

Plan Review State of Rhode Island

Optimizing plan effectiveness to drive
better outcomes

Delivered by: David Iden & Larry Brown

As of December 31, 2016



Rhode
to**Retirement**



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I. Plan Data Summary

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Plan Data Summary - All Plans

Assets & contributions by asset class year-over-year

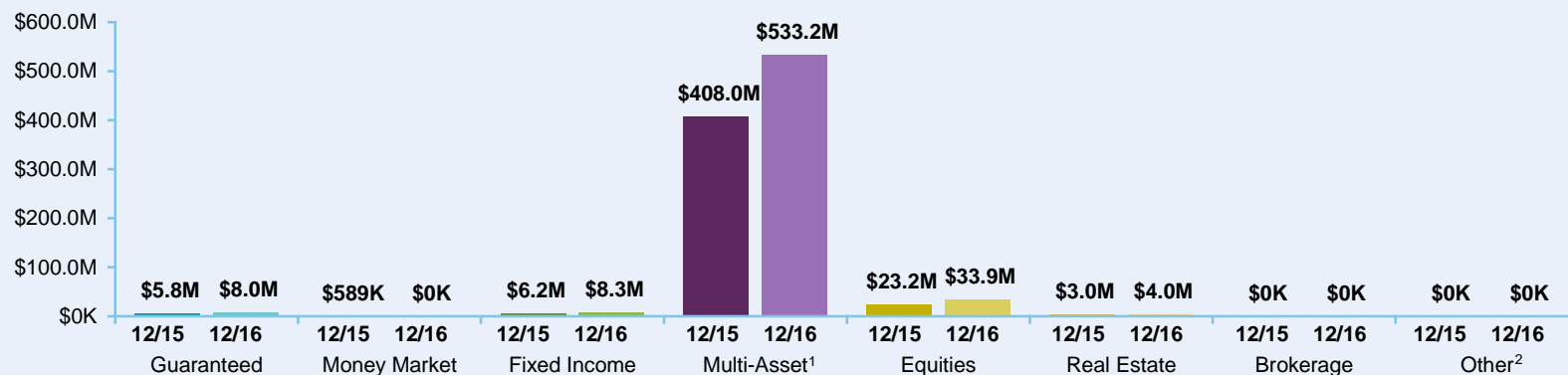
\$587,397,923

Total assets

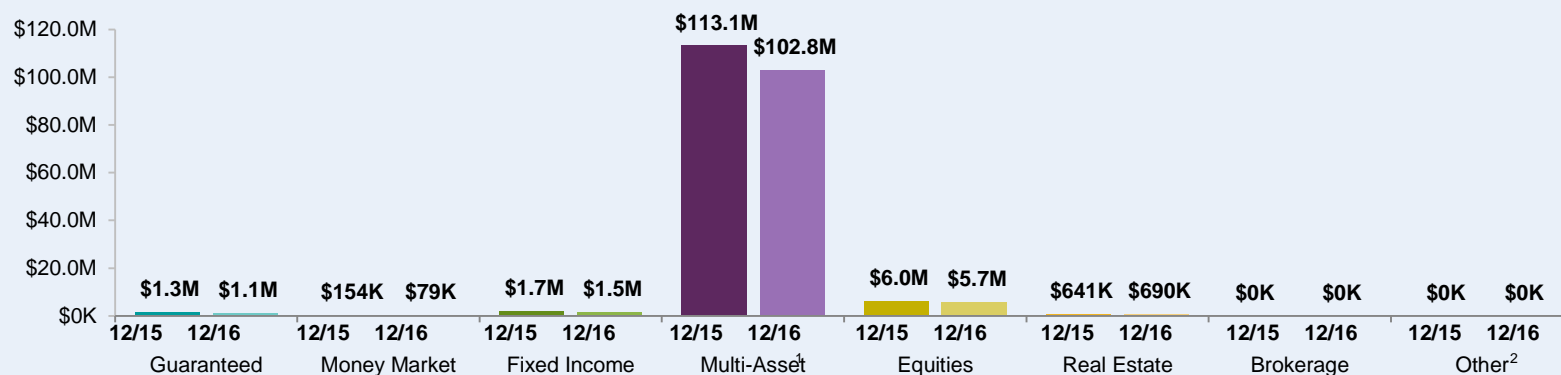
\$111,946,661

Total contributions

Assets



Contributions



This report is as of the period ending 12/31/2016 and reflects the trailing 12 months of activity unless otherwise noted. The report includes all TIAA plans except 457(f), 457(b) Private, Nonqualified Deferred Compensation, and Retirement Healthcare plans. 1. Multi-Asset includes Lifecycle funds. 2. Other includes uncategorized assets.



