MEMBERSHIP

PARTNERSHIP

STEWARDSHIP

An integrated vision for a sustainable future

Annual Report for the PERAPlus 401(k)/457 and PERA DC Plans

Public Employees' Retirement Association of Colorado For the Year Ended December 31, 2019





July 2020

Dear Plan Participant:

I am pleased to present the Annual Report for the PERAPlus 401(k)/457 and PERA DC Plans, collectively known as the Capital Accumulation Plans (CAPs), for the year ended December 31, 2019. Inside, you will find the financial statements and rates of return for the funds.

The Annual Report for the CAPs is an unaudited summary of the fiduciary net position and changes in fiduciary net position for the CAPs. CliftonLarsonAllen LLP, the independent accounting firm which conducted the annual PERA audit that includes the CAPs gave an unqualified opinion on the financial statements in Colorado PERA's 2019 *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, 2019:

- The PERAPlus 401(k) Plan had a fiduciary net position of \$3,672,807,000 with 68,920 participant accounts.
- The PERAPlus 457 Plan had a fiduciary net position of \$989,599,000 with 18,919 participant accounts.
- The PERA DC Plan had a fiduciary net position of \$265,940,000 with 6,939 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 CAPs in 2019:

- In the third quarter of 2019, quarterly statements were made available exclusively online and no longer mailed to participants.
- In the fourth quarter of 2019, the assets in the PERAdvantage 2020 Fund were transferred to the PERAdvantage Income Fund and the PERAdvantage 2020 Fund was eliminated. The PERAdvantage 2065 Fund was added in the first quarter of 2020.
- In the PERAdvantage SRI Fund, BlackRock replaced the equity allocation to Northern Trust Investments and TIAA-CREF replaced the fixed income allocation to J.P. Morgan Asset Management.
- In the PERAdvantage U.S. Small and Mid Cap Stock Fund, TimeSquare Capital Management and BlackRock were removed as managers. Dimensional Fund Advisors was retained as a manager, but the investment style changed from value to core, and a PERA managed portfolio was added. The fund began participating in securities lending.
- Fund fact sheets are now produced in-house at PERA.

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.

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 March 31, 2020)

The CAPs 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 reduce the investment option's rate of return (see page 5). There are no other shareholder-type fees that apply.

	Total Asset-Based Fee		
Fund	Percentage	Per \$1,000	
PERAdvantage Capital Preservation Fund	0.24%	\$2.40	
PERAdvantage Fixed Income Fund	0.21%	\$2.10	
PERAdvantage Real Return Fund	0.20%	\$2.00	
PERAdvantage SRI Fund	0.23%	\$2.30	
PERAdvantage U.S. Large Cap Stock Fund	0.08%	\$0.80	
PERAdvantage U.S. Small and Mid Cap Stock Fund	0.19%	\$1.90	
PERAdvantage International Stock Fund	0.30%	\$3.00	
PERAdvantage Target Retirement Date Funds	0.10%	\$1.00	

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 \$4.17 per every \$10,000 in your account. Fees are proportionately lower for accounts with balances over \$100,000.

A complete fee schedule is available on the Plan websites, accessible through <u>www.copera.org</u>. 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.

Fund	Date of Birth Range
PERAdvantage Income Fund	December 31, 1957, or earlier
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–December 31, 1997
PERAdvantage 2065 Fund	January 1, 1998, or later

RATES OF RETURN

The rates of return presented in this report are as of December 31, 2019, 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 2019	Year 2019	5-Year	10-Year
PERAdvantage Capital Preservation Fund	0.6%	2.3%	2.0%	<i>2.3%</i>
Hueler Stable Value Index (Equal Wtd Avg)	0.6%	2.5%	2.1%	2.2%
PERAdvantage Fixed Income Fund Bloomberg Barclays U.S. Agg Bond Index	0.2% 0.2%	9.0% 8.7%	3.0% 3.1%	4.0% 3.8%
PERAdvantage Real Return Fund Real Return Custom Index ¹	2.8% 2.8%	12.0% 12.2%	2.4% 2.5%	<i>2.9%</i> 3.1%
PERAdvantage SRI Fund	5.4%	19.6%	6.5%	7.3%
SRI Fund Custom Index ²	5.3%	20.2%	6.5%	8.0%
PERAdvantage U.S. Large Cap Stock Fund	9.7%	33.3%	11.7%	13.5%
MSCI USA Large Cap Index ³	9.4%	31.0%	11.4%	13.5%
PERAdvantage U.S. Small and Mid Cap				
Stock Fund MSCI USA SMID Cap Index ⁴	6.9% 7.5%	28.4% 28.5%	7.7% 9.1%	<i>12.1%</i> 12.7%
PERAdvantage International Stock Fund	11.2%	20.5 <i>%</i> 24.5%	5.9%	6.4%
MSCI ACWI ex-USA Index	8.9%	24.5%	5.5%	5.0%
PERAdvantage Income Fund	3.6%	15.6%	5.1%	6.0%
BlackRock LifePath® Retirement Index	3.6%	15.6%	5.2%	6.1%
PERAdvantage 2025 Fund	4.8%	18.6%	6.2%	7.3%
BlackRock LifePath® 2025 Index	4.8%	18.5%	6.3%	7.5%
PERAdvantage 2030 Fund	5.9%	20.8%	6.8%	7.9%
BlackRock LifePath® 2030 Index	5.9%	20.7%	6.9%	8.0%
PERAdvantage 2035 Fund	6.9%	22.8%	7.4%	8.4%
BlackRock LifePath® 2035 Index	6.9%	22.7%	7.4%	8.5%
PERAdvantage 2040 Fund	7.8%	24.7%	7.9%	8.9%
BlackRock LifePath® 2040 Index	7.8%	24.6%	7.9%	9.0%
PERAdvantage 2045 Fund	8.4%	26.0%	8.2%	9.2%
BlackRock LifePath [®] 2045 Index	8.4%	25.9%	8.2%	9.3%
PERAdvantage 2050 Fund	8.7%	26.6%	8.4%	<i>9.5%</i>
BlackRock LifePath® 2050 Index	8.7%	26.5%	8.3%	9.5%
PERAdvantage 2055 Fund	8.7%	26.6%	8.4%	N/A
BlackRock LifePath® 2055 Index	8.7%	26.6%	8.3%	9.7%
PERAdvantage 2060 Fund	8.7%	26.6%	8.3%	N/A
BlackRock LifePath® 2060 Index	8.7%	26.6%	8.3%	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 70% State Street Real Asset Strategy DC Index (25% Bloomberg Roll Select Commodity Index, 25% S&P Global LargeMidCap Commodity and Resources Index, 10% S&P Global Infrastructure Index, 15% Dow Jones U.S. Select REIT Index, 25% Bloomberg Barclays U.S. TIPS Index)/30% Bloomberg Barclays U.S. TIPS Index.

