01, 2018 through December 31, 2018						Balances as of 12/31/2018	Percentage*
			Contributions	Other Activity	Transfers	Distributions	Expenses**	Investment Income		
SAGIC Core Bond (61869)	\$143,505,483	30.01%	\$1,250,489	\$191,324	\$2,493,567	(\$3,363,697)	(\$14,491)	\$1,280,646	\$145,343,321	32.81%
PIMCO Long-Term Real Return Fund	\$2,705,891	0.57%	\$87,535	\$10,065	\$86,078	(\$62,345)	(\$240)	(\$78,360)	\$2,748,623	0.62%
PIMCO Total Return Fund	\$12,708,930	2.66%	\$154,879	\$8,039	\$851,740	(\$977,087)	(\$1,401)	\$161,998	\$12,907,096	2.91%
Vanguard Total Bond Mrkt Index Fund	\$3,801,335	0.79%	\$118,041	\$7,783	\$99,989	(\$12,379)	(\$585)	\$64,643	\$4,078,827	0.92%
Loomis Sayles Bond Fund	\$3,452,501	0.72%	\$38,534	\$4,220	(\$235,765)	(\$61,669)	(\$297)	(\$116,343)	\$3,081,181	0.70%
Premier High Yield Fund (Barings)	\$648,664	0.14%	\$11,394	\$1,297	\$88,043	(\$128)	(\$55)	(\$37,913)	\$711,302	0.16%
Oppenheimer International Bond Fund	\$1,127,896	0.24%	\$32,742	\$2,569	\$82,524	(\$37,181)	(\$168)	(\$5,627)	\$1,202,755	0.27%
Oakmark Equity & Income Fund	\$22,707,911	4.75%	\$132,802	\$27,519	(\$112,726)	(\$417,177)	(\$2,150)	(\$2,078,396)	\$20,257,782	4.57%
Vanguard Target Retirement 2015 Fd	\$5,947,728	1.24%	\$646,922	\$6,209	(\$652,175)	(\$52,076)	(\$538)	(\$273,910)	\$5,622,159	1.27%
Vanguard Target Retirement 2025 Fd	\$21,576,151	4.51%	\$669,701	\$37,890	(\$420,623)	(\$224,499)	(\$2,204)	(\$1,667,811)	\$19,968,606	4.51%
Vanguard Target Retirement 2035 Fd	\$15,937,719	3.33%	\$725,654	\$30,985	(\$726,991)	(\$173,116)	(\$1,696)	(\$1,559,119)	\$14,233,435	3.21%
Vanguard Target Retirement 2045 Fd	\$14,078,016	2.94%	\$867,290	\$27,089	(\$125,473)	(\$40,280)	(\$1,797)	(\$1,687,004)	\$13,117,841	2.96%
Vanguard Target Retirement 2055 Fd	\$7,520,234	1.57%	\$837,835	\$12,154	(\$91,842)	(\$99,789)	(\$813)	(\$899,925)	\$7,277,854	1.64%
Vanguard Target Retirement Incm Fd	\$1,261,428	0.26%	\$8,970	\$258	\$1,876	(\$7,664)	(\$115)	(\$40,205)	\$1,224,548	0.28%
American Funds American Mutual Fund	\$17,449,200	3.65%	\$177,135	\$27,427	(\$63,977)	(\$364,003)	(\$1,703)	(\$1,381,836)	\$15,842,243	3.58%
American Funds Fndmntl Invstrs Fnd	\$42,974,346	8.99%	\$275,984	\$75,694	(\$535,736)	(\$620,836)	(\$3,913)	(\$5,273,946)	\$36,891,594	8.33%
Parnassus Core Equity Fund	\$3,411,675	0.71%	\$91,791	\$4,863	\$83,248	(\$30,818)	(\$317)	(\$324,743)	\$3,235,698	0.73%
Vanguard Institutional Index Fund	\$20,811,304	4.35%	\$218,589	\$14,013	\$121,728	(\$275,323)	(\$1,967)	(\$2,835,195)	\$18,053,150	4.07%
Vanguard Total Stock Mkt Index Fd	\$9,313,111	1.95%	\$194,418	\$25,807	\$357,578	(\$48,917)	(\$880)	(\$1,374,463)	\$8,466,653	1.91%
American Funds Grth Fund of America	\$35,056,289	7.33%	\$277,220	\$57,291	(\$58,715)	(\$513,428)	(\$3,183)	(\$5,286,933)	\$29,528,542	6.67%

\*Due to rounding, percentages may not total 100 percent.

\*\*The expenses shown reflect expenses deducted from plan assets. Does not include expenses billed directly to the plan sponsor or expenses related to the expense ratio of investments under the plan.

61869-1-San Mateo Deferred Compensation Plan

For Advisor and Plan Sponsor use only. Not for use with Plan Participants.

RS-41492-01

# 457 Plan Balances by Investment

Asset Allocation										
Investment Options	Balances as of 9/30/2018	Percentage*	Plan Activity October 01, 2018 through December 31, 2018						Balances as of 12/31/2018	Percentage*
			Contributions	Other Activity	Transfers	Distributions	Expenses**	Investment Income		
American Century Mid Cap Value Fund	\$5,091,821	1.06%	\$61,052	\$6,948	(\$193,545)	(\$18,278)	(\$447)	(\$748,999)	\$4,198,552	0.95%
Vanguard Mid Cap Index Fund	\$5,258,037	1.10%	\$103,013	\$10,466	(\$60,326)	(\$73,765)	(\$505)	(\$815,040)	\$4,421,881	1.00%
Select Mid Cap Gr Fd (TRP/Frontier)	\$13,771,797	2.88%	\$114,885	\$13,751	(\$199,629)	(\$189,302)	(\$1,221)	(\$1,839,194)	\$11,671,087	2.63%
JP Morgan Small Cap Value Fund	\$384,298	0.08%	\$14,478	\$1,343	\$940	(\$1,665)	(\$34)	(\$72,495)	\$326,865	0.07%
Vanguard Small Cap Index Fund	\$9,284,846	1.94%	\$144,004	\$10,390	\$41,037	(\$65,699)	(\$820)	(\$1,720,159)	\$7,693,600	1.74%
Wells Fargo Small Company Growth Fd	\$11,599,349	2.43%	\$92,878	\$18,449	(\$355,946)	(\$134,107)	(\$1,002)	(\$2,396,187)	\$8,823,434	1.99%
American Fnds Cap Wld Gr and Inc Fd	\$10,359,937	2.17%	\$98,226	\$16,830	(\$135,985)	(\$84,560)	(\$998)	(\$1,193,265)	\$9,060,185	2.05%
Vanguard Developed Markets Index Fd	\$2,109,252	0.44%	\$86,400	\$5,820	\$48,493	(\$18,090)	(\$326)	(\$277,771)	\$1,953,778	0.44%
Amer Funds EuroPacific Growth Fund	\$8,818,015	1.84%	\$110,641	\$28,848	(\$219,501)	(\$184,198)	(\$812)	(\$1,103,712)	\$7,449,282	1.68%
Oppenheimer Developing Markets Fund	\$2,893,451	0.61%	\$66,100	\$4,913	(\$95,903)	(\$16,516)	(\$331)	(\$223,440)	\$2,628,274	0.59%
Invesco Real Estate Fund	\$2,220,556	0.46%	\$48,085	\$3,865	(\$156,354)	(\$29,870)	(\$224)	(\$130,221)	\$1,955,837	0.44%
Bank of The West Savings	\$5,326,507	1.11%	\$35,855	\$6,058	\$296,328	(\$91,001)	(\$511)	\$6,454	\$5,579,690	1.26%
Hartford Healthcare HLS Fund	\$6,222,674	1.30%	\$74,034	\$6,712	(\$1,875)	(\$76,289)	(\$564)	(\$979,535)	\$5,245,157	1.18%
Schwab PCRA	\$3,832,479	0.80%	\$0	\$0	(\$300,834)	\$0	\$0	(\$437,745)	\$3,093,900	0.70%
Vanguard Utilities Index Fund	\$5,025,319	1.05%	\$48,105	\$20,259	\$90,755	(\$84,930)	(\$469)	\$36,957	\$5,135,997	1.16%
<b>Total</b>	<b>\$478,194,148</b>	<b>100%</b>	<b>\$7,915,684</b>	<b>\$727,152</b>	<b>----</b>	<b>(\$8,450,681)</b>	<b>(\$46,776)</b>	<b>(\$35,308,796)</b>	<b>\$443,030,730</b>	<b>100%</b>

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61869-1-San Mateo Deferred Compensation Plan

For Advisor and Plan Sponsor use only. Not for use with Plan Participants.

