

Retirement Plan Review

1st Quarter 2016

State of Rhode Island

Presented by: David Iden
Larry Brown



David Iden

Relationship Manager, Institutional Relationships

Larry Brown

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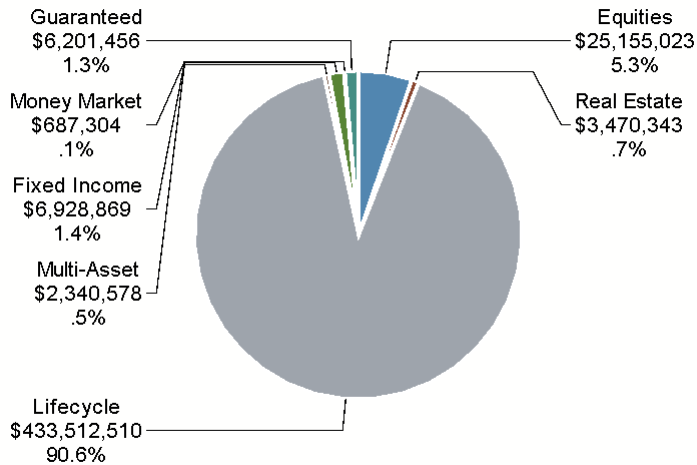
II. Investment Performance Summary

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Plan Data Summary - All Plans

Roughly **91%** of assets are in Vanguard Lifecycle Trusts

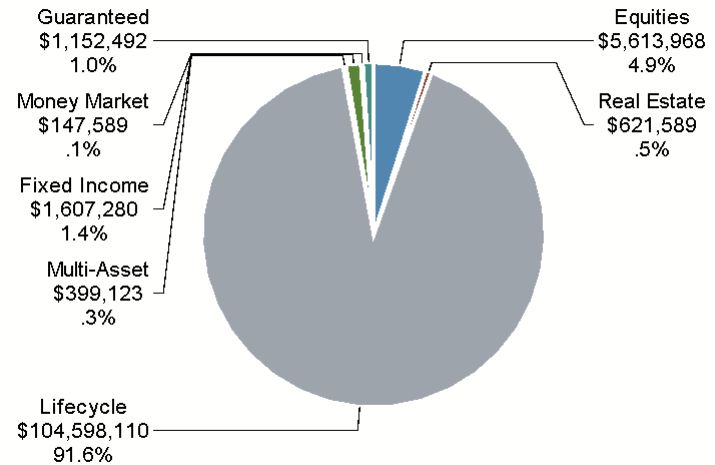
Plan Assets - By Category Class



Total Plan Assets: \$478,296,084

Forfeiture plan assets of \$68,455.09 are included in the total above.

Contributions - By Category Class



Total Contributions: \$114,140,153

(rolling 12 months)



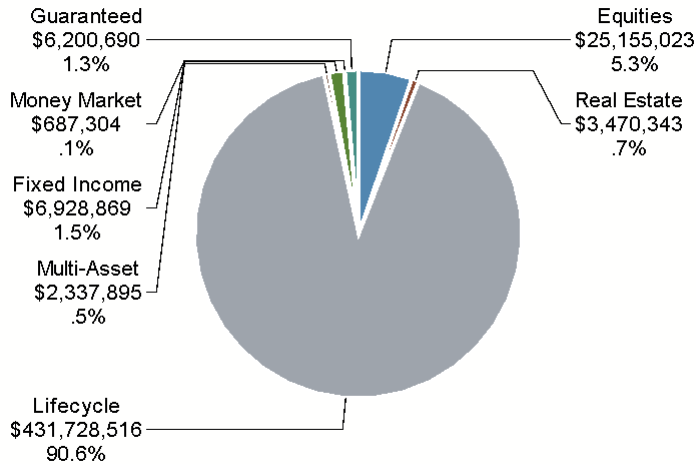
Plan Data Summary – 401(a) Defined Contribution Plan

Summary of Defined Contribution Plan



Roughly **91%** of assets are in Vanguard Lifecycle Trusts

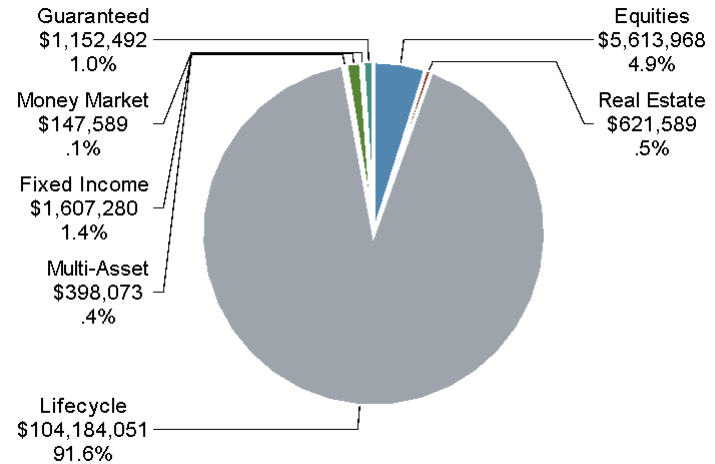
Plan Assets - By Category Class



Total Plan Assets: \$476,508,641

Forfeiture plan assets of \$68,455.09 are included in the total above.

Contributions - By Category Class



Total Contributions: \$113,725,044

(rolling 12 months)

