



**Annual Report for the
PERA Plus 401(k)/457 and PERA DC Plans**
For the Year Ended December 31, 2018

July 2019

Dear Plan Participant:

I am pleased to present the *Annual Report for the PERAPlus 401(k)/457 and PERA DC Plans* for the year ended December 31, 2018. Inside, you will find the financial statements and rates of return for the funds.

The *Annual Report for the PERAPlus 401(k)/457 and PERA DC Plans* is an unaudited summary of the fiduciary net position and changes in fiduciary net position for the PERAPlus 401(k)/457 and PERA DC Plans. CliftonLarsonAllen LLP, the independent accounting firm which conducted the annual PERA audit that includes the PERAPlus 401(k)/457 and PERA DC Plans, gave an unqualified opinion on the financial statements in Colorado PERA's 2018 *Comprehensive Annual Financial Report (CAFR)*. A copy of the *CAFR* is available on PERA's website at www.copera.org.



Ron Baker
Executive Director

On December 31, 2018:

- The PERAPlus 401(k) Plan had a fiduciary net position of \$3,042,128,000 with 68,700 participant accounts.
- The PERAPlus 457 Plan had a fiduciary net position of \$818,223,000 with 18,479 participant accounts.
- The PERA DC Plan had a fiduciary net position of \$205,786,000 with 6,363 participant accounts.

Voya Institutional Plan Services, LLC (Voya) is the service provider for the PERAPlus 401(k)/457 and PERA DC Plans.

Plan Changes

The following changes were made to the PERAPlus 401(k)/457 and PERA DC Plans in 2018:

- On April 1, 2018, the Plan administration asset-based fee was reduced from 0.07% to 0.03% (see page 3 for current fees).
- On June 4, 2018, Senate Bill (SB) 18-200 was signed into law to make changes to the plans that PERA administers in order to restore PERA to full funding. One of the provisions of SB 18-200 expands PERAChoice (the option to choose the PERA DC Plan) to certain new employees in the Local Government Division and certain new classified employees at State colleges and universities. (Visit www.copera.org for more on SB 18-200.)

PERAPlus 401(k) Plan Design

The 401(k) Plan was established on January 1, 1985, under state law and Section 401(k) of the Internal Revenue Code (IRC) and is amended periodically. A copy of *PERA's 401(k) and Defined Contribution Plan and Trust Document* is available from PERA. Plan participation is voluntary and contributions are separate from those that PERA members make to their Defined Benefit member accounts, and the PERAPlus 457 and PERA DC Plans. Investment options in the PERAPlus 401(k) Plan are identical to those in the PERAPlus 457 and PERA DC Plans.

Continued on the next page

PERAPlus 457 Plan Design

The 457 Plan was established by PERA on July 1, 2009, under state law and Section 457 of the IRC and is amended periodically. It is a continuation of the State of Colorado Deferred Compensation Plan. A copy of *The PERA Deferred Compensation Plan* document is available from PERA. Plan participation is voluntary and contributions are separate from those that PERA members make to their Defined Benefit member accounts, and the PERAPlus 401(k) and PERA DC Plans. Investment options in the PERAPlus 457 Plan are identical to those in the PERAPlus 401(k) and PERA DC Plans.

PERA Defined Contribution (DC) Plan Design

PERA's DC Plan was established on January 1, 2006, under state law and Section 401(a) of the IRC, and is amended periodically. Its purpose is to offer a defined contribution alternative to the PERA Defined Benefit Plan. A copy of *PERA's 401(k) and Defined Contribution Plan and Trust Document* is available from PERA. Investment options in the PERA DC Plan are identical to those in the PERAPlus 401(k)/457 Plans. DC Plan participant contributions are separate from those that are made to the PERAPlus 401(k)/457 Plans.

More Information

If you have additional questions about the PERAPlus 401(k)/457 or PERA DC Plans, call 1-800-759-7372 and select the PERAPlus/DC Plan option, or access the Plan websites through www.copera.org.

Ron Baker
Colorado PERA Executive Director

PLAN FEES

(As of July 1, 2019)

The PERAPlus 401(k)/457 and PERA DC Plans charge an administrative flat fee of \$1.00 per month to all participants. If you participate in multiple plans, you will pay \$1.00 per month for each plan.

Participants will also pay a Plan administration asset-based fee of up to 0.03% on each underlying PERAdvantage portfolio. This fee is automatically built into the total asset-based fee as shown in the chart below. Fees are deducted from the investment option's rate of return (see page 5). There are no other shareholder-type fees that apply.

Fund	Total Asset-Based Fee	
	Percentage	Per \$1,000
PERAdvantage Capital Preservation Fund	0.24%	\$2.40
PERAdvantage Fixed Income Fund	0.23%	\$2.30
PERAdvantage Real Return Fund	0.20%	\$2.00
PERAdvantage U.S. Large Cap Stock Fund	0.08%	\$0.80
PERAdvantage International Stock Fund	0.30%	\$3.00
PERAdvantage U.S. Small and Mid Cap Stock Fund	0.18%	\$1.80
PERAdvantage SRI Fund	0.37%	\$3.70
PERAdvantage Target Retirement Date Funds	0.10%	\$1.00

The PERAdvantage Socially Responsible Investment (SRI) Fund uses revenue sharing from the underlying investment portfolios to reduce the Plan administration asset-based fee by the amount of such revenue sharing. Funds from revenue sharing, Plan administration asset-based fees, and Plan administration flat fees are used by PERA for Plan expenses including Plan recordkeeping, custodial services, consulting, and internal PERA administrative expenses.

If you have a Self-Directed Brokerage Account (SDBA), you will pay an annual \$50 Self-Directed Brokerage fee. Additional trading fees charged by TD Ameritrade may apply. There is no asset-based fee charged because PERA receives revenue sharing from TD Ameritrade. Investments with revenue sharing reduce the asset-based administrative fee by the amount of such revenue sharing.

There is a \$75 nonrefundable loan application fee for each loan you take from your PERAPlus 401(k) or PERAPlus 457 Plan account. The interest rate for loans is the prime rate as quoted in *The Wall Street Journal* on the last business day of the prior month, plus 1%.

If you enroll in the Voya Professional Management program, you will pay a fee of approximately \$5 for every \$10,000 in your account. Fees are proportionately lower for accounts with balances over \$50,000.

A complete fee schedule is available on the Plan websites, accessible through www.copera.org. Fees and expenses are only one of several factors that participants should consider when making investment decisions. The cumulative effect of fees and expenses can substantially reduce the growth of a participant's account.

QUALIFIED DEFAULT INVESTMENT ALTERNATIVE

Plan participants who do not actively direct how their contributions are invested will have their money automatically invested in the Plan's Qualified Default Investment Alternative (QDIA), the PERAdvantage Target Retirement Date fund based on their date of birth and expected retirement at age 65 (see table below). Participants may move all or a portion of their money out of the QDIA into any other fund(s) in the Plan. They may also choose to have future contributions invested in another fund.

As the target year approaches for the PERAdvantage 2020 Fund, the asset allocation will become identical to the PERAdvantage Income Fund. Therefore, in the fourth quarter of 2019, assets in the PERAdvantage 2020 Fund will transfer to the PERAdvantage Income Fund and the PERAdvantage 2020 Fund will be eliminated.

Fund	Date of Birth Range
PERAdvantage Income Fund	December 31, 1952, or earlier
PERAdvantage 2020 Fund	January 1, 1953–December 31, 1957
PERAdvantage 2025 Fund	January 1, 1958–December 31, 1962
PERAdvantage 2030 Fund	January 1, 1963–December 31, 1967
PERAdvantage 2035 Fund	January 1, 1968–December 31, 1972
PERAdvantage 2040 Fund	January 1, 1973–December 31, 1977
PERAdvantage 2045 Fund	January 1, 1978–December 31, 1982
PERAdvantage 2050 Fund	January 1, 1983–December 31, 1987
PERAdvantage 2055 Fund	January 1, 1988–December 31, 1992
PERAdvantage 2060 Fund	January 1, 1993, or later

RATES OF RETURN

The rates of return presented in this report are as of December 31, 2018, and are net of investment manager fees and asset-based Plan administrative fees. Current returns are available on the Plan websites. These funds commenced as of October 1, 2011. As of October 1, 2011, performance is calculated using net asset values (NAV). Actual historic performance prior to October 1, 2011, does not exist.

Simulated Performance

The simulated performance presented on page 5 in italics for the 10-year returns, is intended to provide an indication of how the funds may have performed in the past. The simulated performance is based on the composite performance of institutional accounts managed by the managers with investment strategies similar to those expected to be implemented by the managers in the funds or on the actual historical returns of the underlying portfolios used by the fund. To produce the simulated returns, the managers' composite returns were combined in accordance with the target asset allocation and rebalanced quarterly. Past performance, whether actual or simulated, does not guarantee future results.

PERAdvantage Capital Preservation Fund

The PERAdvantage Capital Preservation Fund is a fund for which the return is fixed. The return is an annualized crediting rate that is established at the beginning of each quarter and credited to the participant's account on a daily basis. You may access the most recent crediting rate on the Plan websites. In certain extreme circumstances, there may be a limit on your ability to withdraw from this fund or you may be limited to withdrawing your funds at the lesser of book value or market value. Extreme circumstances could include, but are not limited to, fund subscription and redemption activity, a sharp decline in the market value of the fixed income investments, or a deterioration in the credit worthiness of the stable value provider.

RATES OF RETURN *(continued)*

Fund/Benchmark	4th Quarter 2018	Year 2018	5-Year	10-Year
PERAdvantage Capital Preservation Fund	0.52%	1.98%	1.87%	<i>2.56%</i>
Hueller Stable Value Index (Equal Wtd Avg)	0.59%	2.23%	1.89%	2.24%
PERAdvantage Fixed Income Fund	1.37%	(0.18%)	2.36%	4.23%
Bloomberg Barclays U.S. Agg Bond Index	1.64%	0.01%	2.52%	3.48%
PERAdvantage Real Return Fund	(5.21%)	(5.50%)	0.14%	3.84%
70% SSgA Real Asset Strategy ¹ / 30% Bloomberg Barclays U.S. TIPS Index	(5.15%)	(5.34%)	0.31%	4.01%
PERAdvantage U.S. Large Cap Stock Fund	(14.07%)	(4.48%)	7.94%	<i>13.08%</i>
Russell 1000™ Index	(13.82%)	(4.78%)	8.21%	13.28%
PERAdvantage International Stock Fund	(13.95%)	(16.14%)	1.00%	<i>8.01%</i>
MSCI ACWI ex-US Index	(11.46%)	(14.20%)	0.68%	6.57%
PERAdvantage U.S. Small and Mid Cap Stock Fund	(20.01%)	(12.52%)	3.29%	<i>12.81%</i>
Russell 2500™ Index	(18.49%)	(10.00%)	5.15%	13.15%
PERAdvantage SRI Fund	(6.35%)	(3.95%)	3.79%	7.50%
SRI Fund Custom Index ²	(6.35%)	(4.14%)	3.61%	7.80%
PERAdvantage Income Fund	(4.73%)	(3.60%)	3.07%	6.02%
BlackRock LifePath® Retirement Index	(4.67%)	(3.48%)	3.23%	6.24%
PERAdvantage 2020 Fund	(5.37%)	(3.98%)	3.43%	7.24%
BlackRock LifePath® 2020 Index	(5.30%)	(3.88%)	3.56%	7.46%
PERAdvantage 2025 Fund	(6.90%)	(4.94%)	3.75%	7.88%
BlackRock LifePath® 2025 Index	(6.87%)	(4.90%)	3.85%	8.08%
PERAdvantage 2030 Fund	(8.20%)	(5.75%)	4.03%	8.42%
BlackRock LifePath® 2030 Index	(8.17%)	(5.76%)	4.11%	8.61%
PERAdvantage 2035 Fund	(9.41%)	(6.54%)	4.29%	8.93%
BlackRock LifePath® 2035 Index	(9.40%)	(6.58%)	4.34%	9.09%
PERAdvantage 2040 Fund	(10.51%)	(7.26%)	4.49%	9.35%
BlackRock LifePath® 2040 Index	(10.50%)	(7.33%)	4.53%	9.51%
PERAdvantage 2045 Fund	(11.32%)	(7.86%)	4.59%	9.69%
BlackRock LifePath® 2045 Index	(11.34%)	(7.98%)	4.60%	9.85%
PERAdvantage 2050 Fund	(11.65%)	(8.12%)	4.63%	10.07%
BlackRock LifePath® 2050 Index	(11.69%)	(8.26%)	4.65%	10.22%
PERAdvantage 2055 Fund	(11.68%)	(8.15%)	4.64%	N/A
BlackRock LifePath® 2055 Index	(11.72%)	(8.29%)	4.65%	N/A
PERAdvantage 2060 Fund	(11.67%)	(8.15%)	N/A	N/A
BlackRock LifePath® 2060 Index	(11.72%)	(8.29%)	N/A	N/A

Performance is net of management and administrative fees. Performance is calculated using time-weighted net asset values (NAV). All performance is calculated by RVK, Inc.

