PERA

FY 2019-20 JOINT BUDGET COMMITTEE HEARING AGENDA

Tuesday, December 4, 2018

10:00 am – 11:00 am

10:00-10:10 Introductions and Opening Comments

Presenter: Ron Baker, Executive Director

10:10-11:00 PERA Briefing Questions and General Presentation

Main Presenters:

- Ron Baker, Executive Director
- Amy McGarrity, Chief Investment Officer

Supporting Presenter:

- Timothy O'Brien, Board of Trustees Chairman

Topics:

- Questions from JBC staff briefing: Pages 1-5, Questions 1-4 in the packet
- PERA General Presentation for the JBC

PERA

FY 2019-20 JOINT BUDGET COMMITTEE HEARING AGENDA

Tuesday, December 4, 2018

10:00 am – 11:00 am

1. **Please explain the automatic adjustment provisions; and in particular explain the calculation of the actuarially determined employer contribution rate and how a blended contribution amount of less than 98.0 percent or greater than 120.0 percent would cause an adjustment.**

   Response: The automatic adjustment provision included in SB18-200 provides a mechanism for contributions and the Annual Increase (commonly referred to as the Cost of Living Adjustment or COLA) to be automatically adjusted in order to stay on track to full funding. The need to trigger this provision is determined by comparing the amount of contributions actually received (including the Direct Distribution) to the contributions needed to stay on track to full funding. Before discussing how that comparison would trigger the auto adjust, it is first important to understand how these amounts are calculated.

   The **Actuarially Determined Contribution (ADC)** is determined by summing 1) the Employer Normal Cost rate and 2) the payment required (shown as a percentage of pay) to amortize the Unfunded Actuarial Accrued Liability (UAAL) over a closed 30-year period.

   The **Employer Normal Cost** is simply the rate of pay needed to cover the Normal Cost after consideration of the Employee or Member Contribution Rate.

   The **Total Normal Cost** rate can be thought of as the accrual rate of the benefits provided to the PERA membership, represented as a percentage of pay.

   The automatic adjustment provision of SB200 was designed using the concept of comparing one blended statutory rate or "**Blended Total Contribution Amount**" (Employer Contribution Rate + Member Contribution Rate + Direct Distribution) to one "**Blended Total Required Contribution**" (ADC + Member Contribution Rate) across all five division trust funds.

   Based on the provisions of SB200, an automatic adjustment will occur if the comparison of these blended rates falls outside an acceptable corridor, as described below:

- If the Blended Total Contribution Amount is less than 98 percent of the Blended Total Required Contribution, there will be adjustment of equitable impact to the Employer Contribution Rate, the Member Contribution Rate, the Annual Increase (AI) cap, and the Direct Distribution (if available-see details below). This, of course, means the contribution rates would increase, the Direct Distribution would increase (if permitted), and the AI cap would decrease, in a manner of a shared impact to correct the situation.
- If the Blended Total Contribution Amount is greater than 120 percent of the Blended Total Required Contribution, there will be adjustment of equitable impact to the Employer Contribution Rate, the Member Contribution Rate, the Annual Increase (AI) cap, and the Direct Distribution. This, of course, means the contribution rates and direct distribution would decrease and the AI cap would increase, in a manner of a shared impact to correct the situation.

SB200 not only defines the limited amounts of total adjustment available in each category, but also the increments of adjustments that can occur in any one year. Multiple steps over multiple years are allowed for a required adjustment as is necessary, but cannot exceed the ultimate limits as set forth in statute. A few of these details are provided below:

- First adjustment cannot occur prior to July 1, 2020
- Adjustment (increase or decrease) to each of the Employer Contribution Rates and the Member Contribution Rates cannot exceed 0.50 percent in any one year, and
    - Cannot exceed 2.00 percent above the contribution rates reflecting SB 18-200 statutory reforms
    - Cannot fall below the 2017 contribution rates
- Adjustment to the AI cap cannot exceed 0.25 percent in any one year, and
    - Cannot exceed a 2.00 percent AI cap maximum
    - Cannot fall below a 0.50 percent AI cap floor
- Adjustment to the Direct Distribution cannot exceed $20 million in any one year, and
    - Cannot exceed the initial $225 million amount
    - Can be reduced, with no floor
- Adjustments that are required because funding is below the 98 percent threshold will be made to an extent that will bring the revised ratio to 103 percent following the corrective efforts but in no event can the adjustments in one year be greater than the limit described above.
- Adjustments that are required because funding has reached the 120 percent threshold must not cause the ratio to fall below 103 percent. In this instance, the adjustment would be the maximum yearly amount for each component unless a smaller adjustment is needed in order to maintain the 103 percent level.

2. **Please explain why contributions made into the defined contribution plan result in lower funding to pay for the unfunded liability as compared to contributions made into the defined benefit plan. Please describe the true-up mechanism included in the defined contribution supplement provision and how that will likely play out in the budget process.**

Response: The cost of providing the benefits in the defined benefit plan is a small percentage of the total employer contribution amount, with the remainder of the employer contribution used to pay the UAAL. Based on the information above, the normal cost of the defined benefit plan is largely covered by the employee contribution, which leaves a majority of the employer contribution to apply to the UAAL. In the defined contribution plan, a much higher percentage of the employer contribution goes into the member account, which means less of the employer contribution is going to pay the UAAL.

As an example, in the state division in 2018, 4.33 percent of the total employer contribution amount of 20.22 percent was applied toward paying for the cost of the benefits offered in the defined benefit plan. This means that 15.89 percent of the total employer contribution amount is applied toward paying off the unfunded liability of the system. When an individual chooses the defined contribution plan, the statute provides that the employer contribution amount of 10.22 percent (when averaging state troopers and state employee contribution rates) of the individual's salary will be contributed to the individual's defined contribution account. This means that only 10.00 percent of the employer contribution amount coming into PERA goes toward paying off the unfunded liability. Therefore, the defined benefit plan loses out on 5.89 percent of salary for every member who chooses the defined contribution plan. Please see Appendix A which illustrates further the differences between how the employer contributions are applied in the defined contribution and defined benefit plans.

SB200 dealt with this negative impact on the defined benefit trust funds by implementing an additional employer contribution amount for the state and local government division trust funds (as the only divisions that offer access to the defined contribution plan). Beginning January 1, 2021, and every year thereafter, employer contribution rates will be adjusted in the state and local government divisions to include a defined contribution supplement which will account for the loss in contributions to the defined benefit plan trusts due to members choosing the defined contribution plan.

The defined contribution supplement will be determined separately for each of the two divisions and will be calculated as the percentage of pay that is needed to make the division whole due to the fact that the previous year there were employer contribution amounts paid to the defined contribution plan participant accounts that would have otherwise gone to the defined benefit trusts to pay down the unfunded liability. Included in this calculation will be the lost investment earnings on the dollars not contributed to the defined benefit plan. The statute provides that the defined contribution supplement will only be calculated for members who are hired on or after January 1, 2019, who choose the defined contribution plan.

3. **Please explain the difference between non-State Trooper employee and State Trooper employee contribution and benefits structure. Please explain and describe how correctional officers hired before 2020 might be included in the State Trooper designation that goes into effect for correctional officers hired on or after January 1, 2020.**

Response: Individuals under the state trooper category contribute two percent more of salary to PERA than other PERA members. Right now state troopers contribute 10 percent whereas all other members pay eight percent. The employee contribution rate will increase by a total of two percent phased in over the next three years and when all phased in on July 1, 2021, the trooper contribution rate will be 12 percent and all others will pay 10 percent. This does not take into account the fact that beginning July 1, 2020, the automatic adjustment provisions of the statute could be triggered which could result in an increase or decrease in the employee contribution rates. See answer to automatic adjustment question above.