Plan Data Summary – 401(a) Defined Contribution Plan

Plan assets & contributions by asset class year-over-year

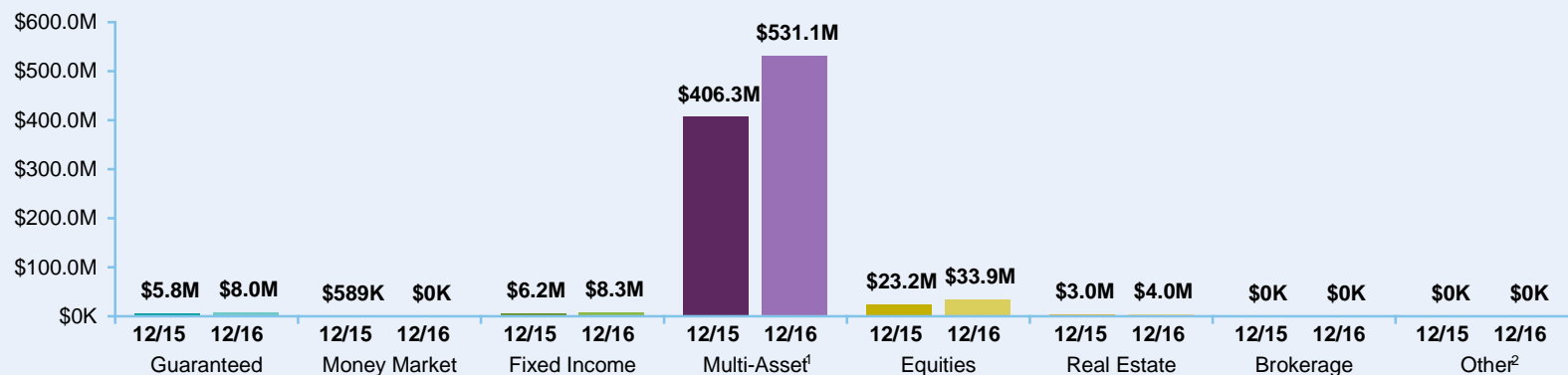
\$585,247,873

Total plan assets

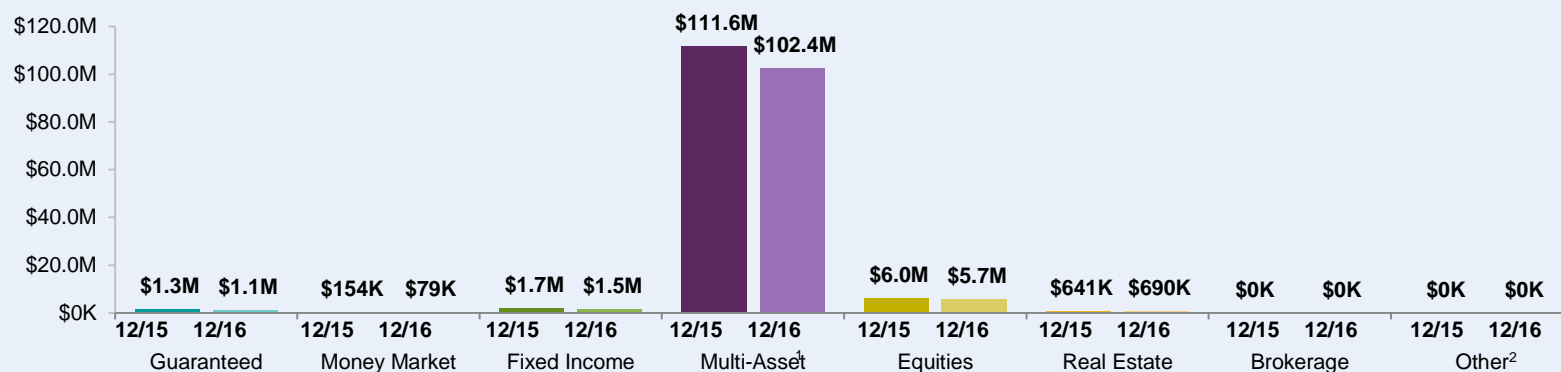
\$111,553,475

Total contributions

Assets



Contributions



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Plan assets & contributions by investment option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
Total		\$111,553,475		\$585,247,873	
GUARANTEED					
TIAA Stable Value	1,156	\$1,126,115	1.01%	\$7,973,831	1.36%
Guaranteed Total		\$1,126,115	1.01%	\$7,973,831	1.36%
MONEY MARKET					
Vanguard Prime Money Mkt Inv	0	\$79,408	0.07%	\$0	0.00%
Money Market Total		\$79,408	0.07%	\$0	0.00%
FIXED INCOME					
PIMCO Real Return Inst Class	1,067	\$782,388	0.70%	\$4,223,365	0.72%
Vanguard Ttl Bd Mkt Idx Adm	1,052	\$704,169	0.63%	\$4,107,174	0.70%
Fixed Income Total		\$1,486,557	1.33%	\$8,330,540	1.42%
MULTI-ASSET					
Vanguard Tgt Ret 2010 Trust II	0	\$688,745	0.62%	\$0	0.00%
Vanguard Tgt Ret 2015 Trust II	0	\$3,507,700	3.14%	\$0	0.00%
Vanguard Tgt Ret 2020 Trust II	0	\$6,964,796	6.24%	\$0	0.00%
Vanguard Tgt Ret 2025 Trust II	0	\$8,272,082	7.42%	\$0	0.00%
Vanguard Tgt Ret 2030 Trust II	0	\$9,320,104	8.35%	\$0	0.00%

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Plan assets & contributions by investment option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
MULTI-ASSET (Continued)					
Vanguard Tgt Ret 2035 Trust II	0	\$11,331,859	10.16%	\$0	0.00%
Vanguard Tgt Ret 2040 Trust II	0	\$9,308,727	8.34%	\$0	0.00%
Vanguard Tgt Ret 2045 Trust II	0	\$6,979,518	6.26%	\$0	0.00%
Vanguard Tgt Ret 2050 Trust II	0	\$4,351,134	3.90%	\$0	0.00%
Vanguard Tgt Ret 2055 Trust II	0	\$1,819,552	1.63%	\$0	0.00%
Vanguard Tgt Ret 2060 Trust II	0	\$113,708	0.10%	\$0	0.00%
Vanguard Tgt Ret Inc Trust II	0	\$235,873	0.21%	\$0	0.00%
Vanguard Tgt Rtmt 2010 Tr I	746	\$387,429	0.35%	\$7,928,032	1.35%
Vanguard Tgt Rtmt 2015 Tr I	2,706	\$2,163,862	1.94%	\$35,734,694	6.11%

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Plan assets & contributions by investment option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
MULTI-ASSET (Continued)					
Vanguard Tgt Rtmt 2020 Tr I	5,187	\$4,169,978	3.74%	\$72,263,533	12.35%
Vanguard Tgt Rtmt 2025 Tr I	5,948	\$4,941,736	4.43%	\$82,346,297	14.07%
Vanguard Tgt Rtmt 2030 Tr I	5,717	\$5,822,281	5.22%	\$85,459,277	14.60%
Vanguard Tgt Rtmt 2035 Tr I	5,093	\$7,186,864	6.44%	\$86,755,325	14.82%
Vanguard Tgt Rtmt 2040 Tr I	4,000	\$5,785,116	5.19%	\$68,664,214	11.73%
Vanguard Tgt Rtmt 2045 Tr I	3,578	\$4,435,713	3.98%	\$50,816,843	8.68%
Vanguard Tgt Rtmt 2050 Tr I	2,953	\$2,870,264	2.57%	\$28,688,881	4.90%
Vanguard Tgt Rtmt 2055 Tr I	1,857	\$1,457,823	1.31%	\$9,226,206	1.58%
Vanguard Tgt Rtmt 2060 Tr I	247	\$164,296	0.15%	\$722,598	0.12%

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Plan assets & contributions by investment option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
MULTI-ASSET (Continued)					
Vanguard Tgt Rtmt Income Tr I	264	\$147,401	0.13%	\$2,451,087	0.42%
Multi-Asset Total		\$102,426,562	91.82%	\$531,056,988	90.74%
EQUITIES					
TIAA-CREF Intl Eq Idx-Inst	1,106	\$627,223	0.56%	\$3,236,223	0.55%
TIAA-CREF Social Ch Eq-Inst	217	\$114,215	0.10%	\$727,147	0.12%
Vanguard Emr Mkts Stk Idx Adm	1,223	\$508,680	0.46%	\$2,526,162	0.43%
Vanguard Inst Idx Inst	1,998	\$2,325,474	2.08%	\$14,885,470	2.54%
Vanguard Mid-Cap Idx Adm	0	\$723,884	0.65%	\$0	0.00%
Vanguard Mid-Cap Idx Inst	1,702	\$311,358	0.28%	\$6,326,254	1.08%
Vanguard Small-Cap Idx Adm	1,662	\$1,134,200	1.02%	\$6,163,664	1.05%
Equities Total		\$5,745,034	5.15%	\$33,864,919	5.79%