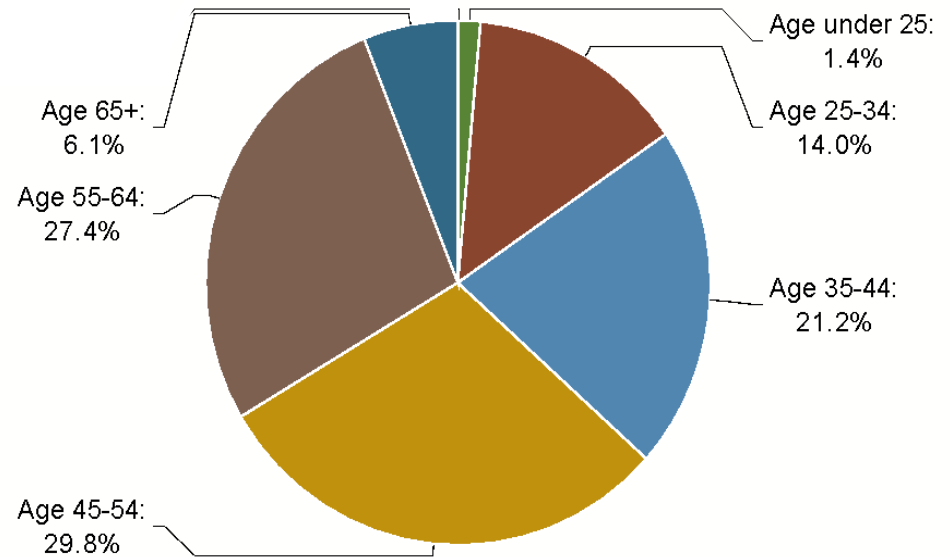
Participant Demographics

Participant Count – By Age



57% of your participants are between mid-career and retirement age

Under 25:	472
25 to 34:	4,715
35 to 44:	7,142
45 to 54:	10,038
55 to 64:	9,228
65 and over:	2,047
Average Age*:	48



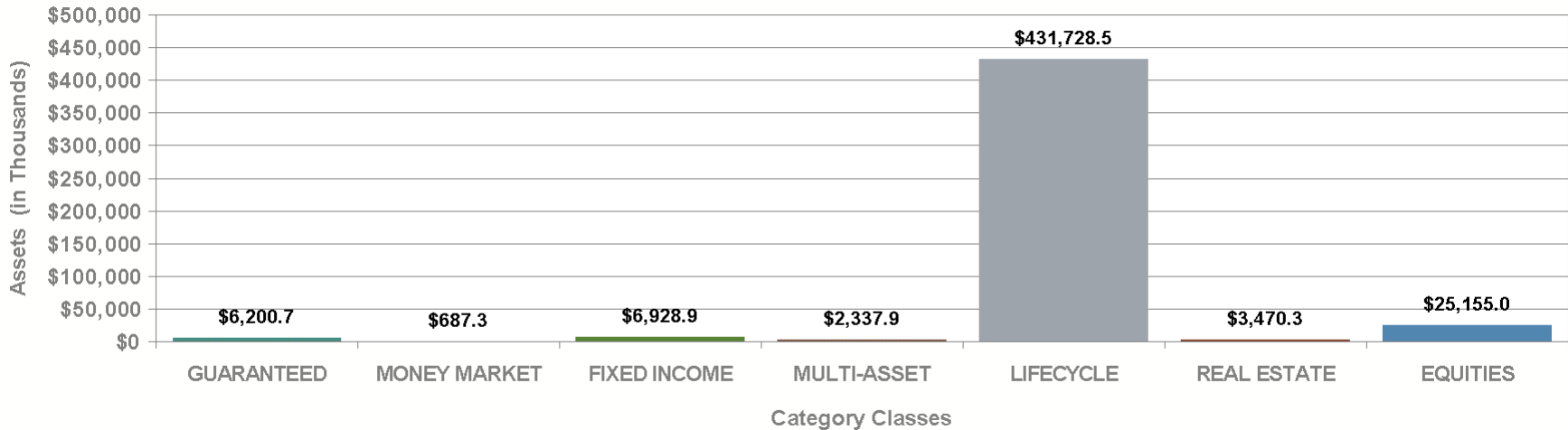
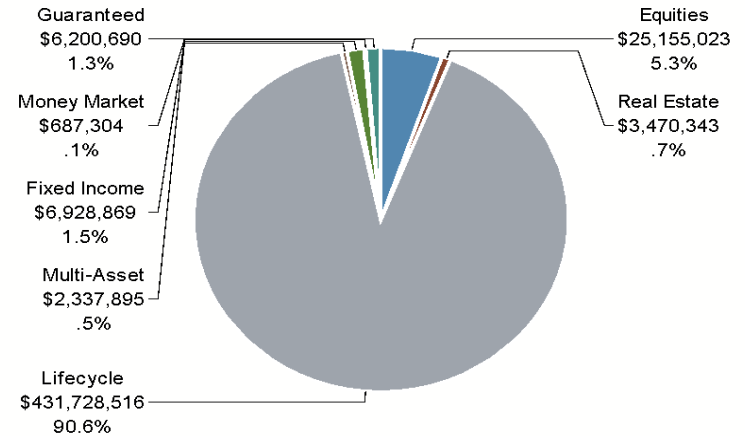
Plan Assets By Category Class



Total Plan Assets: **\$476,508,641**

Average Account Balance: **\$14,162**

Default Fund: **VANGUARD TGT RET 2010 TRUST II**



Forfeiture plan assets of \$68,455.09 are included in the total above.

Data as of 3/31/2016

Plan Assets by Investment Option Where Those Contributions are Invested



FUND/ACCOUNT	ASSETS	PERCENTAGE of TOTAL
Guaranteed		
TIAA STABLE VALUE	\$6,200,690	1.30%
Guaranteed Total	\$6,200,690	1.30%
Money Market		
VANGUARD PRIME MM INV	\$687,304	.14%
Money Market Total	\$687,304	.14%
Fixed Income		
PIMCO REAL RETURN INST CLASS	\$3,605,628	.76%
VAN TOTAL BOND MKT IDX ADMIRAL	\$3,323,241	.70%
Fixed Income Total	\$6,928,869	1.45%
Multi-Asset		
VANGUARD TGT RET INC TRUST II	\$2,337,895	.49%
Multi-Asset Total	\$2,337,895	.49%
Lifecycle		
VANGUARD TGT RET 2010 TRUST II	\$7,654,229	1.61%
VANGUARD TGT RET 2015 TRUST II	\$32,297,065	6.78%
VANGUARD TGT RET 2020 TRUST II	\$62,945,100	13.21%
VANGUARD TGT RET 2025 TRUST II	\$69,295,618	14.54%
VANGUARD TGT RET 2030 TRUST II	\$70,165,380	14.72%
VANGUARD TGT RET 2035 TRUST II	\$68,091,037	14.29%
VANGUARD TGT RET 2040 TRUST II	\$53,340,315	11.19%
VANGUARD TGT RET 2045 TRUST II	\$39,468,809	8.28%
VANGUARD TGT RET 2050 TRUST II	\$21,743,920	4.56%
VANGUARD TGT RET 2055 TRUST II	\$6,253,523	1.31%
VANGUARD TGT RET 2060 TRUST II	\$473,519	.10%