² Prior to October 2019, the SRI Custom Index consisted of 60% MSCI World ESG Leaders Index (Net) and 40% Bloomberg Barclays U.S. Government Bond Index. After October 2019, the SRI Custom Index consists of 60% MSCI ACW ESG Focus Index (Net) and 40% Bloomberg Barclays U.S. Government Bond Index.

³ MSCI USA Large Cap Index represents the Russell 1000 Index through December 31, 2018, and the MSCI USA Large Cap Index from January 1, 2019, forward.

⁴ MSCI USA SMID Cap Index represents the Russell 2500 Index through December 31, 2018, and the MSCI USA Small Cap Index from January 1, 2019, forward.

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

STATEMENTS OF FIDUCIARY NET POSITION

As of December 31, 2019 (Unaudited) (Dollars in Thousands)

ASSETS

Investments, at fair value	401(k) Plan	457 Plan	DC Plan
PERAdvantage Capital Preservation Fund	\$279,117	\$156,289	\$12,279
PERAdvantage Fixed Income Fund	297,757	81,783	12,179
PERAdvantage Real Return Fund	18,361	7,454	1,434
PERAdvantage Socially Responsible Investment (SRI) Fund	18,994	6,831	1,401
PERAdvantage U.S. Large Cap Stock Fund	1,572,591	250,832	48,498
PERAdvantage U.S. Small and Mid Cap Stock Fund	199,670	120,547	24,881
PERAdvantage International Stock Fund	305,227	103,117	22,751
PERAdvantage Income Fund	241,486	57,015	14,376
PERAdvantage 2025 Fund	161,931	43,077	10,353
PERAdvantage 2030 Fund	135,174	32,285	13,531
PERAdvantage 2035 Fund	117,716	31,720	13,538
PERAdvantage 2040 Fund	85,155	24,002	16,827
PERAdvantage 2045 Fund	57,636	14,548	25,478
PERAdvantage 2050 Fund	40,561	9,275	20,918
PERAdvantage 2055 Fund	24,633	5,271	12,562
PERAdvantage 2060 Fund	8,243	3,643	3,029
TD Ameritrade Self-Directed Brokerage Account	34,361	24,312	5,566
Total investments, at fair value	3,598,613	972,001	259,601
Other plan assets			
Cash and short-term investments	10,302	1,674	4,143
Interest receivable	33	5	7
Benefit receivable	6,671	4,356	2,427
Participant loans receivable	58,257	11,902	
Total other plan assets	75,263	17,937	6,577
Total assets	3,673,876	989,938	266,178
LIABILITIES			
Amount due to combined investment fund	(493)	(169)	(67)
Accounts payable	(129)	(54)	(32)
Advance deposits	(447)	(116)	(139)
Total liabilities	(1,069)	(339)	(238)
Fiduciary net position restricted for defined contribution			
pension plans, and held in trust for deferred compensation			
benefits	\$3,672,807	\$989,599	\$265,940

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION

For the Year Ended December 31, 2019 (Unaudited) (Dollars in Thousands)

ADDITIONS	401(k) Plan	457 Plan	DC Plan
Contributions			
Employers	\$5,701	\$32	\$15,184
Members	140,519	64,151	12,967
Total contributions	146,220	64,183	28,151
Investment income adjusted for fair value			
appreciation or (depreciation)			
PERAdvantage Capital Preservation Fund	6,534	3,678	276
PERAdvantage Fixed Income Fund	23,834	6,325	923
PERAdvantage Real Return Fund	1,962	762	140
PERAdvantage SRI Fund	3,093	1,071	201
PERAdvantage U.S. Large Cap Stock Fund	409,615	63,508	12,103
PERAdvantage U.S. Small and Mid Cap Stock Fund	45,824	27,875	5,781
PERAdvantage International Stock Fund	60,483	20,446	4,396
PERAdvantage Income Fund	19,555	4,336	1,011
PERAdvantage 2020 Fund	15,005	3,675	1,032
PERAdvantage 2025 Fund	24,081	6,406	1,600
PERAdvantage 2030 Fund	22,159	5,174	2,215
PERAdvantage 2035 Fund	21,086	5,512	2,486
PERAdvantage 2040 Fund	15,855	4,286	3,209
PERAdvantage 2045 Fund	11,088	2,714	5,102
PERAdvantage 2050 Fund	7,977	1,849	4,224
PERAdvantage 2055 Fund	4,947	1,100	2,371
PERAdvantage 2060 Fund	1,446	672	516
TD Ameritrade Self-Directed Brokerage Account	5,481	4,449	884
Short-term interest income	249	41	89
Net investment income	\$700,274	\$163,879	\$48,559
Other additions			
Revenue sharing	49	26	6
Participant Ioan interest	2,359	548	
Miscellaneous	35	4	15
Total other additions	2,443	578	21
Total additions	848,937	228,640	76,731
DEDUCTIONS			
Benefits paid	(213,010)	(55,317)	(15,445)
Plan expenses	(3,592)	(1,188)	(997)
Other deductions	(1,656)	(759)	(135)
Total deductions	(218,258)	(57,264)	(16,577)
Net increase/(decrease) in fiduciary net position	\$630,679	\$171,376	\$60,154

ANALYSIS OF PLAN ADMINISTRATIVE INCOME/(EXPENSE)

For the Year Ended December 31, 2019 (Unaudited) (Dollars in Thousands)

	401(k) Plan	457 Plan	DC Plan
Plan income			
Administrative fees	\$2,583	\$640	\$178
Loan and other fees	159	57	9
Short-term interest income from operations	249	41	89
Revenue sharing	49	26	6
Forfeitures		_	1,130
Total plan income	3,040	764	1,412
Plan expense			
Consulting and Subscription fees	(171)	(46)	(12)
Recordkeeping fees	(1,007)	(493)	(346)
Custodial fees	(187)	(50)	(13)
PERA administrative expense	(2,227)	(599)	(626)
Total plan expense	(3,592)	(1,188)	(997)
Net plan administrative income/(expense)	(\$552)	(\$424)	\$415

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, 2019, 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 page 25. Risk definitions can be found on the Plan websites.

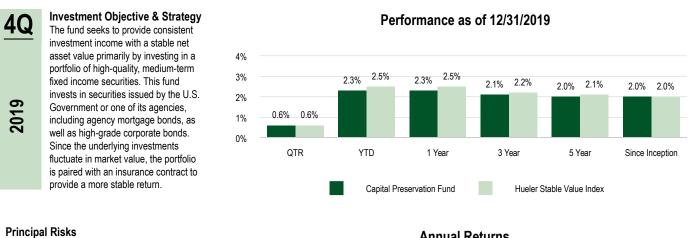
SELF-DIRECTED BROKERAGE ACCOUNT

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.

