
JUNE 18, 2015

**AGENDA ITEM 4
INFORMATION ITEM**

SCHOLARSHARE INVESTMENT BOARD

Review of Core Bond Fund Options for the ScholarShare College Savings Plan

Recommendation

ScholarShare Investment Board (SIB or Board) staff recommends the Board approve the transfer of ScholarShare College Savings Plan (Plan) assets from the TIAA-CREF Bond Plus Fund to the Met West Total Return Fund at an appropriate time or as market conditions permit as recommended by Pension Consulting Alliance, Inc. (PCA) and TIAA-CREF Tuition Financing, Inc. (TFI)

Background

At the October 2, 2014 SIB meeting, the Board approved the placement of the PIMCO Total Return Fund on “watch” status and gave direction and authority to the Executive Director to take necessary action, dependent upon market conditions, with the recommendation of PCA and TFI, to remove the PIMCO Total Return Fund and replace it with another actively-managed bond fund with comparable risk return characteristics. On October 10, 2014, in accordance with the ScholarShare Monitoring Procedures and Criteria (Procedures) and upon recommendation of PCA and TFI, assets were transferred from the PIMCO Total Return Fund to the TIAA-CREF Bond Plus Fund.

At the December 9, 2014 SIB meeting, the Board ratified, and thereby affirmed approval of, the Executive Director’s action. At that same meeting, pursuant to the revised Procedures adopted by the Board and at the recommendation of PCA, the Board directed TFI, in collaboration with PCA, to conduct a full screening of the core fixed income universe and develop a short list of alternative funds (in addition to the TIAA-CREF Bond Plus Fund) for the Board’s consideration at a follow-up SIB meeting to evaluate whether that fund represents the best option for the Plan.

As directed by the Board and pursuant to the Procedures, TFI conducted a full screening of the core fixed income universe over the past several months and has developed a short list of alternative funds, which include the current TIAA-CREF Bond Plus Fund. TFI’s screening of the fund universe including its full analysis, is provided in Exhibit A. Following a review of TFI’s analysis, PCA developed a short list of alternative funds from TFI’s initial fund screening process, as outlined in its memo included as Exhibit B. Both TFI and PCA completed their analyses of the funds utilizing their respective methodologies and reviewed various quantitative and qualitative factors with regard to each of the funds, which include, but are not limited to, investment philosophy, process, management team, performance and peer rank. The top alternative funds, in addition to the TIAA-CREF Bond Plus Fund, as determined by TFI and PCA, are outlined in their analyses in Exhibits A and B, respectively.

SIB staff reviewed and analyzed TFI and PCA's reports and took into consideration the investment merits of the TIAA-CREF Bond Plus Fund and the alternative funds that appear on the short lists provided by TFI and PCA. Following this review, SIB staff has concluded that the Met West Total Return Fund, which appeared on TFI's short list following its initial fund selection and appeared on PCA's short list of three alternative funds to the TIAA-CREF Bond Plus Fund, represents the strongest offering from the short list of alternative funds and the best option for the Plan. The Met West Total Return Fund is shown to represent a strong fund supported by its investment philosophy and process, the stability and tenure of its management team, the stability of its parent organization, and the fund's performance track record. Therefore, after review of the analyses provided by TFI and PCA and after considering all other factors, which include cost and any potential impact to the Plan or its participants, SIB staff recommends the Board approve the transfer of Plan assets from the TIAA-CREF Bond Plus Fund to the Met West Total Return Fund at an appropriate time or as market conditions permit as recommended by PCA and TFI.

Presenters

Eric White, Principal, Pension Consulting Alliance, Inc.

Jeremy Thiessen, Senior Director, TIAA-CREF Tuition Financing, Inc.



SCHOLARSHARE

CALIFORNIA'S 529 COLLEGE SAVINGS PLAN



Active Core Bond Fund Search

June 2015

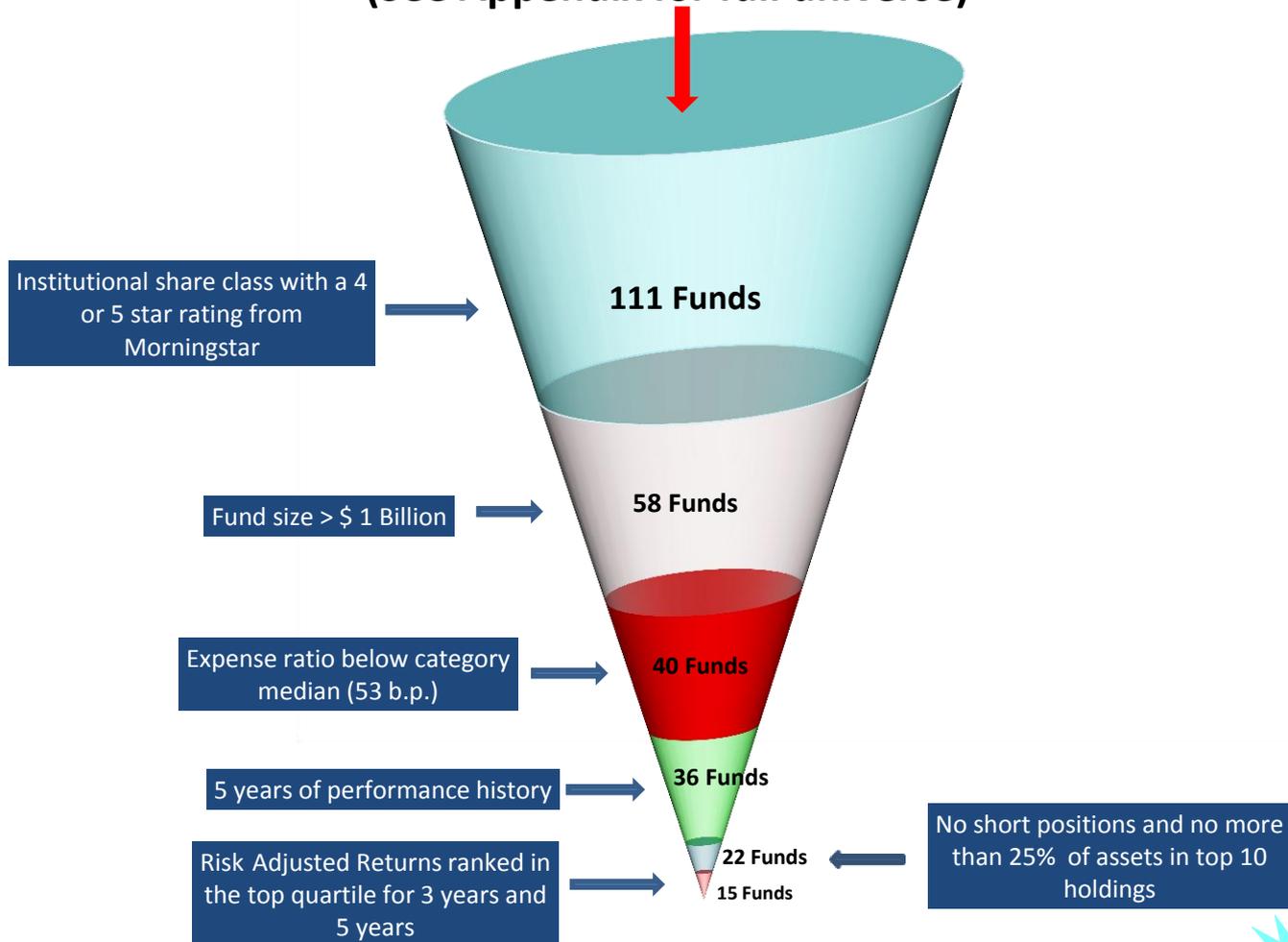


- TFI was asked to perform a review of the actively managed core bond fund universe to identify funds that demonstrate superior fund characteristics for ScholarShare to meet its investment objectives
- We searched the Morningstar Direct database according to a number of different quantitative and qualitative criteria described in this presentation, focusing on the key qualities of best-in-class bond funds
- After doing further research into specific management companies and investment strategies and eliminating funds that did not meet certain criteria, TFI created a short list of funds we consider to be suitable for the Active Portfolios in ScholarShare
- This short list was narrowed to four finalist funds (including the incumbent fund, the TIAA-CREF Bond Plus Fund)
- The benefits and drawbacks of each of these funds is presented at the end for comparison in order to equip the SIB to make its final selection

1. Solid performance record: *Morningstar rating of 4 or 5 stars*
 2. Minimum fund size: *\$1 billion*
 3. Low cost: *Expense ratio below category median (0.53%)*
 4. Minimum performance history: *About 5 years*
 5. Have no top heavy or overly concentrated bets in their top ten holdings: *No short positions and no more than 25% of assets in top 10 holdings*
 6. Have a demonstrated record and philosophy of risk management: *Risk-Adjusted Returns in the top quartile for both 3 years and 5 years (if available)*
- While this is a summary of key characteristics, additional information is provided in the Appendix



Intermediate-Term Institutional Bond Fund Universe: 236 Funds (See Appendix for full universe)



Funds That Meet TFI's Initial Selection Criteria

Name	Ticker	Morningstar Rating Overall	% Asset in Top 10 Holdings	Morningstar Risk-Adj Ret % Rank Cat 3 Yr	Morningstar Risk-Adj Ret % Rank Cat 5 Yr	Inception Date	Prospectus Net Expense Ratio	Fund Size
Baird Aggregate Bond Inst	BAGIX	4	20.17	13.68	11.07	9/29/2000	0.30	5,778,875,524
Baird Core Plus Bond Inst	BCOIX	5	13.98	15.53	9.83	9/29/2000	0.30	8,596,173,563
BMO TCH Core Plus Bond I	MCBIX	5	15.23	4.22	3.32	12/22/2008	0.38	1,092,449,981
DoubleLine Core Fixed Income I	DBLFX	4	14.64	10.75		6/1/2010	0.52	4,271,338,425
DoubleLine Total Return Bond I	DBLTX	5	9.83	6.52	0.21	4/6/2010	0.47	46,653,983,461
JPMorgan Core Plus Bond Instl	JCBIX	5	10.71	10.56	9.07	6/19/2009	0.49	4,221,448,901
Metropolitan West Total Return Bond I	MWTIX	5	22.76	3.00	4.50	3/31/2000	0.45	66,298,377,430
Nationwide Core Plus Bond Instl	NWCIX	4	15.51	14.82	16.42	7/17/1992	0.51	1,010,151,849
Principal Income Instl	PIOIX	5	7.04	8.84	10.03	3/23/1998	0.51	3,136,324,636
TCW Total Return Bond I	TGLMX	5	21.99	1.01	1.57	6/17/1993	0.49	8,807,205,019
TIAA-CREF Bond Instl	TIBDX	4	9.64	19.97	23.28	7/1/1999	0.32	2,866,288,914
TIAA-CREF Bond Plus Inst	TIBFX	4	10.74	11.07	12.80	3/31/2006	0.33	3,078,494,948
USAA Income Institutional	UIINX	4	8.86	13.36	15.19	8/1/2008	0.48	5,974,717,112
Voya Intermediate Bond I	IICIX	4	24.62	5.97	3.83	1/8/2002	0.34	2,657,049,634
Western Asset Core Plus Bond I	WACPX	5	7.11	7.22	8.34	7/8/1998	0.45	15,047,765,443