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Plan assets & contributions by investment option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
REAL ESTATE					
TIAA Real Estate	1,372	\$689,798	0.62%	\$4,021,594	0.69%
Real Estate Total		\$689,798	0.62%	\$4,021,594	0.69%

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Member Engagement

Focus on outcomes-based
education and advice



2016 Benefits Fairs, Seminars and Workshops

Q1 Locations and Attendees

ERSRI Meeting held at Ferri Middle School	62
ERSRI Meeting held at the Department of Health	100
ERSRI Meeting; RI Laborers' District Council	20
ERSRI Meeting held for RIDOT	35
Rhode Leagues of Cities and Towns EXPO	300
ERSRI Meeting held at the Mt. Hope High School for the Bristol/Warren Teachers	65
ERSRI Meeting at West Warwick High School	50
Dept. of Health Retirement Planning /R2R plan Presentation	15
RI Military Staff/Emergency Mgmt. Agency Group Presentation	8

Q3 Locations and Attendees

Town of Johnston	2
RI Department of Education (RIDE)	40
Davies Vocational Tech School	26
City of Central Falls	2
Cumberland Schools	15

2016 Benefits Fairs, Seminars and Workshops

Q2 Locations and Attendees

City of Newport	40
City of Cranston	10
RI School for the Deaf	30
Office of the Auditor General	8
Board of Elections	7
Westerly Schools	13
Town of East Greenwich	10
RI Judiciary – Licht	14
RI Judiciary – Kent	1

Q4 Locations and Attendees

RIASBO	21
Northern RI Collaborative	23
Central Falls School District	17
Benefit Fairs (DOA, NBC, RIC, URI)	356
Davis Vocational HS Benefit Fair	5

Benefits Fairs, Seminars and Workshops

Year	Attendees
2013	1785
2014	402
2015	718
2016	1295

TIAA-CREF Financial Essentials Seminars

TIAA-CREF's comprehensive, financial education program is designed to help every employee address their financial needs.

- Focus on education for individuals – financial well-being is defined by them
- Offer material relevant to where they are in life/career
- Give them the confidence to help take control of their financial future

Webinars

Interactive webinars keep you up-to-date on topics to help you fulfill fiduciary responsibilities, enhance plan administration and engage your employees.

For the most current list go to

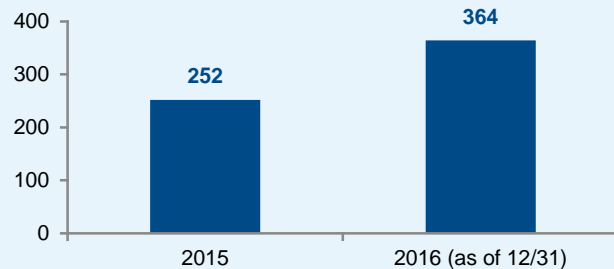
<https://www.tiaa-cref.org/public/plansponsors/news/webinars/index.html>

Overall in-person engagement summary as of 12/31/16



Summary of individual sessions

Individual Sessions¹



¹ Includes sessions with representatives from our Field Consulting Group **and** our Individual Advisory Services group. Numbers show total sessions held and may include employees who had multiple sessions.

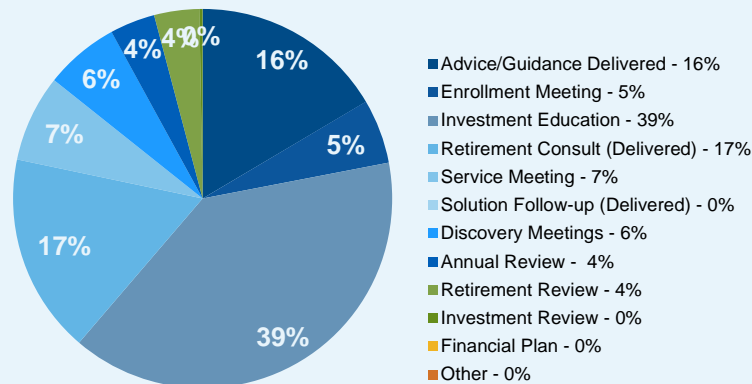
Employees Participating in Sessions in 2016

Gender	Count ²	Average Age	Average Balance ³
Female	210	55.86	\$55,490
Male	108	52.76	\$70,559
Unknown	0	0	0
Overall	318	54.80	\$60,608

A full spectrum of services to help meet the diverse needs of your employee base



Topic Summary – Individual sessions 2016 YTD



Advisory services are provided by Advice & Planning Services, a division of TIAA-CREF Individual & Institutional Services, LLC, a registered investment adviser. TIAA-CREF Trust Company, FSB provides trust services. TIAA-CREF Trust Company, FSB provides investment management and trust services.

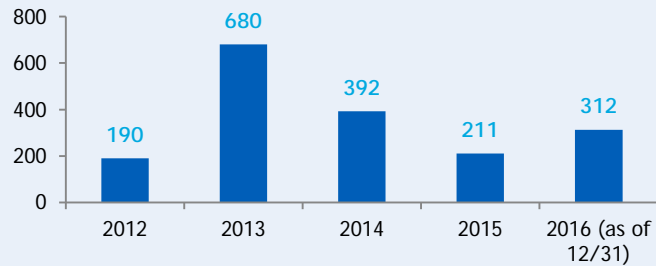
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In-person interactions with plan participants as of 12/31/16



Individual Session Breakdown

Individual Sessions¹ (Field Consulting Group)



¹ Numbers show total sessions held and may include employees who had multiple sessions.

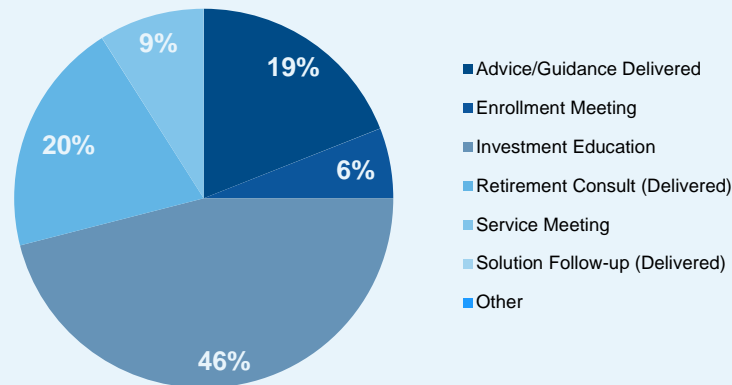
Employees Participating in Sessions 2016

Gender	Count ²	Average Age	Average Balance ³
Female	188	55.2	\$44,909
Male	98	51.8	\$29,520
Unknown	0	0	0
Overall	286	54.0	\$39,635

² Employees who had multiple sessions are only counted once.