RS-41492-01

# 401(a) Plan Balances by Investment

Asset Allocation										
Investment Options	Balances as of 9/30/2018	Percentage*	Plan Activity October 01, 2018 through December 31, 2018						Balances as of 12/31/2018	Percentage*
			Contributions	Other Activity	Transfers	Distributions	Expenses**	Investment Income		
SAGIC Core Bond (61869)	\$970,013	30.03%	\$6,853	(\$1,282)	(\$9,379)	(\$5,336)	(\$87)	\$8,550	\$969,333	29.40%
PIMCO Long-Term Real Return Fund	\$2,773	0.09%	\$247	\$0	\$4,939	\$0	(\$0)	(\$35)	\$7,923	0.24%
PIMCO Total Return Fund	\$5,946	0.18%	\$633	\$0	\$1,981	\$0	(\$1)	\$104	\$8,664	0.26%
Vanguard Total Bond Mrkt Index Fund	\$6,559	0.20%	\$601	\$0	\$6,464	\$0	(\$1)	\$245	\$13,868	0.42%
Oppenheimer International Bond Fund	\$1,603	0.05%	\$198	\$0	\$212	\$0	(\$0)	(\$9)	\$2,003	0.06%
Vanguard Target Retirement 2015 Fd	\$147,338	4.56%	\$15,719	\$0	\$0	\$0	(\$13)	(\$7,050)	\$155,994	4.73%
Vanguard Target Retirement 2025 Fd	\$251,461	7.78%	\$43,662	(\$3,240)	\$0	(\$1,596)	(\$23)	(\$20,425)	\$269,839	8.19%
Vanguard Target Retirement 2035 Fd	\$313,039	9.69%	\$53,691	(\$1,487)	\$0	\$0	(\$29)	(\$32,642)	\$332,571	10.09%
Vanguard Target Retirement 2045 Fd	\$591,537	18.31%	\$79,509	(\$5,881)	(\$1,455)	\$0	(\$54)	(\$72,365)	\$591,291	17.94%
Vanguard Target Retirement 2055 Fd	\$689,720	21.35%	\$129,217	(\$1,497)	(\$6,316)	(\$542)	(\$63)	(\$85,582)	\$724,938	21.99%
American Funds American Mutual Fund	\$11,637	0.36%	\$621	\$0	(\$834)	(\$1,267)	(\$1)	(\$866)	\$9,290	0.28%
American Funds Fndmntl Invstrs Fnd	\$11,864	0.37%	\$331	\$0	(\$1,379)	(\$986)	(\$1)	(\$1,354)	\$8,476	0.26%
Parnassus Core Equity Fund	\$12,565	0.39%	\$509	\$0	(\$689)	(\$991)	(\$1)	(\$1,141)	\$10,252	0.31%
Vanguard Institutional Index Fund	\$30,833	0.95%	\$1,772	\$0	\$255	(\$1,124)	(\$3)	(\$4,169)	\$27,565	0.84%
Vanguard Total Stock Mkt Index Fd	\$44,722	1.38%	\$3,412	\$0	\$8,020	(\$1,115)	(\$4)	(\$6,868)	\$48,166	1.46%
American Funds Grth Fund of America	\$19,609	0.61%	\$621	\$0	(\$1,203)	(\$1,216)	(\$2)	(\$2,844)	\$14,965	0.45%
American Century Mid Cap Value Fund	\$2,578	0.08%	\$135	\$0	(\$222)	(\$121)	(\$0)	(\$357)	\$2,013	0.06%
Vanguard Mid Cap Index Fund	\$15,267	0.47%	\$1,926	\$0	(\$335)	(\$848)	(\$2)	(\$2,395)	\$13,613	0.41%
Select Mid Cap Gr Fd (TRP/Frontier)	\$6,280	0.19%	\$135	\$0	(\$985)	(\$123)	(\$1)	(\$785)	\$4,521	0.14%
JP Morgan Small Cap Value Fund	\$1,869	0.06%	\$43	\$0	(\$20)	(\$237)	(\$0)	(\$311)	\$1,344	0.04%

\*Due to rounding, percentages may not total 100 percent.

\*\*The expenses shown reflect expenses deducted from plan assets. Does not include expenses billed directly to the plan sponsor or expenses related to the expense ratio of investments under the plan.

61869-3-County of San Mateo 401(a) Retirement Plan

For Advisor and Plan Sponsor use only. Not for use with Plan Participants.

RS-41492-01

# 401(a) Plan Balances by Investment

Asset Allocation										
Investment Options	Balances as of 9/30/2018	Percentage*	Plan Activity October 01, 2018 through December 31, 2018						Balances as of 12/31/2018	Percentage*
			Contributions	Other Activity	Transfers	Distributions	Expenses**	Investment Income		
Vanguard Small Cap Index Fund	\$44,607	1.38%	\$1,886	\$0	\$1,540	(\$1,083)	(\$4)	(\$8,408)	\$38,539	1.17%
Wells Fargo Small Company Growth Fd	\$4,376	0.14%	\$43	\$0	(\$1,093)	(\$238)	(\$0)	(\$791)	\$2,297	0.07%
American Fnds Cap Wld Gr and Inc Fd	\$6,635	0.21%	\$50	\$0	\$1,746	(\$362)	(\$1)	(\$844)	\$7,226	0.22%
Vanguard Developed Markets Index Fd	\$16,856	0.52%	\$1,171	\$0	(\$370)	(\$1,323)	(\$2)	(\$2,120)	\$14,211	0.43%
Amer Funds EuroPacific Growth Fund	\$8,012	0.25%	\$458	\$0	(\$92)	(\$349)	(\$1)	(\$1,001)	\$7,026	0.21%
Oppenheimer Developing Markets Fund	\$7,171	0.22%	\$456	\$0	(\$483)	(\$343)	(\$1)	(\$562)	\$6,238	0.19%
Invesco Real Estate Fund	\$3,632	0.11%	\$104	\$0	(\$302)	(\$484)	(\$0)	(\$227)	\$2,722	0.08%
Hartford Healthcare HLS Fund	\$1,947	0.06%	\$0	\$0	\$0	\$0	(\$0)	(\$303)	\$1,644	0.05%
<b>Total</b>	<b>\$3,230,446</b>	<b>100%</b>	<b>\$344,006</b>	<b>(\$13,387)</b>	<b>---</b>	<b>(\$19,682)</b>	<b>(\$298)</b>	<b>(\$244,553)</b>	<b>\$3,296,533</b>	<b>100%</b>

\*Due to rounding, percentages may not total 100 percent.

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61869-3-County of San Mateo 401(a) Retirement Plan

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# OBRA Plan Balances by Investment

Asset Allocation									
Investment Options	Balances as of 9/30/2018	Percentage*	Plan Activity October 01, 2018 through December 31, 2018					Balances as of 12/31/2018	Percentage*
			Contributions	Transfers	Distributions	Expenses**	Investment Income		
<b>457 OBRA</b>									
SAGIC (61869OB)	\$6,285,126	100.00%	\$659,225	\$0	(\$100,417)	(\$585)	\$38,105	\$6,881,454	100.00%
<b>Total</b>	<b>\$6,285,126</b>	<b>100%</b>	<b>\$659,225</b>	<b>----</b>	<b>(\$100,417)</b>	<b>(\$585)</b>	<b>\$38,105</b>	<b>\$6,881,454</b>	<b>100%</b>
<b>401(a) OBRA</b>									
SAGIC (61869OB)	\$12,051,460	100.00%	\$0	\$0	(\$152,297)	(\$1,103)	\$68,845	\$11,966,905	100.00%
<b>Total</b>	<b>\$12,051,460</b>	<b>100%</b>	<b>\$0</b>	<b>----</b>	<b>(\$152,297)</b>	<b>(\$1,103)</b>	<b>\$68,845</b>	<b>\$11,966,905</b>	<b>100%</b>

\*Due to rounding, percentages may not total 100 percent.

\*\*The expenses shown reflect expenses deducted from plan assets. Does not include expenses billed directly to the plan sponsor or expenses related to the expense ratio of investments under the plan.