The above funds have met the following fund selection criteria:

1. Received an Overall Morningstar Rating of at least 4 stars
2. Fund Size greater than \$1B
3. Expense ratio less than category median
4. Minimum fund history of 4.5 years
5. No short positions in top 10 holdings and no more than 25% of assets in top 10 holdings
6. Ranked at least in the top quartile in risk-adjusted returns for 3 years and 5 years (if available)

A Closer Look at the Top Fifteen: Fund Performance Ranking and Firm Reputations

Name	Ticker	Yearly Return Year 2010	Yearly Return Year 2011	Yearly Return Year 2012	Yearly Return Year 2013	Yearly Return Year 2014	Yearly Return Rank Year 2010	Yearly Return Rank Year 2011	Yearly Return Rank Year 2012	Yearly Return Rank Year 2013	Yearly Return Rank Year 2014
Baird Aggregate Bond Inst	BAGIX	8.34	7.85	7.92	-1.25	6.89	31	9	34	36	8
Baird Core Plus Bond Inst	BCOIX	9.81	7.89	7.95	-1.32	6.59	15	9	33	39	13
BMO TCH Core Plus Bond I	MCBIX	8.44	7.94	10.87	-1.32	6.59	30	8	9	39	13
DoubleLine Core Fixed Income I	DBLFX		11.45	8.15	-1.20	6.86		1	31	35	8
DoubleLine Total Return Bond I	DBLTX		9.51	9.16	0.02	6.73		2	21	13	10
JPMorgan Core Plus Bond Instl	JCBIX	10.26	6.89	7.24	0.33	6.31	12	31	43	10	18
Metropolitan West Total Return Bond I *	MWTIX	11.65	5.52	11.54	0.50	5.99	4	70	6	8	26
Nationwide Core Plus Bond Instl *	NWCIX	9.01	5.73	8.55	-0.07	4.92	24	63	27	14	66
Principal Income Instl *	PIOIX	8.40	5.98	9.69	0.06	5.33	30	57	16	12	53
TCW Total Return Bond I *	TGLMX	10.74	4.13	13.41	1.66	5.80	9	87	3	4	36
TIAA-CREF Bond Instl *	TIBDX	6.96	6.73	7.34	-1.09	5.84	62	36	41	32	33
TIAA-CREF Bond Plus Inst	TIBFX	8.47	6.85	8.45	-0.68	5.80	29	32	28	23	36
USAA Income Institutional	UIINX	8.41	7.07	7.22	-0.05	5.96	30	26	44	13	27
Voya Intermediate Bond I	IICIX	10.04	8.04	9.07	-0.36	6.81	13	7	22	18	9
Western Asset Core Plus Bond I **	WACPX	11.97	6.72	8.44	-1.07	7.68	3	36	28	31	3

Reasons for Elimination:

Due Diligence Guideline:

Seek funds that consistently outperform not only their benchmarks, but also their peer groups, and managers who are honest and ethical

* Has not demonstrated consistent returns relative to peers, ranking below the 50th percentile in the last 5 years as of 12/31/2014.

** Western Asset was recently sanctioned by the SEC for allegedly engaging in illegal cross trading and concealing a coding error that resulted in investment losses for clients.

Additional Criterion: No Significant Net Outflows

Yearly Fund Cash Flows (2010-2014)

Name	Ticker	Estimated Fund-Level Net Flow Year 2010	Estimated Fund-Level Net Flow Year 2011	Estimated Fund-Level Net Flow Year 2012	Estimated Fund-Level Net Flow Year 2013	Estimated Fund-Level Net Flow Year 2014
Top 9						
Baird Aggregate Bond Inst *	BAGIX	194,142,598	(305,312,346)	(61,889,098)	285,829,779	1,740,599,059
Baird Core Plus Bond Inst	BCOIX	225,250,243	541,185,765	1,386,382,663	282,978,977	3,667,797,331
BMO TCH Core Plus Bond I	MCBIX	7,634,878	41,851,712	33,614,029	248,698,266	139,992,660
DoubleLine Core Fixed Income I *	DBLFX	90,546,490	1,403,159,650	1,148,343,159	(1,131,056,405)	1,678,413,539
DoubleLine Total Return Bond I *	DBLTX	3,776,087,632	10,696,007,315	19,657,517,056	(5,901,551,954)	7,179,167,631
JPMorgan Core Plus Bond Instl *	JCBIX	702,916,038	(55,634,705)	701,505,881	(469,204,750)	844,933,069
TIAA-CREF Bond Plus Inst	TIBFX	169,091,375	223,986,631	114,104,162	949,228,237	633,471,553
USAA Income Institutional	UIINX	280,195,182	460,910,231	510,761,619	80,145,942	769,515,718
Voya Intermediate Bond I *	IICIX	(89,416,190)	(49,834,407)	314,674,902	268,247,156	738,044,748
Eliminated Funds						
Metropolitan West Total Return Bond I	MWTIX	3,235,004,087	5,355,068,851	4,450,840,384	1,378,965,850	24,331,301,043
Nationwide Core Plus Bond Instl	NWCIX	(315,235)	570,029	3,178,210	135,607,030	490,192,570
Principal Income Instl	PIOIX	203,661,805	243,780,993	599,091,875	28,262,024	384,698,906
TCW Total Return Bond I	TGLMX	(1,502,193,232)	(27,624,072)	2,754,168,572	(1,266,304,020)	953,668,307
TIAA-CREF Bond Instl	TIBDX	(741,383,384)	(57,951,659)	187,604,286	(103,452,676)	537,816,454
Western Asset Core Plus Bond I	WACPX	(967,929,373)	542,489,239	435,405,839	(427,536,719)	2,394,187,665

* Eliminated from consideration based on negative cash flows

Due Diligence Guideline:

Seek funds that have been able to gain assets at a relatively stable pace with no liquidity crunch

- The Baird Core Plus Bond Fund, BMO TCH Core Plus Bond Fund, TIAA-CREF Bond Plus Fund and USAA Income Fund are the only four funds among the top nine that had positive net cash flows in each of the last five years.



04/30/15 Performance Update

Name	Ticker	Total Ret % Rank Cat YTD	Total Ret YTD	Total Ret 1 Yr	Total Ret Annlzd 3 Yr	Total Ret Annlzd 5 Yr	Return Since Transition out of PIMCO 2014-10-11 to 2015-04-30	Primary Prospectus Index
Top 4								
Baird Core Plus Bond Inst	BCOIX	26	1.58	4.86	3.91	5.45	2.25	Barclays US Universal TR USD
BMO TCH Core Plus Bond I	MCBIX	14	1.75	4.43	4.79	6.11	1.87	Barclays US Agg Bond TR USD
TIAA-CREF Bond Plus Inst	TIBFX	5	2.05	4.76	4.11	5.32	2.55	Barclays US Agg Bond TR USD
USAA Income Institutional	UIINX	40	1.43	4.01	3.97	5.12	1.66	Barclays US Agg Bond TR USD
Barclays US Agg Bond TR USD			1.24	4.46	2.60	4.12	2.04	
Barclays US Universal TR USD			1.61	4.34	3.08	4.49	2.09	
Eliminated Funds								
Baird Aggregate Bond Inst	BAGIX	42	1.41	4.94	3.96	5.37	2.15	Barclays US Agg Bond TR USD
DoubleLine Core Fixed Income I	DBLFX	4	2.07	5.42	4.16		2.62	Barclays US Agg Bond TR USD
DoubleLine Total Return Bond I	DBLTX	24	1.60	5.17	4.50	7.81	2.35	Barclays US Agg Bond TR USD
JPMorgan Core Plus Bond Instl	JCBIX	21	1.63	4.73	4.15	5.53	2.27	Barclays US Agg Bond TR USD
Metropolitan West Total Return Bond I	MWTIX	67	1.17	4.48	5.01	5.92	1.94	Barclays US Agg Bond TR USD
Nationwide Core Plus Bond Instl	NWCIX	33	1.49	3.72	3.89	5.08	2.24	Barclays US Agg Bond TR USD
Principal Income Instl	PIOIX	10	1.84	3.73	4.31	5.45	1.80	Barclays US Agg Bond TR USD
TCW Total Return Bond I	TGLMX	69	1.16	4.50	5.64	6.45	1.92	Barclays US Agg Bond TR USD
TIAA-CREF Bond Instl	TIBDX	13	1.77	4.60	3.72	4.85	2.48	Barclays US Agg Bond TR USD
Voya Intermediate Bond I	IICIX	11	1.81	5.15	4.60	6.02	2.33	Barclays US Agg Bond TR USD
Western Asset Core Plus Bond I	WACPX	7	1.92	5.61	4.50	5.63	2.54	Barclays US Agg Bond TR USD

- The remaining top four funds each have good performance as of the most recent period
- TIAA-CREF Bond Plus Fund ranked in the top 5th percentile YTD, beating 95% of peers
- The BMO TCH Core Plus Bond Fund and USAA Income Fund have only slightly below-benchmark 1-Yr returns, however, longer-term track records have been solid versus benchmark
- Baird Core Plus produced good 1-, 3-, and 5-year results

- Benefits:
 - Tends to underweight treasuries for higher yielding corporates and mortgage-backed securities
 - Experienced management team with solid long-standing track record
 - Strategy emphasizes a risk-controlled approach
 - Has historically shown consistently strong performance, with a top decile ranking last year
 - Lowest cost fund among competitors at 0.30%
- Drawbacks:
 - May experience increased volatility when interest rates normalize due to holdings that are interest rate-sensitive
 - Duration-neutral philosophy may limit the ability to generate alpha on a going-forward basis
 - Transactional costs and operational risk associated with transitioning to a new fund

BMO TCH Core Plus Bond Fund

- Benefits:
 - Strong, consistent returns on an absolute level and relative to peers
 - Experienced portfolio management team with solid long-standing track record
 - A conservative investment philosophy, investing primarily in securities with a minimum rating in the lowest investment grade category at the time of purchase
 - Excellent risk-adjusted 5-year return ranking - ranked top 3%
 - Emphasizing relative opportunities within the various subsectors as well as opportunities outside the benchmark to enhance the typical core fixed income strategy and minimize market timing
- Drawbacks:
 - The firm's total AUM of \$10.5 billion is relatively low and can be an obstacle to increasing economies of scale
 - The fund's sub-adviser, Taplin, Canida & Habacht, is small, not widely known in the U.S., and may lack informational and operational resources needed for efficient portfolio management
 - Investment strategy emphasizes a narrow duration band, which may limit upside potential attributed to duration
 - Slightly underperformed the Barclays U.S. Aggregate Bond Index on a net basis in the first quarter
 - Transactional costs and operational risk associated with transitioning to a new fund