PERAdvantage Capital Preservation Fund



Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
Hueler Stable Value Index	Low	10/1/2011	\$447.8	0.03%	0.21%	0.24%



Loss of Money, Not FDIC Insured, Active Management, Suitability, Issuer, Nondiversification, U.S. Government Obligations, Mortgage-Backed and Asset-Backed Securities, Fixed Income Securities

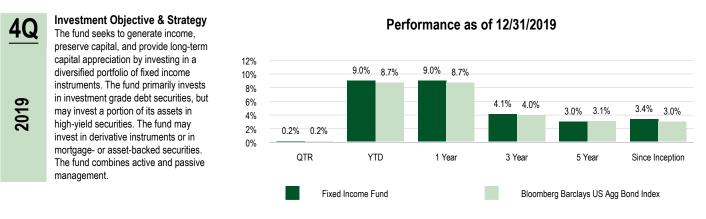
Annual Returns							
	2019	2018	2017	2016	2015		
Capital Preservation Fund	2.3%	2.0%	1.9%	1.9%	1.9%		
Hueler Stable Value Index	2.5%	2.2%	2.0%	1.8%	1.8%		

Fund Information

Subadvisor	Target Allocation	Sectors						
Great West Stable Value	100%		I					
		Government		10%				
Portfolio	Metrics							
Avg Eff Duration	2.91							
Avg Eff Maturity	3.83	Corporate		11%				
Avg Credit Quality	AA+							
Avg Wtd Coupon	2.91	0					700/	
Avg Wtd Price	102.4	Securitized					78%	
		Municipal						
Credit C	Quality							
AAA	14.8%							
AA	75.7%	Cash/Equivalents	1%					
A	9.4%							
BBB	0.1%		0%	20%	40%	60%	80%	100%
High Yield	0.0%							

PERAdvantage Fixed Income Fund

PERAdvantag	ge Fixed Ind	come Fund			PERA du		
Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*	
BB Barclays US Agg Bond Idx	Low	10/1/2011	\$391.8	0.03%	0.18%	0.21%	



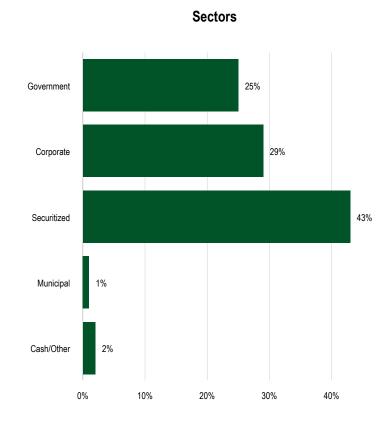
Principal Risks

Loss of Money, Not FDIC Insured, Active Management, Index Correlation/Tracking Error, Suitability, Multimanager, U.S. Government Obligations, Mortgage-Backed and Asset-Backed Securities, Fixed Income Securities

Annual Returns							
	2019	2018	2017	2016	2015		
Fixed Income Fund	9.0%	(0.2)%	3.7%	2.6%	0.3%		
BB Barclays US Agg Bond Index	8.7%	0.0%	3.5%	2.7%	0.6%		

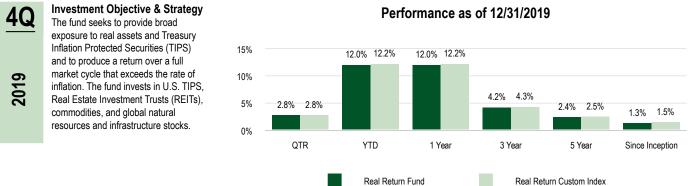
Fund Information

Subadvisors	Target Allocation				Sectors			
Wells Fargo Asset Management	50%							
BlackRock Core Alpha	25%							
BlackRock Index	25%	Government				25%		
Portfolio Me	etrics							
Avg Eff Duration	5.8	Corporate				29%		
Avg Eff Maturity	7.3							
Avg Credit Quality	AA							1
Avg Wtd Coupon	3.4	0						400/
Avg Wtd Price	106.1	Securitized						43%
Total # of Bond Holdings	10,839							
		Municipal	1%					
Credit Qua	ality							
AAA	66.1%							
AA	3.3%	Cash/Other	2%					
A	12.2%	Cash/Oliter	2 /0					
BBB	17.1%							
High Yield	1.3%	()%	10%	20%	30%	40%	50%
Not Rated	0.2%							



PERAdvantage Real Return Fund

Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
Custom Index**	Moderate	10/1/2011	\$27.2	0.03%	0.17%	0.20%



Principal Risks

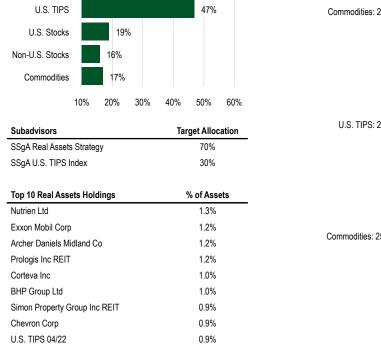
Loss of Money, Not FDIC Insured, Active Management, Index Correlation/Tracking Error, Suitability, Multimanager, Equity Securities, Foreign Securities, Inflation-Protected Securities, Commodity, Real Estate

Portfolio Analysis

	Annu	al Returns			
	2019	2018	2017	2016	2015
Real Return Fund	12.0%	(5.5)%	6.8%	11.1%	(10.4)%
Real Return Custom Index**	12.2%	(5.3)%	6.9%	11.4%	(10.4)%

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PERAdvantage.