³ Reflects employee's total TIAA-CREF balance.

Topic Summary - Individual Sessions 2016 YTD



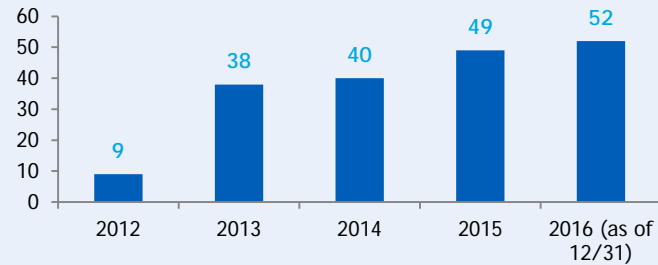
These statistics are meant to reflect customer satisfaction with services provided through TIAA-CREF Financial Consultants. Results experienced may not be typical of all participants, and are not indicative of future performance or success. Individual results will vary

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Individual Advisory Services as of 12/31/16

Financial Planning Session Breakdown

Meetings¹ Held (Individual Advisory Services)



¹ Numbers show total meetings held and may include employees who had multiple meetings.

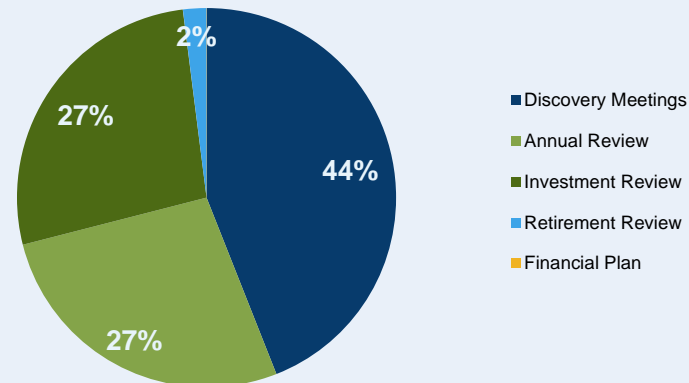
Employees Participating in Meetings in 2016

Gender	Count ²	Average Age	Average Balance ³
Female	26	61.10	\$137,266
Male	12	62.4	\$397,225
Unknown	0	0	0
Overall	38	61.5	\$219,358

² Employees who had multiple meetings are only counted once.

³ Reflects employee's total TIAA balance.