¹ Index consists of 25% Bloomberg Barclays U.S. TIPS Index; 15% Dow Jones U.S. Select REIT Index; 25% Bloomberg Roll Select Commodity Index; 25% S&P Global LargeMidCap Commodity and Resources Index; and 10% S&P Global Infrastructure Index.

² The SRI Fund Custom Index consists of 60% MSCI World ESG Index (Net) and 40% Bloomberg Barclays U.S. Government Bond Index.

Note: The 10-year returns in italics reflect simulated performance.

STATEMENTS OF FIDUCIARY NET POSITION

As of December 31, 2018 (Unaudited)

(Dollars in Thousands)

ASSETS

Investments, at fair value	401(k) Plan	457 Plan	DC Plan
PERAdvantage Capital Preservation Fund	\$280,883	\$158,923	\$11,529
PERAdvantage Fixed Income Fund	256,387	66,893	9,746
PERAdvantage Real Return Fund	15,934	6,096	1,069
PERAdvantage U.S. Large Cap Stock Fund	1,261,201	191,477	35,892
PERAdvantage International Stock Fund	249,058	83,465	17,473
PERAdvantage U.S. Small and Mid Cap Stock Fund	164,989	99,751	20,565
PERAdvantage SRI Fund	15,686	5,378	915
PERAdvantage Income Fund	114,288	25,128	5,894
PERAdvantage 2020 Fund	108,234	26,856	7,638
PERAdvantage 2025 Fund	126,183	33,565	8,225
PERAdvantage 2030 Fund	103,144	23,466	10,289
PERAdvantage 2035 Fund	90,377	22,965	10,396
PERAdvantage 2040 Fund	60,769	15,934	12,652
PERAdvantage 2045 Fund	40,343	9,481	19,095
PERAdvantage 2050 Fund	28,007	6,357	15,130
PERAdvantage 2055 Fund	17,799	3,933	8,022
PERAdvantage 2060 Fund	4,474	2,134	1,591
TD Ameritrade Self-Directed Brokerage Account	27,816	18,844	3,916
Total investments, at fair value	2,965,572	800,646	200,037
Other plan assets			
Cash	719	311	2
Short-term interest accounts	10,072	1,674	3,751
Benefit receivable	6,319	3,784	2,213
Participant loans receivable	60,169	12,035	—
Total other plan assets	77,279	17,804	5,966
Total assets	3,042,851	818,450	206,003
LIABILITIES			
Amount due (to)/from combined investment fund	(281)	(74)	(53)
Accounts payable	(228)	(98)	(62)
Advance deposits	(214)	(55)	(102)
Total liabilities	(723)	(227)	(217)
Fiduciary net position restricted for defined contribution pension plans, and held in trust for deferred compensation benefits	\$3,042,128	\$818,223	\$205,786

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION

For the Year Ended December 31, 2018 (Unaudited)

(Dollars in Thousands)

ADDITIONS	401(k) Plan	457 Plan	DC Plan
Contributions			
Employers	\$5,409	\$29	\$13,201
Members	132,189	57,981	10,573
Total contributions	137,598	58,010	23,774
Investment income adjusted for fair value appreciation or (depreciation)			
PERAdvantage Capital Preservation Fund	5,330	3,141	215
PERAdvantage Fixed Income Fund	(314)	(102)	(6)
PERAdvantage Real Return Fund	(919)	(332)	(60)
PERAdvantage U.S. Large Cap Stock Fund	(54,088)	(8,675)	(1,675)
PERAdvantage International Stock Fund	(48,025)	(16,022)	(3,343)
PERAdvantage U.S. Small and Mid Cap Stock Fund	(23,969)	(14,240)	(3,065)
PERAdvantage SRI Fund	(639)	(213)	(35)
PERAdvantage Income Fund	(4,328)	(946)	(222)
PERAdvantage 2020 Fund	(4,435)	(1,111)	(294)
PERAdvantage 2025 Fund	(6,477)	(1,749)	(431)
PERAdvantage 2030 Fund	(6,326)	(1,438)	(630)
PERAdvantage 2035 Fund	(6,256)	(1,616)	(732)
PERAdvantage 2040 Fund	(4,754)	(1,268)	(993)
PERAdvantage 2045 Fund	(3,471)	(815)	(1,637)
PERAdvantage 2050 Fund	(2,486)	(562)	(1,339)
PERAdvantage 2055 Fund	(1,588)	(359)	(723)
PERAdvantage 2060 Fund	(414)	(197)	(142)
TD Ameritrade Self-Directed Brokerage Account	(2,440)	(1,079)	(330)
Short-term interest income	228	41	61
Net investment income (loss)	(165,371)	(47,542)	(15,381)
Other additions			
Revenue sharing	143	57	11
Participant loan interest	2,157	489	—
Miscellaneous	22	28	—
Total other additions	2,322	574	11
Total additions	(25,451)	11,042	8,404
DEDUCTIONS			
Benefits paid	(202,684)	(56,568)	(12,722)
Plan expenses	(3,310)	(1,094)	(819)
Other deductions	(1,598)	(756)	(166)
Total deductions	(207,592)	(58,418)	(13,707)
Net increase/(decrease) in fiduciary net position	(\$233,043)	(\$47,376)	(\$5,303)

ANALYSIS OF PLAN ADMINISTRATIVE INCOME/(EXPENSE)

For the Year Ended December 31, 2018 (Unaudited)

(Dollars in Thousands)

	401(k) Plan	457 Plan	DC Plan
Plan income			
Administrative fees	\$2,928	\$671	\$179
Loan and other fees	183	63	1
Short-term interest income from operations	228	41	60
Revenue sharing	143	57	11
Forfeitures	—	—	1,215
Total plan income	3,482	832	1,466
Plan expense			
Consulting fees	(165)	(44)	(11)
Recordkeeping fees	(1,038)	(499)	(345)
Subscription fees	(13)	(2)	—
Custodial fees	(226)	(60)	(15)
Other expenses	—	—	(1)
PERA administrative expense	(1,868)	(489)	(447)
Total plan expense	(3,310)	(1,094)	(819)
Net plan administrative income (expense)	\$172	(\$262)	\$647

REVIEWING YOUR INVESTMENTS

You may review or change your investment mix by calling 1-800-759-7372 and selecting the PERAPlus/DC Plan option or by accessing your account online. To access your account online, go to www.copera.org and click the "Member/Retiree Login" button. After you enter your User ID and password and gain access to your account, click on either "PERAPlus 401(k) Account Access," "PERAPlus 457 Account Access," or "PERA DC Plan Account Access" on the top of the page or under the "Benefit Programs" menu. Once on the Plan's website, you may generate a statement, which will show your Personal Investment Performance and the funds in which you are invested.

To help you better understand the investment options available to you, this *Annual Report* includes the fund fact sheets (beginning on page 9) as of December 31, 2018, for all funds currently available. Current fund fact sheets can be found on the Plan websites. Disclosure information applicable to all PERAdvantage funds is found on pages 26–27. Risk definitions can be found on the Plan websites.

SELF-DIRECTED BROKERAGE ACCOUNT

The Self-Directed Brokerage Account (SDBA) allows you to select from numerous mutual funds and/or other types of securities, such as stocks and bonds, for an additional fee (see page 3). This *Annual Report* does not include rates of return on the investments available to participants using the SDBA with TD Ameritrade. More information can be found on the Plan websites.

Beginning with the third quarter statements in 2019, Voya quarterly statements will be available exclusively online. By logging in to your PERA account, you can update your communication preferences on the Plan website to sign up for edelivery and receive notifications when your statements are ready to view.

PERAdvantage Capital Preservation Fund

Investment Information

Investment Objective & Strategy

The fund seeks to provide consistent investment income with a stable net asset value primarily by investing in a portfolio of high-quality, medium-term fixed income securities to produce the income. Since the underlying fixed income investments fluctuate in market value with changes in the market, the portfolio is paired with an insurance contract offered by a high-quality insurance company to provide a more stable return and to offer participants the ability to withdraw or transfer their funds, subject to plan rules, without market value risk or other penalty for premature withdrawal. This fund invests in securities issued by the U.S. Government or one of its agencies, including agency mortgage bonds, as well as high-grade corporate bonds. The fund is managed by GW Capital Management, LLC, a federally registered investment advisor and affiliate of Great-West Life & Annuity Insurance Company.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.21%
.....	
Total Fee	0.24%

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	451.34

Subadvisor(s)	Category/Index	Target %
GW Capital Management	Stable Value	100.00

Volatility and Risk

Investment

Low	Moderate	High
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In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

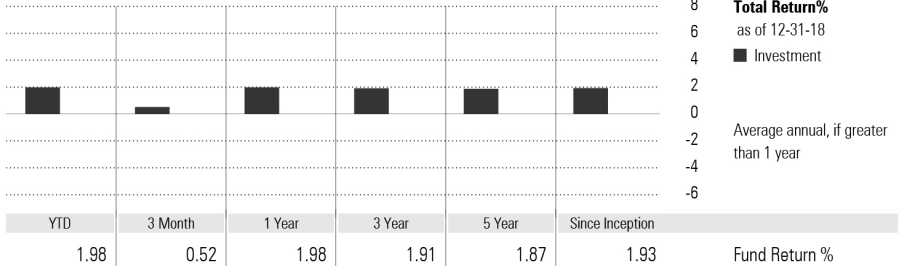
Best 3 Month Return

0.60%
(Oct '12 - Dec '12)

Worst 3 Month Return

0.42%
(Feb '14 - Apr '14)

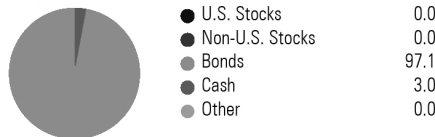
Performance



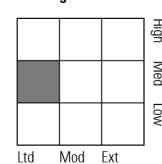
The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Composition as of 12-31-18



Morningstar Fixed Income Style Box™ as of 12-31-18



What do Stable Value Funds invest in?

Stable-value funds tend to invest in high-quality bonds with short- to intermediate-term maturities. They also purchase insurance contracts which aim to provide price stability on a day-to-day basis. The horizontal axis of the Morningstar fixed-income Style Box shows duration, a measure of how fund's price will change in response to interest-rate changes. Because stable-value fund's insurance contracts usually prevent any fluctuations in the fund's prices, these funds are insulated from interest-rate volatility and their duration is effectively zero. The Style Box represents a typical stable value fund and is not based on specific information from this particular fund.

Credit Analysis: % Bonds as of 12-31-18

AAA	85	BB	0
AA	2	B	0
A	6	Below B	0
BBB	0	Not Rated	6

Morningstar F-I Sectors as of 12-31-18

Sector	% Fund
Government	0.89
Corporate	11.72
Securitized	84.43
Municipal	0.00
Cash/Cash Equivalents	2.95
Other	0.00

Principal Risks

Credit and Counterparty, Extension, Inflation/Deflation, Prepayment (Call), Reinvestment, Loss of Money, Not FDIC Insured, Nondiversification, Active Management, Income, Issuer, Temporary Defensive Measures, Interest Rate, Market/Market Volatility, Mortgage-Backed and Asset-Backed Securities, U.S. Government Obligations, Pricing, Fixed-Income Securities, Maturity/Duration, Regulation/Government Intervention, Cash Drag, Amortized Cost, Investment-Grade Securities, Management, Structured Products, Money Market Fund Ownership

PERAdvantage Fixed Income Fund

Benchmark

Bloomberg US Agg Bond Index

Investment Information

Investment Objective & Strategy

The fund seeks to generate income, preserve capital, and provide long-term capital appreciation by investing in a diversified portfolio of fixed-income instruments of varying maturities. The fund primarily invests in investment grade debt securities, but may invest a portion of its assets in high-yield securities. The fund may invest in derivative instruments or in mortgage- or asset-backed securities. The fund combines actively managed core plus and passive core styles, thereby providing management style diversification.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.20%
Total Fee	0.23%

Morningstar Category: Intermediate-Term Bond

Intermediate-term bond portfolios invest primarily in corporate and other investment-grade U.S. fixed-income issues and typically have durations of 3.5 to 6.0 years. These portfolios are less sensitive to interest rates, and therefore less volatile, than portfolios that have longer durations. Morningstar calculates monthly breakpoints using the effective duration of the Morningstar Core Bond Index in determining duration assignment. Intermediate-term is defined as 75% to 125% of the three-year average effective duration of the MCBI.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	333.03

Subadvisor(s)	Category/Index	Target %
Wells Fargo Asset Management	Core	50.00
BlackRock CoreAlpha	Core	25.00
BlackRock	Core Index	25.00