Fund Information

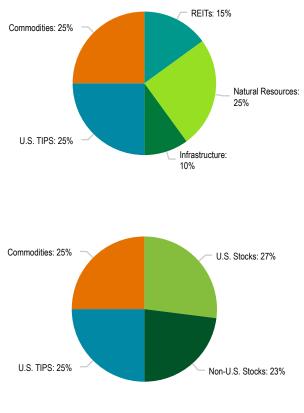


0.9%

375

41

Real Assets Strategy



Total # of Bond Holdings *As of previous guarter end

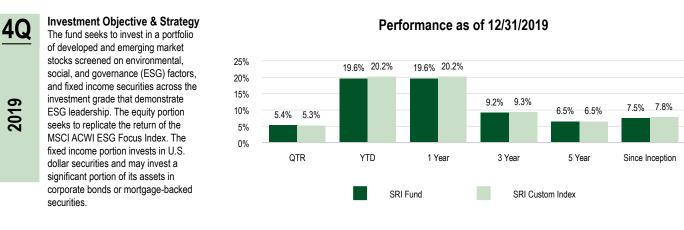
Total # of Stock Holdings

U.S. TIPS 04/21

*As of previous quarter end **70% State Street Real Asset Strategy DC Index (25% Bloomberg Roll Select Commodity Index, 25% S&P Global LargeMidCap Commodity and Resources Index, 10% S&P Global Infrastructure Index, 15% Dow Jones U.S. Select REIT Index, 25% Bloomberg Barclays U.S. TIPS Index) / 30% Bloomberg Barclays U.S. TIPS Index

PERAdvantage SRI Fund

Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
Custom Index**	Moderate	10/1/2011	\$27.2	0.02%	0.24%	0.26%



Principal Risks

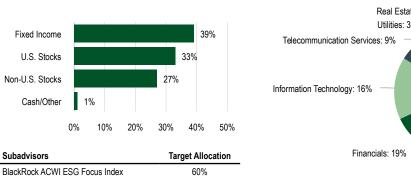
Loss of Money, Not FDIC Insured, Active Management, Index Correlation/Tracking Error, Suitability, Multimanager, Equity Securities, Foreign Securities, U.S. Government Obligations, Mortgage-Backed and Asset-Backed Securities

Portfolio Analysis

	Annu	al Returns			
	2019	2018	2017	2016	2015
SRI Fund	19.6%	(4.0)%	13.4%	5.1%	0.1%
SRI Custom Index**	20.2%	(4.1)%	13.2%	4.9%	(0.1)%

DERA duantage.

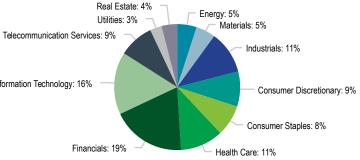
Fund Information



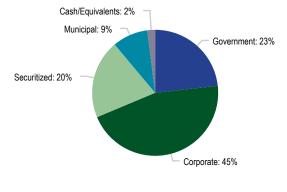
40%

Top 10 Equity Holdings	% of Assets
Apple Inc	2.7%
Microsoft Corp	2.6%
Amazon.com Inc	1.4%
Facebook Inc A	1.0%
Alphabet Inc Class C	0.9%
Alphabet Inc A	0.8%
Johnson & Johnson	0.8%
Procter and Gamble Co	0.8%
Alibaba Group Holding Ltd ADR	0.8%
Visa Inc Class A	0.7%
Total # of Stock Holdings	524
Total # of Bond Holdings	967

Equity Sectors



Fixed Income Sectors



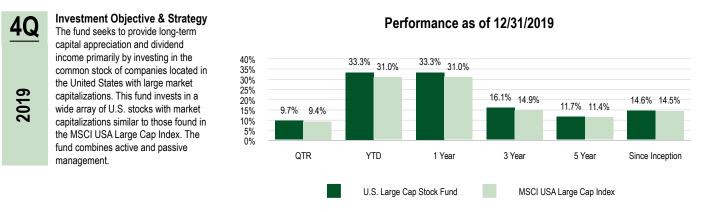
TIAA-CREF Social Choice Bond

*As of previous quarter end **60% MSCI ACWI ESG Focus Index / 40% Bloomberg Barclays U.S. Government Bond Index

PERAdvantage U.S. Large Cap Stock Fund



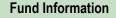
Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin. Fee*	Inv. Mgmt. Fee*	Total Fee*
MSCI USA Large Cap Index	High	10/1/2011	\$1,872.2	0.03%	0.05%	0.08%

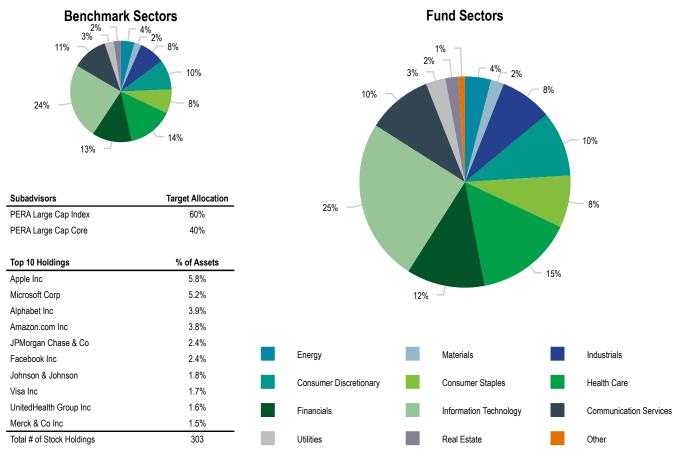


Principal Risks

Loss of Money, Not FDIC Insured, Active Management, Index Correlation/Tracking Error, Suitability, Multimanager, Equity Securities

	Annu	al Returns			
	2019	2018	2017	2016	2015
U.S. Large Cap Stock Fund	33.3%	(4.5)%	22.8%	10.1%	0.9%
MSCI USA Large Cap Index	31.0%	(4.8)%	21.7%	12.1%	0.9%





PERAdvantage U.S. Small and Mid Cap Stock Fund



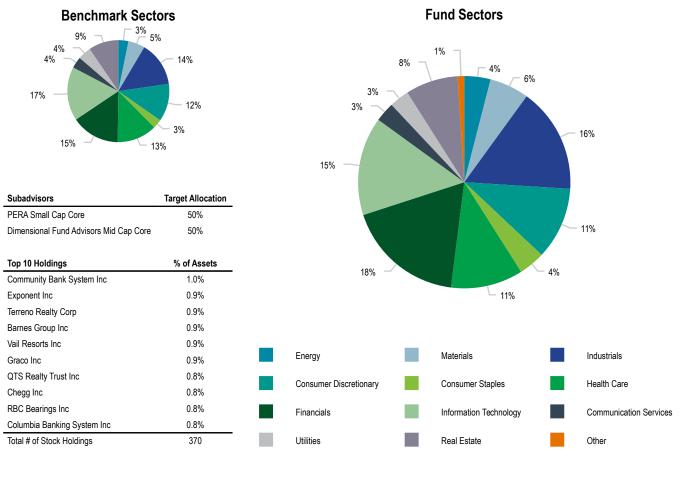
E	Benchmark	Volatility and Risk	Fund	Inception Date	Total Fun	d Assets (\$M)	Admin Fee*	Inv. Mgmt.	Fee* Total Fee*
MSCI US	SA SMID Cap Index	High		10/1/2011		345.3	0.03%	0.15%	0.18%
<u>4Q</u>	Investment Obje The fund seeks to p capital appreciation	rovide long-term			Per	formance as	of 12/31/2019		
2019	income primarily by common stock of co the United States wi market capitalization invests in a wide arr market capitalization found in the MSCI L	mpanies located in ith small and mid- ns. This fund ay of stocks with ns similar to those	35% 30% 25% 20% 15% 10% 5% 0%	6.9% 7.5%	28.4% 28.5%	28.4% 28.5%	9.2% 10.6%	7.7% 9.1%	12.2% 12.7%
	Index.		0,0	QTR	YTD	1 Year	3 Year	5 Years	Since Inception
				U.S.	. Small and Mid C	Cap Stock Fund	MSCI USA	SMID Cap Index	