- Benefits:
 - In terms of 3-year volatility, this Fund has the lowest standard deviation among the top 4
 - Disciplined investment approach seeks high levels of current income without undue risk
 - Maintains focus on fundamentals, while looking for attractive values
 - Promotes income over capital gains, strong credit research and industry expertise with the ability to compound interest over time
 - Utilizes a team-oriented approach driven by seasoned professionals with diverse investment experiences
- Drawbacks:
 - Tends to underweight mortgage-related securities and overweight corporate bonds. The Fund generally allocates over 40% to corporate bonds, significantly higher than the Barclays US Aggregate Bond Index and category average
 - Weaker short-term performance compared to other top 4
 - Average manager tenure is less than 3 years

TIAA-CREF Bond Plus Fund



- Benefits:
 - Has a solid performance history with consistent category rankings and a diversified strategy that fits with the other underlying funds in ScholarShare's Active Portfolios
 - Provides well-diversified exposure within the plus component by primarily investing in high yield corporates, emerging markets debt and non-agency MBS as well as other accretive structured finance asset classes, drawing on TCAM's extensive research
 - Is part of the larger TCAM organization, which has over \$240B in fixed income assets and is a large participant in the primary markets that gains access to high conviction positions
 - Has strong risk-adjusted returns that contributed to the third consecutive win for TIAA-CREF in Lipper's Best Overall Large Fund Company category
 - Has the highest return Since Inception in ScholarShare among all four finalist funds
- Drawbacks:
 - Bill Martin, the lead portfolio manager, lacks the same name recognition as others in the industry
 - Despite the fund's strong performance, Morningstar believes fund management has more to prove over the longer haul

Conclusion

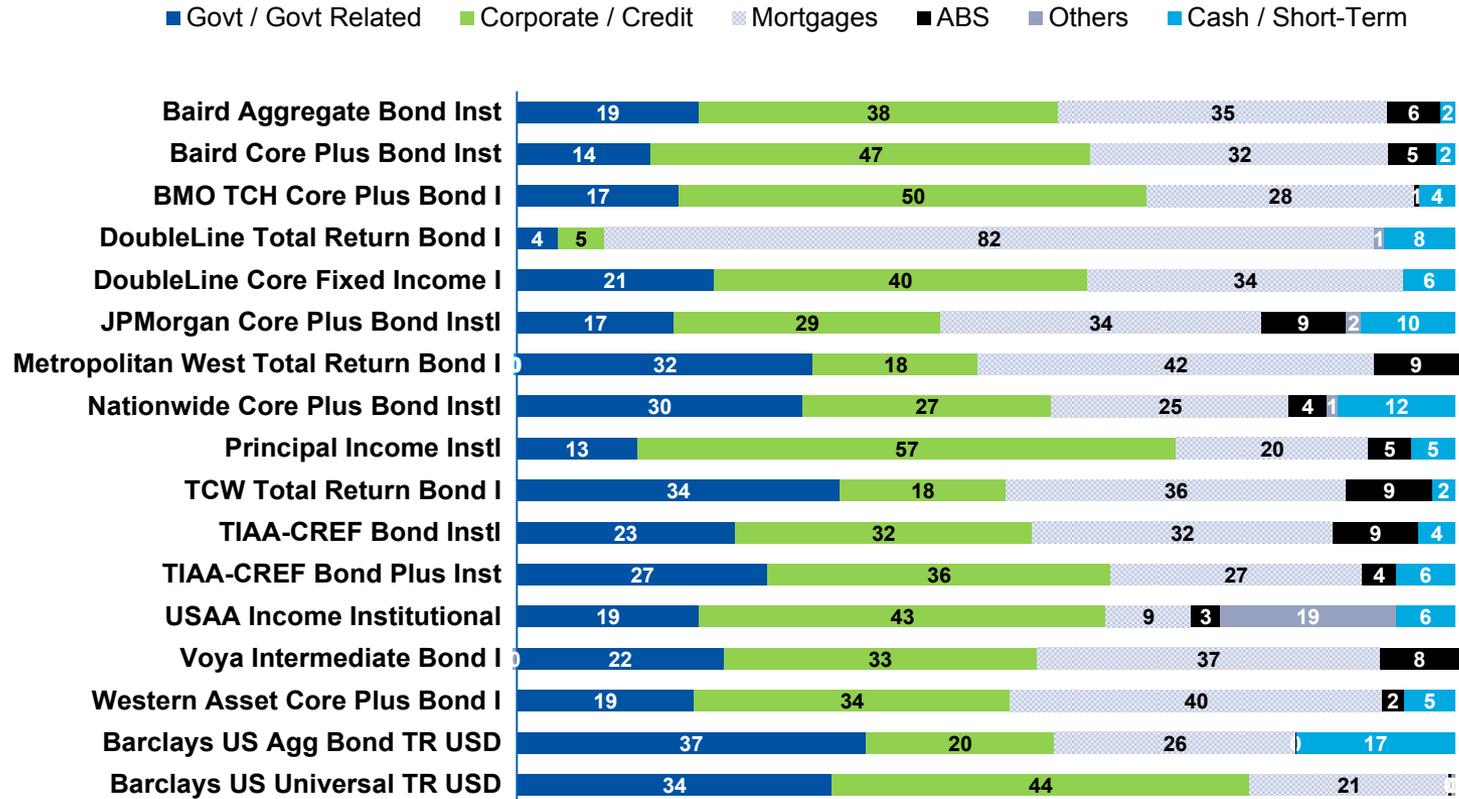
- After a review of Morningstar’s Intermediate Terms Institutional Bond Fund Universe, TFI believes that any of the four remaining funds represent reasonable options for the Scholarshare Program

	TIAA CREF Bond Plus	Baird Core Plus	BMO TCH Core Plus Bond	USAA Income Institutional
Ticker	TIBFX	BCOIX	MCBIX	UIINX
Prospectus Net Exp Ratio	33 bps	30 bps	37 bps	48 bps
Morningstar Rating	****	*****	*****	****
AUM	\$3.6B	\$8.6B	\$1.1B	\$6.0B
Sector Focus	Corporates	Underweight Govts Corporates Mortgages	Underweight Govts Corporates	Corporates Other

- TFI has verified that the three non-TIAA CREF funds are available for use in the Scholarshare Program should the SIB elect to move away from the TIAA-CREF Bond Plus Fund

APPENDIX

Fixed Income Sector Exposure



- Several funds take fairly large, concentrated sector bets relative to the benchmark

Exclusion Rationale for Industry-known Funds

- Metropolitan West Total Return Bond has received the most inflows of any actively managed fixed-income fund following Bill Gross' September 2014 departure from PIMCO. The Fund had \$64 billion in assets at the end of March 2015, up 88% since last September. **The Fund's 67th percentile ranking YTD has raised concern that the inflows will impede the Fund's successful investment process.**

- The Metropolitan West Total Return Bond Fund and Dodge & Cox Income Fund ranked below the 50th percentile among peers in certain years

Name	Ticker	Prospectus Net Expense Ratio	2010 Rank	2011 Rank
Dodge & Cox Income	DODIX	0.43	57	81
Metropolitan West Total Return Bond	MWTIX	0.45	4	70

- The Metropolitan West Total Return Bond Fund and DoubleLine Core Fixed Income Fund had quarterly performance rankings in the bottom decile in the last five years

Fixed Income Fund	Lowest Quarterly Percentile Ranking (2010-2014)
Metropolitan West Total Return Bond I	92
DoubleLine Core Fixed Income I	94

- The Metropolitan West Total Return Bond Fund and DoubleLine Core Fixed Income Fund have historically utilized a more mortgage-focused strategy, which can add to volatility when interest rates normalize

Fixed Income Fund	Exposure to Mortgages as of 3/31/2015
Metropolitan West Total Return Bond I	42%
DoubleLine Core Fixed Income I	35%

Intermediate-Term Bond Fund Universe (Institutional Shares)

Part 1

Name	Ticker	Prospectus Net Expense Ratio	Fund Size	Morningstar Rating Overall	Inception Date	Return Rank Year 2010	Return Rank Year 2011	Return Rank Year 2012	Return Rank Year 2013	Return Rank Year 2014
AAM/Cutwater Select Income I	CPUIX	0.75	27,316,437		4/19/2013					1
AB Intermediate Bond I	ABQIX	0.60	343,926,021	4	3/1/2005	18	34	63	38	8
AB Intermediate Bond Z	ABQZX	0.60	343,926,021	3	4/28/2014					
Aberdeen Total Return Bond I	JBGIX	0.43	1,525,853,426	4	11/17/1999	39	6	55	84	34
Advance Capital I Retirement Inc Instl	ADRNX	0.64	183,828,949	4	5/4/2007	77	39	93	37	24
American Beacon Interim Bond Y	ACTYX	0.66	438,558,721	2	3/1/2010		40	79	65	68
American Beacon Intermediate Bd Instl	AABDX	0.33	438,558,721	3	3/1/1999	79	42	75	51	61
American Century Core Plus Instl	ACCUX	0.45	135,436,034	3	11/30/2006	61	12	61	78	21
American Century Diversified Bond Instl	ACBPX	0.40	5,359,143,640	4	4/1/1993	70	17	69	73	19
American Century NT Diversified Bd Instl	ACLDX	0.40	2,375,536,655	3	5/12/2006	75	16	70	77	24
American Indep BoydWatterson Core Pls I	IIISX	0.45	115,717,562	4	1/17/1997	64	63	71	43	23
AMG GW&K Enhanced Core Bond Instl	MFDYX	0.59	94,251,611	4	1/2/1997	11	81	15	9	33
AMG Managers Bond Institutional	MGBIX	0.89	2,889,746,296	5	4/1/2013					32
AST Neuberger Berman Core Bond I		0.68	859,642,129	2	10/14/2011			24	100	59
AST Prudential Core Bond Portfolio		0.75	4,147,680,450	3	10/17/2011			45	74	24
ASTON/DoubleLine Core Plus Fxd Inc I	ADLIX	0.71	361,687,448	5	7/18/2011			18	47	5
ASTON/TCH Fixed Income I	CTBIX	0.70	55,156,851	5	7/31/2000	30	21	12	31	22
Baird Aggregate Bond Inst	BAGIX	0.30	4,638,947,619	4	9/29/2000	31	9	34	36	8
Baird Core Plus Bond Inst	BCOIX	0.30	8,325,887,590	5	9/29/2000	15	9	33	39	13
Baird Intermediate Bond Inst	BIMIX	0.30	1,728,751,979	3	9/29/2000	47	54	53	15	89
Bernstein Intermediate Duration Instl	SIIDX	0.45	646,754,232	4	5/17/2002	20	31	68	64	13
Bishop Street High Grade Inc Instl	BSHGX	0.76	75,897,940	3	1/30/1997	87	29	74	84	36
BlackRock Bond Index Institutional	BMOIX	0.17	218,556,571	3	4/1/2011			85	76	32
BlackRock Core Bond Instl	BFMCX	0.45	3,065,799,639	4	12/9/1992	34	74	41	41	11
BlackRock CoreAlpha Bond Instl	BCRIX	0.34	228,919,751	3	2/28/2011			77	78	15
BlackRock Total Return Instl	MAHGX	0.45	6,252,660,831	5	9/24/2007	13	84	13	16	2
BMO TCH Core Plus Bond I	MCBIX	0.38	1,088,221,308	5	12/22/2008	30	8	9	39	13
BMO TCH Intermediate Income I	MIBIX	0.56	144,812,406	3	6/1/2007	33	70	68	12	86
Brandes Core Plus Fixed Income I	BCPIX	0.50	64,631,061	4	12/28/2007	5	79	18	8	78
Brandes Credit Focus Yield I	BCFIX	0.70	29,763,734	3	6/30/2000				61	91
Brown Advisory Mortgage Securities Instl	BAFZX	0.53	224,944,409		5/13/2014					
Brown Advisory Total Return Instl	BAFTX	0.51	81,578,759		10/31/2014					
Calvert Bond I	CBDIX	0.50	878,275,049	4	3/31/2000	65	52	30	61	10
Calvert Government I	CVGIX	0.75	21,021,120	1	4/29/2011			7	91	90
Calvert Green Bond I	CGBIX	0.50	36,166,451		10/31/2013					55
Cavalan Hill Bond I	AIBNX	0.53	98,145,544	5	12/30/2005	18	62	43	18	62
Cavalan Hill Intermediate Bd I	AIFBX	0.66	57,592,098	5	12/30/2005	2	52	12	2	84
Columbia Bond I	CBNIX	0.52	662,933,801	3	9/27/2010		21	60	88	39
Columbia Bond Y	CBFYX	0.52	662,933,801	3	7/15/2009	70	20	60	88	44
Columbia Intermediate Bond I	CIMIX	0.50	3,528,290,601	3	9/27/2010		34	39	69	45