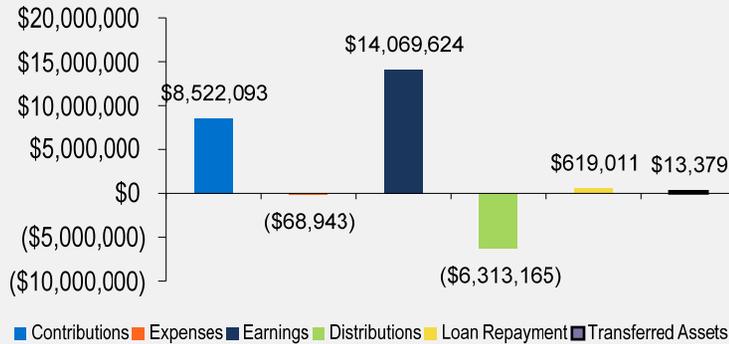
61869-2-San Mateo County 457 Part Time, Seasonal and Tempo

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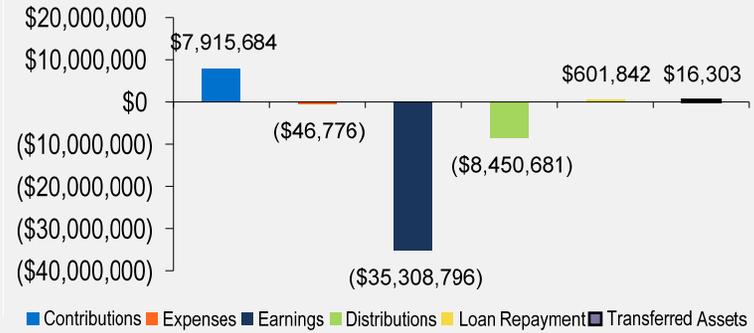
RS-41492-01

# Cash Flow Analysis

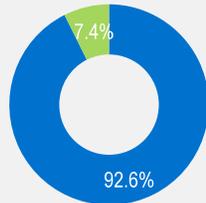
Prior Period 07/01/2018-09/30/2018



Current Period 10/01/2018-12/31/2018

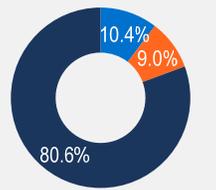


## Contribution Analysis\*



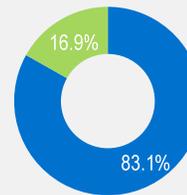
- Participant
- Profit Sharing
- Match
- Rollover

## Distribution Analysis



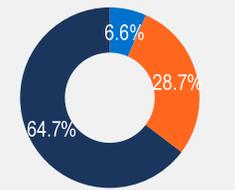
- Loans (42)
- Withdrawals (295)
- Terminations (235)

## Contribution Analysis\*



- Participant
- Profit Sharing
- Match
- Rollover

## Distribution Analysis



- Loans (28)
- Withdrawals (448)
- Terminations (224)

\*The Contribution Analysis Pie Charts display the percentage of the combined dollar value of the Contributions & Loan Repayments

# Total Investment Balance

as of 12/31/2018

Participant Demographics								
Investment Options	PARTICIPANTS					Participants in Option as of 09/30/2018	Participants in Option as of 12/31/2018	Investment Selection Percentage*
	Active	Beneficiary	Retired	Terminated	QDRO			
SAGIC Core Bond (61869)	\$59,247,777	\$1,530,303	\$15,571,179	\$68,583,884	\$410,178	2,555	2,560	11.4%
PIMCO Long-Term Real Return Fund	\$2,082,233	\$0	\$79,210	\$587,180	\$0	330	327	0.4%
PIMCO Total Return Fund	\$7,107,873	\$102,343	\$954,385	\$4,734,076	\$8,419	798	836	1.2%
Vanguard Total Bond Mrkt Index Fund	\$3,343,867	\$0	\$340,179	\$388,024	\$6,757	353	339	0.5%
Loomis Sayles Bond Fund	\$2,137,268	\$0	\$134,138	\$807,679	\$2,095	308	296	0.3%
Premier High Yield Fund (Barings)	\$549,803	\$0	\$0	\$161,499	\$0	79	79	0.1%
Oppenheimer International Bond Fund	\$949,686	\$0	\$17,146	\$233,881	\$2,043	335	348	0.2%
Oakmark Equity & Income Fund	\$9,193,734	\$913,703	\$2,165,972	\$7,954,384	\$29,989	707	706	1.8%
Vanguard Target Retirement 2015 Fd	\$4,145,066	\$0	\$531,427	\$945,656	\$9	225	224	2.0%
Vanguard Target Retirement 2025 Fd	\$15,906,476	\$31,055	\$310,417	\$3,710,023	\$10,636	762	766	9.3%
Vanguard Target Retirement 2035 Fd	\$11,858,241	\$31,552	\$5,156	\$2,338,486	\$0	942	960	13.0%
Vanguard Target Retirement 2045 Fd	\$12,123,182	\$0	\$5,436	\$972,746	\$16,476	1,223	1,245	17.0%
Vanguard Target Retirement 2055 Fd	\$6,729,791	\$0	\$0	\$548,063	\$0	1,442	1,512	23.2%
Vanguard Target Retirement Incm Fd	\$432,888	\$42,727	\$345,038	\$403,895	\$0	56	58	0.5%
American Funds American Mutual Fund	\$10,000,562	\$245,465	\$868,234	\$4,695,096	\$32,887	954	956	1.4%
American Funds Fndmntl Invstrs Fnd	\$19,495,411	\$452,721	\$2,533,527	\$14,365,316	\$44,620	1,387	1,350	2.7%
Parnassus Core Equity Fund	\$2,614,621	\$0	\$76,673	\$543,498	\$906	405	432	0.5%

**Total Participants 7875: 5650 Active, 37 Beneficiary, 217 Retired, 1957 Terminated, 14 QDRO**

\*The investment selection percentages reflect participants with an active status. Due to rounding the percentages may not total 100% Contracts with multiple plans may result in participants maintaining balances in more than one plan.

61869-1-San Mateo Deferred Compensation Plan

For Advisor and Plan Sponsor use only. Not for use with Plan Participants.

RS-41492-01

# Total Investment Balance

as of 12/31/2018

Participant Demographics								
Investment Options	PARTICIPANTS					Participants in Option as of 09/30/2018	Participants in Option as of 12/31/2018	Investment Selection Percentage*
	Active	Beneficiary	Retired	Terminated	QDRO			
Vanguard Institutional Index Fund	\$10,585,077	\$398,083	\$1,956,677	\$5,109,686	\$3,627	713	761	1.8%
Vanguard Total Stock Mkt Index Fd	\$6,745,178	\$43,113	\$81,822	\$1,595,684	\$857	529	546	1.3%
American Funds Grth Fund of America	\$17,363,505	\$165,622	\$2,477,767	\$9,496,672	\$24,976	1,254	1,260	2.6%
American Century Mid Cap Value Fund	\$2,778,885	\$12,786	\$62,673	\$1,344,207	\$0	547	541	0.4%
Vanguard Mid Cap Index Fund	\$3,032,092	\$51,535	\$413,038	\$923,573	\$1,643	555	554	0.6%
Select Mid Cap Gr Fd (TRP/Frontier)	\$7,731,466	\$35,426	\$700,340	\$3,168,767	\$35,088	889	890	1.1%
JP Morgan Small Cap Value Fund	\$243,489	\$0	\$400	\$82,977	\$0	262	263	0.1%
Vanguard Small Cap Index Fund	\$5,363,017	\$51,082	\$297,442	\$1,976,645	\$5,414	767	767	0.9%
Wells Fargo Small Company Growth Fd	\$5,618,879	\$618,065	\$284,000	\$2,281,612	\$20,878	880	888	0.8%
American Fnds Cap Wld Gr and Inc Fd	\$6,281,412	\$156,551	\$362,388	\$2,247,178	\$12,656	786	771	0.9%
Vanguard Developed Markets Index Fd	\$1,494,427	\$0	\$88,411	\$367,847	\$3,093	364	377	0.6%
Amer Funds EuroPacific Growth Fund	\$4,886,082	\$7,690	\$312,937	\$2,229,552	\$13,021	804	793	0.9%
Oppenheimer Developing Markets Fund	\$2,109,281	\$316	\$61,018	\$456,883	\$776	543	548	0.5%
Invesco Real Estate Fund	\$1,316,649	\$485	\$119,600	\$512,588	\$6,515	494	496	0.3%
Bank of The West Savings	\$3,291,890	\$0	\$359,216	\$1,928,584	\$0	272	268	0.5%
Hartford Healthcare HLS Fund	\$3,283,968	\$8,572	\$167,673	\$1,784,945	\$0	379	376	0.6%
Schwab PCRA	\$1,066,888	\$0	\$410,045	\$1,616,966	\$0	53	52	

**Total Participants 7875: 5650 Active, 37 Beneficiary, 217 Retired, 1957 Terminated, 14 QDRO**

\*The investment selection percentages reflect participants with an active status. Due to rounding the percentages may not total 100% Contracts with multiple plans may result in participants maintaining balances in more than one plan.