Principal Risks

Loss of Money, Not FDIC Insured, Active Management, Index Correlation/Tracking Error, Suitability, Multimanager, Equity Securities

Annual Returns						
	2019	2018	2017	2016	2015	
U.S. Small and Mid Cap Stock Fund	28.4%	(12.5)%	15.9%	16.7%	(4.4)%	
MSCI USA SMID Cap Index	28.5%	(10.0)%	16.8%	17.6%	(2.9)%	

Fund Information



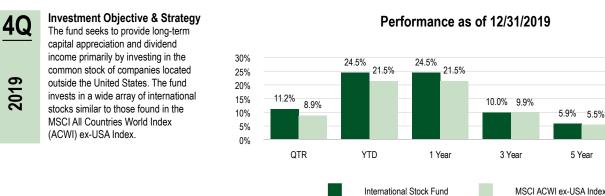
PERAdvantage International Stock Fund



7.2% 5.8%

Since Inception

Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
MSCI ACWI Ex-USA Index	High	10/1/2011	\$431.1	0.03%	0.27%	0.30%



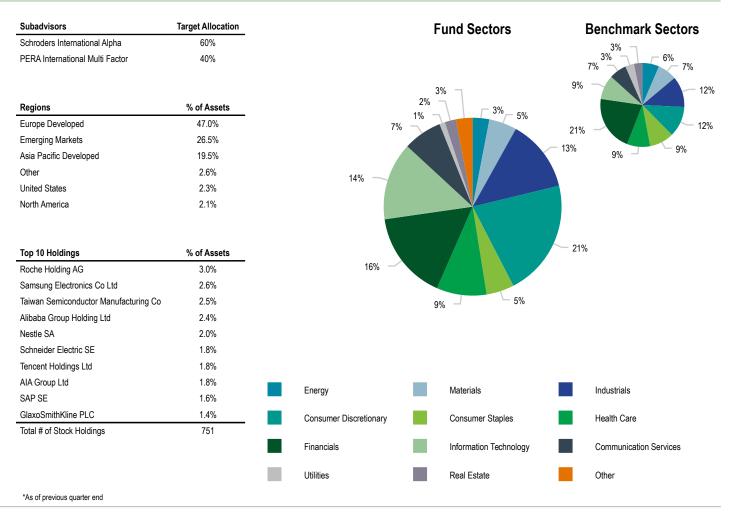
MSCI ACWI ex-USA Index

Principal Risks

Loss of Money, Not FDIC Insured, Active Management, Index Correlation/Tracking Error, Suitability, Multimanager, Equity Securities, Foreign Securities

		Annu	al Returns				
or,		2019	2018	2017	2016	2015	
	International Stock Fund	24.5%	(16.1)%	27.4%	6.5%	(5.8)%	
	MSCI ACWI Ex-USA Index	21.5%	(14.2)%	27.2%	4.5%	(5.7)%	

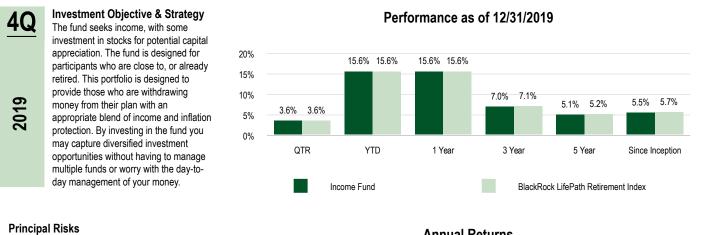
Fund Information



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PERAdvantage Income Fund

Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
BR LifePath Retirement Index	Low	10/1/2011	\$313.1	0.03%	0.07%	0.10%



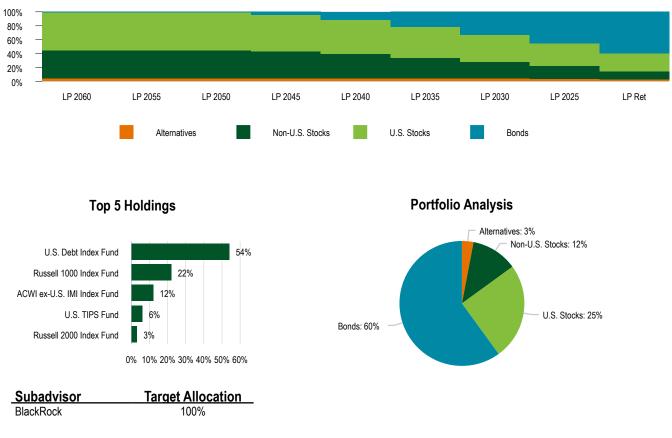
Loss of Money, Not FDIC Insured, Index Correlation/Tracking Error, Suitability, Active Strategy, Asset Allocation, Underlying Fund, Equity Securities, Foreign Securities, Fixed Income Securities, Alternative Investments

		Annu	al Returns				
		2019	2018	2017	2016	2015	
uity	Income Fund	15.6%	(3.6)%	9.9%	6.1%	(1.4)%	
	BR LifePath Retirement Index	15.6%	(3.5)%	10.0%	6.2%	(1.1)%	

DERA dvantage.