Individual Advisory Services Group Activity 2016 YTD





Plan Data Summary – FICA Alternative Retirement Income Security Program

Plan assets & contributions by asset class year-over-year

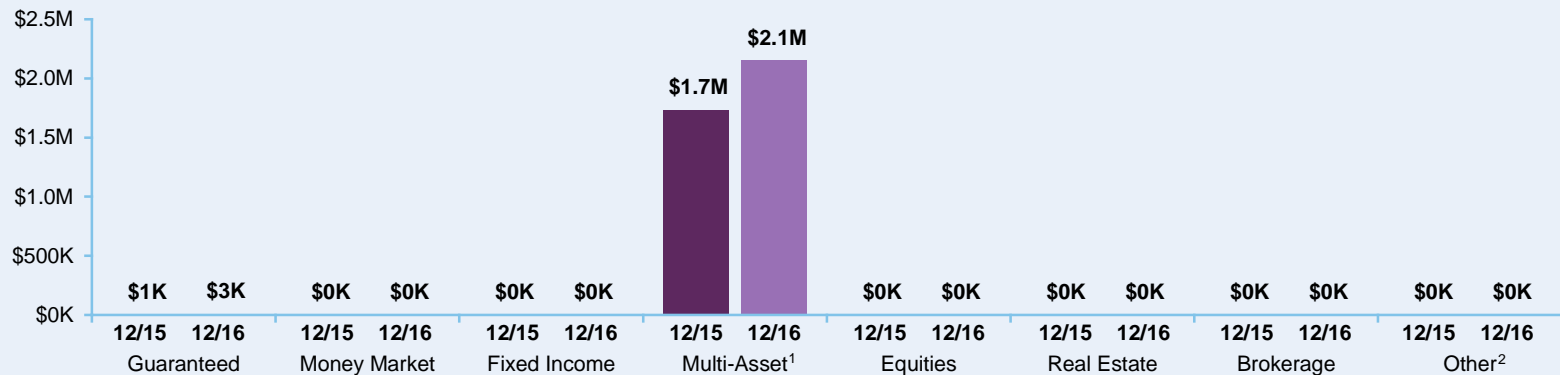
\$2,150,050

Total plan assets

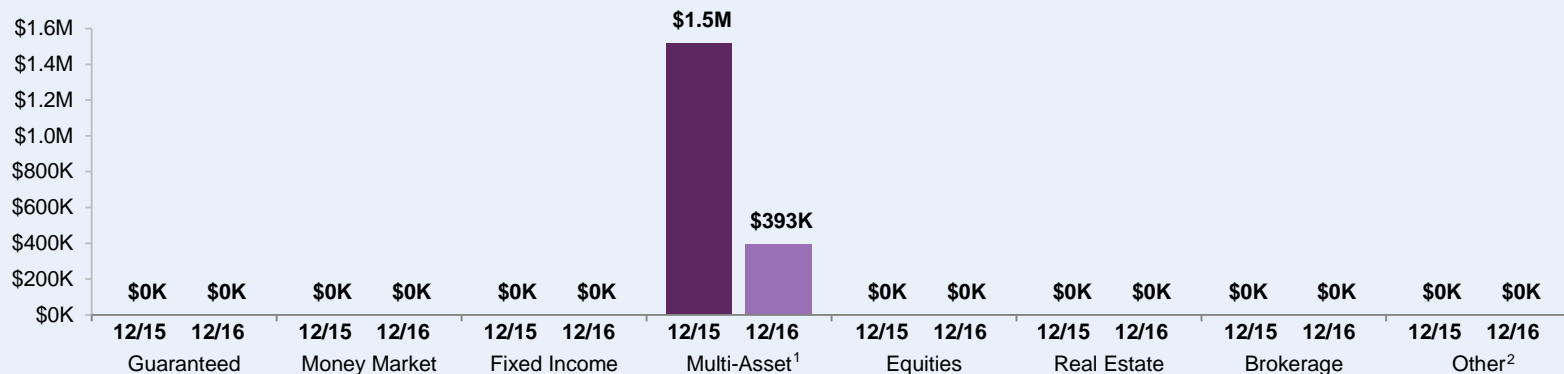
\$393,186

Total contributions

Assets



Contributions



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Plan assets & contributions by investment option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
Total		\$393,186		\$2,150,050	
GUARANTEED					
TIAA Stable Value	3	\$0	0.00%	\$3,218	0.15%
Guaranteed Total		\$0	0.00%	\$3,218	0.15%
MULTI-ASSET					
Vanguard Tgt Ret 2010 Trust II	0	\$3,175	0.81%	\$0	0.00%
Vanguard Tgt Ret 2015 Trust II	0	\$2,862	0.73%	\$0	0.00%
Vanguard Tgt Ret 2020 Trust II	0	\$14,398	3.66%	\$0	0.00%
Vanguard Tgt Ret 2025 Trust II	0	\$13,213	3.36%	\$0	0.00%
Vanguard Tgt Ret 2030 Trust II	0	\$22,958	5.84%	\$0	0.00%
Vanguard Tgt Ret 2035 Trust II	0	\$11,245	2.86%	\$0	0.00%
Vanguard Tgt Ret 2040 Trust II	0	\$13,153	3.35%	\$0	0.00%
Vanguard Tgt Ret 2045 Trust II	0	\$13,985	3.56%	\$0	0.00%

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Plan assets & contributions by investment option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
MULTI-ASSET (Continued)					
Vanguard Tgt Ret 2050 Trust II	0	\$16,616	4.23%	\$0	0.00%
Vanguard Tgt Ret 2055 Trust II	0	\$28,094	7.15%	\$0	0.00%
Vanguard Tgt Ret 2060 Trust II	0	\$115,289	29.32%	\$0	0.00%
Vanguard Tgt Rtmt 2010 Tr I	11	\$2,320	0.59%	\$10,794	0.50%
Vanguard Tgt Rtmt 2015 Tr I	9	\$421	0.11%	\$8,326	0.39%
Vanguard Tgt Rtmt 2020 Tr I	30	\$8,745	2.22%	\$1,211,522	56.35%
Vanguard Tgt Rtmt 2025 Tr I	58	\$12,434	3.16%	\$73,648	3.43%
Vanguard Tgt Rtmt 2030 Tr I	64	\$9,739	2.48%	\$97,506	4.54%
Vanguard Tgt Rtmt 2035 Tr I	42	\$8,853	2.25%	\$60,919	2.83%

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Plan assets & contributions by investment option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
MULTI-ASSET (Continued)					
Vanguard Tgt Rtmt 2040 Tr I	35	\$6,481	1.65%	\$38,849	1.81%
Vanguard Tgt Rtmt 2045 Tr I	38	\$8,513	2.17%	\$56,517	2.63%
Vanguard Tgt Rtmt 2050 Tr I	71	\$8,734	2.22%	\$73,689	3.43%
Vanguard Tgt Rtmt 2055 Tr I	283	\$19,232	4.89%	\$162,916	7.58%
Vanguard Tgt Rtmt 2060 Tr I	829	\$52,728	13.41%	\$351,987	16.37%
Vanguard Tgt Rtmt Income Tr I	1	\$0	0.00%	\$157	0.01%
Multi-Asset Total		\$393,186	100.00%	\$2,146,832	99.85%

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Investment Solutions

Provide participants with relevant choices and lifetime income options





2017 YTD Performance Summary

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(S)
As of 1/31/17	Mgr.	AUM	Gross	Net	Net	Rev	Recent Returns	Annualized Total Returns as of 12/31/2016										Since	Incep.
	Ticker	Tenure	\$ Millions	ER	ER	%-ile	Share	1mo.	YTD	1 Year	%-ile	3 Year	%-ile	5 Year	%-ile	10 Year	%-ile	Incep.	Date
TIAA Stable Value****								0.17	0.17	1.90		1.90						1.87	3/31/2012
FIXED INCOME																			
Intermediate-Term Bond																			
Vanguard Total Bond Market Index Adm	VBTLX	3.92	171,815.20	0.06	0.06	2	0.00	0.30	0.30	2.60	62	2.94	40	2.14	71	4.29	48	4.24	11/12/01
BBgBarc US Agg Bond TR USD								0.22	0.22	2.75		2.99		2.24		4.36			
Intermediate-Term Bond Median				0.85	0.71			0.34	0.34	2.96		2.82		2.66		4.32			
Intermediate-Term Bond Number of Funds				1026	1026						996		951		903		798		
Inflation-Linked Bond																			
PIMCO Real Return Instl	PRRIX	9.08		0.58	0.45	24	0.00	1.17	1.17	5.04	21	1.85	23	0.98	13	4.60	3		01/29/97
BBgBarc US Treasury US TIPS TR USD								0.84	0.84	4.68		2.26		0.89		4.36			
Inflation-Protected Bond Median				0.83	0.65			0.85	0.85	4.36		1.46		0.45		3.67			
Inflation-Protected Bond Number of Funds				234	234						230		216		185		142		
Equity																			
Large Cap Blend																			
Vanguard Institutional Index I	VINIX	16.08	211,495.63	0.04	0.04	1	0.00	1.89	1.89	11.93	27	8.85	6	14.63	15	6.95	21	9.50	07/31/90
S&P 500 TR USD								1.90	1.90	11.96		8.87		14.66		6.95			
TIAA-CREF Social Choice Eq Instl	TISCX	11.08	2,431.67	0.18	0.18	5	0.00	1.88	1.88	13.51	14	7.22	51	13.56	52	6.76	28		07/01/99
Russell 3000 TR USD								1.88	1.88	12.74		8.43		14.67		7.07			
Large Blend Median				1.07	0.96			1.85	1.85	10.49		7.26		13.62		6.25			
Large Blend Number of Funds				1426	1426						1383		1320		1235		1083		
Mid Cap Blend																			
Vanguard Mid Cap Index I	VMCIX	18.67	76,489.78	0.07	0.07	2	0.00	3.00	3.00	11.23	73	7.68	30	14.38	38	7.69	37	9.67	05/21/98
Spliced Mid Cap Index *								2.99	2.99	11.25		7.72		14.42		7.70			
CRSP US Mid Cap TR USD								2.99	2.99	11.25		7.72		14.56		7.62			
Mid-Cap Blend Median				1.16	1.06			1.52	15.10	15.10		6.48		13.74		7.01			
Mid-Cap Blend Number of Funds				445	445						412		386		363		314		
Small Cap Blend																			
Vanguard Small Cap Index Adm	VSMAX	0.75	69,441.63	0.08	0.08	2	0.00	1.57	1.57	18.30	70	7.01	40	14.83	34	8.18	19	9.00	11/13/00
Spliced Small Cap Index **								1.58	1.58	18.26		7.00		14.81		8.10			
CRSP US Small Cap TR USD								1.58	1.58	18.26		7.00		15.00		8.60			
Small Blend Median				1.33	1.20			2.83	20.57	20.57		6.54		14.12		6.73			
Small Blend Number of Funds				793	793						776		701		642		551		