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RS-41492-01

# Total Investment Balance

as of 12/31/2018

Participant Demographics								
Investment Options	PARTICIPANTS					Participants in Option as of 09/30/2018	Participants in Option as of 12/31/2018	Investment Selection Percentage*
	Active	Beneficiary	Retired	Terminated	QDRO			
Vanguard Utilities Index Fund	\$3,289,252	\$0	\$289,213	\$1,555,859	\$1,673	389	392	0.5%
<b>Total</b>	<b>\$254,399,916</b>	<b>\$4,899,197</b>	<b>\$32,382,775</b>	<b>\$150,653,611</b>	<b>\$695,232</b>	-----	-----	<b>100%</b>

Total Participants 7875: 5650 Active, 37 Beneficiary, 217 Retired, 1957 Terminated, 14 QDRO

\*The investment selection percentages reflect participants with an active status. Due to rounding the percentages may not total 100% Contracts with multiple plans may result in participants maintaining balances in more than one plan.

61869-1-San Mateo Deferred Compensation Plan

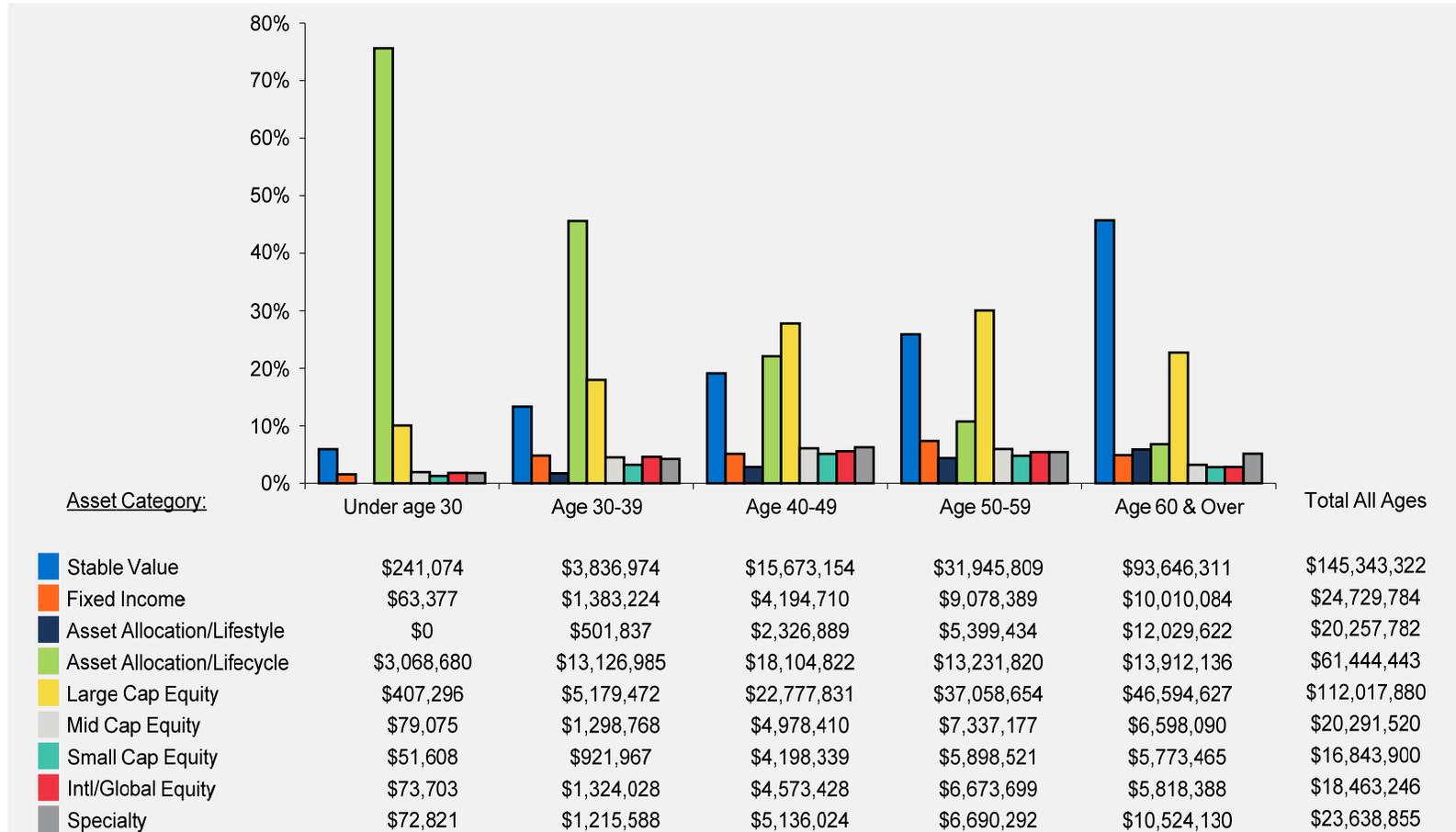
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RS-41492-01

# Balances by Age

as of 12/31/2018

Age	Under age 30	Age 30-39	Age 40-49	Age 50-59	Age 60 and Over	Total
<b>Number of Participants</b>	955	1,759	1,801	1,656	1,704	7,875
<b>Group Balance</b>	\$4,057,633	\$28,788,843	\$81,963,607	\$123,313,796	\$204,906,852	\$443,030,731
<b>Average Account Balance</b>	\$4,249	\$16,367	\$45,510	\$74,465	\$120,250	\$56,258



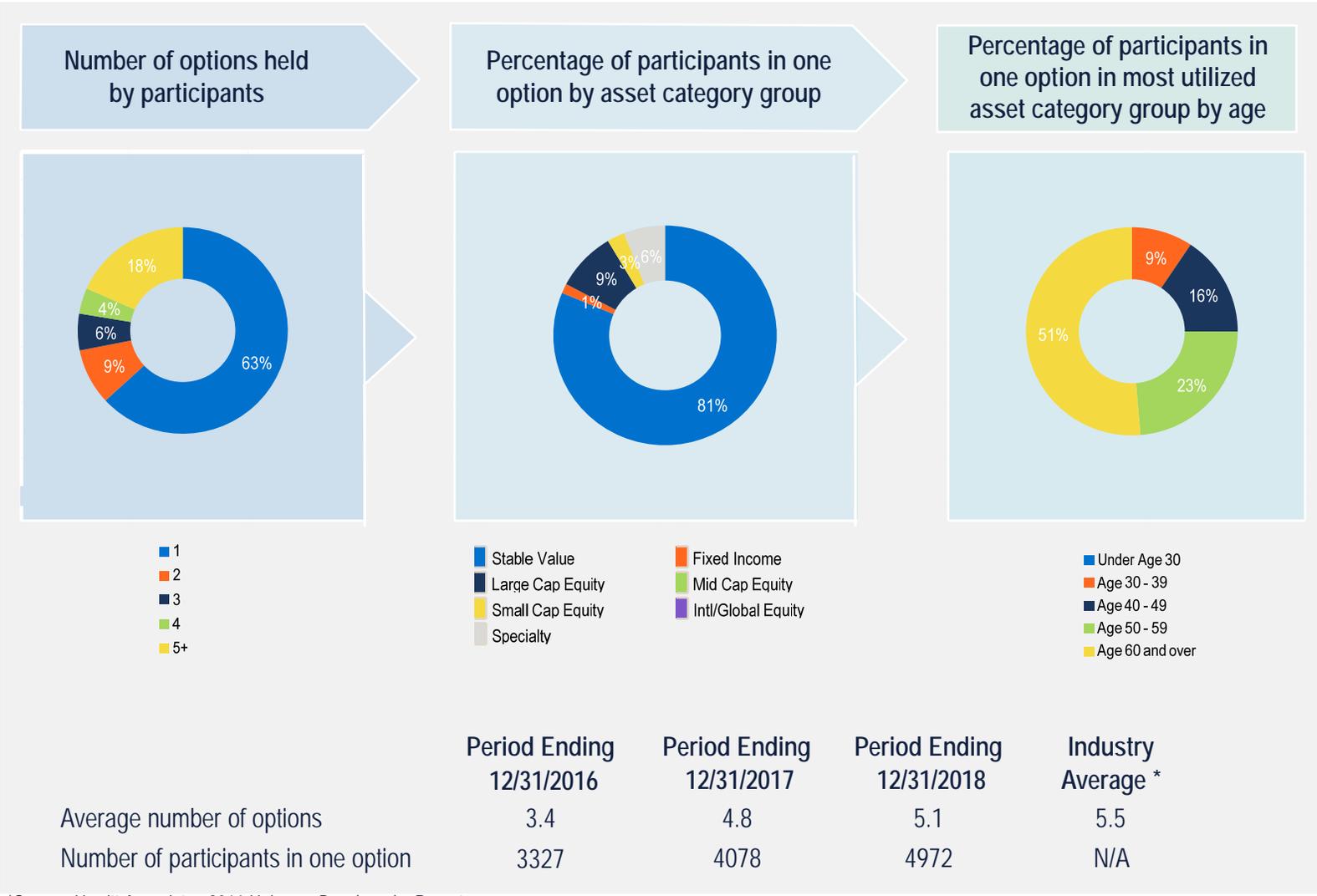
61869-1-San Mateo Deferred Compensation Plan