FUND/ACCOUNT	ASSETS	PERCENTAGE of TOTAL
Lifecycle (cont'd)		
Lifecycle Total	\$431,728,516	90.60%
Real Estate		
TIAA REAL ESTATE	\$3,470,343	.73%
Real Estate Total	\$3,470,343	.73%
Equities		
TIAA-CREF INTL EQ IDX-INST	\$2,565,301	.54%
TIAA-CREF SOCIAL CH EQ-INST	\$450,671	.09%
VAN MID CAPITALIZTN IDX ADMIRAL	\$4,842,890	1.02%
VAN SMALL CAP INDEX ADMIRAL	\$4,109,062	.86%
VANGUARD EMERG MKTS STK ID ADM	\$1,979,073	.42%
VANGUARD INSTITUTIONAL INDEX I	\$11,208,025	2.35%
Equities Total	\$25,155,023	5.28%
Total	\$476,508,641	100%

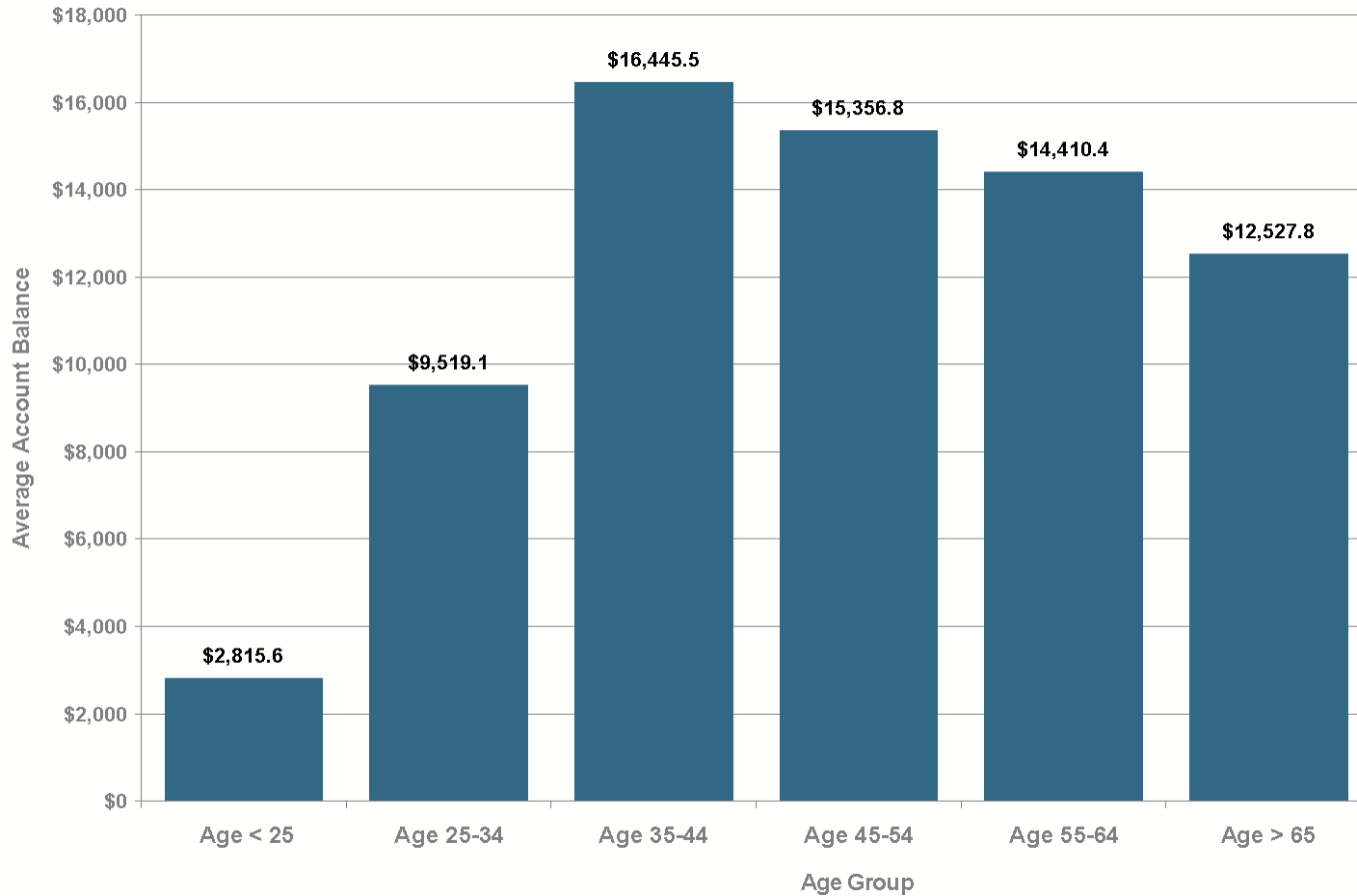
Forfeiture plan assets of \$68,455.09 are included in the total above.

Participant Demographics

Average Asset Balance by Age Group



Average Account Balance: **\$14,162**



Data as of 3/31/2016

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

Q1 2016 Benefits Fairs, Seminars and Workshops	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

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>

Benefits Fairs, Seminars and Workshops

Year	Attendees
2013	1785
2014	402
2015	718
Q1 2016	655

Other Resources

- [Retirement Readiness Center](#)
- [Annuities 101](#)

Additional Communications & Resources

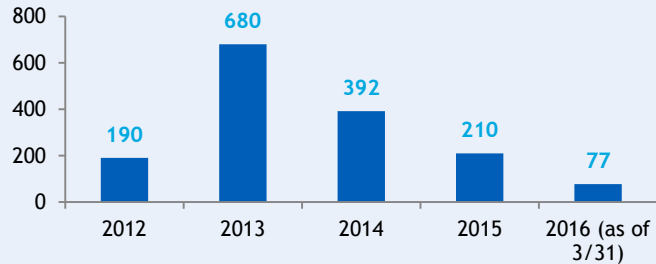
- PlanFocus® Matters Quarterly e-newsletter
- Top Picks: Monthly Administrator Bulletin
- Monthly Webinar invitation
- Highlights from the TIAA-CREF Institute Research
- Employee engagement checklist

Employee Engagement In-person Interactions with Plan Participants as of 3/31/16



Individual Session Breakdown

Individual Sessions¹ (Field Consulting Group)