Intermediate-Term Bond Fund Universe (Institutional Shares)

Part 2

Name	Ticker	Prospectus Net Expense Ratio	Fund Size	Morningstar Rating Overall	Inception Date	Return Rank Year 2010	Return Rank Year 2011	Return Rank Year 2012	Return Rank Year 2013	Return Rank Year 2014
Columbia Intermediate Bond Y	CTBYX	0.50	3,528,290,601	3	11/9/2012				70	40
Columbia US Social Bond Z	CONZX	0.70	7,508,266		3/26/2015					
Cutwater Investment Grade Bond Instl	CWBIX	1.25	39,038,823	4	12/2/2010		64	28	39	4
Delaware Core Plus Bond I	DUGIX	0.65	130,360,445	4	6/1/1992	35	11	58	37	31
Delaware Diversified Income Instl	DPFFX	0.65	5,766,962,635	4	10/28/2002	35	42	45	30	52
Delaware Pooled Core Plus Fixed Income	DCPFX	0.45	115,920,296	4	6/28/2002	25	10	53	33	29
Deutsche Core Fixed Income Institutional	MFINX	0.62	210,195,352	2	9/18/1992	61	30	44	35	46
Deutsche Core Plus Income Institutional	SZIIX	0.67	244,953,023	2	6/25/2001	56	59	30	88	51
Deutsche US Bond Index Institutional	BTUSX	0.26	99,688,845	3	6/30/1997	81	13	83	77	34
DFA Investment Grade I	DFAPX	0.22	3,149,231,707	3	3/2/2011			71	87	19
Domini Social Bond Institutional	DSBIX	0.65	134,064,831	2	11/30/2011			94	53	85
DoubleLine Core Fixed Income I	DBLFX	0.52	4,107,446,322	4	6/1/2010		1	31	35	8
Doubleline Selective Credit I	DBSCX	0.64	268,433,396		8/4/2014					
DoubleLine Total Return Bond I	DBLTX	0.47	46,215,423,474	5	4/6/2010		2	21	13	10
Dreyfus Intermediate Term Income I	DITIX	0.55	986,591,969	4	5/31/2001	18	13	42	28	60
Dreyfus Intermediate Term Income Y	DITYX	0.50	986,591,969	4	7/1/2013					58
Dreyfus Yield Enhancement Strategy I	DABKX	0.93	389,749,153		3/7/2014					
Dreyfus Yield Enhancement Strategy Y	DABJX	0.76	389,749,153		3/7/2014					
Eaton Vance Investment Grade Income I	EIGIX	0.50	70,105,356	3	3/21/2007	51	22	73	30	56
Federated Total Return Bond Instl	FTRBX	0.38	6,591,483,320	4	10/1/1996	52	50	52	27	55
Federated Total Return Bond Svc	FTRFX	0.68	6,591,483,320	3	10/1/1996	60	57	56	34	64
Fidelity Advisor® Investment Gr Bd I	FGBPX	0.51	6,503,941,010	3	8/27/2002	31	7	58	55	37
Fidelity Advisor® Mortgage Securities I	FMSCX	0.51	1,030,632,829	3	3/3/1997	56	47	82	54	20
Fidelity Advisor® Total Bond I	FEPIX	0.51	19,338,935,954	4	6/16/2004	31	19	52	31	48
Fidelity Advisor® Total Bond Z	FBKWX	0.36	19,338,935,954	4	12/22/2014					
Fidelity Spartan® US Bond Idx AdvtgInstl	FXNAX	0.05	20,308,269,399	3	5/4/2011			82	69	26
Fidelity Spartan® US Bond Idx Instl	FXSTX	0.07	20,308,269,399	3	5/4/2011			82	70	25
Fidelity® Series Investment Grade Bond	FSIGX	0.45	26,680,535,406	3	10/8/2008	52	11	69	61	32
Fidelity® Series Investment Grade Bond F	FIBFX	0.35	26,680,535,406	3	6/26/2009	49	8	69	57	27
Forward Investment Grade Fxd-Inc Instl	AIFIX	0.86	12,321,800	2	6/16/1992	37	3	51	89	88
Forward Investment Grade Fxd-Inc Z		0.76	12,321,800	3	5/5/2009	34	3	51	87	87
Goldman Sachs Bond Institutional	GSNIX	0.45	448,834,180	4	11/30/2006	37	62	15	14	36
Goldman Sachs Core Fxd-Inc Instl	GSFIX	0.44	943,117,220	3	1/5/1994	42	17	56	41	38
Great Lakes Bond Institutional	GLBNX	0.66	74,389,659		9/28/2012				26	78
Guggenheim Investment Grade Bond Instl	GIUSX	0.76	142,089,244	4	1/29/2013					2
Guggenheim Total Return Bond Instl	GIBIX	0.51	1,451,705,581	5	11/30/2011			4	3	1
GuideMark Core Fixed Income Instl	GICFX	0.71	313,595,566	3	4/1/2011			75	82	53
GuidePath Fixed Income Allocation Instl	GIXFX	0.84	146,008,599		9/13/2012				95	80
GuideStone Funds Medium-Dur Bd Instl	GMDYX	0.50	927,573,239	4	8/27/2001	25	41	34	59	25
Hancock Horizon Core Bond Instl	HHBTX	0.79	264,224,502	2	5/31/2000	93	37	78	39	93

Intermediate-Term Bond Fund Universe (Institutional Shares)

Part 3

Name	Ticker	Prospectus Net Expense Ratio	Fund Size	Morningstar Rating Overall	Inception Date	Return Rank Year 2010	Return Rank Year 2011	Return Rank Year 2012	Return Rank Year 2013	Return Rank Year 2014
Harbor Bond Institutional	HABDX	0.51	3,729,948,413	4	12/29/1987	38	91	19	44	68
Hartford Quality Bond I	HQBIX	0.70	30,479,946		11/30/2012				77	5
Hartford Total Return Bond HLS IA	HIABX	0.50	3,180,956,003	4	8/31/1977	48	28	39	40	31
Hartford Total Return Bond HLS IB	HBNBX	0.75	3,180,956,003	3	4/1/1998	55	36	43	50	40
Hartford Total Return Bond I	ITBIX	0.55	1,900,230,092	3	8/31/2006	62	38	41	49	37
Hartford Total Return Bond Y	HABYX	0.44	1,900,230,092	3	7/22/1996	55	37	39	44	36
Hartford US Government Secs HLS IA	HAUSX	0.49	560,084,540	1	3/24/1987	93	89	18	51	92
Hartford US Government Secs HLS IB	HBUSX	0.74	560,084,540	1	5/1/2002	95	94	23	61	94
Hennessy Core Bond Institutional	HCBIX	2.60	5,645,992	3	6/3/1997	52	77	39	11	96
Highland Fixed Income Y	HFBYX	0.65	146,827,594	2	11/29/1993	49	9	77	36	76
Invesco Core Plus Bond Y	CPBYX	0.61	890,170,182	4	6/3/2009	63	65	29	15	5
Invesco US Mortgage Y	VUSIX	0.70	440,653,461	3	9/25/2006	43	81	7	11	14
Ivy Bond I	IVBIX	0.76	744,109,049	4	4/2/2007	29	21	42	23	19
Ivy Bond Y	IBOYX	1.00	744,109,049	3	12/8/2003	33	27	46	28	27
Janus Aspen Flexible Bond Instl	JAFIX	0.56	541,433,821	5	9/13/1993	38	36	29	15	65
Janus Flexible Bond I	JFLEX	0.61	9,562,337,934	4	7/6/2009	45	38	32	13	65
JHancock Bond I	JHBIX	0.61	2,858,997,418	5	9/4/2001	2	72	6	7	9
JHancock Investment Grade Bond I	TIUSX	0.65	325,274,312	4	7/28/2003	10	59	22	24	17
JPMorgan Core Plus Bond Instl	JCBIX	0.49	4,161,323,414	5	6/19/2009	12	31	43	10	18
Knights of Columbus Core Bond Instl	KCCIX	0.60	40,182,859		2/27/2015					
Leader Total Return Instl	LCTIX	1.27	256,909,371	5	7/30/2010		98	1	1	87
LM Capital Opportunistic Bond Instl	LMCOX	0.45	9,961,361		12/31/2013					33
Logan Circle Partners Core Plus I	LPCIX	0.45	10,142,151		12/31/2014					
Loomis Sayles Core Plus Bond Y	NERYX	0.54	6,938,880,670	5	12/30/1994	9	8	6	22	17
Loomis Sayles Interm Duration Bond Instl	LSDIX	0.40	97,043,012	4	1/28/1998	45	72	67	18	85
Loomis Sayles Investment Grade Bond Y	LSIIX	0.59	10,931,020,034	5	12/31/1996	4	77	5	5	60
Loomis Sayles Investment Grade F/I	LSIGX	0.48	643,681,453	5	7/1/1994	28	71	45	5	81
Lord Abbett Core Fixed Income I	LCRYX	0.45	1,307,133,806	4	3/16/1998	63	10	61	63	17
Lord Abbett Total Return I	LTRYX	0.48	2,417,802,773	4	12/15/1998	39	17	34	35	18
MainStay Indexed Bond I	MIXIX	0.40	337,195,481	3	1/2/1991	82	22	86	78	37
MainStay Total Return Bond I	MTMIX	0.60	1,718,705,675	4	1/2/1991	31	18	31	25	69
MassMutual Premier Core Bond I	MCZZX	0.42	1,647,364,577	4	12/3/2010		13	58	37	14
MassMutual Premier Core Bond Svc	MCBYX	0.62	1,647,364,577	4	1/2/1998	57	17	61	46	19
MassMutual Premier Diversified Bond I	MDBZX	0.52	174,468,815	5	12/3/2010		10	23	8	19
MassMutual Premier Diversified Bond Svc	MDBYX	0.72	174,468,815	4	5/3/1999	41	38	31	20	22
MassMutual Select Strategic Bond I	MSBZX	0.48	258,243,466	4	4/1/2014					
MassMutual Select Strategic Bond Svc	MBSYX	0.68	258,243,466	4	12/31/2004	10	42	36	47	6
MassMutual Select Total Return Bond Svc	MSPHX	0.56	1,451,151,354	3	7/6/2010		95	19	53	82
Metropolitan West Intermediate Bond I	MWIIX	0.48	1,223,334,774	4	6/28/2002	3	78	21	7	90
Metropolitan West Total Return Bond I	MWTIX	0.45	65,559,172,469	5	3/31/2000	4	70	6	8	26