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RS-41492-01

# Participant Diversification

10/01/2018 through 12/31/2018



\*Source: Hewitt Associates 2016 Universe Benchmarks Report

# Loan Summary

Loan Data				
	Your Plan 09/30/2018	Your Plan 12/31/2018	MassMutual Average 12/31/2018	Industry Averages
Number of loans allowed	1	1	2.	1.2*
Average number of loans per participant with loans	1.1	1.1	1.2	Not available
Percentage of participants with loans	8.0%	7.8%	10.7%	14.6%*
Average loan balance	\$10,202	\$10,231	\$8,041	\$6,216*
Percentage of plan assets loaned	1.5%	1.5%	1.5%	0.7%*

	Your Plan 09/30/2018	Your Plan 12/31/2018
Total number of participants with loans	620	616
Total number of outstanding loans	680	671
Average account balance of participants with loans	\$71,790	\$65,409
Total value of outstanding loans	\$6,937,230	\$6,865,091

**Current Loan Interest Rate = 6.50%**

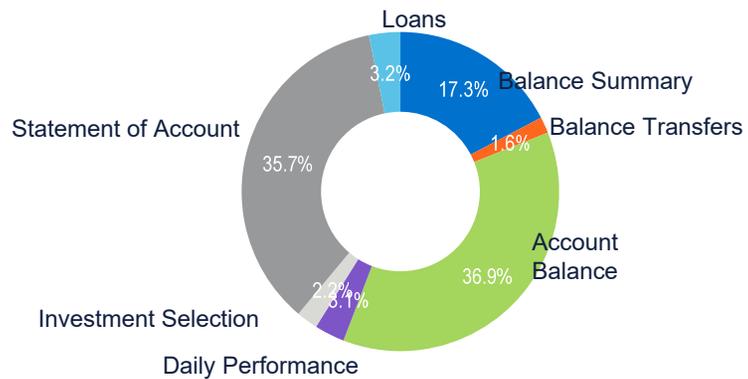
\*Source: PSCA's 58th Annual Survey of PS and 401(k) Plans

# Participant Interactions

10/01/2018 through 12/31/2018

	Total Visits
Call Center	1,490
Website	16,234

## Website (My Account)



- Balance Summary
- Balance Transfers
- Contributions
- Account Balance
- Enrollments
- Daily Performance
- Investment Selection
- On-Demand Rebalance
- Periodic Rebalance
- Statement of Account
- Loans
- RSG

Highlights - Website	
My Account	4373
Research	87

Highlights - Retirement Services Call Center	
RSG-Retirement Options	148
Loans	141
Withdrawals	79
Investments	65
Transferred Call	45

# Miscellaneous Statistics

Activity	Total #	Total \$
Total 3Q TRAK calculation	0	
Managed Accounts added in 4Q 2018	6	\$1,042,762.35
Total Managed Accounts	43	\$2,814,889.56
4Q Hardships Processed	6	\$36,162.45
Rollovers In	19	\$1,357,831.43
Purchase of Service Credit to SamCera	12	\$178,173.54
Rollovers Out	50	\$4,580,265.48
QDRO	1	\$300
401(a) Forfeiture Balance as of 12/31/2018	136	\$177,190.28

# Onsite meeting results



**Prescribe:**  
Targeted messages,  
meetings



**One-to-One  
Messaging**



**Diagnose:**  
The MassMutual  
RetireSMART<sup>SM</sup>  
Ready Tool

Date	Location	Group Meeting Attendees	Individual Meeting Attendees	Participant Action					
				Enroll	Save More	Asset Allocation	Consolidate	TRAK	RST
10/1	455 CC	10		10					
10/1	SMMC		5		2	2			2
10/2	455 CC		6		4	3			2
10/3	1 DAVIS		6		3	2			2
10/4	455 CC	25		20			2		
10/10	455 CC	300							
10/11	SMMC	200							
10/15	SMMC		8		3	2	1		4
10/16	455 CC		6		1	2	2		5
10/16	801 SSF		5				2		3
10/17	CCS		11		1	5			3
10/23	801 SSF		7		2	5			2
10/29	SMMC	24	7	20					
10/30	455 CC		5		2	4			4
<b>12</b>	<b>14</b>	<b>559</b>	<b>66</b>	<b>50</b>	<b>18</b>	<b>25</b>	<b>7</b>		<b>27</b>

# Onsite meeting results



**Prescribe:**  
Targeted messages,  
meetings



**One-to-One  
Messaging**



**Diagnose:**  
The MassMutual  
RetireSMART<sup>SM</sup>  
Ready Tool

Date	Location	Group Meeting Attendees	Individual Meeting Attendees	Participant Action					
				Enroll	Save More	Asset Allocation	Consolidate	TRAK	RST
11/16	MAGUIRE	8		4			2		
11/19	YSC		4		2	2	1		3
11/19	SMHS		4		2	2			2
11/20	1 DAVIS		5		1	2			4
11/20	YSC		4		1	1			2
11/26	SMMC		4		2		1		2
11/27	455 CC		8		1	2			5
11/27	DC HSA		5		2		2		3
<b>5</b>	<b>8</b>		<b>34</b>	<b>4</b>	<b>10</b>	<b>9</b>	<b>6</b>		<b>21</b>

# Onsite meeting results



**Prescribe:**  
Targeted messages,  
meetings



**One-to-One  
Messaging**



**Diagnose:**  
The MassMutual  
RetireSMART<sup>SM</sup>  
Ready Tool

Date	Location	Group Meeting Attendees	Individual Meeting Attendees	Participant Action					
				Enroll	Save More	Asset Allocation	Consolidate	TRAK	RST
12/10	455 CC	12		12					
12/10	SMMC		3	1	2	2			3
12/11	455 CC		4		1	1			4
12/11	1024		4		2	3			3
12/13	2000		11		2	4	1		6
<b>3</b>	<b>5</b>	<b>12</b>	<b>22</b>	<b>13</b>	<b>7</b>	<b>10</b>	<b>1</b>		<b>16</b>

# Onsite meeting results



**Prescribe:**  
Targeted messages,  
meetings

Date	Location	Group Meeting Attendees	Individual Meeting Attendees	Participant Action					
				Enroll	Save More	Asset Allocation	Consolidate	TRAK	RST
OCT	14	559	66	50	18	25	7		27
NOV	9	0	34	4	10	9	6		21
DEC	5	12	22	13	7	10	1		16
<b>Total</b>	<b>28</b>	<b>571</b>	<b>122</b>	<b>67</b>	<b>35</b>	<b>44</b>	<b>14</b>		<b>64</b>



**One-to-One  
Messaging**



**Diagnose:**  
The MassMutual  
RetireSMART<sup>SM</sup>  
Ready Tool



## County of San Mateo Quarterly Contribution Report

GA #	Calendar Year	Quarter	EE Pre-Tax	EE Roth	Sum
150018	2016	1	\$4,074,209.93	\$435,589.92	\$4,509,799.85
61869-1	2016	1	\$785,003.50	\$108,057.52	\$893,061.02
61869-1	2016	2	\$5,837,856.22	\$738,468.22	\$6,576,324.44
61869-1	2016	3	\$5,414,639.16	\$735,646.32	\$6,150,285.48
61869-1	2016	4	\$4,690,748.46	\$672,966.46	\$5,363,714.92
61869-1	2017	1	\$6,237,144.14	\$974,332.43	\$7,211,476.57
61869-1	2017	2	\$5,717,738.53	\$857,348.96	\$6,575,087.49
61869-1	2017	3	\$6,134,167.32	\$978,802.21	\$7,112,969.53
61869-1	2017	4	\$5,275,596.83	\$845,837.78	\$6,121,434.61
61869-1	2018	1	\$7,038,132.82	\$1,178,579.41	\$8,216,712.23
61869-1	2018	2	\$6,600,516.54	\$1,000,384.62	\$7,600,901.16
61869-1	2018	3	\$6,725,469.48	\$1,150,112.39	\$7,875,581.87
61869-1	2018	4	\$5,523,800.28	\$992,490.95	\$6,516,291.23
		<b>Sub Total</b>	\$70,055,023.21	\$10,668,617.19	
				<b>Total</b>	<b>\$80,723,640.40</b>