2017 YTD Performance Summary

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(S)
		Mgr.	AUM	Gross	Net	Net	Rev	Recent Returns		Annualized Total Returns as of 12/31/2016									Since	Incep.
As of 1/31/17	Ticker	Tenure	\$ Millions	ER	ER	%-ile	Share	1mo.	YTD	1 Year	%-ile	3 Year	%-ile	5 Year	%-ile	10 Year	%-ile	Incep.	Date	
Foreign Large Blend																				
TIAA-CREF International Eq Idx Instl	TCIEX	11.42	8,190.57	0.06	0.06	1	0.00	3.44	3.44	1.22	43	(1.63)	40	6.69	26	0.85	34		10/01/02	
MSCI EAFE NR USD								2.90	2.90	1.00		(1.60)		6.53		0.75				
Foreign Large Blend Median				1.29	1.10			3.38	3.38	0.61		(2.04)		5.94		0.35				
Foreign Large Blend Number of Funds				778	778						741		658		626		472			
Diversified Emerging Markets																				
Vanguard Emerging Mkts Stock Idx Adm	VEMAX	8.42	61,025.35	0.15	0.15	1	0.00	4.94	4.94	11.73	26	(1.64)	23	1.44	53	1.87	37	4.34	06/23/06	
Spliced Emerging Markets Index ***								4.54	4.54	11.77		(1.44)		1.61		2.01				
FTSE EMs AC China A Inclusion NR USD								4.54	4.54	10.28		(0.73)		2.28		2.56				
FTSE Emerging NR USD								4.64	4.64	13.14		(1.09)		1.82		2.36				
MSCI EM NR USD								5.47	5.47	11.19		(2.55)		1.28		1.84				
Diversified Emerging Mkts Median				1.77	1.44			5.61	5.61	8.34		(2.87)		1.73		1.29				
Diversified Emerging Mkts Number of Funds				822	822						786		628		503		258			
Miscellaneous Sector																				
TIAA Real Estate Account	VA	1.42	24,301.35	0.89	0.89		0.24	0.38	0.38	5.20		8.49		9.03		3.38			10/02/95	
Lifecycle																				
Vanguard Target Retirment Income Trust II				0.07	0.07		0.00	0.86	0.86	5.25		3.56		4.95				4.72	02/29/08	
Vanguard Target Retirement Income Composite								0.77	0.77	5.35		3.71		5.10						
Retirement Income Median				1.13	0.78			1.06	1.06	5.05		2.64		4.37		3.80				
Retirement Income Number of Funds				181	181						175		151		136		77			
Vanguard Target Retirment 2010 Trust II				0.07	0.07		0.00	0.86	0.86	5.32		3.67		6.01				4.89	02/29/08	
Vanguard Target Retirement 2010 Composite								0.79	0.79	5.44		3.83		6.16						
Target Date 2000-2010 Median				1.00	0.71			1.30	1.30	5.98		3.22		6.04		3.76				
Target Date 2000-2010 Number of Funds				121	121						113		101		87		53			
Vanguard Target Retirment 2015 Trust II				0.07	0.07		0.00	1.27	1.27	6.25		4.10		7.27				5.32	02/29/08	
Vanguard Target Retirement 2015 Composite								1.13	1.13	6.40		4.27		7.43						
Target Date 2011-2015 Median				1.03	0.75			1.39	1.39	6.29		3.36		6.74		4.31				
Target Date 2011-2015 Number of Funds				144	144						133		110		93		36			
Vanguard Target Retirment 2020 Trust II				0.07	0.07		0.00	1.53	1.53	7.02		4.48		8.23				5.56	02/29/08	
Vanguard Target Retirement 2020 Composite								1.40	1.40	7.17		4.65		8.42						
Target Date 2016-2020 Median				1.07	0.83			1.50	1.50	6.30		3.32		6.85		3.85				
Target Date 2016-2020 Number of Funds				249	249						231		205		180		97			



2017 YTD Performance Summary

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(S)
As of 1/31/17	Mgr.	AUM	Gross	Net	Net	Rev	Recent Returns	Annualized Total Returns as of 12/31/2016										Since	Incep.
	Ticker	Tenure	\$ Millions	ER	ER	%-ile	Share	1mo.	YTD	1 Year	%-ile	3 Year	%-ile	5 Year	%-ile	10 Year	%-ile	Incep.	Date
Vanguard Target Retirement 2025 Trust II				0.07	0.07		0.00	1.73	1.73	7.51		4.60		8.93				5.67	02/29/08
Vanguard Target Retirement 2025 Composite								1.61	1.61	7.67		4.77		9.10					
Target Date 2021-2025 Median				1.08	0.80			1.72	1.72	6.87		3.56		7.89		4.12			
Target Date 2021-2025 Number of Funds				218	218						201		175		145		47		
Vanguard Target Retirement 2030 Trust II				0.07	0.07		0.00	1.94	1.94	7.93		4.66		9.58				5.74	02/29/08
Vanguard Target Retirement 2030 Composite								1.81	1.81	8.11		4.87		9.77					
Target Date 2026-2030 Median				1.12	0.86			1.95	1.95	7.31		3.76		8.50		4.05			
Target Date 2026-2030 Number of Funds				249	249						231		205		180		87		
Vanguard Target Retirement 2035 Trust II				0.07	0.07		0.00	2.16	2.16	8.37	7	4.74		10.24				5.94	02/29/08
Vanguard Target Retirement 2035 Composite								2.01	2.01	8.55		4.95		10.42					
Target Date 2031-2035 Median				1.12	0.85			2.15	2.15	7.75		3.85		9.05		4.25			
Target Date 2031-2035 Number of Funds				218	218						201		175		145		47		
Vanguard Target Retirement 2040 Trust II				0.07	0.07		0.00	2.36	2.36	8.79		4.76		10.59				6.14	02/29/08
Vanguard Target Retirement 2040 Composite								2.21	2.21	8.98		5.01		10.80					
Target Date 2036-2040 Median				1.16	0.90			2.29	2.29	7.82		4.00		9.38		4.15			
Target Date 2036-2040 Number of Funds				249	249						231		205		180		87		
Vanguard Target Retirement 2045 Trust II				0.07	0.07		0.00	2.47	2.47	8.91		4.78		10.61				6.12	02/29/08
Vanguard Target Retirement 2045 Composite								2.28	2.28	9.13		5.06		10.83					
Target Date 2041-2045 Median				1.15	0.86			2.33	2.33	8.06		4.07		9.79		4.35			
Target Date 2041-2045 Number of Funds				218	218						201		175		141		43		
Vanguard Target Retirement 2050 Trust II				0.07	0.07		0.00	2.42	2.42	8.95		4.77		10.59				6.14	02/29/08
Vanguard Target Retirement 2050 Composite								2.28	2.28	9.13		5.06		10.83					
Target Date 2046-2050 Median				1.25	0.90			2.37	2.37	8.11		4.09		9.83		4.06			
Target Date 2046-2050 Number of Funds				242	242						224		198		172		24		
Vanguard Target Retirement 2055 Trust II				0.07	0.07		0.00	2.44	2.44	8.97		4.75						10.87	08/31/10
Vanguard Target Retirement 2055 Composite								2.28	2.28	9.13		5.06							
Target Date 2051-2055 Median				1.28	0.86			2.37	2.37	8.19		4.07							
Target Date 2051-2055 Number of Funds				216	216						199		146						
Vanguard Target Retirement 2060 Trust II				0.07	0.07		0.00	2.46	2.46	8.95		4.75						8.81	03/01/12
Vanguard Target Retirement 2060 Composite								2.28	2.28	9.13		5.06							
Target Date 2060+ Median				1.92	0.82			2.45	2.45	7.86		3.23							
Target Date 2060+ Number of Funds				165	165						108		9						