Fund Information

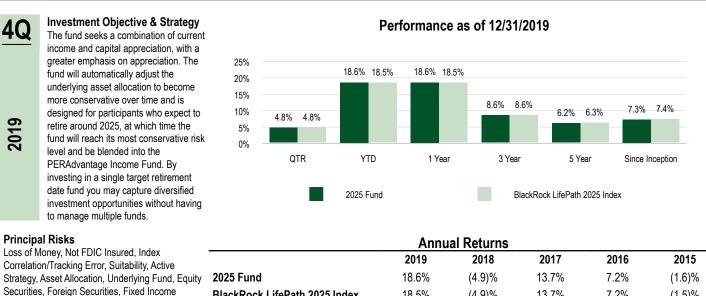




PERAdvantage 2025 Fund

Securities, Alternative Investments

Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
BlackRock LifePath 2025 Index	Low	10/1/2011	\$215.4	0.03%	0.07%	0.10%



Fund Information

BlackRock LifePath 2025 Index



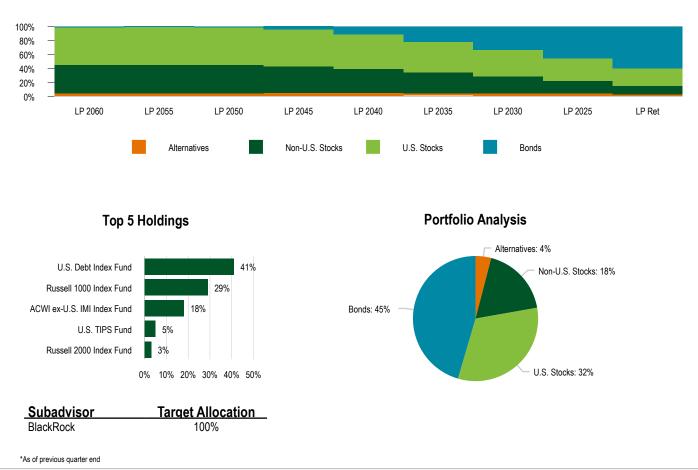
18.5%

(4.9)%

13.7%

7.2%

(1.5)%

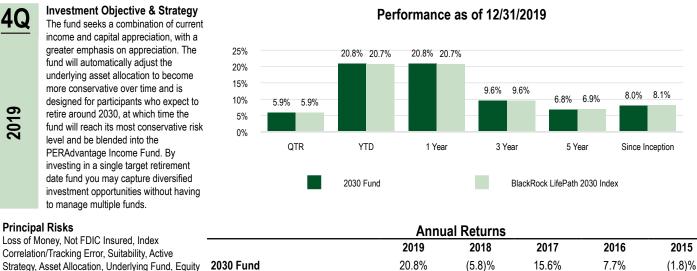


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PERAdvantage 2030 Fund

PERActiantage

Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
BlackRock LifePath 2030 Index	Moderate	10/1/2011	\$181.2	0.03%	0.07%	0.10%



Correlation/Tracking Error, Suitability, Active Strategy, Asset Allocation, Underlying Fund, Equity Securities, Foreign Securities, Fixed Income Securities, Alternative Investments

Fund Information

20.7%

(5.8)%

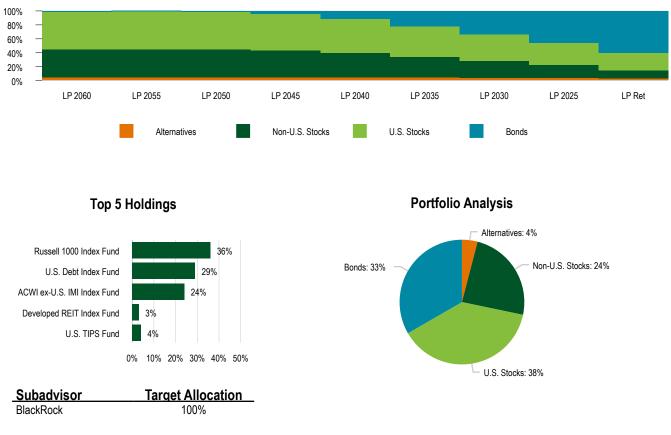
15.6%

7.6%

(1.6)%

BlackRock LifePath 2030 Index





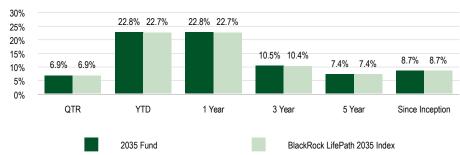
PERAdvantage 2035 Fund

PERA	dvantage.
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Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
BlackRock LifePath 2035 Index	Moderate	10/1/2011	\$162.9	0.03%	0.07%	0.10%



Performance as of 12/31/2019



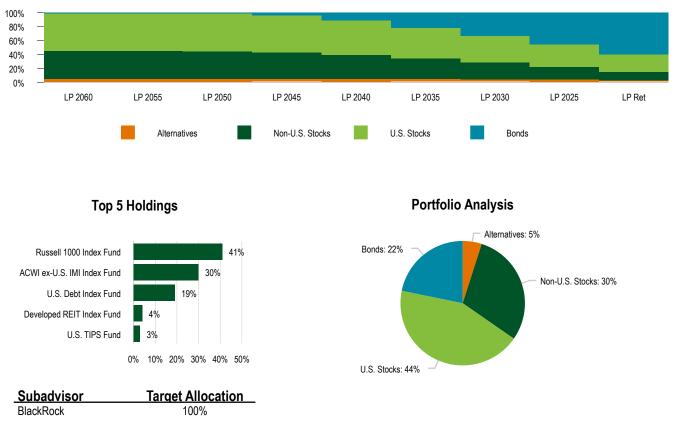
Principal Risks

Loss of Money, Not FDIC Insured, Index Correlation/Tracking Error, Suitability, Active Strategy, Asset Allocation, Underlying Fund, Equity Securities, Foreign Securities, Fixed Income Securities, Alternative Investments

		2019	2018	2017	2016	2015
y	2035 Fund	22.8%	(6.5)%	17.5%	8.2%	(1.9)%
	BlackRock LifePath 2035 Index	22.7%	(6.6)%	17.5%	8.1%	(1.8)%

Fund Information

Target Retirement Date Series Glidepath



PERAdvantage 2040 Fund

PER	Advantag	ge 2040 Fu	nd					🗊 PEI	RA	lantage.
В	enchmark	Volatility and Risk	Fund	Inception Date	Total Fund	d Assets (\$M)	Admin Fee*	Inv. Mgm	t. Fee*	Total Fee*
BlackRock	LifePath 2040 Index	High		10/1/2011	\$	125.6	0.03%	0.07%	6	0.10%
<u>4Q</u>	Investment Object The fund seeks a co income and capital a greater emphasis on	mbination of current appreciation, with a	30%		-		of 12/31/2019			
2019	fund will automatical underlying asset allo more conservative o designed for particip retire around 2040, a fund will reach its mo level and be blended PERAdvantage Inco	ly adjust the scation to become ver time and is ants who expect to at which time the ost conservative risk d into the	25% 20% 15% 10% 5%	7.8% 7.8%	24.7% 24.6%	24.7% 24.6%	11.3% 11.2% 3 Year	7.9% 7.9%	9.3% Since Ir	9.3%
	investing in a single date fund you may c investment opportun	apture diversified			2040 Fund		BlackRock	k LifePath 2040 Ind	ex	