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

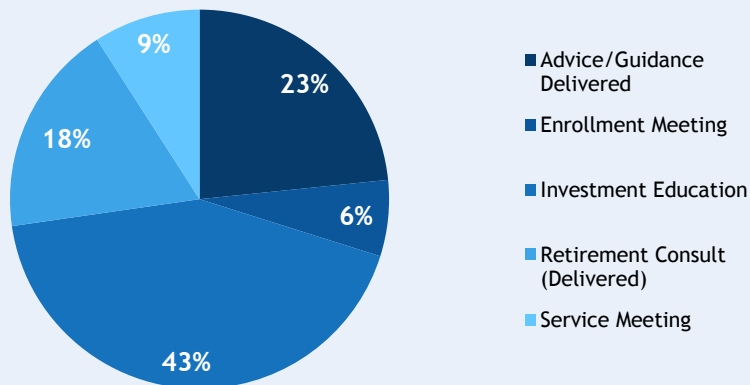
Employees Participating in Sessions 2016

Gender	Count ²	Average Age	Average Balance ³
Female	49	51.8	\$35,767
Male	26	55.1	\$38,058
Unknown	0	0.0	\$0
Overall	75	52.9	\$36,561

² Employees who had multiple sessions are only counted once.

³ Reflects employee's total TIAA-CREF balance.

Topic Summary - Individual Sessions 2016 YTD



Results YTD through December 31, 2015*

97%
AGREED

Objectivity & Integrity

Employees responding to surveys agreed/strongly agreed that the Consultant put their interests first.

93%
AGREED

Overall Client Experience

Composite score, based on employees' responses to 5 attribute questions. Respondents strongly agreed/agreed that the consultant:

1. Put their interests first
2. Provided quality advice
3. Understood their needs and goals
4. Exhibited financial expertise
5. Anticipated additional financial issues and brought them to attention

*Source: Customer Insights Corporate Scorecard

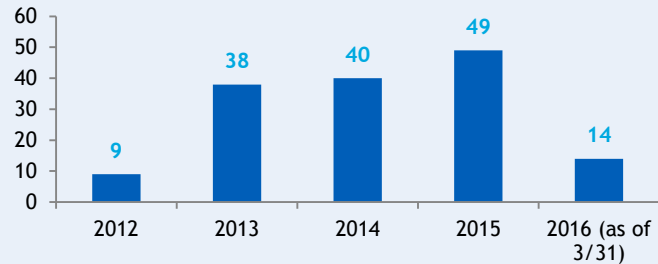
These statistics are meant to reflect customer satisfaction with services provided through TIAA-CREF Financial Consultants. Results experienced may not be typical of all participants, and are not indicative of future performance or success. Individual results will vary

Employee Engagement Individual Advisory Services as of 3/31/16



Financial Planning Session Breakdown

Meetings¹ Held (Individual Advisory Services)



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

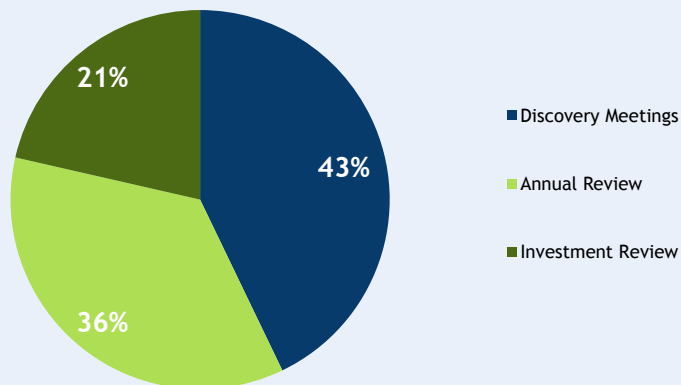
Employees Participating in Meetings in 2016

Gender	Count ²	Average Age	Average Balance ³
Female	7	60.2	\$175,674
Male	4	60.7	\$300,498
Overall	11	60.4	\$221,064

² Employees who had multiple meetings are only counted once.

³ Reflects employee's total TIAA-CREF balance.

Individual Advisory Services Group Activity 2016 YTD



Results YTD through December 31, 2015*

95%
AGREED

Considers Employee's Interests First

Agreed/strongly agreed that advisor considers employee's interests first.

*Customer Insights Corporate Scorecard

Executive Financial Planning Service Offerings

- Investment Management & Planning
- Estate and Gift Planning
- Charitable Planning
- Education Planning
- Cash Flow Analysis
- Stock Options Review
- Asset Protection Planning
- Investment Review
- Executive Compensation & Benefits Analysis
- Life Insurance Analysis
- Career Transition Financial Planning
- Mobile capabilities providing direct linkage to advisors

TIAA-CREF and its employees do not offer tax or legal advice, or create and prepare legal documents associated with estate plans