The reason the employer and employee contribution rates are higher for individuals in the state trooper category is because their benefits are more generous. Specifically, there are two differences in the benefits provided to troopers as compared to other members.

- Troopers are eligible to apply for the PERA disability program immediately upon hire. All members except state troopers have access to PERA's disability program only after earning five years of service credit. Individuals in the state trooper category have access to disability benefits immediately upon hire if the disability is sustained during the performance of his/her job duties.
- Troopers are eligible for full service retirement at a younger age than other members of the system.

The state trooper category was expanded to include corrections officers and local government division sheriffs who are hired on or after January 1, 2020. The higher employer and employee contribution rates will apply to these individuals as they will get the benefits described above. In order to include corrections officers hired before 2020, the statute would need to be changed. Given the high cost of retroactively placing current employees into a new "trooper" structure, the most effective approach would be to change the law so that current employees could only accrue "trooper" service credit on a going-forward basis.

4. **Please include a history of changes to the (nominal) Long Term Rate of Return (LTROR) that also includes a history of changes to the inflation assumption for any changes since 2010. How has the real LTROR changed over time since 2010? What is the current real LTROR and is it higher or lower than when the nominal LTROR was changed to 7.25 percent.**

   The complete history back to the December 31, 2008 funding actuarial valuation is included as Appendix B. Since the December 31, 2008 valuation (pre-SB10-001 recognition), the assumed LTROR has decreased from 8.50 percent, per annum to 7.25 percent, per annum. Also, the assumed rate of inflation has decreased from 3.75 percent, per annum to 2.40 percent, per annum, which means that the assumed real rate of return actually has increased from 4.75 percent, per annum to 4.85 percent, per annum, over this same period.

Appendix A: Employer Contribution Differences Between Defined Benefit and Defined Contribution Plans

Employer Contributions–
DEFINED BENEFIT (DB) PLAN

Members and employers are required to contribute to PERA at a rate set by statute. Over the past 35 years, member contributions account for 17 percent of the inflows into the Defined Benefit Funds, and employer contributions represent 20 percent of the inflows. (Investment income accounts for the remaining inflow into the plan.)