Intermediate-Term Bond Fund Universe (Institutional Shares)

Part 4

Name	Ticker	Prospectus Net Expense Ratio	Fund Size	Morningstar Rating Overall	Inception Date	Return Rank Year 2010	Return Rank Year 2011	Return Rank Year 2012	Return Rank Year 2013	Return Rank Year 2014
MFS® Total Return Bond I	MRBIX	0.59	4,606,922,539	4	1/4/1999	30	39	38	27	34
Miller Intermediate Bond I	MIFIX	1.26	34,879,846		12/31/2014					
Monteagle Fixed Income I	MFHRX	1.06	49,432,185	1	12/17/1999	95	76	94	89	92
Morgan Stanley Inst Core Fixed Inc	MPSFX	0.50	14,660,504	3	9/29/1987	70	31	49	49	28
Morgan Stanley Inst Core PlsFxdInc Instl	MPFIX	0.52	217,506,730	4	11/14/1984	42	53	14	16	2
Morgan Stanley Mortgage Securities I	MTGDX	0.70	66,481,682	4	7/28/1997	31	64	1	1	6
Mutual of America Bond Instl	MABOX	0.45	17,900,000	3	5/1/1996	81	38	81	36	12
Nationwide Bond Index Instl	GBXIX	0.27	1,054,539,463	3	12/29/1999	76	15	84	78	31
Nationwide Bond Institutional	NWIBX	0.44	212,294,516	4	12/6/2012				16	79
Nationwide Core Plus Bond Instl	NWCIX	0.51	840,306,025	4	7/17/1992	24	63	27	14	66
Nationwide HighMark Bond Instl	NWJIX	0.58	565,486,857	4	9/18/2013					60
Neuberger Berman Core Bond Inst	NCRLX	0.47	278,847,930	4	10/2/1995	20	41	54	78	38
Nuveen Core Bond I	FINIX	0.53	255,827,109	3	1/5/1993	69	87	50	58	21
Nuveen Core Plus Bond I	FFIIX	0.52	599,436,973	4	2/4/1994	38	79	25	8	52
Oppenheimer Core Bond I	OPBIX	0.53	1,353,157,188	3	4/27/2012				13	5
Oppenheimer Core Bond Y	OPBYX	0.60	1,353,157,188	3	4/27/1998	5	9	12	22	6
Optimum Fixed Income Instl	OIFIX	0.95	2,058,955,977	4	8/1/2003	16	25	46	84	72
PACE Intermediate Fixed Income Y	PIFYX	0.68	447,094,751	2	2/2/2001	90	83	86	26	94
PACE Strategic Fixed Income Y	PSFYX	0.81	958,443,442	4	2/2/2001	8	2	24	98	36
Pacific Financial Strategic Cnsv I	PFGSX	2.10	173,602,576	2	7/2/2007	62	86	50	35	96
Pacific Funds Core Income I	PLIIX	0.65	636,150,447	5	12/31/2010		7	16	6	71
PIMCO Moderate Duration Instl	PMDRX	0.46	1,714,677,079	4	12/31/1996	30	90	27	13	92
PIMCO Mortgage-Backed Securities Instl	PTRIX	0.50	202,112,685	3	7/31/1997	19	72	74	42	19
PIMCO Total Return II Instl	PMBIX	0.50	1,081,471,802	4	12/30/1991	43	84	31	68	79
PIMCO Total Return III Instl	PTSAX	0.50	1,286,383,300	4	5/1/1991	23	91	16	66	75
PIMCO Total Return Instl	PTTRX	0.46	117,397,864,807	4	5/11/1987	26	87	12	60	71
PIMCO Total Return IV Instl	PTUIX	0.50	1,678,914,623	3	5/26/2011			20	57	82
Pioneer Bond Y	PICYX	0.58	2,998,439,094	5	9/20/2001	16	73	24	7	20
Pioneer Government Income Y	ATGIX	0.92	109,512,489	2	9/2/1997	36	25	36	83	88
PNC Bond I	PFDIX	0.56	152,175,275	2	10/31/1988	70	62	76	61	53
PNC Intermediate Bond I	PIKIX	0.53	347,102,281	2	12/20/1989	81	87	78	31	94
PNC Total Return Advantage I	PTVIX	0.56	200,847,129	4	2/27/1998	67	53	59	30	55
Praxis Intermediate Income I	MIIIX	0.55	426,746,634	3	5/1/2006	69	28	75	37	42
Principal Bond & Mtg Securities Inst	PMSIX	0.53	4,352,251,099	3	3/1/2001	5	32	41	30	62
Principal Bond Market Index Instl	PNIX	0.24	1,255,434,667	3	12/30/2009	84	16	86	78	12
Principal Income Instl	PIOIX	0.51	3,145,239,856	5	3/23/1998	30	57	16	12	53
Prudential Core Bond Q	TPCQX	0.45	111,473,633	3	2/17/2015					
Prudential Total Return Bond Z	PDBZX	0.58	9,744,679,033	5	9/16/1996	14	10	15	28	6
Putnam Income Y	PNCYX	0.60	2,416,474,742	5	6/16/1994	24	74	8	3	50
RidgeWorth Core Bond Fund I	STIGX	0.42	202,728,855	4	7/16/1992	90	2	87	84	16

Intermediate-Term Bond Fund Universe (Institutional Shares)

Part 5

Name	Ticker	Prospectus Net Expense Ratio	Fund Size	Morningstar Rating Overall	Inception Date	Return Rank Year 2010	Return Rank Year 2011	Return Rank Year 2012	Return Rank Year 2013	Return Rank Year 2014
RidgeWorth Intermediate Bond I	SAMIX	0.42	256,511,246	2	6/30/1999	94	43	92	34	91
RidgeWorth Total Return Bond I	SAMFX	0.41	1,155,828,750	4	12/30/1997	72	2	75	90	17
RidgeWorth Total Return Bond IS	SAMZX	0.32	1,155,828,750	4	8/1/2014					
Rockefeller Core Taxable Bond Instl	RCFIX	0.86	77,194,110		12/26/2013					82
RS Investment Quality Bond Y	RSQYX	0.66	94,508,585	3	5/12/2009	42	23	61	40	29
Russell Investment Grade Bond I	RFASX	0.49	1,418,593,594	3	10/15/1981	28	55	55	74	26
Russell Investment Grade Bond Y	RFAYX	0.37	1,418,593,594	4	3/29/2000	27	53	54	70	21
Russell Strategic Bond I	RFCSX	0.68	6,924,640,395	4	1/29/1993	8	73	27	48	32
Russell Strategic Bond Y	RFCYX	0.56	6,924,640,395	4	6/22/2005	7	72	26	42	27
Rx Traditional Fixed Income Instl	FMRFX	1.10	6,898,226		9/20/2012				99	98
Saratoga Investment Quality Bond I	SIBPX	1.36	9,382,689	1	9/1/1994	98	94	94	29	98
Schwab Intermediate-Term Bond	SWIIX	0.45	353,326,333	2	10/31/2007	44	66	92	33	86
Scout Core Bond I	SCCIX	0.40	220,829,084	3	2/23/2001	50	13	55	26	95
Scout Core Bond Y	SCCYX	0.79	220,829,084	2	4/21/2011			58	35	96
Scout Core Plus Bond Instl	SCPZX	0.40	694,337,603	4	11/25/1996	13	6	15	18	95
Scout Core Plus Bond Y	SCPYX	0.78	694,337,603	3	11/12/2009	17	9	17	25	96
SEI Core Fixed Income A (SIMT)	TRLVX	0.67	2,126,210,884	4	5/4/1987	7	22	32	47	13
SEI Core Fixed Income I (SIMT)	SCXIX	0.89	2,126,210,884	4	6/8/2001	8	27	36	54	16
SEI US Fixed Income A (SIMT)	SUFAX	0.66	1,178,617,494	3	7/2/2009	48	13	60	71	29
SEI US Fixed Income Y (SIMT)	SUSWX	0.41	1,178,617,494	3	12/31/2014					
Sentinel Total Return Bond I	SITRX	0.80	895,447,202	5	12/17/2010		49	10	2	93
State Farm Bond Instl	SFBIX	0.41	768,400,000	3	11/1/2001	85	5	84	95	30
State Street Aggregate Bond Index I	SSFDX	0.29	44,123,852		9/19/2014					
Sterling Capital Securitized Opps Instl	SCSPX	0.59	42,960,244	3	6/30/2011			32	96	35
Sterling Capital Total Return Bond I	BIBTX	0.48	701,832,874	4	12/1/1999	38	36	58	29	26
Steward Select Bond Inst	SEACX	0.66	154,864,781	2	10/1/2004	96	86	92	9	86
Stone Harbor Investment Grade Instl	SHIGX	0.51	9,896,534		12/19/2013					22
Stratus Government Securities Inst	STGSX	0.71	38,825,077	1	10/8/1993	98	81	98	75	97
T. Rowe Price Instl Core Plus	TICPX	0.40	601,929,320	4	11/30/2004	31	52	44	44	27
TCW Core Fixed-Income I	TGCFX	0.49	1,664,250,116	4	3/1/1993	12	28	44	46	42
TCW Total Return Bond I	TGLMX	0.49	8,884,515,740	5	6/17/1993	9	87	3	4	36
TDAM Core Bond Institutional	TDBFX	0.52	40,546,488		3/21/2013					41
TETON Westwood Intermediate Bond I	WEIIX	0.75	20,667,550	1	1/11/2008	94	72	95	56	97
TIAA-CREF Bond Index Institutional	TBIIX	0.12	5,935,893,651	3	9/14/2009	76	13	83	75	32
TIAA-CREF Bond Instl	TIBDX	0.32	2,839,152,188	4	7/1/1999	62	36	41	32	33
TIAA-CREF Bond Plus Inst	TIBFX	0.33	3,004,540,532	4	3/31/2006	29	32	28	23	36
TIAA-CREF Social Choice Bond Instl	TSBIX	0.40	435,935,173		9/21/2012				37	1
Timothy Plan Fixed Income I	TPFIX	1.04	77,737,727	2	8/1/2013					72
Touchstone Active Bond Institutional	TOBIX	0.58	108,492,167	3	4/16/2012				17	73
Touchstone Flexible Income Instl	TFSLX	0.74	347,634,977	4	9/10/2012				92	4