Plan Data Summary – FICA Alternative Retirement Income Security Program

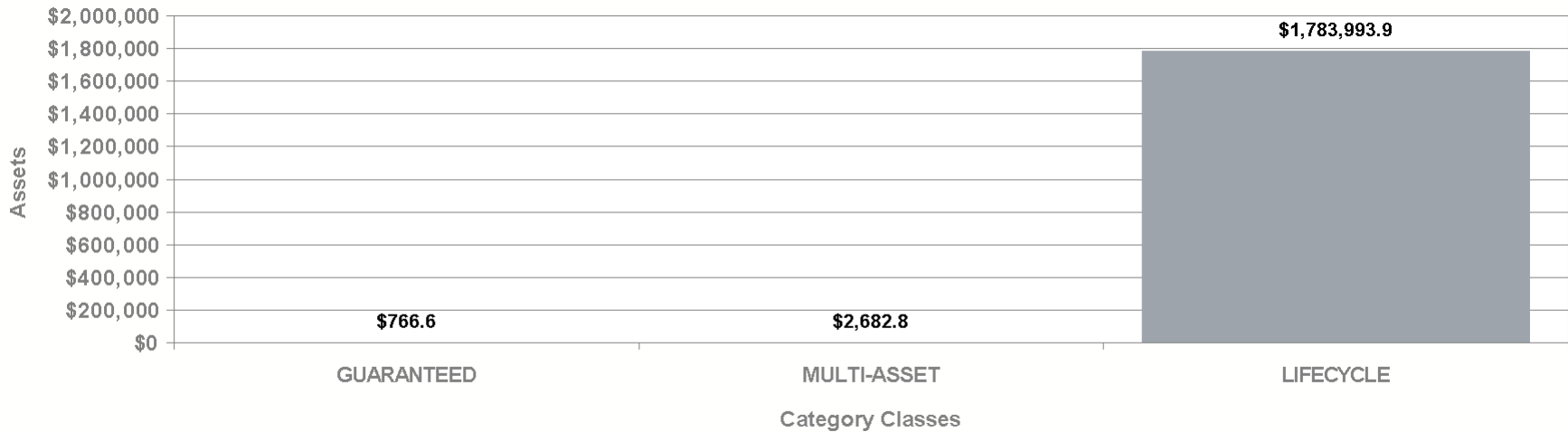
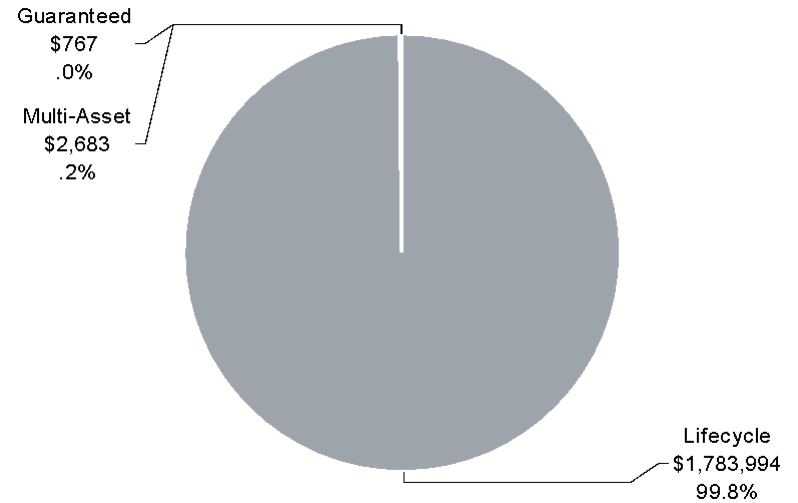
Plan Assets By Category Class



Total Plan Assets: **\$1,787,443**

Average Account Balance: **\$1,496**

Default Fund: **VANGUARD TGT RET 2010 TRUST II**



Data as of 3/31/2016

Plan Assets by Investment Option Where Those Contributions are Invested



FUND/ACCOUNT	ASSETS	PERCENTAGE of TOTAL
Guaranteed		
TIAA STABLE VALUE	\$767	.04%
Guaranteed Total	\$767	.04%
Multi-Asset		
VANGUARD TGT RET INC TRUST II	\$2,683	.15%
Multi-Asset Total	\$2,683	.15%
Lifecycle		
VANGUARD TGT RET 2010 TRUST II	\$6,928	.39%
VANGUARD TGT RET 2015 TRUST II	\$8,850	.50%
VANGUARD TGT RET 2020 TRUST II	\$1,135,510	63.53%
VANGUARD TGT RET 2025 TRUST II	\$55,589	3.11%
VANGUARD TGT RET 2030 TRUST II	\$71,272	3.99%
VANGUARD TGT RET 2035 TRUST II	\$43,733	2.45%
VANGUARD TGT RET 2040 TRUST II	\$26,612	1.49%
VANGUARD TGT RET 2045 TRUST II	\$38,125	2.13%
VANGUARD TGT RET 2050 TRUST II	\$50,784	2.84%
VANGUARD TGT RET 2055 TRUST II	\$129,618	7.25%
VANGUARD TGT RET 2060 TRUST II	\$216,972	12.14%
Lifecycle Total	\$1,783,994	99.81%
Total	\$1,787,443	100%

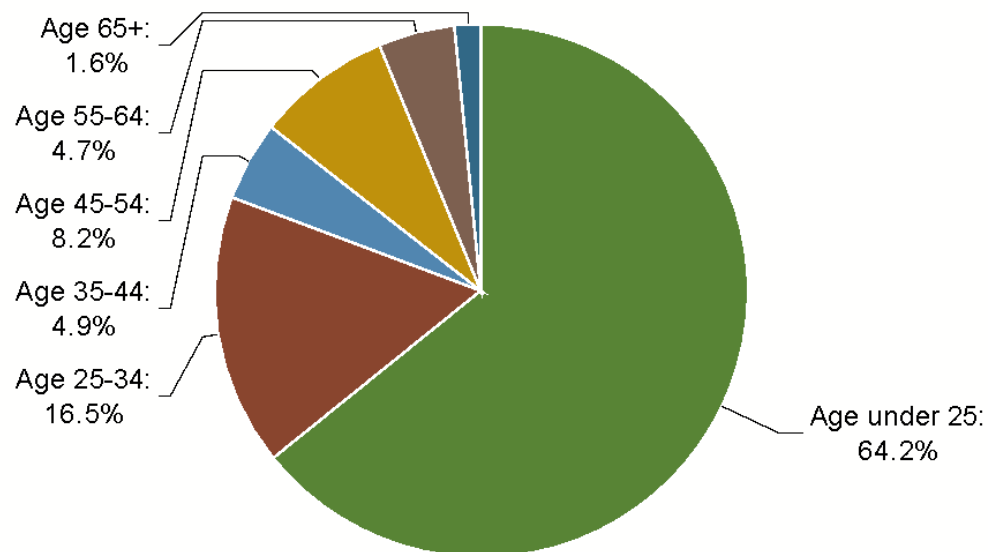
Data as of 3/31/2016

Participant Demographics

Participant Count – By Age



Under 25:	767
25 to 34:	197
35 to 44:	58
45 to 54:	98
55 to 64:	56
65 and over:	19
Average Age:	28