Principal Risks

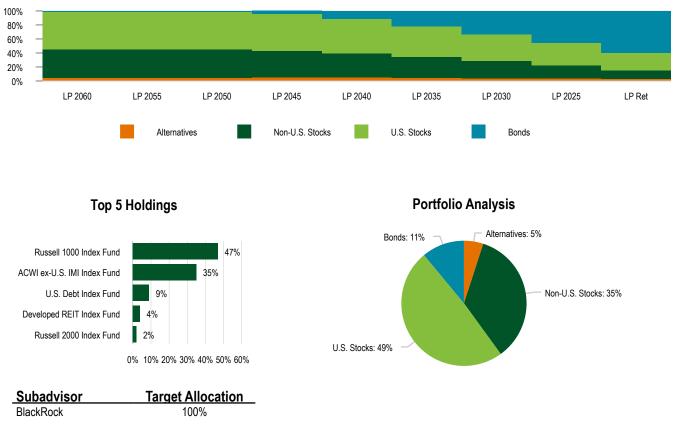
Loss of Money, Not FDIC Insured, Index Correlation/Tracking Error, Suitability, Active Strategy, Asset Allocation, Underlying Fund, Equity Securities, Foreign Securities, Fixed Income Securities, Alternative Investments

to manage multiple funds.

		2019	2018	2017	2016	2015	
ty	2040 Fund	24.7%	(7.3)%	19.2%	8.6%	(2.1)%	
	BlackRock LifePath 2040 Index	24.6%	(7.3)%	19.1%	8.4%	(2.0)%	

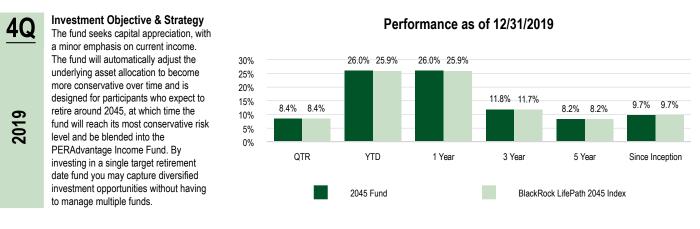
Fund Information





PERAdvantage 2045 Fund

						U
Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
BlackRock LifePath 2045 Index	High	10/1/2011	\$97.7	0.03%	0.07%	0.10%



Principal Risks

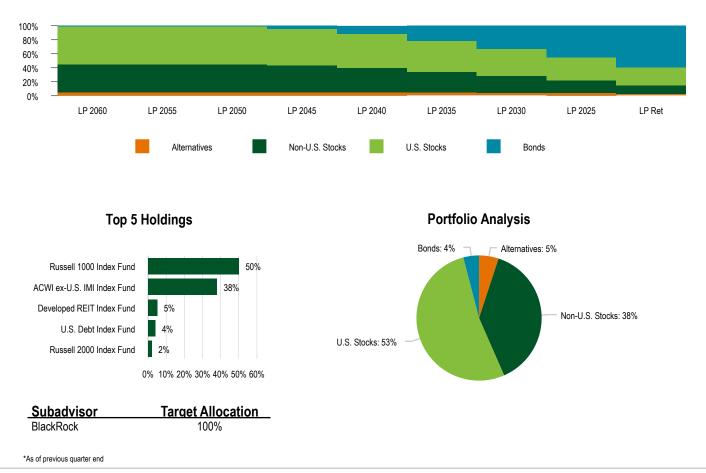
Loss of Money, Not FDIC Insured, Index Correlation/Tracking Error, Suitability, Active Strategy, Asset Allocation, Underlying Fund, Equity Securities, Foreign Securities, Fixed Income Securities, Alternative Investments

Annual Returns							
	2019	2018	2017	2016	2015		
2045 Fund	26.0%	(7.9)%	20.3%	8.8%	(2.2)%		
BlackRock LifePath 2045 Index	25.9%	(8.0)%	20.2%	8.7%	(2.1)%		

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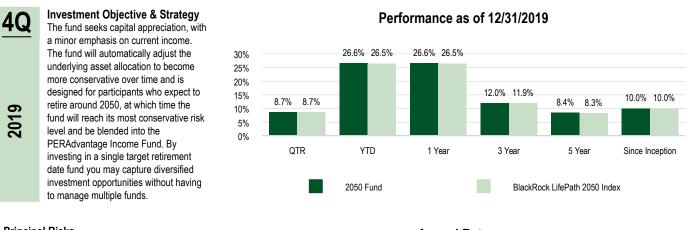
Fund Information





PERAdvantage 2050 Fund

Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
BlackRock LifePath 2050 Index	High	10/1/2011	\$70.7	0.03%	0.07%	0.10%



Principal Risks

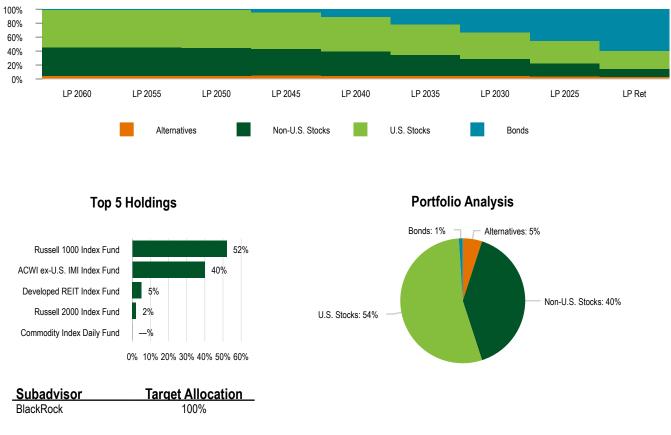
Loss of Money, Not FDIC Insured, Index Correlation/Tracking Error, Suitability, Active Strategy, Asset Allocation, Underlying Fund, Equity Securities, Foreign Securities, Fixed Income Securities, Alternative Investments

Annual Returns						
	2019	2018	2017	2016	2015	
2050 Fund	26.6%	(8.1)%	20.7%	8.9%	(2.2)%	
BlackRock LifePath 2050 Index	26.5%	(8.3)%	20.6%	8.7%	(2.1)%	

PERAdvantage.