2017 YTD Performance Summary

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(S)
As of 1/31/17	Mgr.	AUM	Gross	Net	Net	Rev	Recent Returns	Annualized Total Returns as of 12/31/2016										Since	Incep.
	Ticker	Tenure	\$ Millions	ER	ER	%-ile	Share	1mo.	YTD	1 Year	%-ile	3 Year	%-ile	5 Year	%-ile	10 Year	%-ile	Incep.	Date

Source: Morningstar & TIAA-CREF

Morningstar Analyst Assigned Benchmark"

Data for 1-month and YTD return as of 1/31/2017. All other data as of 12/31/2016

VA = Variable Annuity

Since Incep. = Since Inception Incep. Date = Inception Date

Vanguard Index Information from available at <http://www.vanguard.com>

* = S&P MidCap 400 Index through May 16, 2003; the MSCI US Mid Cap 450 Index through January 30, 2013; and the CRSP US Mid Cap Index thereafter

** = Russell 2000 Index through May 16, 2003; the MSCI US Small Cap 1750 Index through January 30, 2013; and the CRSP US Small Cap Index thereafter

*** = Spliced Emerging Markets Index reflects performance of the Select Emerging Markets Index through August 23, 2006; the MSCI Emerging Markets Index through January 9, 2013; FTSE Emerging Transition Index through June 27, 2013; FTSE Emerging Index through November 1, 2015; FTSE Emerging Markets All Cap China A Transition Index through September 18, 2016; and FTSE Emerging Markets All Cap China A Inclusion Index thereafter.

**** = The TIAA Stable Value Inception Date represents the date that the plan's TIAA Stable Value record was initiated on TIAA-CREF's recordkeeping system which may be earlier than the date of first deposit to the contract.

"Since Inception" performance is calculated from this date.

***** = For definitions please visit www.tiaa-cref.org/public/assetmanagement

Note: Rankings shown for returns are calculated by Morningstar. Rankings for expense ratio, Sharpe ratio and standard deviation are calculated by TIAA-CREF and may differ based on calculation methods

Fee Disclosures: 1 The net expense ratio reflects total annual fund operating expenses excluding interest expense. If interest expense was included, returns would have been lower.

2 Accumulations in mutual funds not managed by TIAA-CREF may be subject to administrative charges. These charges are subject to change. Please review current documents related to your plan.

- %-ile --> Percentile Ranking in Morningstar Category.

The performance data quoted represents past performance and is no guarantee of future results. Your returns and the principal value of your investments will fluctuate so that your shares or accumulation units, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted below. For performance current to the most recent month-end, visit the TIAACREF Website at www.tiaa-cref.org, or call 877 518-9161.

Annuity account options are available through annuity contracts issued by TIAA or CREF. These contracts are designed for retirement or other long-term goals, and offer a variety of income options, including lifetime income. Payments from the variable annuity accounts are not guaranteed and will rise or fall based on investment performance.

For the variable annuity accounts, we estimate expenses for the plan year based on projected expense and asset levels. Differences between estimated and actual expenses are adjusted quarterly and reflected in current investment results. Historically, the adjusting payments have resulted in both upward and downward adjustments.

Investing in non-investment grade securities presents special risks, including significantly higher interest-rate and credit risk.

Small-cap and mid-cap stocks may have limited marketability and may be subject to more abrupt or erratic market movements than large-cap stocks.

The risks associated with foreign investments are often magnified in emerging markets where there is greater potential for political, currency, and economic volatility.

Funds that invest in fixed-income securities are not guaranteed and are subject to interest-rate, inflation and credit risks.

Funds that invest in foreign securities are subject to special risks, including currency fluctuation and political and economic instability.

Real estate securities are subject to various risks, including fluctuations in property values, higher expenses or lower income than expected, and potential environmental problems and liability.

Any guarantees under annuities issued by TIAA are subject to TIAA's claims-paying ability. TIAA Stable Value is guaranteed insurance contract and not an investment for Federal Securities Law purposes.

Target Date Funds share the risks associated with the types of securities held by each of the underlying funds in which they invest. In addition to the fees and expenses associated with the Target Date Funds, there is exposure to the fees and expenses associated with the underlying mutual funds as well.

TIAA-CREF Individual & Institutional Services, LLC, Teachers Personal Investors Services, Inc., and Nuveen Securities, LLC, Members FINRA and SIPC, distribute securities products. Annuity contracts and certificates are issued by Teachers Insurance and Annuity Association of America (TIAA) and College Retirement Equities Fund (CREF), New York, NY. Each is solely responsible for its own financial condition and contractual obligations.

Investment, insurance and annuity products are not FDIC insured, are not bank guaranteed, are not deposits, are not insured by any federal government agency, are not a condition to any banking service or activity, and may lose value.

You should consider the investment objectives, risks, charges and expenses carefully before investing. Please call 877 518-9161 or log on to tiaacref.org for product and fund prospectuses that contains this and other information. Please read the prospectuses carefully before investing.