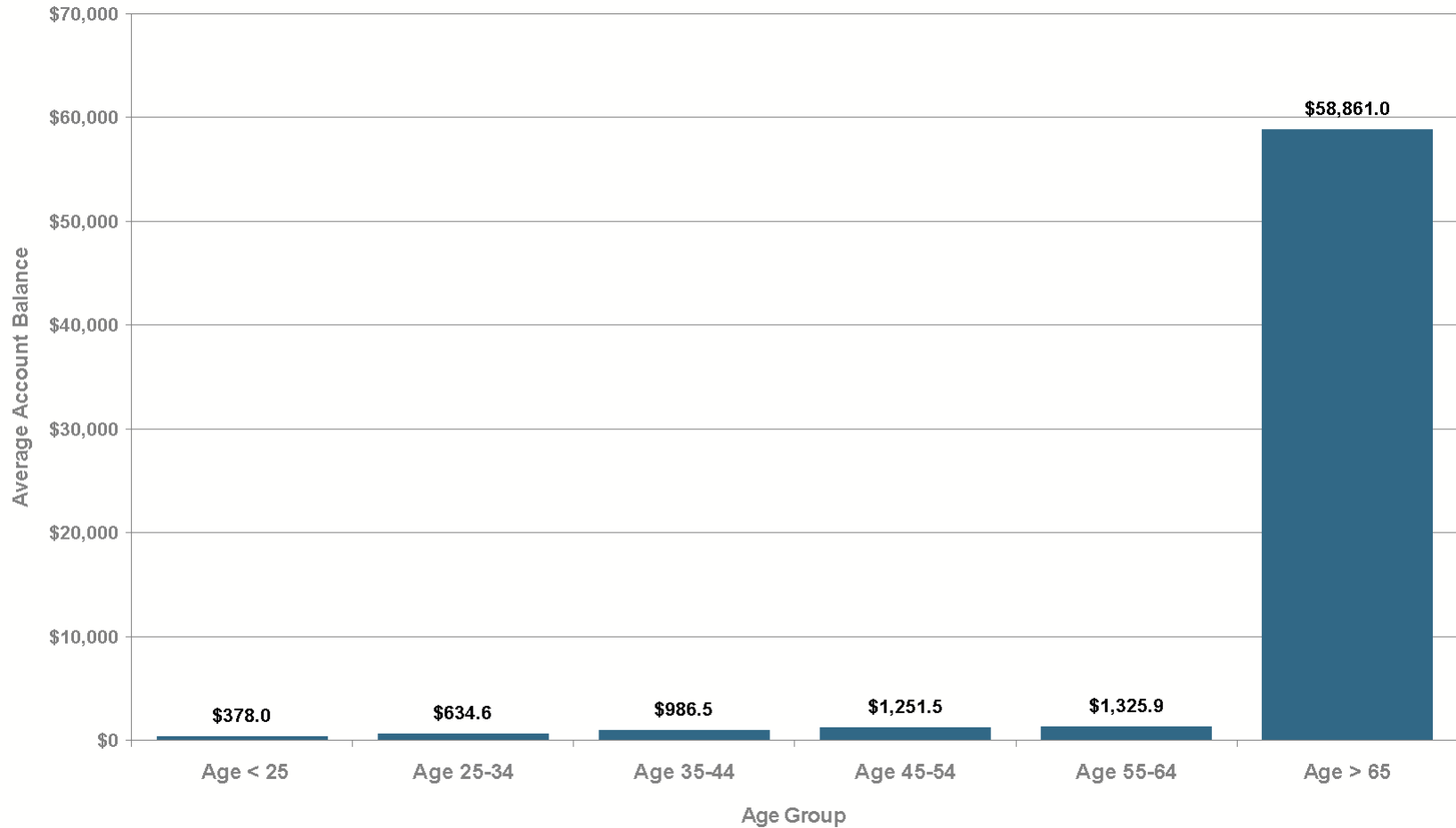


Participant Demographics

Average Asset Balance by Age Group



Average Account Balance: \$1,496



Data as of 3/31/2016



Investment performance

2016 YTD Performance Summary



(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)	
TIAA-CREF							Rev	Recent Returns			Annualized Total Returns as of 3/31/2016						Since	Incep.	Sharpe Ratio	Std. Deviation		Tracking Error			
As of 3/31/16	Manager	AUM	Gross	Net	Net		Share	1 Month	YTD	1 Year	%-ile	3 Year	%-ile	5 Year	%-ile	10 Year	%-ile	Incep.	Date	3 Year	%-ile	3 Year	%-ile	3 Year	
Stable Value/Guaranteed & Money Market	Ticker	Tenure	\$ Millions	ER	ER	%-ile																			
Stable Value/Guaranteed																									
TIAA Stable Value****	Current crediting rate = 1.80							0.47	0.47	1.85		1.86						1.87	03/31/12						
Money Market																									
Vanguard Prime Money Market Inv	VMMXX	12.75	139,004.32	0.16	0.16		0.00	0.03	0.09	0.14		0.06		0.05		1.24		5.21	06/04/75	(0.81)		0.03			0.02
Current 7-day Yield: 0.01																									
Citi 3-Month Treasury Bill																									
								-	0.07	0.12		0.07		0.07		1.07									
FIXED INCOME																									
Intermediate-Term Bond																									
Vanguard Total Bond Market Index Adm	VBTLX	3.17	157,966.22	0.07	0.07	1	0.00	0.95	3.09	1.82	13	2.38	24	3.71	41	4.86	39	4.50	11/12/01	0.75	27	3.11	52	0.27	
Barclays U.S. Aggregate Float Adjusted Index																									
Intermediate-Term Bond Median																									
Intermediate-Term Bond Number of Funds																									
				0.86	0.76			1.25	2.61	0.90		1.98		3.63		4.71				0.63		3.10			0.95
				1,117	1,117						1085		1043		994		867				1044		1044		
Inflation-Linked Bond																									
PIMCO Real Return Instl	PRRIX	8.33	10,944.88	0.50	0.45	20	0.00	2.61	4.12	(0.30)	68	(1.65)	57	2.65	11	4.76	2		01/29/97	(0.25)	42	6.24	95	1.50	
Barclays US Treasury US TIPS TR USD																									
Inflation-Protected Bond Median																									
Inflation-Protected Bond Number of Funds																									
				0.86	0.75			1.80	4.46	1.51		(0.71)		3.02		4.62				(0.12)		5.31			
				0.86	0.75			1.78	3.82	0.40		(1.44)		2.06		3.92				(0.27)		5.16			0.91
				256	256						249		237		195		146				237		237		