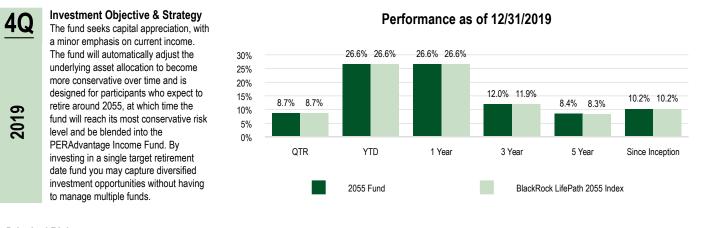
Fund Information

Target Retirement Date Series Glidepath



PERAdvantage 2055 Fund

Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
BlackRock LifePath 2055 Index	High	10/1/2011	\$42.5	0.03%	0.07%	0.10%



Principal Risks

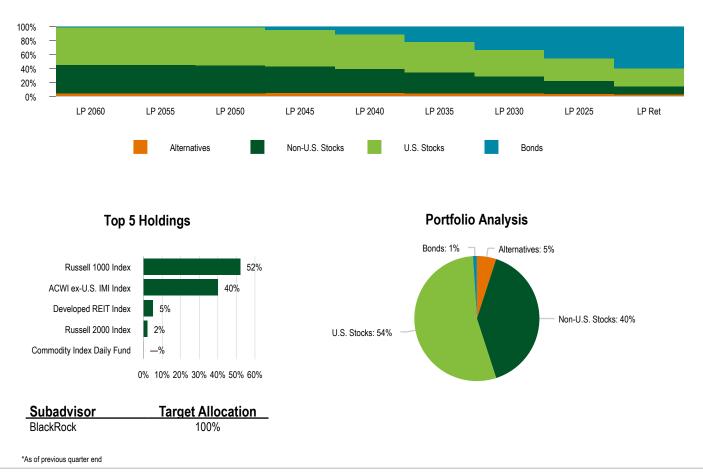
Loss of Money, Not FDIC Insured, Index Correlation/Tracking Error, Suitability, Active Strategy, Asset Allocation, Underlying Fund, Equity Securities, Foreign Securities, Fixed Income Securities, Alternative Investments

Annual Returns						
	2019	2018	2017	2016	2015	
2055 Fund	26.6%	(8.2)%	20.6%	8.9%	(2.2)%	
BlackRock LifePath 2055 Index	26.6%	(8.3)%	20.6%	8.7%	(2.1)%	

PERAchantage.

Fund Information

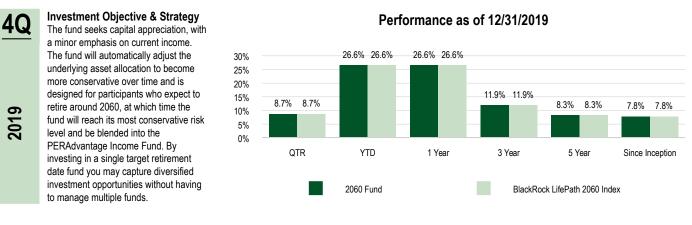
Target Retirement Date Series Glidepath



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PERAdvantage 2060 Fund

						U
Benchmark	Volatility and Risk	Fund Inception Date	Total Fund Assets (\$M)	Admin Fee*	Inv. Mgmt. Fee*	Total Fee*
BlackRock LifePath 2060 Index	High	2/2/2015	\$14.9	0.03%	0.07%	0.10%



Principal Risks

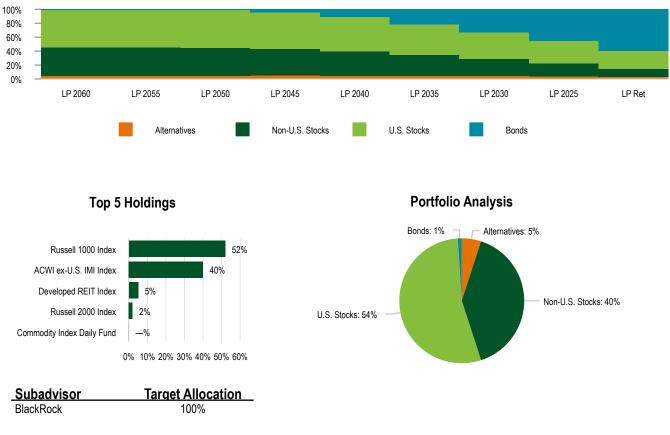
Loss of Money, Not FDIC Insured, Index Correlation/Tracking Error, Suitability, Active Strategy, Asset Allocation, Underlying Fund, Equity Securities, Foreign Securities, Fixed Income Securities, Alternative Investments

Annual Returns						
	2019	2018	2017	2016	2015	
2060 Fund	26.6%	(8.2)%	20.6%	8.8%	(2.4)%	
BlackRock LifePath 2060 Index	26.6%	(8.3)%	20.6%	8.7%	(2.1)%	

DERA dvantage.

Fund Information





Important Disclosures

The information provided in this fact sheet and disclosure statement should not be considered a recommendation to purchase or sell a particular Fund. Investment objectives, risks, fees, and expenses of the Fund should be considered before purchasing or selling a particular Fund. Colorado PERA (PERA) has made every effort to ensure the information presented is accurate and current. More information about PERAdvantage Funds, including prices, performance, and benchmark information, is available on the Plan websites, accessible through www.copera.org, or by calling 1-800-759-7372.

PERAdvantage Fund investors own units in a portfolio that invests in securities appropriate for the asset class and do not have direct ownership of the securities in the Fund. PERAdvantage Funds are not mutual funds. Prospectuses are not required and prices are not available in local publications. The Funds are privately offered and are only available to members. PERA is a governmental plan and is exempted by state and federal law from registration with the SEC.

PERAdvantage Funds may have multiple managers and portfolios underlying the Fund. PERA has determined the 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 cash flows. 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 and benchmarks may change to best match investment objectives.

Plan administrative fees pay for record keeping, custodial services, consulting, and internal PERA administrative expenses. The administrative fee consists of a flat \$1 per month per participant per plan and an asset-based fee of up to 0.03 percent on each underlying PERAdvantage Fund. Underlying managers charge an investment management fee, which varies among the managers, and may change at any time.

The performance data provided represents past performance and does not guarantee future results. The Funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. Principal value and investment return will fluctuate, so an investor's shares may be worth more or less than the original value when sold. Portfolio statistics and allocations may change over time.

Performance is net of administrative and management fees and calculated using time-weighted net asset values. Returns for periods greater than one year are annualized. Performance prior to 01/01/2020 is calculated by RVK, Inc. and by Callan LLC thereafter, and begins the first full month after initial funding. PERAdvantage Funds commenced on 10/01/2011.

Each Fund's performance is compared with that of an index, which is a passively managed portfolio of specified securities, and does not reflect any initial or ongoing expenses. A Fund's portfolio may differ significantly from the securities in the index. Fund benchmark listed represents the current benchmark and while historical performance is linked to the current benchmark, historical performance may differ from the listed benchmark due to changes in benchmark composition over time.

The PERAdvantage International Stock fund uses fair value pricing, which may cause the fund's performance to differ from that of its benchmark.

Securities Lending: Certain PERAdvantage Funds engage in securities lending activities, which may expose them to certain risks. These risks primarily come from the inability of the borrower to return the borrowed security, or potential losses from the reinvested collateral.





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