Morningstar is an independent service that rates mutual funds and variable annuities, based on risk-adjusted returns. Although Morningstar data is gathered from reliable sources, neither Morningstar nor TIAA-CREF can guarantee its completeness and accuracy. Morningstar does not rate money market accounts, and the other TIAA-CREF mutual fund accounts are too new to be rated. Past performance does not guarantee future results. Accumulation net asset values and returns will vary.

For each fund/account with at least a three-year history, Morningstar calculates a Morningstar Rating™ based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a fund's/account's monthly performance (including the effects of sales charges, loads, and redemption fees), placing more emphasis on downward variations and rewarding consistent performance. Where applicable, Morningstar's performance rankings are based on linked performance that considers the differences in expense ratios, while actual performance data shown does not reflect such differences. The top 10 percent of funds/accounts in a category receive five stars, the next 22.5 percent receive four stars, and the next 35 percent receive three stars, the next 22.5 percent receive two stars and the bottom 10 percent receive one star. (Each share class is counted as a fraction of one fund/account within this scale and rated separately, which may cause slight variations in the distribution percentages.) Morningstar proprietary ratings on U.S.-domiciled funds/accounts reflect historical risk-adjusted performance, are subject to change every month. They are derived from a weighted average of the performance figures associated with its three-, five- and ten-year (if applicable) Morningstar Rating metrics. Please note, Morningstar now rates group variable annuities within the open-end mutual fund universe.

Prospectus Gross Expense Ratio

The percentage of fund assets used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. Fund expenses are reflected in the fund's NAV. Sales charges are not included in the expense ratio.

--The expense ratio for fund of funds is the aggregate expense ratio as defined as the sum of the wrap or sponsor fees plus the estimated weighted average of the underlying fund fees.

--Often referred to as the Annual Operating Expense, the Prospectus Gross Expense Ratio is collected annually from a fund's prospectus.

Prospectus Net Expense Ratio

The percentage of fund assets, net of reimbursements, used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. Fund expenses are reflected in the fund's NAV. Sales charges are not included in the expense ratio.

--The expense ratio for fund of funds is the aggregate expense ratio as defined as the sum of the wrap or sponsor fees plus the estimated weighted average of the underlying fund fees.

--Net reimbursements, the Prospectus Net Expense Ratio is collected annually from a fund's prospectus.

--TIAA-CREF, unless noted, does not charge additional fees for record keeping a fund. 12b-1, revenue share and admin fees are all included in the Prospectus fees.

-- Prospectus Net Expense Ratio % - ile rank is the percentile rank for the fund. The better the expense ratio (lower) the lower the ranking out of 100.

Sharpe Ratio (Source: Morningstar Direct)

A risk-adjusted measure developed by Nobel Laureate William Sharpe. It is calculated by using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe Ratio, the better the portfolio's historical risk-adjusted performance. The Sharpe Ratio can be used to compare two portfolios directly with regard to how much excess return each portfolio achieved for a certain level of risk. Morningstar first calculates a monthly Sharpe Ratio and then annualizes it to put the number in a more useful one-year context.

Standard Deviation (Source: Morningstar Direct) The statistical measurement of dispersion about an average, which depicts how widely a stock or portfolio's returns varied over a certain period of time. Investors use the standard deviation of historical performance to try to predict the range of returns that is most likely for a given investment. When a stock or portfolio has a high standard deviation, the predicted range of performance is wide, implying greater volatility.

Information Ratio (Source: Morningstar Direct) Benchmark Specific

Information ratio is a risk-adjusted performance measure. The information ratio is a special version of the Sharpe Ratio in that the benchmark doesn't have to be the risk-free rate.

Beta (Source: Morningstar Direct) **Benchmark Specific**

Beta is a measure of a portfolio's sensitivity to market movements. The beta of the market is 1.00 by definition.

Alpha (Source: Morningstar Direct) **Benchmark Specific**

A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. A positive Alpha figure indicates the portfolio has performed better than its beta would predict. In contrast, a negative Alpha indicates the portfolio has underperformed, given the expectations established by beta.

Tracking Error (Source: Morningstar Direct) **Benchmark Specific**

Tracking error is a measure of the volatility of excess returns relative to a benchmark.

Upside (Source: Morningstar Direct) **Benchmark Specific**

Upside Capture Ratio measures a manager's performance in up markets relative to the market (benchmark) itself. It is calculated by taking the security's upside capture return and dividing it by the benchmark's upside capture return.

Downside (Source: Morningstar Direct) **Benchmark Specific**

Downside Capture Ratio measures a manager's performance in down markets relative to the market (benchmark) itself. It is calculated by taking the security's downside capture return and dividing it by the benchmark's downside capture return.

R-Square (Source: Morningstar Direct) **Benchmark Specific**

Reflects the percentage of a portfolio's movements that can be explained by movements in its benchmark.
You cannot invest directly in index.

TIAA-CREF reported performance may differ from Morningstar source returns for the same option over the same time period. We would expect an occasional one to two basis point difference. Morningstar Direct calculates returns by one share owned by a hypothetical investor over the requested time period. So the return for one year is calculated using the same formula as one month. TIAA-CREF calculates returns by \$1,000 owned by hypothetical investor for one month then links returns for requested time period. Both set of returns include dividends and capital gains.

Important information

- Data provided represents inputs into the Morningstar advice engine for plan management purposes. If a participant uses Retirement Advisor online or has an advice session with a consultant, estimated retirement income is not replaced with any of the information used in the Plan Outcome AssessmentSM report calculations.
- The plan-level retirement income replacement ratio is determined by calculating the average retirement income replacement ratio of all participants in the plan analysis. All actively contributing participants are included in the analysis, unless the participant has annual compensation of less than \$5,000, has contributed less than \$300 in the previous 12-month period, has a current balance less than \$100, or is less than 18 or greater than 81 years of age.

The Morningstar tool's advice is based on statistical projections of the likelihood that an individual will achieve their retirement goals. The projections rely on financial and economic assumptions of historical rates of return of various asset classes that may not reoccur in the future, volatility measures and other facts, as well as information the individual provides. Morningstar's advice engine includes tax-rate assumptions, mortality tables, and Social Security estimates.

IMPORTANT: Projections, and other information generated through the TIAA Plan Outcome AssessmentSM and the Morningstar tool regarding the likelihood of various investment outcomes, are hypothetical, do not reflect actual investment results, and are not a guarantee of future results. The projections are dependent in part on subjective and proprietary assumptions, including the rate of inflation and the rate of return for different asset classes, and these rates are difficult to accurately predict. The projections also rely on financial and economic historical assumptions that may not reoccur in the future, volatility measures and other facts. Results may vary with each use and over time.

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