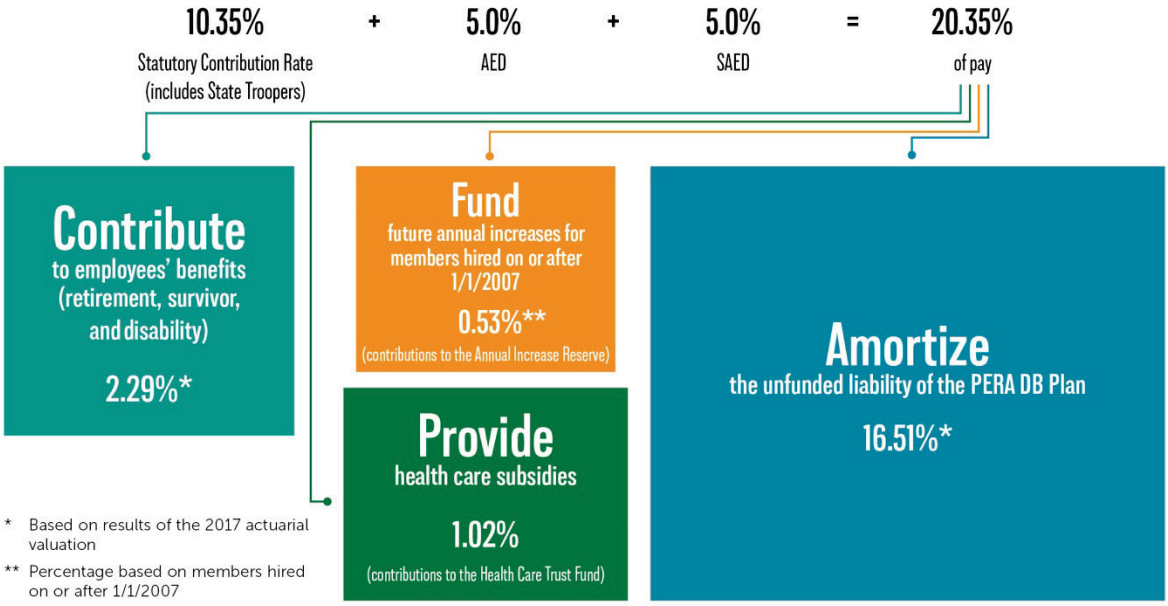
Where the contributions come from

Employer contributions totaled $1.65 billion in 2017.

Members are required to contribute 8 percent of their PERA-includable salary (State Troopers contribute 10 percent). PERA employers contribute a percentage of active member covered payrolls at base (statutory) employer rates that range from 10.00 percent to 13.79 percent. (Senate Bill 18-200 will increase the member contribution rate by an additional 2 percent of pay to be phased in beginning July 1, 2019. The employer contribution rate, except for Local Government employers, will increase by an additional 0.25 percent effective July 1, 2019.)

Where the contributions go

The example below reflects 2019 contribution levels and shows where the contributions go based on the following statutory contributions for the State Division:



* Based on results of the 2017 actuarial valuation

** Percentage based on members hired on or after 1/1/2007

What are the AED and SAED?

In 2004 and 2006, legislation was passed that required employers to remit additional contributions to PERA. These additional contributions are the Amortization Equalization Disbursement (AED) and Supplemental Amortization Equalization Disbursement (SAED). The AED is an additional amount contributed by PERA employers. The SAED is also an amount contributed by employers and is, to the extent permitted by law, to be funded by moneys otherwise available for employee wage increases. Both the AED and SAED have gradually increased over time to the amounts shown above. These additional employer contributions, based on the total payroll of PERA members and employers who can elect either PERA or another plan (regardless of the plan elected), are designed to reduce PERA's unfunded liability and amortization period.

COLORADO PERA

Colorado Public Employees' Retirement Association
1301 Pennsylvania Street • Denver, Colorado 80203 • 1-800-759-PERA (7372) • www.copera.org