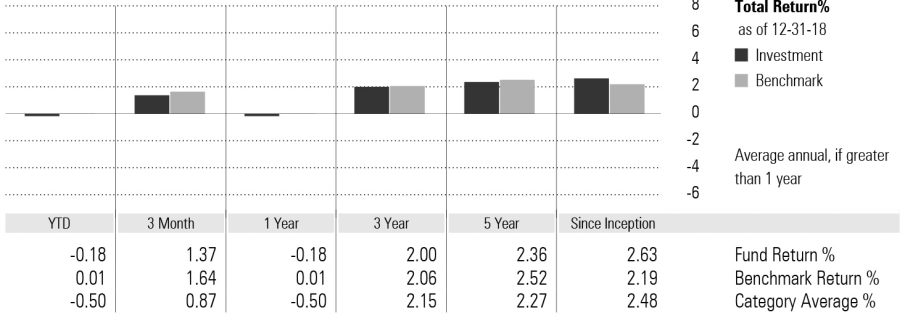
Volatility and Risk



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

Best 3 Month Return	Worst 3 Month Return
6.45%	-4.04%
(Nov '08 - Jan '09)	(May '13 - Jul '13)

Performance



The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Underlying Managers



Morningstar Fixed Income Style Box™ as of 12-31-18



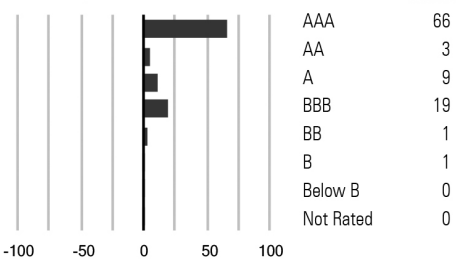
Top 10 Holdings as of 12-31-18

Security	% Assets
United States Treasury Notes 2.75% 02-15-28	1.84
United States Treasury Notes 2.75% 08-15-21	1.54
Government National Mortgage Association 5% 02-20-49	1.52
Short-Term Investment Fund	1.25
United States Treasury Notes 2.88% 10-31-20	1.03
United States Treasury Notes 1.88% 01-31-22	0.98
United States Treasury Notes 2.88% 11-15-21	0.97
United States Treasury Notes 3.13% 11-15-28	0.93
Federal Home Loan Mortgage Corporation 4% 10-01-48	0.82
Federal National Mortgage Association 4.5% 11-01-48	0.78
Total Number of Stock Holdings	0
Total Number of Bond Holdings	14520
Annual Turnover Ratio %	—

Morningstar F-I Sectors as of 12-31-18

Sector	% Fund	% Category
Government	24.52	25.08
Corporate	26.61	25.92
Securitized	44.70	36.04
Municipal	0.49	1.77
Cash/Cash Equivalents	3.64	5.43
Other	0.04	5.76

Credit Analysis as of 12-31-18



Principal Risks

Short Sale, Credit and Counterparty, Extension, Inflation/Deflation, Inflation-Protected Securities, Prepayment (Call), Reinvestment, Currency, Emerging Markets, Foreign Securities, Long-Term Outlook and Projections, Loss of Money, Not FDIC Insured, Country or Region, Active Management, Income, Index Correlation/Tracking Error, Issuer, Interest Rate, Market/Market Volatility, Convertible Securities, Equity Securities, Futures, High-Yield Securities, Mortgage-Backed and Asset-Backed Securities, Municipal Obligations, Leases, and AMT-Subject Bonds, Restricted/Illiquid Securities, Underlying Fund/Fund of Funds, U.S. Government Obligations, Derivatives, Leverage, Pricing, Fixed-Income Securities, Dollar Rolls, Maturity/Duration, Sovereign Debt, Regulation/Government Intervention, Cash Drag, Multimanager, Credit Default Swaps, Forwards, Investment-Grade Securities, Management, Passive Management, Structured Products, Swaps, Money Market Fund Ownership

PERAdvantage Real Return Fund

Benchmark
Blended Benchmark

Investment Information

Investment Objective & Strategy

The fund seeks to provide broad exposure to real assets and Treasury Inflation Protected Securities (TIPS) and to produce a return over a full market cycle that exceeds the rate of inflation. Real assets are physical or identifiable assets such as commodities or real estate. Real assets tend to be more desirable during periods of high inflation. This fund allocates to underlying real return funds including U. S. Treasury Inflation Protected Securities (TIPS), Real Estate Investment Trusts (REITs), global commodity and national resource stocks, and commodities.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.17%
Total Fee	0.20%

Operations and Management

Fund Inception Date 10-01-11
Total Fund Assets (\$mil) 23.10

Subadvisor(s)	Category/Index	Target %
SSgA	Real Assets Index	70.00
SSgA	U.S. TIPS Index	30.00

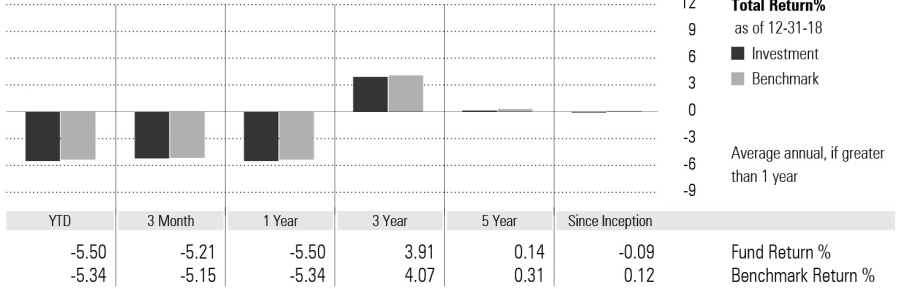
Volatility and Risk



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

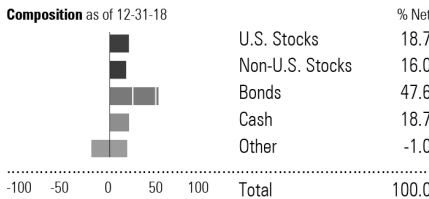
Best 3 Month Return 21.27% (Mar '09 - May '09)	Worst 3 Month Return -30.59% (Sep '08 - Nov '08)
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Performance



The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis



Top 10 Holdings as of 12-31-18

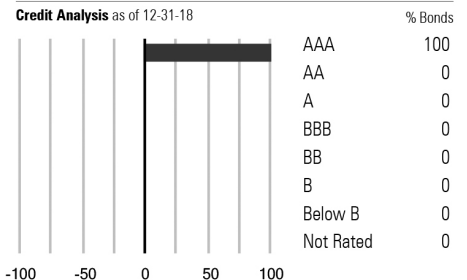
Asset	% Assets
State Street Corporation Short Term Investment Fund 12-31-30	17.31
United States Treasury Notes 0.12% 04-15-20	2.14
United States Treasury Notes 0.12% 04-15-21	1.85
United States Treasury Notes 0.12% 04-15-22	1.79
United States Treasury Notes 0.62% 04-15-23	1.78
United States Treasury Notes 0.62% 01-15-24	1.77
United States Treasury Notes 0.38% 07-15-23	1.76
United States Treasury Notes 0.12% 07-15-22	1.76
United States Treasury Notes 0.12% 01-15-23	1.76
United States Treasury Notes 0.38% 07-15-25	1.71
Total Number of Stock Holdings	346
Total Number of Bond Holdings	53
Annual Turnover Ratio %	—

Morningstar Fixed Income Style Box™ as of 12-31-18



Morningstar F-I Sectors as of 12-31-18

Sector	% Fund
Government	71.57
Corporate	0.08
Securitized	0.00
Municipal	0.00
Cash/Cash Equivalents	28.36
Other	0.00



Principal Risks

Credit and Counterparty, Inflation-Protected Securities, Reinvestment, Currency, Foreign Securities, Long-Term Outlook and Projections, Loss of Money, Not FDIC Insured, Active Management, Index Correlation/Tracking Error, Interest Rate, Market/Market Volatility, Commodity, Equity Securities, Futures, Industry and Sector Investing, Options, Underlying Fund/Fund of Funds, U.S. Government Obligations, Derivatives, Fixed-Income Securities, Maturity/Duration, Regulation/Government Intervention, Cash Drag, Suitability, Multimanager, Investment-Grade Securities, Passive Management, Mid-Cap, Large Cap, Real Estate/REIT Sector

PERAdvantage U.S. Large Cap Stock Fund

Benchmark

Russell 1000 TR USD

Investment Information

Investment Objective & Strategy

The fund seeks to provide long-term capital appreciation and dividend income primarily by investing in the common stock of companies located in the United States with large market capitalizations. This fund invests in a wide array of U.S. stocks with market capitalizations similar to those found in the Russell 1000™ Index. The fund combines active and passive management styles.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.05%
Total Fee	0.08%

Morningstar Category: Large Blend

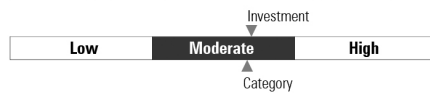
Large-blend portfolios are fairly representative of the overall US stock market in size, growth rates and price. Stocks in the top 70% of the capitalization of the US equity market are defined as large cap. The blend style is assigned to portfolios where neither growth nor value characteristics predominate. These portfolios tend to invest across the spectrum of US industries, and owing to their broad exposure, the portfolios' returns are often similar to those of the S&P 500 Index.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	1,488.53

Subadvisor(s)	Category/Index	Target %
Colorado PERA	Active Core	40.00
Colorado PERA	Index	60.00

Volatility and Risk



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

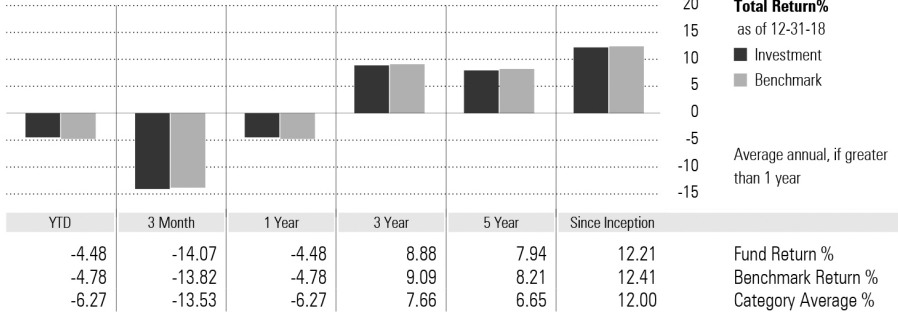
Best 3 Month Return

25.91%
(Mar '09 - May '09)

Worst 3 Month Return

-30.65%
(Sep '08 - Nov '08)

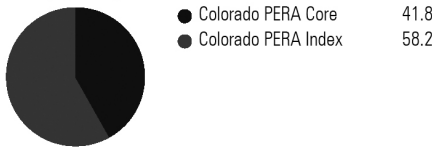
Performance



The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Underlying Managers

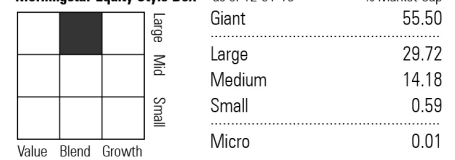


Top 10 Holdings as of 12-31-18

	% Assets
Apple Inc	4.34
Microsoft Corp	4.00
Amazon.com Inc	3.56
Alphabet Inc A	2.67
JPMorgan Chase & Co	2.09
Johnson & Johnson	1.83
Facebook Inc A	1.70
UnitedHealth Group Inc	1.64
Visa Inc Class A	1.60
The Home Depot Inc	1.48

Total Number of Stock Holdings	985
Total Number of Bond Holdings	97
Annual Turnover Ratio %	—

Morningstar Equity Style Box™ as of 12-31-18



Morningstar Equity Sectors as of 12-31-18

	% Fund
Cyclical	31.57
Basic Materials	2.18
Consumer Cyclical	11.62
Financial Services	15.66
Real Estate	2.11
Sensitive	43.05
Communication Services	3.66
Energy	5.60
Industrials	10.53
Technology	23.26
Defensive	25.38
Consumer Defensive	7.48
Healthcare	15.37
Utilities	2.53

Principal Risks

Inflation/Deflation, Foreign Securities, Long-Term Outlook and Projections, Loss of Money, Not FDIC Insured, Capitalization, Growth Investing, Quantitative Investing, Value Investing, Active Management, Income, Index Correlation/Tracking Error, Issuer, Interest Rate, Market/Market Volatility, Commodity, Depositary Receipts, Equity Securities, Futures, Industry and Sector Investing, IPO, Options, Preferred Stocks, Underlying Fund/Fund of Funds, Warrants, Derivatives, Pricing, Regulation/Government Intervention, Cash Drag, Suitability, Increase in Expenses, Multimanager, Shareholder Activity, Management, Mid-Cap, Large Cap