2016 YTD Performance Summary



(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)
																							Tracking	
TIAA-CREF																								
As of 3/31/16																								
Manager	AUM	Gross	Net	Net	Rev	Recent Returns			Annualized Total Returns as of 3/31/2016						Since	Incep.	Sharpe Ratio	Std. Deviation		Error				
Ticker	Tenure	\$ Millions	ER	ER	%-ile	Share	1 Month	YTD	1 Year	%-ile	3 Year	%-ile	5 Year	%-ile	10 Year	%-ile	Incep.	Date	3 Year	%-ile	3 Year	%-ile	3 Year	
Equity																								
Large Cap Blend																								
Vanguard Institutional Index I	VINIX	15.33	199,079.28	0.04	0.04	1	0.00	6.78	1.34	1.77	13	11.79	10	11.55	9	7.01	16	9.37	07/31/90	1.04	8	11.35	31	0.01
S&P 500 TR USD								6.78	1.35	1.78		11.82		11.58		7.01				1.04		11.36		
TIAA-CREF Social Choice Eq Instl	TISCX	10.33	2,644.79	0.18	0.18	4	0.00	7.27	1.68	(1.52)	49	9.44	62	10.05	49	6.50	34		07/01/99	0.83	58	11.61	53	0.99
Russell 3000 TR USD								7.04	0.97	(0.34)		11.15		11.01		6.90				0.97		11.56		
Large Blend Median				1.13	1.02			6.59	0.41	(1.59)		10.12		10.01		6.14				0.88		11.56		2.37
Large Blend Number of Funds				1,681	1,681						1,626		1,517		1,403		1,225				1,523		1,523	
Mid Cap Blend																								
Vanguard Mid Cap Index Adm	VIMAX	17.92	67,296.86	0.09	0.09	3	0.00	7.97	1.17	(4.29)	38	10.78	8	10.03	12	7.24	26	9.49	11/12/01	0.90	10	12.07	30	0.03
Spliced Mid Cap Index *								7.98	1.16	(4.27)		10.84		10.08		7.28								
CRSP US Mid Cap TR USD								7.98	1.16	(4.27)		10.84		10.37		7.35				0.91		12.08		
Mid-Cap Blend Median				1.26	1.17			7.70	1.81	(5.33)		8.46		8.28		6.33				0.70		12.53		3.56
Mid-Cap Blend Number of Funds				470	470						439		414		373		305				415		415	
Small Cap Blend																								
Vanguard Small Cap Index Adm	VSMAX	24.33	55,192.14	0.09	0.09	1	0.00	8.37	1.00	(7.14)	42	8.51	25	8.80	21	6.81	13	8.34	11/13/00	0.66	17	13.76	23	0.04
Spliced Small Cap Index **								8.39	1.01	(7.16)		8.51		8.77		6.75								
CRSP US Small Cap TR USD								8.39	1.01	(7.16)		8.51		9.03		7.33				0.66		13.76		
Small Blend Median				1.36	1.24			7.80	0.30	(8.02)		7.05		7.26		5.11				0.54		14.49		3.65
Small Blend Number of Funds				854	854						804		725		671		563				726		726	
Foreign Large Blend																								
TIAA-CREF International Eq Idx Instl	TCIEX	10.67	6,612.55	0.06	0.06	-	0.00	6.64	(2.73)	(8.21)	47	2.24	40	2.44	30	1.91	35		10/01/02	0.23	41	13.35	74	1.96
MSCI EAFE NR USD								6.51	(3.01)	(8.27)		2.23		2.29		1.80				0.22		13.61		
Foreign Large Blend Median				1.33	1.16			6.83	(2.30)	(8.35)		1.89		1.73		1.44				0.20		12.93		3.39
Foreign Large Blend Number of Funds				916	916						820		783		720		532				783		783	

2016 YTD Performance Summary



(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)		
TIAA-CREF							Rev	Recent Returns			Annualized Total Returns as of 3/31/2016						Since	Incep.	Sharpe Ratio	Std. Deviation		Tracking Error				
As of 3/31/16	Manager	AUM	Gross	Net	Net		Share	1 Month	YTD	1 Year	%-ile	3 Year	%-ile	5 Year	%-ile	10 Year	%-ile	Incep.	Date	3 Year	%-ile	3 Year	%-ile	3 Year		
Ticker	Tenure	\$ Millions	ER	ER	%-ile																					
Diversified Emerging Markets																										
Vanguard Emerging Mkts Stock I	VEMAX	7.67	51,516.57	0.15	0.15	-	0.00	13.03	5.33	(12.67)	66	(4.36)	46	(4.16)	54	2.82	41	4.05	06/23/06	(0.19)	38	16.90	86			
Spliced Emerging Markets Index ***								13.11	5.44	(12.45)		(4.16)		(3.96)												
FTSE Emerging NR USD								13.40	6.06	(12.04)		(3.93)		(3.88)		3.43				(0.16)			17.00			
MSCI EM NR USD								13.23	5.71	(12.03)		(4.50)		(4.13)		3.02				(0.20)				16.66		
Diversified Emerging Mkts Median								11.42	3.55	(11.51)		(4.68)		(3.94)		2.44				(0.23)				15.59		4.79
Diversified Emerging Mkts Number of Funds													870		655		494		270				665		665	
Miscellaneous Sector																										
TIAA Real Estate Account	V. Annuity	11.33	23,020.63	0.87	0.87		0.24	0.77	1.89	7.02		10.00		10.27		4.09			10/02/95	6.44		1.47				
Lifecycle																										
Vanguard Target Retirement Income Trust II				0.08	0.08		0.00	2.91	2.32	0.40		3.70		5.01				4.80	02/29/08							
Vanguard Target Retirement Income Compos. Lx								2.89	2.25	0.59		3.86		5.10												
Retirement Income Median								1.09	0.84			2.40		3.60		3.92				0.57			4.90		2.14	
Retirement Income Number of Funds								192	192			183		162		148		81					162		162	
Vanguard Target Retirement 2010 Trust II				0.08	0.08		0.00	3.12	2.22	0.14		4.47		5.48				4.97	02/29/08							
Vanguard Target Retirement 2010 Compos. Lx								3.12	2.18	0.34		4.63		5.56												
Target Date 2000-2010 Median								1.02	0.79			3.54		4.46		3.81				0.64			5.72		1.20	
Target Date 2000-2010 Number of Funds								139	139			134		112		106		52					116		116	
Vanguard Target Retirement 2015 Trust II				0.08	0.08		0.00	4.06	1.97	(0.50)		5.38		6.07				5.29	02/29/08							
Vanguard Target Retirement 2015 Compos. Lx								4.06	1.90	(0.36)		5.52		6.14												
Target Date 2011-2015 Median								1.07	0.84			3.75		4.65		4.51				0.63			6.31		1.32	
Target Date 2011-2015 Number of Funds								183	183			170		142		124		17					142		142	