November 2018

Employer Contributions–
DEFINED CONTRIBUTION (DC) PLAN

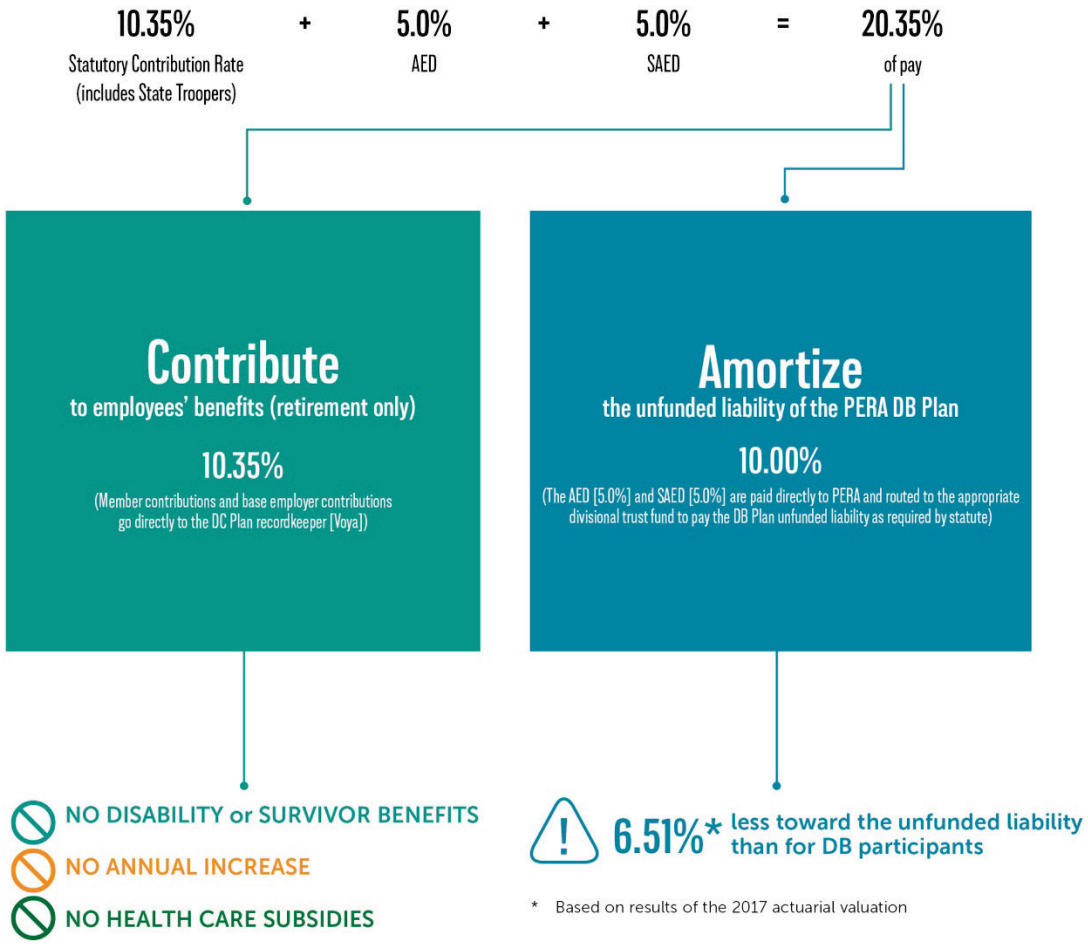
Since 2006, certain State employees (those hired at the State of Colorado on or after January 1, 2006 and community college employees hired on or after January 1, 2008) are eligible for PERAChoice, which is the option to choose between the PERA DB Plan and the PERA DC Plan. The DC Plan had 6,097 participants as of December 31, 2017. (Senate Bill 18-200 expands PERAChoice to employees hired in the Local Government Division on or after January 1, 2019, and to classified college and university employees hired on or after January 1, 2019.)

Where the contributions come from

Employer contributions totaled $14.3 million in 2017.

Where the contributions go

The example below reflects 2019 contribution levels and shows where the contributions go based on the following statutory contributions for the State Division:



* Based on results of the 2017 actuarial valuation

Appendix B: Schedule of Changes in Long Term Rate of Return Since 2008
Valuations as of December 31 Each Year

Economic Assumptions	2008	2009[1]	2010	2011	2012	2013
Long-Term Rate of Investment Return and Discount Rate	8.50%	8.00%	8.00%	8.00%	8.00%	7.50%
Price Inflation	3.75%	3.75%	3.75%	3.75%	3.50%	2.80%
Real Rate of Return	4.75%	4.25%	4.25%	4.25%	4.50%	4.70%

Economic Assumptions	2014	2015	2016	2017[2]	2018
Long-Term Rate of Investment Return and Discount Rate	7.50%	7.50%	7.25%	7.25%	7.25%
Price Inflation	2.80%	2.80%	2.40%	2.40%	2.40%
Real Rate of Return	4.70%	4.70%	4.85%	4.85%	4.85%

[1] *Initial recognition of SB 10-001 pension reforms.*
[2] *Initial recognition of SB 18-200 pension reforms.*

LEADING CHANGE | Lasting Security

Presentation to the Joint Budget Committee
Ron Baker, Executive Director
Amy C. McGarrity, Chief Investment Officer

COLORADO PERA®

PERA Provides Retirement Security

Colorado Public Employees' Retirement Association

Founded in **1931** to address the unique retirement needs of the public sector

PERA is a retirement plan that serves as a **replacement for Social Security**

Retirement Programs

Defined Benefit Plan
Stable benefit payments to 115,000 retired public employees

Defined Contribution Plan
Choice available to eligible employees in certain Divisions