## San Mateo County Rollovers Out 4Q 2018

Plan Number	Subscriber Name	Payee Name	Post Date	Payee Type	Gross Amount of Distribution
1	County of San Mateo	SAMCERA	11/9/2018	457(b) Plan to Plan Transfer	\$54,066.07
1	County of San Mateo	SAMCERA	11/16/2018	457(b) Plan to Plan Transfer	\$36,758.02
1	County of San Mateo	SAMCERA	10/26/2018	457(b) Plan to Plan Transfer	\$20,398.96
1	County of San Mateo	SAMCERA	11/28/2018	457(b) Plan to Plan Transfer	\$15,277.50
1	County of San Mateo	SAMCERA	10/24/2018	457(b) Plan to Plan Transfer	\$14,278.47
1	County of San Mateo	SAMCERA	10/26/2018	457(b) Plan to Plan Transfer	\$11,000.00
1	County of San Mateo	SAMCERA	10/23/2018	457(b) Plan to Plan Transfer	\$9,150.67
1	County of San Mateo	SAMCERA	11/7/2018	457(b) Plan to Plan Transfer	\$6,400.25
1	County of San Mateo	SAMCERA	11/30/2018	457(b) Plan to Plan Transfer	\$5,241.14
1	County of San Mateo	SAMCERA	11/27/2018	457(b) Plan to Plan Transfer	\$3,656.46
1	County of San Mateo	SAMCERA	10/26/2018	457(b) Plan to Plan Transfer	\$1,909.15
1	County of San Mateo	SAMCERA	11/27/2018	457(b) Plan to Plan Transfer	\$36.85
<b>SubTotal Rollover Out to SamCERA</b>					<b>\$178,173.54</b>

1	County of San Mateo	AXA	10/08/2018	IRA Rollover	\$23,001.17
1	County of San Mateo	AXA Equitable	10/19/2018	IRA Rollover	\$60,152.67
1	County of San Mateo	Bank of The West	12/10/2018	IRA Rollover	\$27,165.02
1	County of San Mateo	Calpers Summlemental Income	12/14/2018	IRA Rollover	\$0.37
1	County of San Mateo	Capital Bank and Trust	10/11/2018	IRA Rollover	\$7,410.15
1	County of San Mateo	Charles Schwab	11/13/2018	IRA Rollover	\$887,423.69
1	County of San Mateo	Charles Schwab	11/12/2018	IRA Rollover	\$353,634.10
1	County of San Mateo	CHARLES SCHWAB	12/17/2018	IRA Rollover	\$200,719.37
1	County of San Mateo	CHARLES SCHWAB	10/31/2018	IRA Rollover	\$8,334.08
1	County of San Mateo	Charles Schwab & Co. INC	11/15/2018	IRA Rollover	\$24,532.38
1	County of San Mateo	Charles Schwab Co. Inc	10/09/2018	IRA Rollover	\$5,428.23
1	County of San Mateo	Edward Jones	10/11/2018	IRA Rollover	\$15,136.85
1	County of San Mateo	Fidelity Investments	12/14/2018	IRA Rollover	\$144,301.46
1	County of San Mateo	Fidelity Investments	10/18/2018	IRA Rollover	\$51,987.84
1	County of San Mateo	Fidelity Investments	11/20/2018	IRA Rollover	\$36,553.86
1	County of San Mateo	Fidelity Investments	11/27/2018	IRA Rollover	\$8,995.44
1	County of San Mateo	FIIOC	10/02/2018	IRA Rollover	\$4,906.35
1	County of San Mateo	FMTC	11/21/2018	IRA Rollover	\$12,687.46
1	County of San Mateo	MassMutual	11/21/2018	IRA Rollover	\$100,000.00
1	County of San Mateo	Merrill Lynch	11/29/2018	IRA Rollover	\$22,797.58
1	County of San Mateo	Merrill Lynch	10/3/2018	IRA Rollover	\$18,185.11
1	County of San Mateo	Morgan Stanley	10/24/2018	IRA Rollover	\$265,641.27
1	County of San Mateo	Morgan Stanley	12/11/2018	IRA Rollover	\$572,786.56
1	County of San Mateo	MTC Voluntary IRA	11/02/2018	IRA Rollover	\$211,588.23
1	County of San Mateo	National Financial Services	11/05/2018	IRA Rollover	\$191,553.77
1	County of San Mateo	Nationwide	10/10/2018	IRA Rollover	\$0.06
1	County of San Mateo	Nationwide	11/02/2018	IRA Rollover	\$0.03
1	County of San Mateo	Pershing LLC	11/1/2018	IRA Rollover	\$523,927.93
1	County of San Mateo	Pershing LLC	10/24/2018	IRA Rollover	\$2,180.05
1	County of San Mateo	Pershing LLC	12/21/2018	IRA Rollover	\$119.25
1	County of San Mateo	Prudential Retirement	11/19/2018	IRA Rollover	\$3,271.91
1	County of San Mateo	Robert W Baird	11/29/2018	IRA Rollover	\$5.36
1	County of San Mateo	San Mateo Credit Union	12/18/2018	IRA Rollover	\$251,046.71
1	County of San Mateo	SEI	12/11/2018	IRA Rollover	\$4.61
1	County of San Mateo	SMCU	12/06/2018	IRA Rollover	\$162,506.53
1	County of San Mateo	Star One Credit Union	10/19/2018	IRA Rollover	\$135,381.55
1	County of San Mateo	THRIFT SAVINGS PLAN	12/13/2018	IRA Rollover	\$46,808.82

Plan Number	Subscriber Name	Payee Name	Post Date	Payee Type	Gross Amount of Distribution
1	County of San Mateo	UBS Financial Services	11/26/2018	IRA Rollover	\$44,437.07
1	County of San Mateo	Vantage Point	12/03/2018	IRA Rollover	\$16,001.36
1	County of San Mateo	VFTC	11/16/2018	IRA Rollover	\$14,679.58
1	County of San Mateo	WFCS	10/15/2018	IRA Rollover	\$1,012.55
1	County of San Mateo	MassMutual	12/10/2018	Roth IRA Conversion Rollover	\$61,568.78
1	County of San Mateo	MassMutual	10/10/2018	Roth IRA Conversion Rollover	\$10,000.00
1	County of San Mateo	MTC Voluntary IRA	12/28/2018	Roth IRA Conversion Rollover	\$25,000.00
1	County of San Mateo	VFTC	10/19/2018	Roth IRA Conversion Rollover	\$116.77
1	County of San Mateo	Charles Schwab Co. Inc.	10/09/2018	Roth IRA Rollover	\$125.99
1	County of San Mateo	CHARLES SCHWAB.	12/17/2018	Roth IRA Rollover	\$15,854.48
1	County of San Mateo	Fidelity Investments.	11/20/2018	Roth IRA Rollover	\$730.53
1	County of San Mateo	Morgan Stanley.	12/11/2018	Roth IRA Rollover	\$1,118.11
1	County of San Mateo	SMCU	10/24/2018	Roth IRA Rollover	\$9,444.44
<b>SubTotal Rollover Out to Other</b>					<b>\$4,580,265.48</b>
<b>Total Rollover Out</b>					<b>\$4,758,739.02</b>

(c) **Divorce of Spouse.** Unless elected otherwise under this subsection (c), if a Participant designates his/her Spouse as Beneficiary and subsequent to such Beneficiary designation, the Participant and Spouse are divorced, the designation of the Spouse as Beneficiary under the Plan is automatically rescinded as set forth under Section 7.07(c)(6) of the Plan.

If this subsection (c) is checked, a Beneficiary designation will not be rescinded upon divorce of the Participant and Spouse.

[*Note: Section 7.07(c)(6) of the Plan and this subsection (c) will be subject to the provisions of a Beneficiary designation entered into by the Participant. Thus, if a Beneficiary designation specifically overrides the election under this subsection (c), the provisions of the Beneficiary designation will control. See Section 7.07(c)(6) of the Plan.*]

**SECTION 10  
IN-SERVICE DISTRIBUTIONS AND REQUIRED MINIMUM DISTRIBUTIONS**

10-1 **AVAILABILITY OF IN-SERVICE DISTRIBUTIONS.** A Participant may withdraw all or any portion of his/her vested Account Balance, to the extent designated, upon the occurrence of any of the event(s) selected under this AA §10-1. If more than one option is selected for a particular contribution source under this AA §10-1, a Participant may take an in-service distribution upon the occurrence of any of the selected events, unless designated otherwise under this AA §10-1.