PERAdvantage International Stock Fund

Benchmark

MSCI AC World Ex USA NR USD

Investment Information

Investment Objective & Strategy

The fund seeks to provide long-term capital appreciation and dividend income primarily by investing in the common stock of companies located outside the United States. The fund invests in a wide array of international stocks similar to those found in the MSCI All Countries World Index (ACWI) ex-U.S. Index.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.28%
Total Fee	0.31%

Morningstar Category: Foreign Large Blend

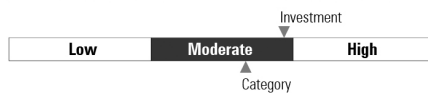
Foreign large-blend portfolios invest in a variety of big international stocks. Most of these portfolios divide their assets among a dozen or more developed markets, including Japan, Britain, France, and Germany. These portfolios primarily invest in stocks that have market caps in the top 70% of each economically integrated market (such as Europe or Asia ex-Japan). The blend style is assigned to portfolios where neither growth nor value characteristics predominate. These portfolios typically will have less than 20% of assets invested in U.S. stocks.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	350.00

Subadvisor(s)	Category/Index	Target %
Schroders Intl Alpha	Core	60.00
Colorado PERA	Core	40.00

Volatility and Risk



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

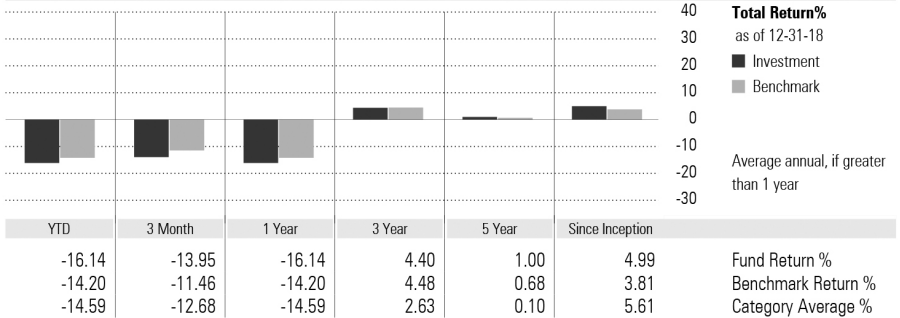
Best 3 Month Return

41.74%
(Mar '09 - May '09)

Worst 3 Month Return

-38.10%
(Sep '08 - Nov '08)

Performance



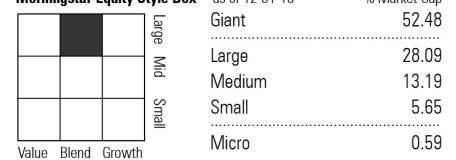
The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Underlying Managers



Morningstar Equity Style Box™ as of 12-31-18



Top 10 Holdings as of 12-31-18

Company	% Assets
Nestle SA	2.74
Total SA	2.30
Tencent Holdings Ltd	2.26
AIA Group Ltd	2.04
Schneider Electric SE	1.78
Taiwan Semiconductor Manufacturing Co Ltd ADR	1.76
BHP Group PLC	1.70
China Mobile Ltd	1.66
Reckitt Benckiser Group PLC	1.66
Diageo PLC	1.65

Total Number of Stock Holdings	6242
Total Number of Bond Holdings	102
Annual Turnover Ratio %	—

Morningstar World Regions as of 12-31-18

Region	% Fund
Americas	6.50
North America	5.81
Latin America	0.69
Greater Europe	53.27
United Kingdom	15.05
Europe Developed	35.61
Europe Emerging	0.78
Africa/Middle East	1.83
Greater Asia	40.23
Japan	13.80
Australasia	2.65
Asia Developed	10.70
Asia Emerging	13.08

Principal Risks

Inflation/Deflation, Currency, Emerging Markets, Foreign Securities, Long-Term Outlook and Projections, Loss of Money, Not FDIC Insured, Country or Region, Capitalization, Growth Investing, Value Investing, Active Management, Index Correlation/Tracking Error, Issuer, Market/Market Volatility, Depositary Receipts, Equity Securities, IPO, Preferred Stocks, Underlying Fund/Fund of Funds, Warrants, Derivatives, Pricing, Regulation/Government Intervention, Cash Drag, Suitability, Increase in Expenses, Multimanager, Shareholder Activity, China Region, Forwards, Management, Passive Management, Small Cap, Mid-Cap, Large Cap

PERAdvantage U.S. Small and Mid Cap Stock Fund

Benchmark

Russell 2500 TR USD

Investment Information

Investment Objective & Strategy

The fund seeks to provide long-term capital appreciation and dividend income primarily by investing in the common stock of companies located in the United States with small and mid market capitalizations. The fund invests in a wide array of stocks that have market capitalizations similar to the securities included in the Russell 2500™ Index benchmark. The fund combines growth and value investment styles, and active and passive management styles, thereby providing style diversification.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.43%
Total Fee	0.46%

Morningstar Category: Small Blend

Small-blend portfolios favor U.S. firms at the smaller end of the market-capitalization range. Some aim to own an array of value and growth stocks while others employ a discipline that leads to holdings with valuations and growth rates close to the small-cap averages. Stocks in the bottom 10% of the capitalization of the U.S. equity market are defined as small cap. The blend style is assigned to portfolios where neither growth nor value characteristics predominate.

Operations and Management

Fund Inception Date 10-01-11
Total Fund Assets (\$mil) 285.31

Subadvisor(s)	Category/Index	Target %
DFA	Active Value	35.00
TimesSquare Capital Management	Active Growth	35.00
BlackRock	Index	30.00

Volatility and Risk



In the past, this investment has shown a wide range of price fluctuations relative to other investments. This investment may experience significant price increases in favorable markets or undergo large price declines in adverse markets. Some of this risk may be offset by owning other investments that follow different investment strategies.

Best 3 Month Return

29.92%
(Mar '09 - May '09)

Worst 3 Month Return

-35.89%
(Sep '08 - Nov '08)

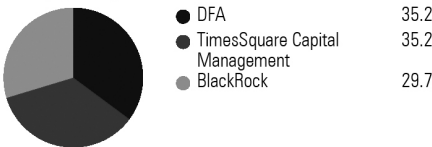
Performance



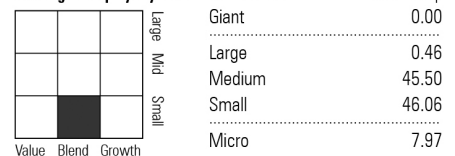
The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Underlying Managers



Morningstar Equity Style Box™ as of 12-31-18



Top 10 Holdings as of 12-31-18

Company	% Assets
TransUnion	0.89
WEX Inc	0.89
CoStar Group Inc	0.82
Jack Henry & Associates Inc	0.76
Global Payments Inc	0.76
Bright Horizons Family Solutions Inc	0.75
The Ultimate Software Group Inc	0.74
Gartner Inc A	0.73
Genesee & Wyoming Inc Class A	0.72
WageWorks Inc	0.65

Total Number of Stock Holdings	2765
Total Number of Bond Holdings	0
Annual Turnover Ratio %	—

Morningstar Equity Sectors as of 12-31-18

Sector	% Fund
Cyclical	46.80
Basic Materials	5.80
Consumer Cyclical	13.58
Financial Services	22.16
Real Estate	5.26
Sensitive	38.97
Communication Services	0.93
Energy	5.50
Industrials	17.79
Technology	14.75
Defensive	14.25
Consumer Defensive	4.25
Healthcare	8.15
Utilities	1.85

Principal Risks

Lending, Inflation/Deflation, Long-Term Outlook and Projections, Loss of Money, Not FDIC Insured, Capitalization, Growth Investing, Value Investing, Active Management, Index Correlation/Tracking Error, Issuer, Market/Market Volatility, Depositary Receipts, Equity Securities, IPO, Preferred Stocks, Underlying Fund/Fund of Funds, Warrants, Derivatives, Pricing, Regulation/Government Intervention, Cash Drag, Suitability, Multimanager, Shareholder Activity, Management, Passive Management, Small Cap, Mid-Cap

PERAdvantage SRI Fund

Benchmark

Blended Benchmark

Investment Information

Investment Objective & Strategy

The fund seeks to invest in a portfolio of developed market stocks screened on environmental, social, and governance (ESG) factors, and U.S. government fixed income securities. The fund targets a 60 percent allocation to equities and a 40 percent allocation to fixed income. The equity portion seeks to replicate the return of the MSCI World ESG Index. The fixed income portion invests in U.S. Government securities, and may invest a significant portion or all of its assets in mortgage-backed securities at the adviser's discretion.

Fees and Expenses as of 12-31-18

Admin Fee	0.00%
Investment Mgmt. Fee	0.37%
Total Fee	0.37%

Morningstar Category: Allocation-50% to 70% Equity

Funds in allocation categories seek to provide both income and capital appreciation by investing in multiple asset classes, including stocks, bonds, and cash. These portfolios are dominated by domestic holdings and have equity exposures between 50% and 70%.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	21.98

Subadvisor(s)	Category/Index	Target %
NTGI	Stock Index	60.00
Bond Index	Active Core	40.00

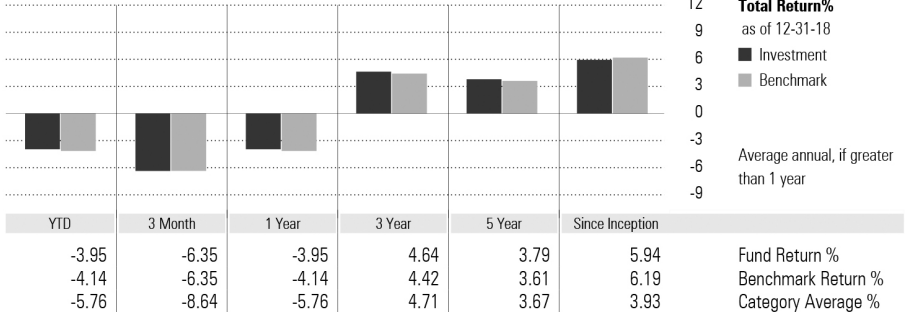
Volatility and Risk



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

Best 3 Month Return	Worst 3 Month Return
15.50%	-25.67%
(Mar '09 - May '09)	(Sep '08 - Nov '08)

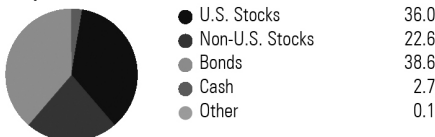
Performance



The fund's inception date was May 1, 2007. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Composition as of 12-31-18



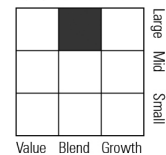
Top 10 Holdings as of 12-31-18

Asset	% Assets
Jpmorgan U.S. Government Money Market Fund, Class Institutional 12-31-49	2.70
Microsoft Corp	2.34
U.S. Treasury Security Stripped Interest Security 0% 05-15-20	1.94
Resolution Funding Corp 0% 10-15-19	1.65
Resolution Funding Corp 0% 07-15-20	1.52
United States Treasury Bonds 3.75% 11-15-43	1.41
Johnson & Johnson	1.09
Alphabet Inc Class C	1.03
Alphabet Inc A	0.99
United States Treasury Bonds 3% 05-15-45	0.86

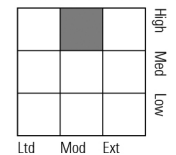
Total Number of Stock Holdings	848
Total Number of Bond Holdings	321
Annual Turnover Ratio %	—

Morningstar Style Box™

Equity (as of 12-31-18)



Fixed Income (as of 12-31-18)



Morningstar Equity Super Sectors as of 12-31-18

Sector	% Fund
Cyclical	36.94
Sensitive	37.62
Defensive	25.44

Morningstar F-I Sectors as of 12-31-18

Sector	% Fund	% Category
Government	41.69	28.73
Corporate	0.00	33.06
Securitized	51.84	19.78
Municipal	0.00	1.30
Cash/Cash Equivalents	6.47	13.74
Other	0.00	3.39

Principal Risks

Credit and Counterparty, Currency, Foreign Securities, Loss of Money, Not FDIC Insured, Index Correlation/Tracking Error, Interest Rate, Market/Market Volatility, Mortgage-Backed and Asset-Backed Securities, U.S. Government Obligations, Derivatives, Socially Conscious, Suitability, Shareholder Activity, Management, Mid-Cap

PERAdvantage Income Fund

Benchmark

BR LifePath Index Retirement CB

Investment Information

Investment Objective & Strategy

The fund seeks income, with some investment in stocks for potential capital appreciation. The fund is designed for participants who are close to, or already retired. This portfolio is designed to provide those who are withdrawing money from their plan with an appropriate blend of income and inflation protection. By investing in the fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. Rather than trying to mix and manage a collection of different funds, you only need to select one fund to access a well-diversified investment mix for a particular target year allocation.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
Total Fee	0.10%