PERA Provides for 1 in 10 Coloradans

Contributions

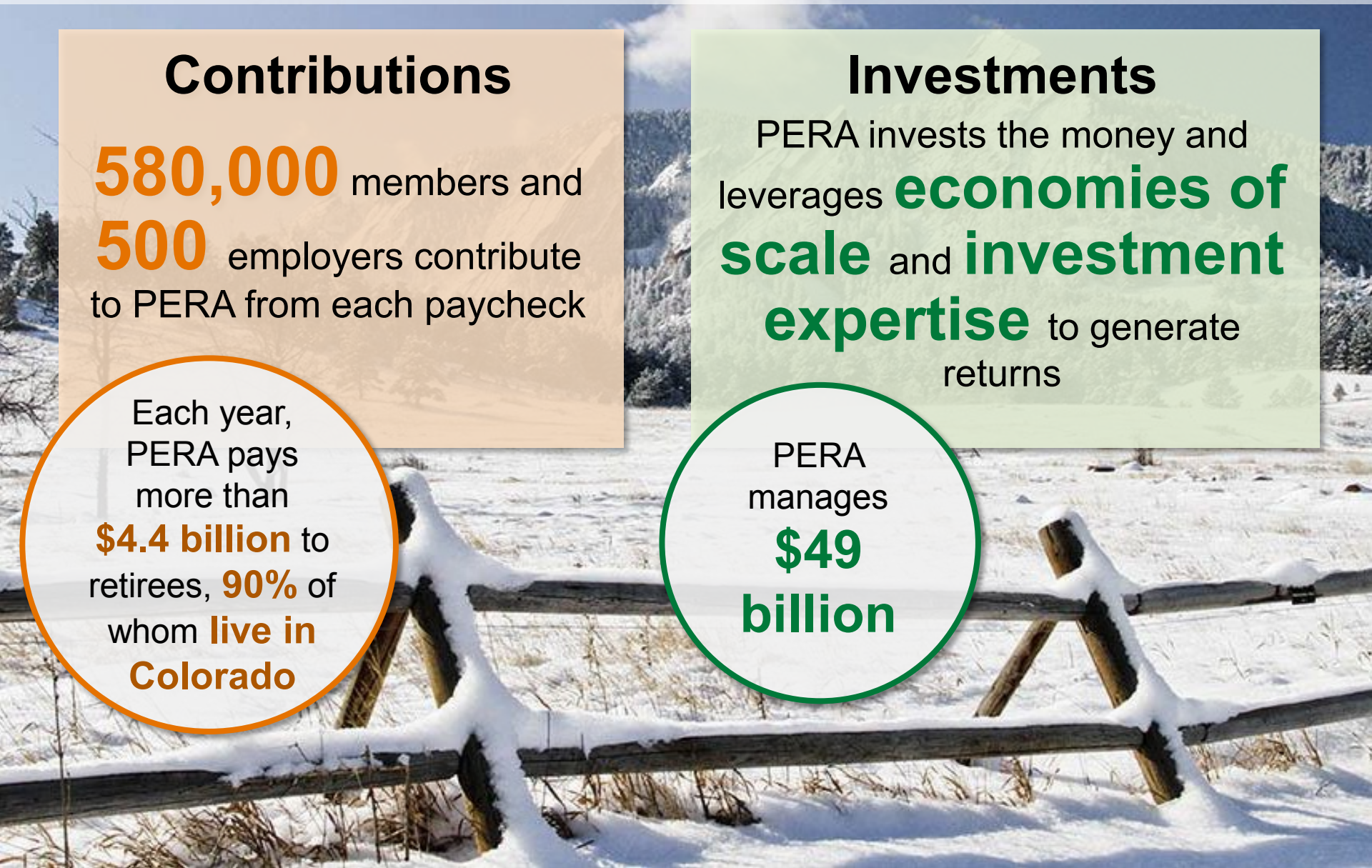
580,000 members and **500** employers contribute to PERA from each paycheck