Match	ER	
<input type="checkbox"/>	<input type="checkbox"/>	(a) No in-service distributions are permitted.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(b) Attainment of age 59½.
<input type="checkbox"/>	<input type="checkbox"/>	(c) Attainment of age ____.
<input type="checkbox"/>	<input type="checkbox"/>	(d) A Hardship that satisfies the safe harbor rules under Section 7.10(e)(1) of the Plan.
<input type="checkbox"/>	<input type="checkbox"/>	(e) A non-safe harbor Hardship described in Section 7.10(e)(2) of the Plan.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(f) Attainment of Normal Retirement Age.
<input type="checkbox"/>	<input type="checkbox"/>	(g) Attainment of Early Retirement Age.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(h) The Participant has participated in the Plan for at least <u>60</u> (cannot be less than 60) months.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(i) The amounts being withdrawn have been held in the Trust for at least two years.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(j) Upon a Participant becoming Disabled (as defined in AA §9-4(b)).
<input type="checkbox"/>	<input type="checkbox"/>	(k) Describe: _____

10-2 **APPLICATION TO OTHER CONTRIBUTION SOURCES.** If the Plan allows for Rollover Contributions under AA §C-2 or After-Tax Employee Contributions under AA §6-6, unless elected otherwise under this AA §10-2, a Participant may take an in-service distribution from his/her Rollover Account and After-Tax Employee Contribution Account at any time. Employer Pick-Up Contributions will not be eligible for in-service distribution.

Alternatively, if this AA §10-2 is completed, the following in-service distribution provisions apply for Rollover Contributions, After-Tax Employee Contributions and/or Employer Pick-Up Contributions:

Rollover	After-Tax	Pick-Up	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(a) No in-service distributions are permitted.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(b) Attainment of age 59½.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(c) Attainment of age ____.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(d) A Hardship (that satisfies the safe harbor rules under Section 7.10(e)(1) of the Plan).

Rollover	After-Tax	Pick-Up	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(e) A non-safe harbor Hardship described in Section 7.10(e)(2) of the Plan.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(f) Attainment of Normal Retirement Age.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(g) Attainment of Early Retirement Age.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(h) Upon a Participant becoming Disabled (as defined in AA §9-4(b)).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(i) Describe: _____

10-3 **SPECIAL DISTRIBUTION RULES.** No special distribution rules apply, unless specifically provided under this AA §10-3.

- (a) In-service distributions will only be permitted if the Participant is 100% vested in the source from which the withdrawal is taken.
- (b) A Participant may take no more than \_\_\_\_ in-service distribution(s) in a Plan Year.
- (c) A Participant may not take an in-service distribution of less than \$ \_\_\_\_.
- (d) A Participant may not take an in-service distribution of more than \$ \_\_\_\_.
- (e) Unless elected otherwise under this subsection, the hardship distribution provisions of the Plan are not expanded to cover primary beneficiaries as set forth in Section 7.10(e)(5) of the Plan. If this subsection (e) is checked, the hardship provisions of the Plan will apply with respect to individuals named as primary beneficiaries under the Plan.
- (f) In determining whether a Participant has an immediate and heavy financial need for purposes of applying the non-safe harbor Hardship provisions under Section 7.10(e)(2) of the Plan, the following modifications are made to the permissible events listed under Section 7.10(e)(1) of the Plan: \_\_\_\_\_  
  
[Note: This subsection (f) may only be used to the extent a non-safe harbor Hardship distribution is authorized under AA §10-1 or AA §10-2.]
- (g) Other distribution rules: A Participant who has reached age 70 ½ and is still employed may elect to commence retirement benefits as of that date.

10-4 **REQUIRED MINIMUM DISTRIBUTIONS.**

- (a) **Required distributions after death.** If a Participant dies before distributions begin and there is a Designated Beneficiary, the Participant or Beneficiary may elect on an individual basis whether the 5-year rule (as described in Section 8.06(a) of the Plan) or the life expectancy method described under Sections 8.02 of the Plan apply. See Section 8.06(b) of the Plan for rules regarding the timing of an election authorized under this AA §10-4.  
  
Alternatively, if selected under this subsection (a), any death distributions to a Designated Beneficiary will be made only under the 5-year rule.  
  
 The five-year rule under Section 8.06(a) of the Plan applies (instead of the life expectancy method). Thus, the entire death benefit must be distributed by the end of the fifth year following the year of the Participant's death. Death distributions to a Designated Beneficiary may not be made under the life expectancy method.
- (b) **Waiver of Required Minimum Distribution for 2009.** For purposes of applying the Required Minimum Distribution rules for the 2009 Distribution Calendar Year, as described in Section 8.06(d) of the Plan, a Participant (including an Alternate Payee or beneficiary of a deceased Participant) who is eligible to receive a Required Minimum Distribution for the 2009 Distribution Calendar Year may elect whether or not to receive the 2009 Required Minimum Distribution (or any portion of such distribution). If a Participant does not specifically elect to leave the 2009 Required Minimum Distribution in the Plan, such distribution will be made for the 2009 Distribution Calendar Year as set forth in Section 8 of the Plan.
  - (1) **No Required Minimum Distribution for 2009.** If this box is checked, 2009 Required Minimum Distributions will not be made to Participants who are otherwise required to receive a Required Minimum Distribution for the 2009 Distribution Calendar Year under Section 8 of the Plan, unless the Participant elects to receive such distribution.
  - (2) **Describe any special rules applicable to 2009 Required Minimum Distributions:** \_\_\_\_\_



# COUNTY OF SAN MATEO

## HUMAN RESOURCES DEPARTMENT Inter-Departmental Correspondence

**DATE:** February 21, 2019

**TO:** Deferred Compensation Advisory Committee

**FROM:** Jay Castellano, Human Resources-Employee Benefits

**SUBJECT:** **AMENDMENTS TO §401(a) PLAN ADOPTION  
AGREEMENT ALLOWING IN-SERVICE DISTRIBUTIONS**

### RECOMMENDATION

Approve amendments to the §401(a) plan Adoption Agreement to allow in-service distributions that can be rolled over into the §457(b) plan.

### BACKGROUND

The County's §401(a) plan currently allows distributions upon the following conditions:

- Attainment of age 59<sup>1/2</sup>, or
- Attainment of normal retirement age, or
- Upon a participant becoming disabled.

At the November 1, 2018, meeting of the Deferred Compensation Advisory Committee (DCAC), plan participant Bradley Jacobsen requested that the Committee consider amending the §401(a) plan so that County limited-term employees (who are limited to the §401(a) plan) who migrate to full-time, permanent employees (who are eligible for the §457(b) plan) have the opportunity to consolidate their §401(a) and their §457(b) assets.

The DCAC agreed with Mr. Jacobson, directed staff to address the issue and provide an update at the February 2019 meeting.

## ANALYSIS

Distribution Requirements—MassMutual, the County’s record keeper and plan administrator, advises that in order to facilitate a §457(b) rollover, the §401(a) plan must be amended to enable in-service distributions. That is, the plan document must be updated to allow for a distribution of assets outside of normal retirement conditions (i.e., attainment of age 59½, normal retirement age or permanent disability).

Pursuant to that goal, MassMutual’s compliance office recommends amending the County plan’s Adoption Agreement as indicated in the attachment. The amendments in the attachment, in Section 10-1 Availability of In-Service Distributions, are the check marks next to Items (h) and (i). These two items would additionally allow in-service distributions to a participant once the participant has participated in the County’s 401(a) plan for 60 months (five years) or once the participant’s assets have been held in trust for two years.

While these new qualifiers would allow distributions from a retirement plan to younger plan participants who are still working, they would continue the theme of “retirement savings” by requiring minimum lengths of time for plan participation and for assets to be held in the plan.

Note: Any participant would be eligible for an in-service distribution upon meeting any one of the check-marked qualifiers.

Rollover to §457(b) Plan—While the plan can specify conditions under which assets are distributed, the plan (or any plan, for that matter) cannot specify the destination of those distributions. That is, yes, a participant could rollover assets into the County’s §457 plan (as is intended by this plan amendment pursuant to Mr. Jacobsen’s request), or the participant could choose to be taxed on the distribution and then purchase, for example, a boat. Plan documents do not have mechanisms for controlling the destination of participant assets after those assets have left the plan.

For the purpose of this particular plan amendment, the County’s §457 plan already allows roll-ins from §401(a) plans, and no further action is required in this regard.

If you have any questions or need any additional information, please contact me at [jcastellano@smcgov.org](mailto:jcastellano@smcgov.org) or 650-363-4676.



# Public Sector Retirement News & Views | Q1 2019



## DEPARTMENT OF LABOR ISSUES RELIEF GUIDANCE FOR VICTIMS OF CALIFORNIA WILDFIRES

The U.S. Department of Labor (DOL) recently issued benefit plan guidance and relief for plans and participants affected by the 2018 California Wildfires. The DOL recognizes that plan sponsors and participants may be affected in their ability to achieve compliance with various regulatory requirements. The guidance generally applies to all parties involved in employee benefit plans located in areas identified by FEMA as disaster areas, listed here: [www.fema.gov/disasters](http://www.fema.gov/disasters).