Morningstar Category: Target-Date Retirement

Retirement income portfolios provide a mix of stocks, bonds, and cash for those investors already in or entering retirement. These portfolios tend to be managed to more of a conservative asset-allocation strategy. These portfolios aim to provide investors with steady income throughout retirement.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	145.31

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

Volatility and Risk



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

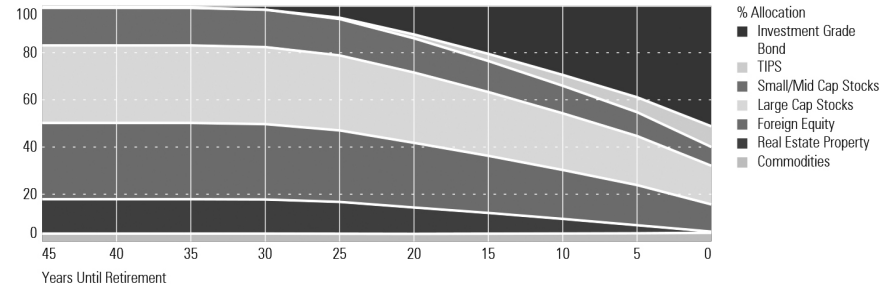
Best 3 Month Return

13.41%
(Mar '09 - May '09)

Worst 3 Month Return

-15.30%
(Sep '08 - Nov '08)

Allocation of Assets



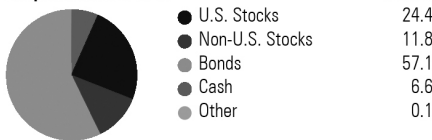
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-3.60	-4.73	-3.60	3.98	3.07	4.19
Benchmark Return %	-3.48	-4.67	-3.48	4.07	3.23	4.35
Category Average %	-3.16	-3.79	-3.16	3.44	2.62	4.62

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Portfolio Analysis

Composition as of 12-31-18



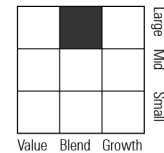
Top 5 Holdings as of 12-31-18

Top 5 Holdings as of 12-31-18	% Assets
U.S. Debt Index Non-Lendable Fund E	51.09
Russell 1000 Index Non-Lendable Fund E	21.04
ACWI ex-US IMI Index Non-Lendable Fund F	11.65
U.S. TIPS Non-Lendable Fund E	8.75
Commodity Index Daily Fund E	3.49

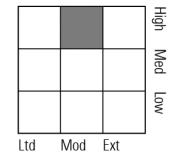
Total Number of Holdings	8
Annual Turnover Ratio %	0.11

Morningstar Style Box™

Equity (as of 12-31-18)



Fixed Income (as of 12-31-18)



Morningstar Equity Super Sectors as of 12-31-18

Morningstar Equity Super Sectors as of 12-31-18	% Fund
Cyclical	39.10
Sensitive	37.72
Defensive	23.18

Morningstar F-I Sectors as of 12-31-18

Morningstar F-I Sectors as of 12-31-18	% Fund	% Category
Government	48.60	35.42
Corporate	19.67	25.92
Securitized	20.84	18.86
Municipal	0.49	0.39
Cash/Cash Equivalents	10.40	14.97
Other	0.00	4.43

Principal Risks

Underlying Fund Risk 1, Active Strategy Risk, Equity Investment Risk, Fixed Income Investment Risk 1, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Fixed Income Investment Risk 10

PERAdvantage 2020 Fund

Benchmark

BR LifePath Index 2020 CB

Investment Information

Investment Objective & Strategy

The fund seeks a combination of current income and capital appreciation, with a greater emphasis on income. By investing in a single target retirement date fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. The fund's objective is to maximize total return with a risk level that may be appropriate for the fund's particular timeframe. The fund is designed for participants who expect to retire between 2018 and 2022. The fund will automatically adjust the underlying asset allocations to become more conservative over time. The fund will reach its most conservative risk level at the end of 2019, at which time it will be blended into the PERAdvantage Income Fund.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
Total Fee	0.10%

Morningstar Category: Target-Date 2020

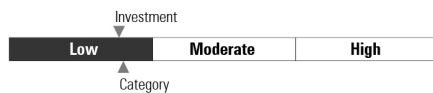
Target-date portfolios provide diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2016-2020) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	142.73

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

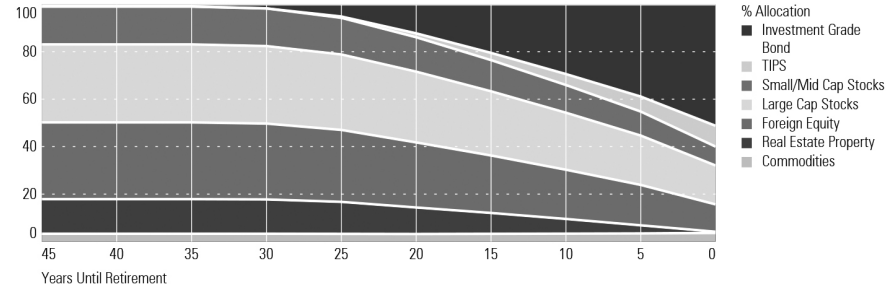
Volatility and Risk



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

Best 3 Month Return	Worst 3 Month Return
20.31%	-23.12%
(Mar '09 - May '09)	(Sep '08 - Nov '08)

Allocation of Assets



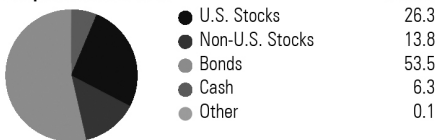
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-3.98	-5.37	-3.98	4.51	3.43	5.17
Benchmark Return %	-3.88	-5.30	-3.88	4.58	3.56	5.29
Category Average %	-4.49	-6.14	-4.49	4.54	3.41	6.24

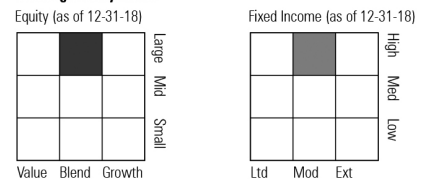
The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Composition as of 12-31-18



Morningstar Style Box™



Top 5 Holdings as of 12-31-18

Top 5 Holdings as of 12-31-18	% Assets
U.S. Debt Index Non-Lendable Fund E	48.08
Russell 1000 Index Non-Lendable Fund E	22.90
ACWI ex-US IMI Index Non-Lendable Fund F	13.52
U.S. TIPS Non-Lendable Fund E	7.96
Russell 2000 Index Non-Lendable Fund E	3.47

Total Number of Holdings	8
Annual Turnover Ratio %	0.10

Morningstar Equity Super Sectors as of 12-31-18

Morningstar Equity Super Sectors as of 12-31-18	% Fund
Cyclical	39.53
Sensitive	37.46
Defensive	23.00

Morningstar F-I Sectors as of 12-31-18

Morningstar F-I Sectors as of 12-31-18	% Fund	% Category
Government	48.31	37.10
Corporate	19.73	24.67
Securitized	20.90	17.33
Municipal	0.49	0.46
Cash/Cash Equivalents	10.57	15.79
Other	0.00	4.66

Principal Risks

Equity Investment Risk, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Fixed Income Investment Risk 10

PERAdvantage 2025 Fund

Benchmark

BR LifePath Index 2025 CB

Investment Information

Investment Objective & Strategy

The fund seeks a combination of current income and capital appreciation, with a greater emphasis on appreciation. By investing in a single target retirement date fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. The fund's objective is to maximize total return with a risk level that may be appropriate for the fund's particular timeframe. The fund is designed for participants who expect to retire between 2023 and 2027. The fund will automatically adjust the underlying asset allocations to become more conservative over time. The fund will reach its most conservative risk level at the end of 2024, at which time it will be blended into the PERAdvantage Income Fund.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
Total Fee	0.10%

Morningstar Category: Target-Date 2025

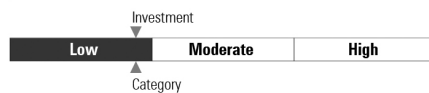
Target-date portfolios provide diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2021-2025) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	167.97

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

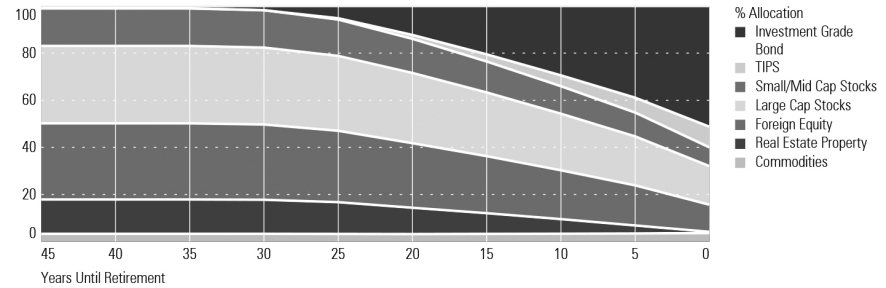
Volatility and Risk



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

Best 3 Month Return	Worst 3 Month Return
22.90%	-25.52%
(Mar '09 - May '09)	(Sep '08 - Nov '08)

Allocation of Assets



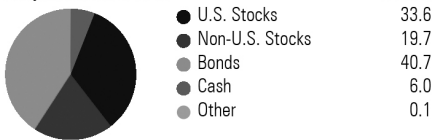
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-4.94	-6.90	-4.94	5.02	3.75	5.81
Benchmark Return %	-4.90	-6.87	-4.90	5.04	3.85	5.89
Category Average %	-5.34	-7.47	-5.34	5.05	3.71	7.32

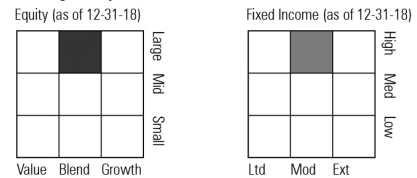
The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Composition as of 12-31-18



Morningstar Style Box™



Top 5 Holdings as of 12-31-18

Top 5 Holdings	% Assets
U.S. Debt Index Non-Lendable Fund E	36.81
Russell 1000 Index Non-Lendable Fund E	29.16
ACWI ex-US IMI Index Non-Lendable Fund F	17.98
U.S. TIPS Non-Lendable Fund E	5.88
Developed REIT Index Non-Lendable Fund E	3.97

Total Number of Holdings	8
Annual Turnover Ratio %	0.10

Morningstar Equity Super Sectors as of 12-31-18

Equity (as of 12-31-18)	% Fund
Cyclical	42.81
Sensitive	35.43
Defensive	21.75

Morningstar F-I Sectors as of 12-31-18

F-I Sectors	% Fund	% Category
Government	46.91	35.91
Corporate	19.35	24.55
Securitized	20.50	17.65
Municipal	0.48	0.36
Cash/Cash Equivalents	12.76	15.93
Other	0.00	5.60

Principal Risks

Underlying Fund Risk 1, Active Strategy Risk, Equity Investment Risk, Fixed Income Investment Risk 1, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Fixed Income Investment Risk 10

PERAdvantage 2030 Fund

Benchmark
BR LifePath Index 2030 CB

Investment Information

Investment Objective & Strategy

The fund seeks a combination of current income and capital appreciation, with a greater emphasis on appreciation. By investing in a single target retirement date fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. The fund's objective is to maximize total return with a risk level that may be appropriate for the fund's particular timeframe. The fund is designed for participants who expect to retire between 2028 and 2032. The fund will automatically adjust the underlying asset allocations to become more conservative over time. The fund will reach its most conservative risk level at the end of 2029, at which time it will be blended into the PERAdvantage Income Fund.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
Total Fee	0.10%

Morningstar Category: Target-Date 2030

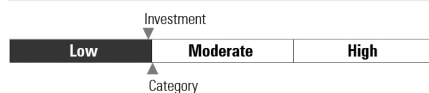
Target-date portfolios provide diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2026-2030) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	136.90

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

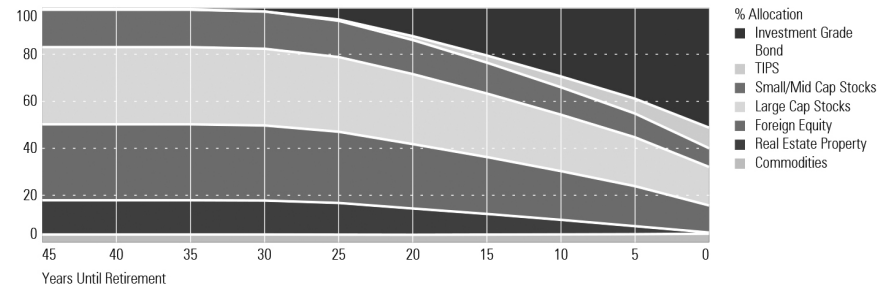
Volatility and Risk



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

Best 3 Month Return	Worst 3 Month Return
24.99%	-27.50%
(Mar '09 - May '09)	(Sep '08 - Nov '08)