Intermediate-Term Bond Fund Universe (Institutional Shares)

Part 6

Name	Ticker	Prospectus Net Expense Ratio	Fund Size	Morningstar Rating Overall	Inception Date	Return Rank Year 2010	Return Rank Year 2011	Return Rank Year 2012	Return Rank Year 2013	Return Rank Year 2014
Touchstone Total Return Bond Instl	TCPNX	0.50	188,953,808	3	8/1/2011			65	64	8
Transamerica Core Bond I2		0.51	935,832,804	3	7/1/2009	71	17	71	59	32
Transamerica Total Return I2		0.73	625,982,281	3	11/15/2005	52	53	38	78	81
Tributary Income Instl	FOINX	0.84	141,317,412	3	3/9/2001	67	20	59	27	43
Tributary Income Instl Plus	FOIPX	0.65	141,317,412	4	10/28/2011			56	25	34
UBS Core Plus Bond P	BPBDX	0.40	33,489,354	3	8/31/1995	37	11	67	31	8
USAA Income Institutional	UIINX	0.48	5,984,646,758	4	8/1/2008	30	26	44	13	27
USAA Intermediate-Term Bond Instl	UIITX	0.56	3,568,763,557	5	8/1/2008	2	43	8	5	32
Vanguard Interm-Term Bond Idx InstlPls	VBIUX	0.05	19,210,946,889	4	11/30/2011			46	94	7
Vanguard Interm-Term Bond Index I	VBIMX	0.07	19,210,946,889	5	1/26/2006	17	1	46	95	7
Vanguard Mortgage-Backed Sec Idx I	VMBIX	0.09	1,385,598,180	2	5/9/2012					33
Vanguard Total Bond Market II Idx I	VTBNX	0.05	95,092,504,218	3	2/17/2009	72	12	84	69	26
Vanguard Total Bond Market Index I	VBTIX	0.07	143,912,773,109	3	9/18/1995	70	11	83	67	30
Vantagepoint Core Bond Index T	VQCIX	0.16	1,731,732,380	3	3/1/2013					35
Victory Munder Total Return Bond Y	MUCYX	0.64	110,718,829	4	11/29/1991	47	42	37	11	66
Virtus Bond I	SAVYX	0.85	78,053,390	4	3/7/1996	25	64	27	6	86
Voya Aggregate Bond I	IPTIX	0.58	615,059,843	4	5/1/2002	41	91	30	50	52
Voya Intermediate Bond I	IICIX	0.34	2,663,258,247	4	1/8/2002	13	7	22	18	9
Voya Intermediate Bond Port I	IPIIX	0.51	4,728,954,722	4	5/23/1973	15	15	19	15	11
Voya US Bond Index Port I	ILBAX	0.40	3,710,642,712	2	3/7/2008	80	22	86	80	39
Weitz Core Plus Income Institutional	WCPBX	0.65	15,863,112		7/31/2014					
Wells Fargo Advantage Core Bond Instl	MBFIX	0.42	3,281,426,259	4	10/31/2001	49	4	52	61	22
Wells Fargo Advantage Income Plus I	WIPIX	0.59	554,416,359	4	7/18/2008	32	6	60	36	10
Westcore Plus Bond Institutional	WIIBX	0.38	1,552,902,926	4	9/28/2007	55	10	65	31	25
Western Asset Core Bond I	WATFX	0.45	3,918,886,197	4	9/4/1990	3	18	44	57	4
Western Asset Core Bond IS	WACSX	0.45	3,918,886,197	5	8/29/2008	3	16	43	55	3
Western Asset Core Plus Bond I	WACPX	0.45	15,086,656,337	5	7/8/1998	3	36	28	31	3
Western Asset Core Plus Bond IS	WAPSX	0.43	15,086,656,337	5	8/4/2008	3	38	26	29	2
Western Asset Intermediate Bond I	WATIX	0.51	634,342,574	3	7/1/1994	26	73	45	25	85
Western Asset Intermediate Bond IS	WABSX	0.45	634,342,574	3	10/3/2008	26	73	45	24	84
Western Asset Mortgage Backed Sec I	SGSYX	0.61	692,472,487	5	2/7/1996	2	51	1	3	8
William Blair Bond I	WBFIX	0.50	286,707,434	4	5/1/2007	40	13	26	37	53
William Blair Bond Inst	BBFIX	0.35	286,707,434	4	5/1/2007	36	9	25	33	46
Wilmington Broad Market Bond Instl	ARKIX	0.55	421,892,934	3	7/16/1993	41	41	58	49	29
Wilmington Intermediate-Term Bond Instl	ARIFX	0.53	131,894,385	3	11/18/1996	80	61	78	25	92

TFI's due diligence process is multifaceted and incorporates a number of criteria for evaluating investment managers, performance, investment processes, firms, and risk mitigation practices. TFI will focus on managers who:

- *Are honest, ethical and who demonstrate above industry norm behaviors,*
- *Have many years of investment and industry experience,*
- *Have experience in various market cycles, sectors and regions,*
- *Have low cash levels and stay close to fully invested,*
- *Have a demonstrated record and philosophy of risk aversion,*
- *Maintain global as well as domestic perspectives,*
- *Pay attention to not only securities' fundamental evaluation but also market sentiments and benchmark performances,*
- *Utilize both fundamental and quantitative evaluation methodologies,*
- *Have no top heavy or overly concentrated bets in their top ten holdings,*
- *Keep turnover in line with expectations for their investment style/category, and*
- *Keep expenses low.*

Funds may not satisfy all these criteria, but this list creates the general profile of an attractive investment. The qualifiers will generally include:

Funds' and Managers' Track records and organizational structure

- *Three years minimum track record in current role or cumulatively including other positions*
- *Five years or more preferred*
- *Prefer managers with over 10 years of experience as portfolio managers*
- *Prefer teams with analysts who have more than 10 years of investment experience*
- *Prefer low turnover in teams and firms*
- *Prefer firms that are strong in both asset management and distribution*

Assets under management for actively managed funds at time of selection

- *Aim for \$500 million to \$1 billion minimum depending on fund category*
- *Seek funds that have been able to gain assets at a steady pace, considering the market environments*
- *Avoid funds that have been losing assets due to team or performance issues*

Availability and Fees

- *Open to new investors and have no capacity constraints in the near term*
- *Aim for a net expense ratio rank below 50%; among peers, prefer below 30%*
- *Available to 529 plans*

Performance

- *Aim for absolute 3- and 5-year performance better than peer average*
- *Aim for risk-adjusted 3- and 5-year performance better than peer average (prefer top quartile)*
- *Aim for relative 3- and 5-year performance better than category benchmark*

Style and size consistency

- *Generally better than peer average*
- *Prefer managers who can be opportunistic without creating large tracking error*

Scrutinize fund management

- *Philosophy*
- *Process*
- *Investment risk management*

Firm due diligence

- *Firm stability*
- *Firm product competency*
- *Trading practice and efficiency*
- *Legal, compliance and operations*

Operational Risk Mitigation

- *Clearly defined and documented standard operating procedures*
- *Sound policies with regard to risk governance*
- *Procedures for risk identification, measurement, and adjustment*
- *High quality enterprise risk management system*
- *Emphasis on transparency and accountability*
- *Work environments that support strategy implementation and minimize errors*
- *Capable, well-developed, and regularly-tested technology infrastructure*
- *Minimal reliance on "one-off" procedures*
- *Business continuity/disaster recovery plans and processes*

These fund and firm characteristics are assessed as part of TFI's initial due diligence process and are continually monitored and reevaluated. We review financial market research from various sources, investment publications, and third party vendors such as Morningstar to help form an opinion. Quarterly due diligence questionnaires are completed for each underlying fund and contain helpful discussions of performance attribution and general outlook from portfolio managers. TFI also maintains a point of contact and relationship with each fund family, thus improving accessibility and flow of relevant information. Accordingly, TFI conducts in-person meetings to hear directly from individuals working with the portfolio for a thorough review of the investment philosophy, process, and strategy positioning, as well as any updates on firm announcements, leadership changes, or organization restructuring that may affect the fund.

While due diligence for third-party funds is critical, it is also important for affiliated funds. TFI is affiliated with TCAM and Nuveen Investments, so we not only have relationships with these groups, but we have direct lines of contact that allow us to obtain deeper insight into specific funds and the broader firm more quickly. We believe there is a balance between the transparency of affiliated managers and the diversification of an open architecture platform which our proposal seeks to optimize. While there are benefits from employing a variety of approaches on a platform, an investment platform with a large amount of open architecture may relinquish too much oversight or control from the due diligence process, or take on too much risk, but TFI is one of TCAM's largest clients, and we have enjoyed the benefits of having a close, trusted relationship through the years.

Date: June 1, 2015
To: ScholarShare Investment Board (SIB)
From: Pension Consulting Alliance, Inc. (PCA)
CC: Eric White, CFA | Kay Ceserani | Sean Copus
RE: **ScholarShare Core Bond Search Analysis**

Overview and Recommendation

As part of the process of replacing the PIMCO Total Return fund with the TIAA-CREF Bond Plus fund during 3Q2014, the SIB tasked TIAA-CREF with performing a manager search for a core fixed income manager. PCA has reviewed the candidate list created by TIAA-CREF following the search process. PCA conducted due diligence incorporating both quantitative and qualitative factors focusing particular attention to the funds' philosophy & process, the stability and tenure of the management teams, the stability of the parent organization, and the performance track record. Based on this analysis, PCA developed a short list of three candidate funds plus the TIAA-CREF Bond Plus fund. PCA conducted further analysis of the short list and have concluded that while any of the four funds would do a satisfactory job managing the core fixed income portion of the portfolio, PCA believes the Met West Total Return fund and the JP Morgan Core Plus Bond fund represent the best all around candidates with a bias towards Met West. They are followed the Baird Aggregate fund and the TIAA-CREF Bond Plus fund, respectively.