2016 YTD Performance Summary



(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)			
TIAA-CREF							Rev	Recent Returns			Annualized Total Returns as of 3/31/2016					Since	Incep.	Sharpe Ratio	Std. Deviation	Tracking							
As of 3/31/16	Manager	AUM	Gross	Net	Net	Rev	1 Month	YTD	1 Year	%-ile	3 Year	%-ile	5 Year	%-ile	10 Year	%-ile	Incep.	Date	3 Year	%-ile	3 Year	%-ile	3 Year	Error			
Ticker	Tenure	\$ Millions	ER	ER	%-ile	Share																					
Lifecycle																											
Vanguard Target Retirement 2020 Trust II			0.08	0.08		0.00	4.78	1.78	(1.05)		6.07		6.50				5.43	02/29/08									
<i>Vanguard Target Retirement 2020 Compos. Lx</i>								4.75	1.72	(0.86)		6.23		6.71													
<i>Target Date 2016-2020 Median</i>										1.50	(2.01)		4.22		4.80		3.99		0.64			6.93		1.54			
<i>Target Date 2016-2020 Number of Funds</i>												249		210		184		81			214		214				
Vanguard Target Retirement 2025 Trust II			0.08	0.08		0.00	5.27	1.55	(1.43)		6.43		6.76				5.47	02/29/08									
<i>Vanguard Target Retirement 2025 Composite Lx</i>								5.28	1.52	(1.28)		6.60		6.96													
<i>Target Date 2021-2025 Median</i>										1.33	(2.44)		4.94		5.35		4.25		0.65			8.05		1.63			
<i>Target Date 2021-2025 Number of Funds</i>												220		187		150		35			187		187				
Vanguard Target Retirement 2030 Trust II			0.08	0.08		0.00	5.76	1.32	(1.92)		6.76		6.99				5.47	02/29/08									
<i>Vanguard Target Retirement 2030 Composite Lx</i>								5.78	1.31	(1.74)		6.94		7.20													
<i>Target Date 2026-2030 Median</i>										1.03	(2.96)		5.27		5.50		3.85		0.61			8.91		1.71			
<i>Target Date 2026-2030 Number of Funds</i>												249		210		184		81			214		214				
Vanguard Target Retirement 2035 Trust II			0.08	0.08		0.00	6.26	1.13	(2.33)	7	7.21		7.21				5.60	02/29/08									
<i>Vanguard Target Retirement 2035 Composite Lx</i>								6.28	1.10	(2.20)		7.28		7.42													
<i>Target Date 2031-2035 Median</i>										0.66	(3.52)		5.71		5.90		4.25		0.62			9.86		1.56			
<i>Target Date 2031-2035 Number of Funds</i>												220		187		150		35			187		187				
Vanguard Target Retirement 2040 Trust II			0.08	0.08		0.00	6.74	0.88	(2.95)		7.20		7.36				5.73	02/29/08									
<i>Vanguard Target Retirement 2040 Composite Lx</i>								6.78	0.88	(2.68)		7.45		7.60													
<i>Target Date 2036-2040 Median</i>										0.56	(3.93)		5.88		5.87		3.97		0.60			10.34		1.71			
<i>Target Date 2036-2040 Number of Funds</i>												249		210		184		81			214		214				

2016 YTD Performance Summary



(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)
TIAA-CREF							Tracking																	
As of 3/31/16	Manager	AUM	Gross	Net	Net	Rev	Recent Returns			Annualized Total Returns as of 3/31/2016						Since	Incep.	Sharpe Ratio	Std. Deviation		Error			
Ticker	Tenure	\$ Millions	ER	ER	%-ile	Share	1 Month	YTD	1 Year	%-ile	3 Year	%-ile	5 Year	%-ile	10 Year	%-ile	Incep.	Date	3 Year	%-ile	3 Year	%-ile	3 Year	
Lifecycle																								
Vanguard Target Retirement 2045 Trust II			0.08	0.08		0.00	6.83	0.84	(2.99)		7.19		7.36				5.70	02/29/08						
<i>Vanguard Target Retirement 2045 Composite Lx</i>							6.86	0.84	(2.71)		7.43		7.59											
<i>Target Date 2041-2045 Median</i>			1.22	0.94				0.43	(3.92)		6.11		6.18		4.36				0.61		10.61		1.58	
<i>Target Date 2041-2045 Number of Funds</i>			233	233						220		187		149		22				187		187		
Vanguard Target Retirement 2050 Trust II			0.08	0.08		0.00	6.85	0.84	(3.05)		7.16		7.32				5.71	02/29/08						
<i>Vanguard Target Retirement 2050 Composite Lx</i>							6.86	0.84	(2.71)		7.43		7.59											
<i>Target Date 2046-2050 Median</i>			1.35	0.96				0.41	(4.10)		6.08		6.13		4.25				0.60		10.69		1.54	
<i>Target Date 2046-2050 Number of Funds</i>			251	251						238		199		155		16				203		203		
Vanguard Target Retirement 2055 Trust II			0.08	0.08		0.00	6.84	0.86	(3.13)		7.11						10.87	08/31/10						
<i>Vanguard Target Retirement 2055 Composite Lx</i>							6.86	0.84	(2.71)		7.43													
Vanguard Target Retirement 2060 Trust II			0.08	0.08		0.00	6.83	0.83	(3.13)		7.15						8.44	03/01/12						
<i>Vanguard Target Retirement 2060 Composite Lx</i>							6.86	0.84	(2.71)		7.43													
<i>Target Date 2051+ Median</i>			1.60	0.93				0.31	(3.89)		6.32		6.42						0.62		10.71		1.48	
<i>Target Date 2051+ Number of Funds</i>			378	378						279		152		76		0				152		152		

Source: Morningstar & TIAA-CREF

-Tracking error calculated using "Morningstar Analyst Assigned Benchmark"

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

2016 YTD Performance Summary



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; As of November 2, 2105 FTSE Emerging Markets ALL Cap China A Transition 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 TIAA- CREF 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.

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

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

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