Allocation of Assets



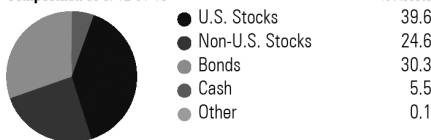
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-5.75	-8.20	-5.75	5.47	4.03	6.35
Benchmark Return %	-5.76	-8.17	-5.76	5.45	4.11	6.41
Category Average %	-6.25	-8.82	-6.25	5.45	3.94	7.76

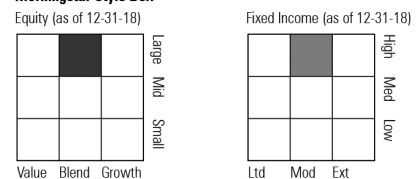
The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Composition as of 12-31-18



Morningstar Style Box™



Top 5 Holdings as of 12-31-18

Top 5 Holdings as of 12-31-18	% Assets
Russell 1000 Index Non-Lendable Fund E	34.36
U.S. Debt Index Non-Lendable Fund E	27.50
ACWI ex-US IMI Index Non-Lendable Fund F	21.69
Developed REIT Index Non-Lendable Fund E	6.61
U.S. TIPS Non-Lendable Fund E	4.25

Total Number of Holdings	8
Annual Turnover Ratio %	0.10

Morningstar Equity Super Sectors as of 12-31-18

Morningstar Equity Super Sectors as of 12-31-18	% Fund	% Category
Cyclical	44.50	
Sensitive	34.40	
Defensive	21.10	

Morningstar F-I Sectors as of 12-31-18

Morningstar F-I Sectors as of 12-31-18	% Fund	% Category
Government	45.30	37.43
Corporate	18.86	23.35
Securitized	19.98	15.70
Municipal	0.47	0.48
Cash/Cash Equivalents	15.40	16.58
Other	0.00	6.46

Principal Risks

Underlying Fund Risk 1, Active Strategy Risk, Equity Investment Risk, Fixed Income Investment Risk 1, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Fixed Income Investment Risk 10

PERAdvantage 2035 Fund

Benchmark

BR LifePath Index 2035 CB

Investment Information

Investment Objective & Strategy

The fund seeks a combination of current income and capital appreciation, with a greater emphasis on appreciation. By investing in a single target retirement date fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. The fund's objective is to maximize total return with a risk level that may be appropriate for the fund's particular timeframe. The fund is designed for participants who expect to retire between 2033 and 2037. The fund will automatically adjust the underlying asset allocations to become more conservative over time. The fund will reach its most conservative risk level at the end of 2034, at which time it will be blended into the PERAdvantage Income Fund.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
Total Fee	0.10%

Morningstar Category: Target-Date 2035

Target-date portfolios provide diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2031-2035) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	123.74

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

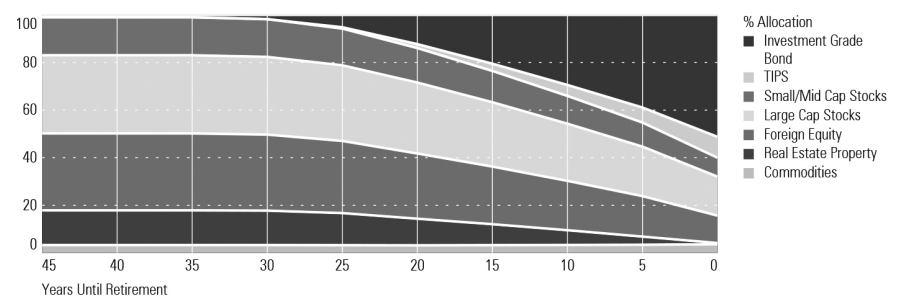
Volatility and Risk



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

Best 3 Month Return	Worst 3 Month Return
27.18%	-29.43%
(Mar '09 - May '09)	(Sep '08 - Nov '08)

Allocation of Assets



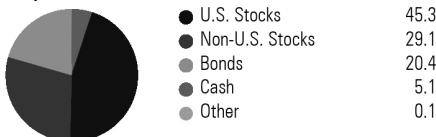
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-6.54	-9.41	-6.54	5.90	4.29	6.85
Benchmark Return %	-6.58	-9.40	-6.58	5.84	4.34	6.89
Category Average %	-7.04	-10.13	-7.04	5.83	4.14	8.64

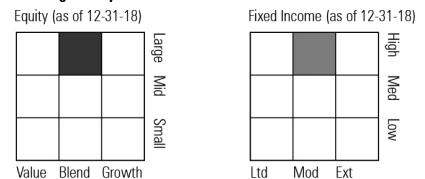
The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Composition as of 12-31-18



Morningstar Style Box™



Top 5 Holdings as of 12-31-18

Top 5 Holdings as of 12-31-18	% Assets
Russell 1000 Index Non-Lendable Fund E	39.23
ACWI ex-US IMI Index Non-Lendable Fund F	25.03
U.S. Debt Index Non-Lendable Fund E	18.69
Developed REIT Index Non-Lendable Fund E	9.21
Commodity Index Daily Fund E	3.22

Total Number of Holdings	8
Annual Turnover Ratio %	0.10

Morningstar Equity Super Sectors as of 12-31-18

Morningstar Equity Super Sectors as of 12-31-18	% Fund
Cyclical	45.74
Sensitive	33.63
Defensive	20.64

Morningstar F-I Sectors as of 12-31-18

Morningstar F-I Sectors as of 12-31-18	% Fund	% Category
Government	42.66	31.89
Corporate	17.99	23.84
Securitized	19.05	15.79
Municipal	0.45	0.30
Cash/Cash Equivalents	19.86	20.38
Other	0.00	7.81

Principal Risks

Underlying Fund Risk 1, Active Strategy Risk, Equity Investment Risk, Fixed Income Investment Risk 1, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Fixed Income Investment Risk 10

PERAdvantage 2040 Fund

Benchmark

BR LifePath Index 2040 CB

Investment Information

Investment Objective & Strategy

The fund seeks a combination of current income and capital appreciation, with a greater emphasis on appreciation. By investing in a single target retirement date fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. The fund's objective is to maximize total return with a risk level that may be appropriate for the fund's particular timeframe. The fund is designed for participants who expect to retire between 2038 and 2042. The fund will automatically adjust the underlying asset allocations to become more conservative over time. The fund will reach its most conservative risk level at the end of 2039, at which time it will be blended into the PERAdvantage Income Fund.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
Total Fee	0.10%

Morningstar Category: Target-Date 2040

Target-date portfolios provide diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2036-2040) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	89.35

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

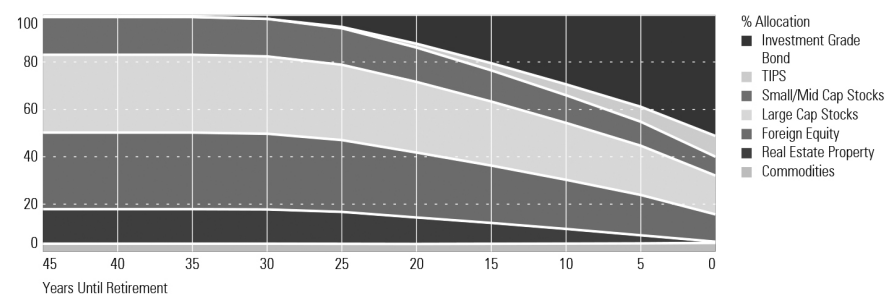
Volatility and Risk



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

Best 3 Month Return	Worst 3 Month Return
29.19%	-31.05%
(Mar '09 - May '09)	(Sep '08 - Nov '08)

Allocation of Assets



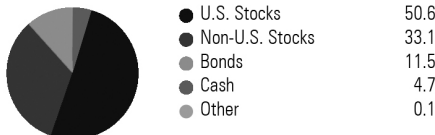
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-7.26	-10.51	-7.26	6.27	4.49	7.29
Benchmark Return %	-7.33	-10.50	-7.33	6.18	4.53	7.30
Category Average %	-7.74	-11.01	-7.74	5.96	4.23	8.65

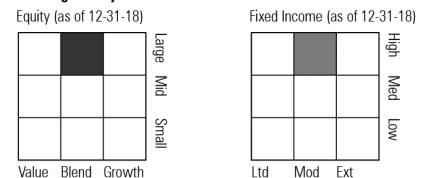
The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Composition as of 12-31-18



Morningstar Style Box™



Top 5 Holdings as of 12-31-18

Top 5 Holdings as of 12-31-18	% Assets
Russell 1000 Index Non-Lendable Fund E	43.65
ACWI ex-US IMI Index Non-Lendable Fund F	27.99
Developed REIT Index Non-Lendable Fund E	11.58
U.S. Debt Index Non-Lendable Fund E	10.68
Commodity Index Daily Fund E	3.16

Total Number of Holdings	8
Annual Turnover Ratio %	0.10

Morningstar Equity Super Sectors as of 12-31-18

Morningstar Equity Super Sectors as of 12-31-18	% Fund
Cyclical	46.57
Sensitive	33.12
Defensive	20.31

Morningstar F-I Sectors as of 12-31-18

Morningstar F-I Sectors as of 12-31-18	% Fund	% Category
Government	37.38	38.40
Corporate	16.17	21.35
Securitized	17.13	12.39
Municipal	0.40	0.48
Cash/Cash Equivalents	28.91	22.11
Other	0.00	5.26

Principal Risks

Underlying Fund Risk 1, Active Strategy Risk, Equity Investment Risk, Fixed Income Investment Risk 1, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Fixed Income Investment Risk 10

PERAdvantage 2045 Fund

Benchmark

BR LifePath Index 2045 CB

Investment Information

Investment Objective & Strategy

The fund seeks capital appreciation, with a minor emphasis on current income. By investing in a single target retirement date fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. The fund's objective is to maximize total return with a risk level that may be appropriate for the fund's particular timeframe. The fund is designed for participants who expect to retire between 2043 and 2047. The fund will automatically adjust the underlying asset allocations to become more conservative over time. The fund will reach its most conservative risk level at the end of 2044, at which time it will be blended into the PERAdvantage Income Fund.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
.....	
Total Fee	0.10%

Morningstar Category: Target-Date 2045

Target-date portfolios provide diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2041-2045) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	68.92

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

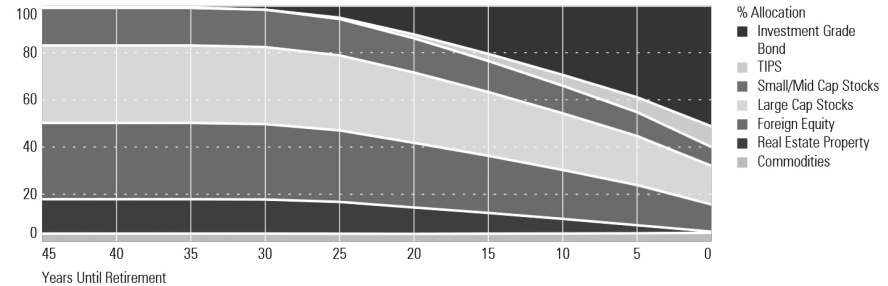
Volatility and Risk



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

Best 3 Month Return	Worst 3 Month Return
30.96% (Mar '09 - May '09)	-32.53% (Sep '08 - Nov '08)

Allocation of Assets



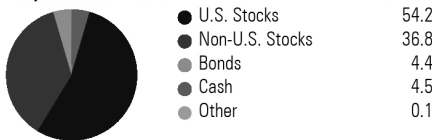
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-7.86	-11.32	-7.86	6.44	4.59	7.62
Benchmark Return %	-7.98	-11.34	-7.98	6.31	4.60	7.62
Category Average %	-8.14	-11.71	-8.14	6.13	4.30	9.21

The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

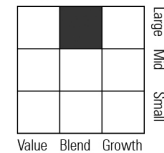
Portfolio Analysis

Composition as of 12-31-18

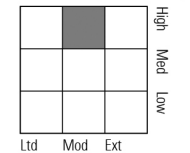


Morningstar Style Box™

Equity (as of 12-31-18)



Fixed Income (as of 12-31-18)



Top 5 Holdings as of 12-31-18

Asset	% Assets
Russell 1000 Index Non-Lendable Fund E	46.16
ACWI ex-US IMI Index Non-Lendable Fund F	30.69
Developed REIT Index Non-Lendable Fund E	13.78
U.S. Debt Index Non-Lendable Fund E	4.20
Commodity Index Daily Fund E	3.26

Total Number of Holdings	8
Annual Turnover Ratio %	0.11

Morningstar Equity Super Sectors as of 12-31-18

Sector	% Fund
Cyclical	47.45
Sensitive	32.57
Defensive	19.97

Morningstar F-I Sectors as of 12-31-18

Sector	% Fund	% Category
Government	25.17	30.96
Corporate	11.55	21.40
Securitized	12.24	13.70
Municipal	0.29	0.23
Cash/Cash Equivalents	50.76	27.68
Other	0.00	6.03