Discussion

It was announced on September 26, 2014 that Bill Gross, founder and CIO of PIMCO, was leaving the firm and joining Janus Capital. At the time, PCA believed that given Mr. Gross's role as lead portfolio manager for the PIMCO Total Return fund and as his role as PIMCO's CIO, Mr. Gross's departure would have profound implications for PIMCO. As such, PCA recommended that the PIMCO Total Return fund be replaced as ScholarShare's core bond fund. In order to expedite the transition from the PIMCO Total Return fund, PCA recommended (and the Board approved) the transfer of the assets from the PIMCO Total Return fund to the TIAA-CREF Core Plus bond fund. As part of this process, the SIB directed TIAA-CREF to do a full search of the Core/Core Plus Fixed Income Universe to assure that the TIAA-CREF Bond Plus fund represented the best option for the Program on a go forward basis. In late May, TFI provided PCA with a memo describing their search process and their recommended candidate list. The rest

of this memo will focus on their candidate list with particular focus on a short list of four funds PCA has identified as the best options.

TFI Candidate List

TFI identified fifteen candidate funds that they believe represented top tier funds managed by experienced teams who have demonstrated a long-term ability to add value. The chart below lists the funds identified by TFI.

	Annualized Excess Return				
	1 Year	3 Years	5 Years	7 Years	10 Years
Baird Aggregate Bond	0.60	0.88	0.88	0.60	0.10
Baird Core Plus Bond	0.53	0.83	0.96	1.35	0.86
BMO:TCH Core Plus Bond	0.09	1.71	1.62	---	---
DoubleLine Core Fixed Income	1.09	1.07	---	---	---
DoubleLine Total Return	0.84	1.42	3.32	---	---
JPMorgan Core Plus Bond	0.39	1.07	1.04	---	---
Met West Total Return	0.15	1.93	1.43	2.21	1.73
Nationwide Core Plus Bond	-0.62	0.81	0.59	0.37	0.06
Principal Income	-0.61	1.23	0.97	1.44	0.98
TCW Total Return Bond	0.17	2.56	1.96	2.85	2.06
TIAA-CREF Bond	0.26	0.64	0.36	0.10	-0.16
TIAA-CREF Bond Plus	0.43	1.03	0.82	0.54	---
USAA Income	-0.32	0.89	0.63	---	---
Voya Intermediate Bond	0.82	1.52	1.53	0.44	-0.09
WA Core Plus Bond	1.28	1.42	1.14	2.03	0.96
<i>BC Universal</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Peer Median</i>	<i>-0.39</i>	<i>-0.06</i>	<i>-0.09</i>	<i>-0.05</i>	<i>-0.38</i>

* Shaded funds represent those on PCA's short list

PCA has reviewed the candidate list provided by TFI and believes TFI has identified a strong list of capable funds. PCA reviewed this list using the 5 Ps approach: People, Philosophy, Process, Portfolio characteristics, and Performance. Through the process, PCA attempted to minimize the influence of past performance due to its backward-looking nature. For example, the previous 5 years have exhibited relatively strong returns for what are known as spread sectors (riskier sectors than Treasuries); from a historical perspective, managers who took the most risk over the past five years were rewarded with the highest returns. However, such an overweight allocation to spread sectors can create losses in periods of market stress such as 2007 and 2008. Instead of

always being overweight spread sectors, a manager who can allocate to spread sectors when the additional risk is well compensated and remove the exposure when the additional risk is not well compensated is much preferred. In order to identify managers who execute this type of strategy we looked at the funds' investment Philosophy & Process as well as their portfolio characteristics over time in order to gauge each funds' management team's ability to add value. When looking at funds from this perspective, performance becomes the proof statement of the Philosophy & Process and the team's ability to execute on that Philosophy & Process. Based on this analysis PCA was able to narrow the candidate list down to a short list of three funds plus the TIAA-CREF Bond Plus fund for further analysis. The remainder of this memo discussed PCA's short list.

PCA Short list

Based on the analysis described previously, PCA narrowed the candidate list to four funds we feel would be suitable for the Program.

Baird Aggregate Bond (BAGIX)

The Baird Aggregate Bond fund is managed through a duration-neutral, risk-controlled approach with a long term perspective. The investment objective of the Fund is to seek an annual rate of total return greater than the annual rate of total return of the Barclays U.S. Aggregate Bond Index. The Fund normally invests at least 80% of its net assets in the following types of U.S. dollar-denominated debt securities: U.S. government, Asset-backed and mortgage-backed obligations of U.S. and foreign issuers, and Corporate debt of U.S. and foreign issuers. The Fund only invests in debt securities rated investment grade at the time of purchase. The Fund looks to add value through security selection, sector allocation, yield curve positioning and competitive execution of trades. The fund is managed by a team of six portfolio managers each of whom have been with the Fund since its inception in 2000. The fund currently has a 4-star MorningStar rating does not have a MorningStar analyst rating.

JP Morgan Core Plus Bond Institutional (JCBIX)

The JP Morgan Core Plus Bond fund seeks a high level of current income by investing primarily in a diversified portfolio of high-, medium-, and low-grade debt securities. The fund normally invests at least 80% of its assets in bonds where 65% of the fund's total assets must be rated as investment-grade at the time of purchase. The fund combines bottom-up security selection with top-down macro analysis that guides yield curve positioning, duration, and portfolio risk. The fund may also invest up to 35% of net assets in foreign securities. Mark Jackson is the longest-tenured portfolio manager, having been with the fund since April 1996. The fund management team also includes 4 other

individuals, two of which have been with the fund since 2006, while the two latest additions to the management team joined in September 2013 and March 2014. The fund currently has a 5-star MorningStar rating but does not currently have a MorningStar Analyst rating.

Met West Total Return Bond (MWTIX)

The Met West Total Return Bond fund seeks to consistently outperform its benchmark over a full market cycle, while maintaining similar volatility. The fund uses a valuation-based approach to identify securities trading below their intrinsic value. The investment philosophy is implemented through a process emphasizing five areas to add value that include (1) duration management, (2) yield curve positioning, (3) sector allocation, (4) security selection, and (5) opportunistic execution. In each area the Fund takes a value oriented approach with strong emphasis on internal research. The Fund has received the most inflows of any actively managed fixed-income fund in the intermediate-term bond Morningstar Category following Bill Gross' September 2014 departure from PIMCO, due in part to the experience of its management team led by Tad Rivelle, Steve Kane, and Laird Landmann. Since late September 2014, this fund's asset base grew by roughly 90%, with assets clocking in at \$66 billion at the end of April 2015. Its three named managers have worked together for more than two decades. They have also built a stable bench of nearly 50 mortgage, credit, and rate specialists and added a handful of new analysts and traders since the fall of 2014. The fund currently has a 5-star MorningStar rating with a MorningStar analyst rating of Gold.

TIAA-CREF Bond Plus Institutional (TIBFX)

The TIAA-CREF Bond Plus seeks to earn favorable long-term total return, primarily through high current income. Fund management looks to hold 70% or more of assets in investment-grade bonds and have the ability to invest up to 30% in the "plus" area which mostly consists of high yield bonds, non-agency mortgage-backed securities, and emerging market bonds. Bill Martin is currently the lead-PM on the fund having joined the team in August of 2011 after having been TIAA-CREF's mortgage-backed securities chief. Mr. Martin works alongside two other PMs who have been with the fund since March 2006. The management team uses bottom-up research to shape the fund and is supported by 7 of the firm's sector-focused portfolio managers as well as more than 40 bond analysts. Prior to 2011, the "plus" sleeve of the portfolio rarely exceeded 20% of assets, but following Mr. Martin's arrival the fund boosted its holdings in non-agency MBS, emerging market bonds, and high yield corporate to more aggressively chase returns. The fund currently has a 4-star MorningStar rating and its MorningStar analyst rating is Neutral.

Qualitative Analysis

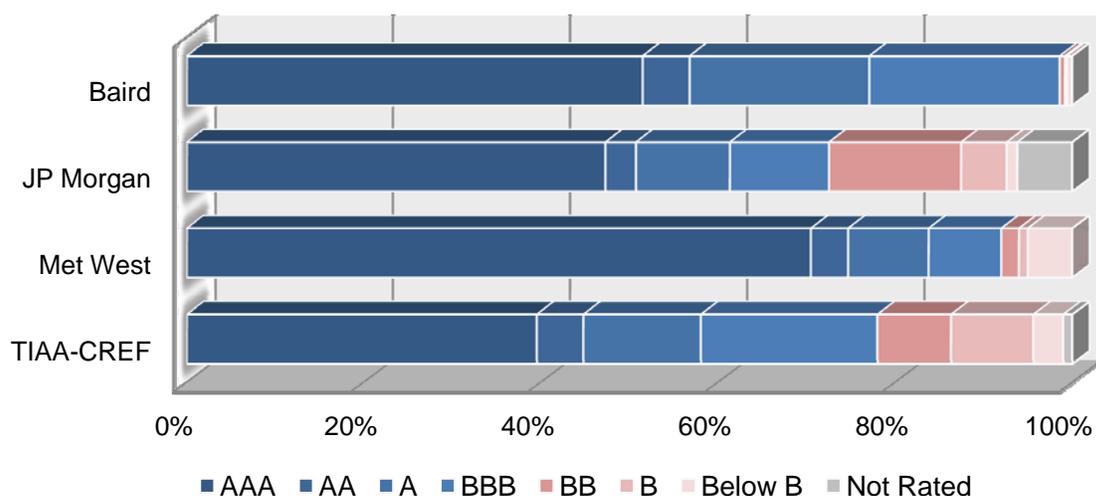
The four funds PCA has chosen to focus on are all attractive from a qualitative standpoint. Each fund has a quality management team, a high MorningStar rating, significant net assets, and diversified sector exposure. With these general characteristics in mind, Figure 1 below illustrates some of the differences between the four funds.

Figure 1: Bond Statistics (as of 3/31/2015)

Fund	MorningStar Rating	Fees (bps)	Avg. Eff. Duration	Avg. Eff. Maturity	Avg. Coupon	Yield to Maturity
Baird Aggregate	★★★★	30	5.45	7.14	4.00%	2.61%
JP Morgan Core Plus Bond	★★★★★	48	5.19	7.36	4.40%	3.59%
Met West Total Return	★★★★★	40	4.71	8.78	2.75%	1.98%
TIAA-CREF Bond Plus	★★★★	33	5.45	7.86	4.07%	3.23%

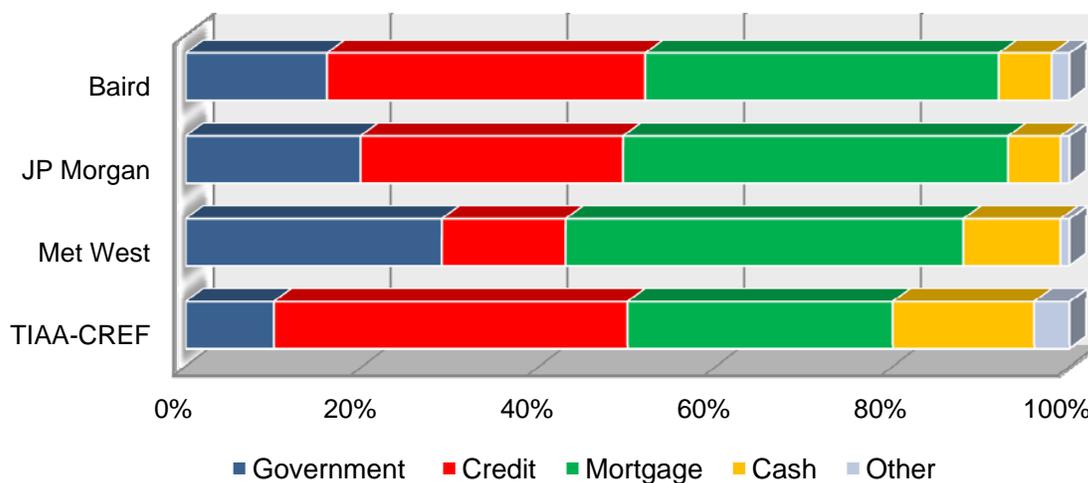
The Baird Aggregate fund and the Met West Total Return fund tend to exhibit higher credit quality, lower average coupon, and lower Yield-to-Maturity (YTM) making them the more conservative choices. On the other end of the spectrum, both the TIAA-CREF Bond Plus and JP Morgan Core Plus Bond funds exhibit larger allocations to below investment-grade credit, higher average coupons, and higher YTM, making them more aggressive options. Figure 2 further breaks down the credit quality of each fund.