The guidance provides relief from procedures related to plan loans and loan repayment, distributions, contributions and blackout notices. In general, the DOL will not take enforcement actions if plans follow the guiding principle to act reasonably, prudently and in the best interests of workers and families who rely on the plans for their economic well-being.

Specific guidance is offered in certain areas:

- **Loans and Distributions:** Plan sponsors must make a good faith effort to follow procedural requirements under the plan, but the DOL will not assist with requirements and if unable, make a reasonable attempt to assemble any missing documentation as soon as practicable.

- **Participant Contributions and Loan Repayments:** The DOL recognizes that some employers in these disaster areas may not be able to forward amounts withheld from employee wages within prescribed timeframes. Employers are required to act reasonably, prudently and in the interest of employees and comply with the regulations as soon as practicable. The DOL will not take enforcement action if timelines were not met solely due to the 2018 California Wildfires, in the FEMA-identified areas.
- **Blackout Notices:** Generally, 30 days' advance notice is required when a participant's rights under a plan will be temporarily suspended, limited or restricted due to a blackout period. The DOL regulations provide an exception to this requirement when the inability to provide notice within the required timeframe is due to events beyond the plan sponsor's or fiduciary's control.

The full DOL fact sheet can be found [here](#). Your NFP advisor is available to answer any questions you may have or help you determine practical approaches to meeting fiduciary duties and requirements.

## COLLECTIVE INVESTMENT TRUSTS: ARE THEY RIGHT FOR YOUR PLAN?

Collective investment trusts (CITs) have been the fastest growing investment vehicle within 401(k) plans over the past seven years, with 62 percent of asset managers believing that their clients will shift from mutual funds to CITs. This investment vehicle has traditionally only been available to large and mega-sized plans, but now CITs may be available to plans of all sizes. This is a result of continued fee litigation and the increased fee transparency that CITs offer.

### What are CITs?

CITs are similar to mutual funds and are often run by mutual fund companies, yet there are significant differences. Both types of investments are pooled and follow specific investment strategies. Mutual funds may be offered to the general public or within a plan; CITs are designed to be part of a retirement plan and can be custom designed. CIT assets are typically made up of stocks, bonds, and other types of investments. Finally, neither CIT nor mutual fund assets are insured by the FDIC.

One important difference between mutual funds and CITs is that mutual funds are regulated by the SEC and CITs are regulated by the state and by the Office of the Comptroller of the Currency (OCC). CITs are not subject to the Investment Company Act of 1940, which includes mutual fund regulations and extensive disclosure requirement. Unlike mutual funds, CITs do not have to be registered with the SEC. CITs are commingled accounts offered through banks or trust companies; therefore, they are regulated by the OCC.

### How have CITs evolved?

CITs were first introduced in 1927, and allowed banks to combine funds from pensions, profit-sharing and stock bonus plans. From the 1950s through the 1980s, CITs were the main investment vehicle in large retirement plans. In the 1980s, defined contribution plans started using mutual funds as the primary investment vehicle due to their daily valuation and ease for participants to follow. In the 2000s, CITs gained significant traction in DC plans due to increases

in their ease of use, daily valuation and availability. The Pension Protection Act of 2006 named CITs as a type of investment that qualifies as a default investment alternative.

### What are the pros and cons of CITs when compared with mutual funds?

**Pro:** CITs often have lower administrative expenses because they are not subject to the many regulations that apply to mutual funds. They typically do not have marketing expenses, because they are offered within group plans and do not have marketing targeted at individual investors. Finally, CITs are not required to register with the SEC, allowing them to avoid costly registration fees. These fee savings can be passed along to investors.

**Con:** Because CITs do not have the same disclosure requirements as mutual funds, information may not be as readily available. However, plan participants can usually utilize their recordkeeper's website to find all or most of the information they would typically find on a financial reporting site, including price and performance history, information about the fund manager, holdings and investment strategy.

**Pro:** CITs are held to ERISA fiduciary standards to act only in the best interests of participants and their beneficiaries. True at the committee level, but not applicable to the investment discussion. Regarding the investment options, CITs are held to a fiduciary standard and mutual funds are not.

**Con:** Because CITs are available only to institutional retirement plans (like 401(k) and 457 governmental plans), portability may be limited at separation from service. Additionally, CITs may have higher minimum investment requirements, so they may be available only to large plans or plans who can have their assets combined to meet higher thresholds. However, NFP has leveraged its scale to bring a number of CITs with significantly reduced expense ratios to all of its clients, regardless of plan size.

Please consult your NFP advisor if you would like to learn more about CITs and whether they are appropriate for your plan.

## WASHINGTON UPDATE

### New Contribution Limits for 2019

Contribution limits have increased! The 2019 limits for 457(b) plan contributions are:

- \$19,000 for pre-tax and Roth contributions, combined
- \$38,000 for traditional catch-up, three years prior to normal retirement age
- \$6,000 for over-50 catch-up.

Reminder, a participant can only contribute to one of the two catch-up options in a calendar year.

### What's on the Legislative Horizon?

As the new Congress convenes in January, we are expecting a flurry of retirement bills to be introduced as options for tax revenue are developed. The National Association of Government Defined Contribution Administrators (NAGDCA) continues to emphasize issues important to both participants and plan sponsors. One of these issues – the exclusion from the 10 percent early withdrawal penalty – was “scored” in 2018 by the Congressional Budget Office. The CBO scores various legislative proposals in terms of their ability to raise additional tax revenue, and NAGDCA recently reported that this issue was scored LOW – meaning that it is not projected to be a significant revenue raiser, and may in fact result in a revenue loss. Therefore, the general understanding is that this issue may now become less important, since Congress is usually primarily interested in issues that will produce increases in tax revenue.

For the most recent copy of NAGDCA's legislative priorities, click [here](#).

### Changes to Emergency Withdrawal Requirements – CAUTION

Recent instructions in internal procedures at the IRS have resulted in some confusion pertaining to emergency withdrawal documentation requirements. The instructions allow for participants to summarize why they need funds withdrawn, without providing detailed documentation of the financial need. This raises several concerns that may increase a plan sponsor's risk of non-compliance with these requirements, and the concerns are the same regardless

of whether the plan sponsor or the service provider is responsible for this feature in a plan.

What's a plan sponsor to do? NFP recommends reviewing emergency withdrawal application procedures to make sure the appropriate documentation is required for all cases. Remember – the plan sponsor is responsible for making sure requirements are followed, even if the service provider carries out the task of reviewing applications.

A full brief by the National Law Review can be found [here](#). Please contact your NFP advisor if you would like additional information.

## NAGDCA BENCHMARKING RESOURCES

NAGDCA's annual benchmarking report has been published for 2018 (using 2017 data). Key findings include:

- Average account balance: \$53,822
- Average annual contribution: \$4,504
- Two-thirds of plans surveyed use self-directed brokerage, but only 2% of participants use this option
- Three of five plans offer loans

The information contained in this report can be useful for comparing your plan to national averages. The full report can be found [here](#).



## NFP GOVERNMENTAL RETIREMENT PLAN EXPERTISE



Bill Tugaw is the governmental plan practice leader for NFP. He has assisted public sector employers in meeting the fiduciary obligations associated with operating their plans for more than 30 years. Bill is a faculty instructor for the International Foundation of Employee Benefit Plans (IFEBC) on public sector 457(b), 401(a) and 403(b) plans. Bill is frequently invited to lecture on employee benefits, post-employment health plan options, requests for disclosure and requests for proposals. Bill is co-author of two books: *Deferred Compensation / Defined Contribution: New Rules / New Game for Public and Private Plans*, and *Defined Contribution Decisions: The Education Challenge*.

bill.tugaw@nfp.com | P: 916.270.2020 x103  
4364 Town Center Blvd | Suite 213 | El Dorado Hills, CA 95762

## About NFP

At NFP Corp., our solutions and expertise are matched only by our personal commitment to each client's goals. We're a leading insurance broker and consultant that provides employee benefits, property & casualty, retirement and individual private client solutions through our licensed subsidiaries and affiliates.

NFP has more than 3,800 employees and global capabilities. Our expansive reach gives us access to highly rated insurers, vendors and financial institutions in the industry, while our locally based employees tailor each solution to meet our clients' needs. We've become one of the largest insurance brokerage, consulting and wealth management firms by building enduring relationships with our clients and helping them realize their goals.

For more information, visit [nfp.com](http://nfp.com).

This material was created to provide accurate and reliable information on the subjects covered but should not be regarded as a complete analysis of these subjects. It is not intended to provide specific legal, tax or other professional advice. The services of an appropriate professional should be sought regarding your individual situation.

The target date is the approximate date when investors plan on withdrawing their money. Generally, the asset allocation of each fund will change on an annual basis with the asset allocation becoming more conservative as the fund nears target retirement date. The principal value of the funds is not guaranteed at any time including at and after the target date.

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