Principal Risks

Underlying Fund Risk 1, Active Strategy Risk, Equity Investment Risk, Fixed Income Investment Risk 1, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Fixed Income Investment Risk 10

PERAdvantage 2050 Fund

Benchmark
BR LifePath Index 2050 CB

Investment Information

Investment Objective & Strategy

The fund seeks capital appreciation, with a minor emphasis on current income. By investing in a single target retirement date fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. The fund's objective is to maximize total return with a risk level that may be appropriate for the fund's particular timeframe. The fund is designed for participants who expect to retire between 2048 and 2052. The fund will automatically adjust the underlying asset allocations to become more conservative over time. The fund will reach its most conservative risk level at the end of 2049, at which time it will be blended into the PERAdvantage Income Fund.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
.....	
Total Fee	0.10%

Morningstar Category: Target-Date 2050

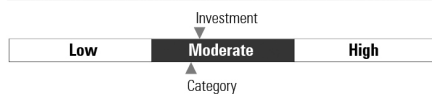
Target-date portfolios provide diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2046-2050) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	49.49

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

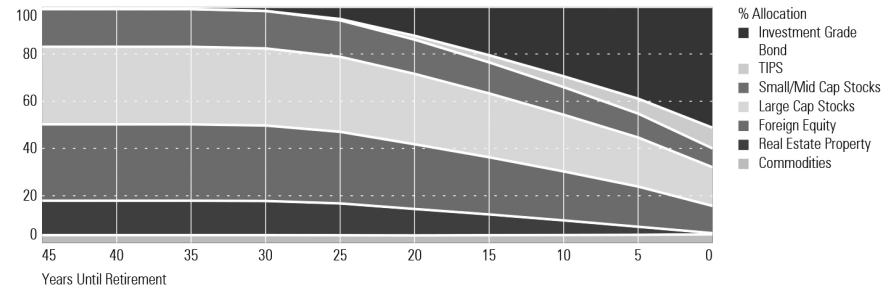
Volatility and Risk



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

Best 3 Month Return	Worst 3 Month Return
32.56%	-33.46%
(Mar '09 - May '09)	(Sep '08 - Nov '08)

Allocation of Assets



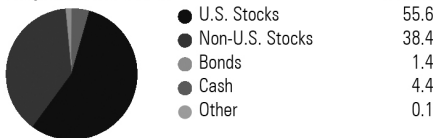
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-8.12	-11.65	-8.12	6.47	4.63	7.90
Benchmark Return %	-8.26	-11.69	-8.26	6.34	4.65	7.89
Category Average %	-8.41	-11.91	-8.41	6.11	4.33	8.97

The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

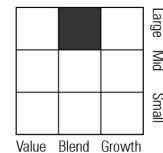
Portfolio Analysis

Composition as of 12-31-18

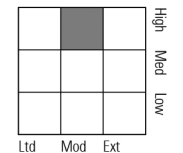


Morningstar Style Box™

Equity (as of 12-31-18)



Fixed Income (as of 12-31-18)



Top 5 Holdings as of 12-31-18

Top 5 Holdings as of 12-31-18	% Assets
Russell 1000 Index Non-Lendable Fund E	47.21
ACWI ex-US IMI Index Non-Lendable Fund F	32.08
Developed REIT Index Non-Lendable Fund E	14.46
Commodity Index Daily Fund E	3.28
Russell 2000 Index Non-Lendable Fund E	1.53

Total Number of Holdings	7
Annual Turnover Ratio %	0.06

Morningstar Equity Super Sectors as of 12-31-18

Super Sector	% Fund
Cyclical	47.64
Sensitive	32.47
Defensive	19.89

Morningstar F-I Sectors as of 12-31-18

F-I Sector	% Fund	% Category
Government	10.79	40.58
Corporate	6.07	17.51
Securitized	6.43	10.02
Municipal	0.15	0.49
Cash/Cash Equivalents	76.55	25.91
Other	0.00	5.49

Principal Risks

Underlying Fund Risk 1, Active Strategy Risk, Equity Investment Risk, Fixed Income Investment Risk 1, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Fixed Income Investment Risk 10

PERAdvantage 2055 Fund

Benchmark

BR LifePath Index 2055 CB

Investment Information

Investment Objective & Strategy

The fund seeks capital appreciation, with a minor emphasis on current income. By investing in a single target retirement date fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. The fund's objective is to maximize total return with a risk level that may be appropriate for the fund's particular timeframe. The fund is designed for participants who expect to retire between 2053 and 2057. The fund will automatically adjust the underlying asset allocations to become more conservative over time. The fund will reach its most conservative risk level at the end of 2054, at which time it will be blended into the PERAdvantage Income Fund.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
.....	
Total Fee	0.10%

Morningstar Category: Target-Date 2055

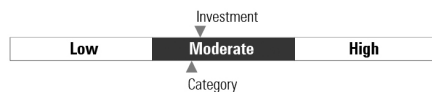
Target-date portfolios provide a diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2051-2055) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Operations and Management

Fund Inception Date	10-01-11
Total Fund Assets (\$mil)	29.75

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

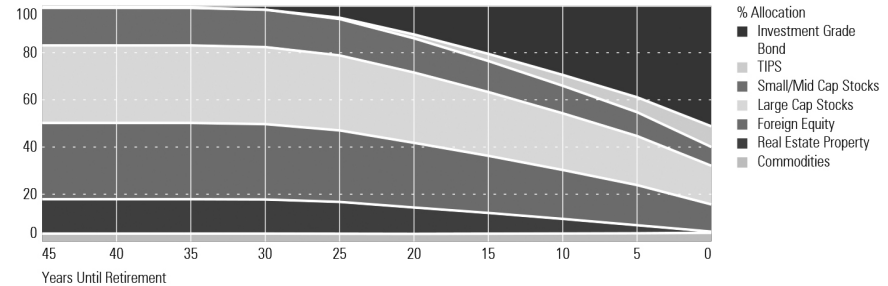
Volatility and Risk



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

Best 3 Month Return	Worst 3 Month Return
13.70%	-16.56%
(Jul '10 - Sep '10)	(Jul '11 - Sep '11)

Allocation of Assets



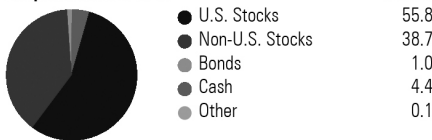
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-8.15	-11.68	-8.15	6.45	4.64	8.13
Benchmark Return %	-8.29	-11.72	-8.29	6.33	4.65	8.11
Category Average %	-8.44	-12.12	-8.44	6.21	4.42	9.43

The fund's inception date was October 1, 2011. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

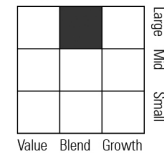
Portfolio Analysis

Composition as of 12-31-18

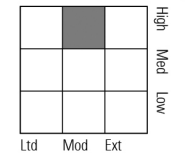


Morningstar Style Box™

Equity (as of 12-31-18)



Fixed Income (as of 12-31-18)



Top 5 Holdings as of 12-31-18

Top 5 Holdings as of 12-31-18	% Assets
Russell 1000 Index Non-Lendable Fund E	47.35
ACWI ex-US IMI Index Non-Lendable Fund F	32.30
Developed REIT Index Non-Lendable Fund E	14.51
Commodity Index Daily Fund E	3.29
Russell 2000 Index Non-Lendable Fund E	1.54

Total Number of Holdings	7
Annual Turnover Ratio %	0.16

Morningstar Equity Super Sectors as of 12-31-18

Morningstar Equity Super Sectors as of 12-31-18	% Fund
Cyclical	47.63
Sensitive	32.47
Defensive	19.89

Morningstar F-I Sectors as of 12-31-18

Morningstar F-I Sectors as of 12-31-18	% Fund	% Category
Government	8.22	30.20
Corporate	4.63	19.69
Securitized	4.90	12.47
Municipal	0.11	0.21
Cash/Cash Equivalents	82.13	30.90
Other	0.00	6.52

Principal Risks

Underlying Fund Risk 1, Active Strategy Risk, Equity Investment Risk, Fixed Income Investment Risk 1, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Fixed Income Investment Risk 10

PERAdvantage 2060 Fund

Benchmark
BR LifePath Index 2060 CB

Investment Information

Investment Objective & Strategy

The fund seeks a combination of current income and capital appreciation, with a greater emphasis on appreciation. By investing in a single target retirement date fund you may capture diversified investment opportunities without having to worry about the day-to-day management of your money. The fund's objective is to maximize total return with a risk level that may be appropriate for the fund's particular timeframe. The fund is designed for participants who expect to retire between 2058 and 2062. The fund will automatically adjust the underlying asset allocations to become more conservative over time. The fund will reach its most conservative risk level at the end of 2059, at which time it will be blended into the PERAdvantage Income Fund.

Fees and Expenses as of 12-31-18

Admin Fee	0.03%
Investment Mgmt. Fee	0.07%
Total Fee	0.10%

Morningstar Category: Target-Date 2060+

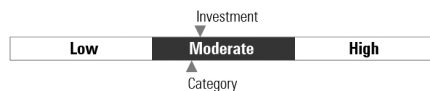
Target-date portfolios provide a diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2056-2060 and beyond) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Operations and Management

Fund Inception Date 02-02-15
Total Fund Assets (\$mil) 8.20

Subadvisor(s)	Category/Index	Target %
BlackRock	Diversified Index	100.00

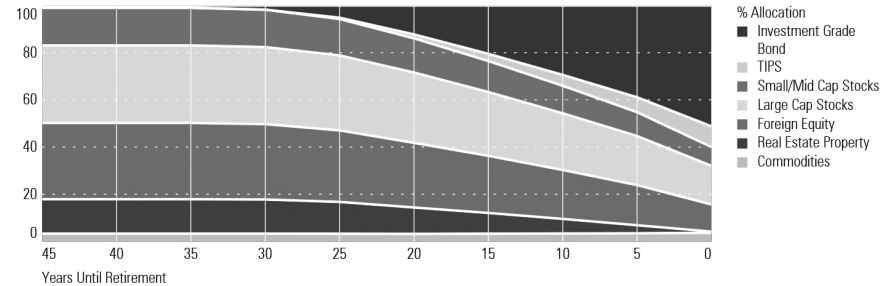
Volatility and Risk



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

Best 3 Month Return 9.54% (Mar '16 - May '16)	Worst 3 Month Return -11.68% (Oct '18 - Dec '18)
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Allocation of Assets



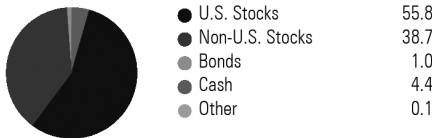
Performance

Total Returns as of 12-31-18	YTD	3 Month	1 Year	3 Year	5 Year	Since Inception
Fund Return %	-8.15	-11.68	-8.15	6.43	—	3.37
Benchmark Return %	-8.29	-11.72	-8.29	6.33	—	3.38
Category Average %	-8.52	-12.28	-8.52	6.31	—	4.53

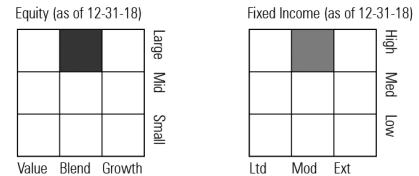
The fund's inception date was February 2, 2015. The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. The performance is presented net of fees. More current information, including month-end performance, is available on the Plan websites. See the disclosure page for more information.

Portfolio Analysis

Composition as of 12-31-18



Morningstar Style Box™



Top 5 Holdings as of 12-31-18

Top 5 Holdings as of 12-31-18	% Assets
Russell 1000 Index Non-Lendable Fund E	47.35
ACWI ex-US IMI Index Non-Lendable Fund F	32.29
Developed REIT Index Non-Lendable Fund E	14.50
Commodity Index Daily Fund E	3.28
Russell 2000 Index Non-Lendable Fund E	1.53

Total Number of Holdings 7
Annual Turnover Ratio % 9.88

Morningstar Equity Super Sectors as of 12-31-18

Morningstar Equity Super Sectors as of 12-31-18	% Fund
Cyclical	47.62
Sensitive	32.47
Defensive	19.89

Morningstar F-I Sectors as of 12-31-18

Morningstar F-I Sectors as of 12-31-18	% Fund	% Category
Government	8.42	28.68
Corporate	4.74	19.34
Securitized	5.02	11.99
Municipal	0.12	0.21
Cash/Cash Equivalents	81.70	33.87
Other	0.00	5.91

Principal Risks

Underlying Fund Risk 1, Active Strategy Risk, Equity Investment Risk, Fixed Income Investment Risk 1, Foreign Investment Risk 1, Target Date Risk 1, Asset Allocation Model Risk, Commodity-Related Investment Risk 2, Derivatives Risk 1, Real Estate-Related Investment Risk 2, Underlying Fund Risk 2, Underlying Fund Risk 3, Fixed Income Investment Risk 10

Important Disclosures

What You Own

You own units in a portfolio that invests in securities appropriate for the asset class. You do not have direct ownership of the securities in the fund.