Figure 2: Credit Quality (as of 3/31/2015)



The Baird Aggregate fund's exhibits a more conservative allocation due to limiting its investments to only investment grade securities at the time of purchase consistent with a Core mandate (as opposed to a Core Plus mandate which includes high yield securities). Met West consistent with its Core Plus mandate does invest in high yield securities but does so to a more limited extent than the two riskier options: the JP Morgan Core Plus Bond fund and the TIAA-CREF Bond Plus fund. In addition, the Met West Total Return fund also holds significantly more high-rated securities than the other funds. That being said the Fund has at times held significantly more lower-rated securities when the portfolio management team believed they were undervalued as they did coming out of the financial crisis. Between the two riskier options, the JP Morgan Core Plus Bond fund has the largest share of below investment-grade debt, including 6.2% in unrated securities, but the fund attempts to balance the increased credit risk by investing nearly 50% of its assets in AAA-rated securities. While the TIAA-CREF Bond Plus fund exhibits slightly less high-yield exposure it exhibits significantly less exposure to AAA and AA securities. Figure 3 breaks down the sector allocation of each fund.

Figure 3: Sector Allocation (as of 3/31/2015)



From figure 3 we can see that the Baird, JP Morgan, and Met West funds hold similar allocations to Mortgages while the TIAA-CREF Bond Plus fund held significantly more Corporate debt. All else being equal, these allocation should make the Baird, JP Morgan, and Met West funds more sensitive to changes in interest rates and the TIAA-CREF fund more sensitive to changes in the global economy. Also of note is the Met West Total Return fund's significantly larger allocation to Government securities and low Credit exposure. The TIAA-CREF Bond Plus fund exhibits basically the opposite exposure holding relatively few Government securities and a large overweight to Corporate securities.

Quantitative Analysis

In addition to looking at qualitative considerations, PCA also considered a number of quantitative factors. The primary objective of this is to evaluate each fund's performance relative to its risk profile to see how well each fund's managers were able to successfully implement their investment strategy. Figure 4 details each fund's annualized returns (net of fees) and standard deviations.

Figure 4: Annualized Risk & Return (Net of Fees)
(as of 03/31/15)

Fund	1 Year		3 Year		5 Year		7 Year	
	Return	S.D.	Return	S.D.	Return	S.D.	Return	S.D.
Baird Aggregate	6.3%	3.0%	4.5%	3.0%	5.7%	2.9%	5.6%	3.8%
JP Morgan Core Plus	5.6%	2.7%	4.6%	2.7%	5.9%	2.7%	---	---
Met West Total Return	5.5%	2.6%	5.5%	2.6%	6.4%	2.9%	7.2%	3.5%
TIAA-CREF Bond Plus	5.7%	2.8%	4.5%	3.0%	5.6%	3.0%	5.4%	3.6%
<i>BC U.S. Universal</i>	<i>5.3%</i>	<i>2.8%</i>	<i>3.5%</i>	<i>2.8%</i>	<i>4.8%</i>	<i>2.7%</i>	<i>5.0%</i>	<i>3.6%</i>
Peer Group Median	5.0%	2.8%	3.5%	3.0%	4.7%	2.9%	5.0%	4.0%

* Peer Group Median = US OE Intermediate-term Bond

All funds outperformed the benchmark and peer group median over all time periods measured. The Baird Aggregate fund produced the best return for the 1-year period while the Met West Total Return fund produced the best return over the 3-, 5-, and 7-year periods. Figure 5 shows each fund's annualized performance on a risk-adjusted basis.

Figure 5: Risk-Adjusted Performance
Sharpe Ratios (Net of Fees)
(As of 3/31/15)

Fund	1 Year	3 Year	5 Year	7 Year
Baird Aggregate	2.10	1.50	1.97	1.47
JP Morgan Core Plus	2.07	1.70	2.19	---
Met West Total Return	2.12	2.12	2.21	2.06
TIAA-CREF Bond Plus	2.04	1.50	1.87	1.50
<i>BC U.S. Universal</i>	<i>1.90</i>	<i>1.23</i>	<i>1.75</i>	<i>1.40</i>
Peer Group Median	1.80	1.18	1.64	1.26

All funds exhibited strong risk-adjusted returns beating the benchmark and peer median over all time periods. The Met West Total Return fund had the best risk-adjusted performance over all time periods. The JP Morgan Core Plus fund also exhibited quite

strong risk-adjusted returns over longer time periods with it and the Met West Total Return fund producing Sharpe Ratios in excess of 2 over the 5-year period.

Given PCA’s belief that downside protection is paramount within the fixed income portion of 529 plans we paid particular attention to capital preservation and consistency of returns. Figure 6 highlights some of the metrics we used for this analysis.

**Figure 6: Downside Protection & Consistency Measures
5 Years ending 3/31/15**

Fund	Ann. StdDev, %	Semi Stdev, %	Sortino Ratio	Loss Frequency	Max Drawdown Return	Down Mkt Capture Ratio, %	Up Mkt Capture Ratio, %	Batting Average
Baird Aggregate	2.9%	1.4%	3.99	25%	-3.9%	96%	114%	73%
JP Morgan Core Plus	2.7%	1.2%	4.90	32%	-3.1%	77%	110%	65%
Met West Total Return	2.9%	1.4%	4.63	23%	-3.5%	80%	119%	63%
TIAA-CREF Bond Plus	3.0%	1.5%	3.68	30%	-4.1%	101%	113%	67%
BC U.S. Universal	2.7%	1.4%	3.42	27%	-3.7%	100%	100%	100%
Peer Group Median	2.9%	1.5%	3.10	30%	-4.1%	104%	101%	52%

It’s important to note that all four funds exhibited consistently better measures of downside risk than the benchmark and peer group median. One takeaway from the table is the JP Morgan Core Plus Bond and the Met West Total Return funds’ excellent performance over the 5-year period. The funds managed to have the highest Sortino Ratios, the lowest Max Drawdown, and the largest spreads between its Down Market and Up Market capture ratios. Since no one measure tells the whole story PCA also creates a combined score by ranking each category one to four with four being the best score then aggregating those scores across the eight measures. Using this calculation both the JP Morgan Core Plus Bond and the Met West Total Return funds’ scored 24 points out of a possible 32. The Baird Aggregate fund scored 22 and the TIAA-CREF Bond Plus fund scored 12.

Conclusion

PCA has reviewed TFI’s Core Fixed Income manager search and believe TFI has done a commendable job arriving at a candidate list that features top tier active managers with proven ability to add value over time. PCA subsequently narrowed the candidate list to a short list of four funds based on our analysis of each fund’s philosophy, process, people, portfolio characteristics and performance. We feel all four funds identified on

the short list would do a satisfactory job managing the core fixed income portion of the portfolio.

That being said, PCA has been asked by Staff to rank the short list funds in order of our conviction. To do so we have analyzed the funds on both qualitative and quantitative some of which we have presented within this memo. We paid particular attention to the funds' philosophy & process, the stability and tenure of the management teams, the stability of the parent organization, and the performance track record. Based on this analysis we believe the Met West Total Return fund and JP Morgan Core Plus fund to be the best all around candidates with a bias towards Met West. They are followed by the Baird Aggregate Bond fund and the TIAA-CREF Bond Plus fund, respectively.

However, these rankings would be slightly altered if SIB would desire to move in a more conservative direction (to a more Core oriented portfolio relative to a Core Plus portfolio). Doing so would reduce the risk profile of the fixed income allocation but would also lower the expected returns due to the reduction in high yield bonds. If this is the case, we believe the Met West Total Return fund and the Baird Aggregate fund would be the best candidates to achieve such a mandate. They would be followed by the JP Morgan Core Plus and the TIAA-CREF Bond Plus fund, respectively. If on the other hand, SIB desires to maintain a Core Plus mandate relative to a Core-only mandate PCA would rank the funds as follows: 1. Met West Total Return, 2. JP Morgan Core Plus, 3. TIAA-CREF Bond Plus, and 4. Baird Aggregate.

Each fund offers a unique philosophy & process and risk-return and portfolio composition characteristics. Ultimately, the decision of which fund to select should be based on the SIB's unique preferences (risk, return, portfolio characteristics, etc).

Factors used to analyze the recommended funds.

- **Batting Average:** Measures the percentage frequency with which the manager has met or beaten the benchmark over a given time frame. Also known as "the probability of success," it is the ratio between the number of periods where the manager outperforms a benchmark and the total number of periods.
- **Down Market Capture Ratio:** The portion of the market's performance that was captured by the manager using only periods where the market return is negative. A down market capture of less than 100% is considered desirable.
- **Loss Frequency:** Measures the total amount of times that a loss occurs in a particular time frame. Shown as a percentage.
- **Max Drawdown Return:** Measures the worst period of "peak to valley" performance for the series regardless of whether or not the drawdown consisted of consecutive months of negative performance.
- **Return:** Is a measure of the appreciation or depreciation of the value of a portfolio over a given time period. This is usually expressed as a percentage which may be annualized over a number of years or represent a single period.
- **Semi-Standard Deviation:** Is a measure of risk using only the variance of returns below a target rate, such as the benchmark or zero.
- **Sharpe Ratio:** A measure of the manager's excess return, above or below the risk-free rate, relative to the total variability of the manager's returns.
- **Sortino Ratio:** Similar to the Sharpe Ratio - a measure of the manager's excess return, above or below the risk-free rate, relative to the total variability of the manager's returns below a target rate, such as the benchmark or zero.
- **Up Market Capture Ratio:** The portion of the market's performance that was captured by the manager using only periods where the market return is positive. An up market capture of greater than 100% is considered desirable.

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