Performance

The performance data provided represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's units, when redeemed, may be worth more or less than the original investment. Fund portfolio statistics change over time. The funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution.

Each fund's performance is compared with that of an index. An index is a passively managed portfolio of specified securities and the index does not reflect any initial or ongoing expenses. A fund's portfolio may differ significantly from the securities in the index.

PERAdvantage Capital Preservation Fund

This fund is designed to provide a stable net asset value that is not expected to change based on the market value of the underlying securities. Under certain extreme circumstances, there may be a limit on your ability to withdraw from the fund or you may be limited to withdrawing your funds at the lesser of book value or market value. Extreme circumstances could include, but are not limited to, fund subscription and redemption activity, a sharp decline in the market value of the fixed income investments, or a deterioration in the credit worthiness of the insurance provider. The fund will credit interest on a daily basis. That means that all money deposited in the fund, regardless of when it was deposited, receives the same interest rate. A new quarterly interest rate is established each quarter.

PERAdvantage SRI Fund

The fund's index consists of 47.5 percent Bloomberg Barclays U.S. Treasury Inflation Protected Securities Index, 17.5 percent S&P Global LargeMidCap Commodity and Resources Index, 17.5 percent Bloomberg Roll Select Commodity Index, 10.5 percent Dow Jones U.S. Select REIT Index, and 7 percent S&P Global Infrastructure Index

PERAdvantage Target Retirement Date Funds

The funds' custom benchmarks are representations of the performance of the underlying funds' benchmarks according to the BlackRock LifePath® model weights. The index weightings included in the custom benchmarks are adjusted quarterly to reflect the funds' asset allocations shift over time. The following indices may be used in such calculation: Russell 1000 Index, Russell 2000 Index, MSCI ACWI ex-US IMI Index, Barclays Capital U.S. Aggregate Bond Index, Barclays Capital U.S. TIPS Index, FTSE ESPRA/NAREIT Developed Index, the Citigroup 3 Month T-bill Index, and the Dow Jones-UBS Commodity Index.

Collateral cash held against futures contracts in the commodity future and swap contracts is reported as a cash allocation. The allocation to commodities is approximately 4% throughout the glidepath.

PERAdvantage Real Return Fund

The SSgA Real Asset Strategy Index consists of 30 percent Barclays Capital U.S. Treasury Inflation Protected Securities

Index, 15 percent Dow Jones U.S. Select REIT Index, 25 percent Bloomberg Commodity Total Return Index, 30 percent S&P Global LargeMidCap Commodity and Resources Index.

Allocations Among Managers

Several of the PERAdvantage funds have multiple managers and portfolios underlying the fund. PERA has determined the optimal mix of assets among the managers for each fund. However, at any given point in time, the actual allocation among the managers may vary due to market movements and the fund's cashflows. PERA maintains a rebalancing policy to ensure the assets under management by each manager do not materially diverge from the target asset allocation. Manager allocations and individual managers may change in order to best meet the investment objective of each of the PERAdvantage funds. Historical performance may reflect different allocations to the same or different managers.

Fees

No transaction fees will be charged for investments in the PERAdvantage funds. Instead, the underlying fund managers charge an investment management fee, which varies among the managers, and PERA charges an administration fee of 0.07 percent. Fees will be taken out of the performance of the fund. The fee amounts are as of the date of the investment profile and may change at any time. Where the administration fee indicated is less than 0.07 percent, such fee is wholly or partially covered by revenue sharing provided by the underlying managers.

Best and Worst 3-Month Performance

Morningstar calculates best and worst 3-month periods (in percentages) in-house on a monthly basis.

Best 3-Month Period: The highest total return the fund has posted in a consecutive three-month period over the trailing 15 years, or if a fund does not have 15 years of history, trailing back to the inception date for the strategy.

Worst 3-Month Period: The lowest total return the fund has posted in a consecutive three-month period over the trailing 15 years, or if a fund does not have 15 years of history, trailing back to the inception date for the strategy.

Morningstar Style Box™

The Morningstar Style Box™ reveals a fund's investment strategy as of the date noted on this report.

For equity funds, the vertical axis shows the market capitalization of the long stocks owned and the horizontal axis shows investment style (value, blend, or growth).

For fixed-income funds, the vertical axis shows the credit quality of the long bonds owned and the horizontal axis shows interest rate sensitivity as measured by a bond's effective duration.

For corporate and municipal bonds, Morningstar surveys credit rating information from fund companies on a periodic basis (e.g., quarterly). In compiling credit rating information, Morningstar instructs fund companies to only use ratings that have been assigned by a Nationally Recognized Statistical Rating Organization (NRSRO). If two NRSROs have rated a security, fund companies are to report the lowest rating to Morningstar. If a rating is unavailable or unpublished, then the security or issuer is categorized as Not Rated/Not Available. U.S. Government Securities issued by the U.S. Treasury or U.S.

Government Agencies are included in the U.S. Government category.

PLEASE NOTE: Morningstar, Inc. is not itself an NRSRO nor does it issue a credit rating on the fund. An NRSRO rating on a fixed-income security can change from time to time.

Investment Risk

Investments in the fund are not bank deposits, not guaranteed by PERA, not insured by the FDIC or any other agency of the U.S. government, and are subject to investment risks, including loss of principal. The funds may be subject to certain key risks set forth below. Some or all of these risks may adversely affect the value of units in the fund, yield, total return, and the fund's ability to meet its investment objective. There may be additional risks not identified herein that could adversely affect the fund's performance.

Equity Securities: Investors should note, holdings in equity securities are subject to equity market risk, as equity securities generally have greater price volatility than fixed income securities. It is possible that common stock prices will fluctuate over short or extended periods. Such fluctuations in the market prices, whether up or down, may be rapid and unpredictable. The volatility of equity securities markets may be affected by factors in the markets such as particular industries, sectors or geographic regions represented in those markets, or individual issuers.

Foreign Securities Funds/Emerging Market Funds: Investors should note, investment in non-U.S. securities by a fund, or an underlying fund, in which the fund may invest is subject to certain special risks and considerations, including potentially less liquidity and greater price volatility than investments in securities traded in the U.S. markets. Investments in securities of non-U.S. issuers are subject to all of the risks of investing in the market of such issuers, including market fluctuations caused by factors such as economic and political developments, changes in interest rates and abrupt changes in stock prices. Other risks associated with such investments include: less liquid and less efficient securities markets, greater price volatility, exchange rate fluctuations and exchange controls, less publicly available information about issuers, imposition of withholding or other taxes, higher transaction and custody costs and delays in attendant settlement procedures, difficulties in enforcing contractual obligations, lower levels of regulation of the securities market, and different accounting disclosure and reporting requirements.

Small Cap Funds: Investors should note, funds that invest in stocks of small companies involve additional risks. Smaller companies typically have a higher risk of failure, and are not as well established as larger blue-chip companies. Historically, smaller-company stocks have experienced a greater degree of market volatility than the overall market average and are less liquid than the securities of larger companies.

Mid Cap Funds: Investors should note, funds that invest in companies with market capitalizations below \$10 billion involve additional risks. The securities of these companies may be more volatile and less liquid than the securities of larger companies.

Fixed-Income Securities Risk: Investors should note, fixed-income securities may be subject to changes in interest rates that affect security pricing. For instance, when interest rates

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Important Disclosures

rise, the values of fixed-income securities are likely to decrease. Conversely, when interest rates fall, the values of fixed-income securities are likely to increase. Fixed-income securities values may also be impacted by changes in the credit rating or financial condition of the issuing entities. In addition, there is also a risk that parties who issue securities purchased by the fund may not be financially able to make interest or principal payments when due.

High-Yield Bond Funds: Investors should note, funds that invest in lower-rated debt securities (commonly referred to as junk bonds) involve additional risks because of the lower credit quality of the securities in the portfolio. The investor should be aware of the possible higher level of volatility, and increased risk of default.

Commodity Futures: Investors should note, commodity prices are generally affected by, among other factors: the cost of producing commodities, changes in consumer demand for commodities, the hedging and trading strategies of producers and consumers of commodities, speculative trading in commodities by commodity pools and other market participants, disruptions in commodity supply, weather, political and other global events, and global economic factors. Accordingly, commodity prices can change substantially and in a rapid and unpredictable manner. Commodity futures markets are also subject to liquidity risk. Therefore, it may not always be possible for a fund or an underlying collective trust fund to exit an investment in commodity futures. Transactions in futures contracts involve certain risks and transaction costs. Risks include imperfect correlation between the price of the futures contract and movements in the price of the underlying index, the possible absence of a liquid secondary market for any particular instrument, the risk of default of the counterparty or guaranteeing agent, and restrictions on trading imposed by futures exchanges due to price volatility. Futures contracts involve the posting of margin deposits, and movement in the underlying index or asset may result in calls for additional payments of cash. The need to make such additional payments could require a fund or an underlying collective trust fund to liquidate securities at a disadvantageous time.

Investing in Securities of Real Estate Companies: Investors should note, investing in companies that invest in real estate, such as real estate investment trusts or real estate holding companies ("Real Estate Companies"), exposes participants to the risks of owning real estate directly, as well as to risks that relate specifically to the way in which Real Estate Companies are organized and operated. Real estate is highly sensitive to general and local economic conditions and developments, and is characterized by intense competition and periodic overbuilding. Real estate is also illiquid, and it may be difficult to sell properties in response to changes in economic or other conditions. Real Estate Companies may be highly leveraged, and may be at heightened risk of liquidation or default if they experience variations in cash flow. Real Estate Companies may also be geographically concentrated, placing them at increased risk from localized catastrophic events or changes in local economic conditions. Investments in Real Estate Companies may also be illiquid, meaning that purchases and sales of interests in a Real Estate Company may have a magnified impact on the price of such interests, resulting in abrupt or erratic price.

Fund-of-Funds: Investors should note, to achieve their investment strategy, certain funds may invest their assets

through one or more underlying funds. Each such fund bears the risk of the underlying funds to the extent of its investment in the underlying funds. The investment objective of an underlying fund may differ from, and an underlying fund may have different risks than, the fund. There is no assurance that the underlying funds will achieve their investment objectives.

Passive Investment: Investors should note, holders of funds will not have any control over the activities of the funds. Such holders will not have the opportunity to evaluate the relevant economic, financial, and other information which will be utilized by managers in the selection, structuring, monitoring, and disposition of investments.

Investment and Trading: Investors should note, an investment in the fund involves risks, including the risk that the entire amount invested may be lost. The fund may invest in and trade securities and other financial instruments using investment techniques with risk characteristics, including risks arising from the volatility of the equity, convertible securities, fixed income, currency markets, the risks of borrowings and short sales, the potential illiquidity of securities and other financial instruments, and the risk of loss from counterparty defaults. No guarantee or representation is made that a fund's investment program will be successful. A fund may utilize such investment techniques as option transactions, margin transactions, short sales, leverage, and derivatives trading, whose practices involve volatility and can increase the adverse impact to which a fund's investment portfolio may be subject.

Securities Lending: Investors should note, to the extent that a fund is authorized to engage in securities lending activities, it may be exposed to certain risks, including: cash collateral reinvestment risk (risk that cash collateral is reinvested at the risk of the lending fund in cash collateral funds managed by the lending agent that hold securities and other instruments with a different risk profile than those in the lending fund and which may not achieve their investment objective or suffer realized or unrealized loss due to investment performance), which includes "gap" risk (risk that the return on cash collateral investment is insufficient to pay the rebate fees the lending fund has committed to pay), liquidity risk (risk that the cash collateral funds are invested in securities and other instruments that are less liquid than the lending fund), operational risk (risk of losses resulting from problems in the settlement and accounting process), and credit, investment, legal, counterparty, and market risks. At any particular point in time, the cash collateral funds could comprise a material portion of a lending fund's assets. The risks also include those risks associated with the types of investments made by the cash collateral funds.

Target Date Funds: Investors should note, risks associated with investing in "target date" funds, such as the PERAdvantage Target Retirement Date Funds, include the risk of loss of principal, including losses near, at, or after the target retirement date. There is no guarantee that any such funds will provide adequate income at or through an investor's retirement.

Additional Information

The information provided in the investment profile and this disclosure statement should not be considered a recommendation to purchase or sell a particular security or underlying fund. The fund is privately offered. Prospectuses are not required and prices are not available in local publications.

More information about PERAdvantage Funds, including prices,

is available on the Plan websites, accessible through www.copera.org, or by calling 1-800-759-7372 and selecting the PERAPlus/DC option.

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Colorado Public Employees' Retirement Association
PO Box 5800, Denver, Colorado 80217-5800
1-800-759-7372 • www.copera.org

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