Each year, PERA pays more than **$4.4 billion** to retirees, **90%** of whom **live in Colorado**

Investments

PERA invests the money and leverages **economies of scale** and **investment expertise** to generate returns

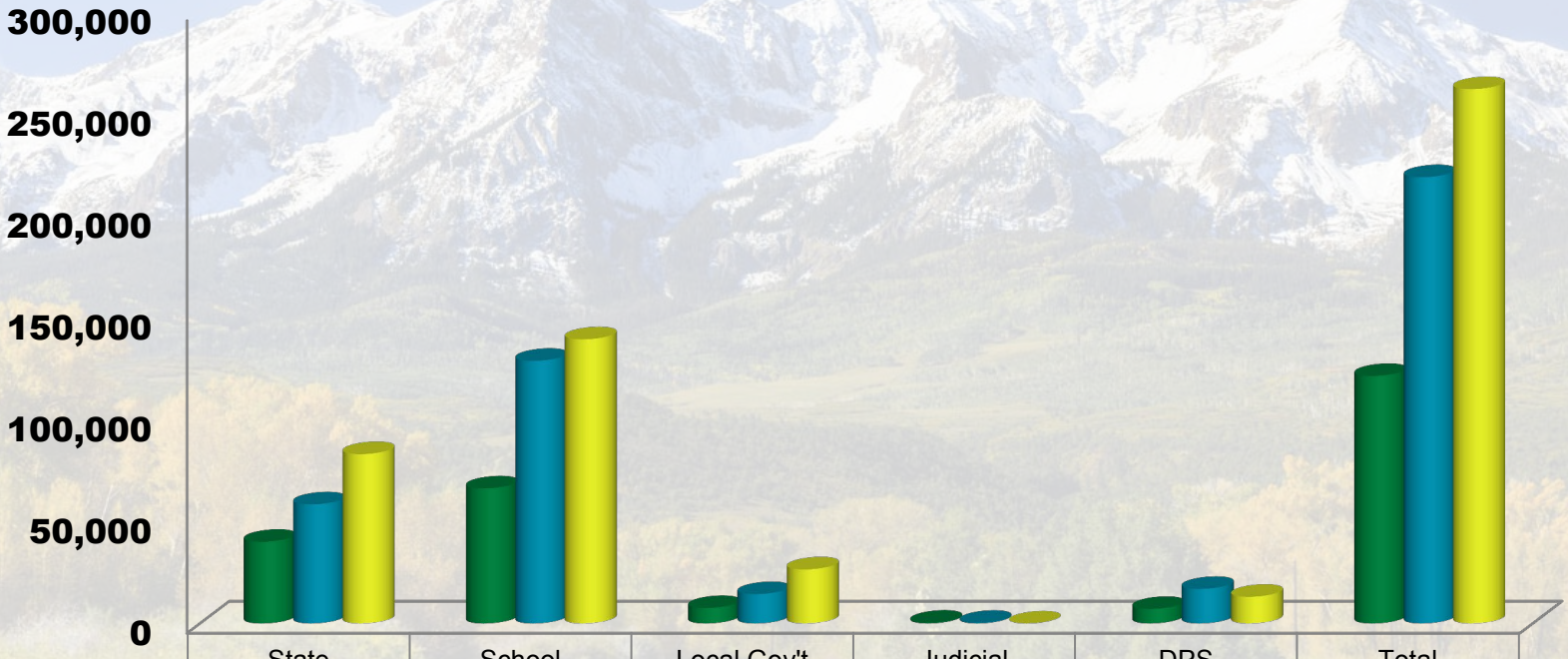
PERA manages **$49 billion**



PERA Membership

September 30, 2018

Total: 601,502

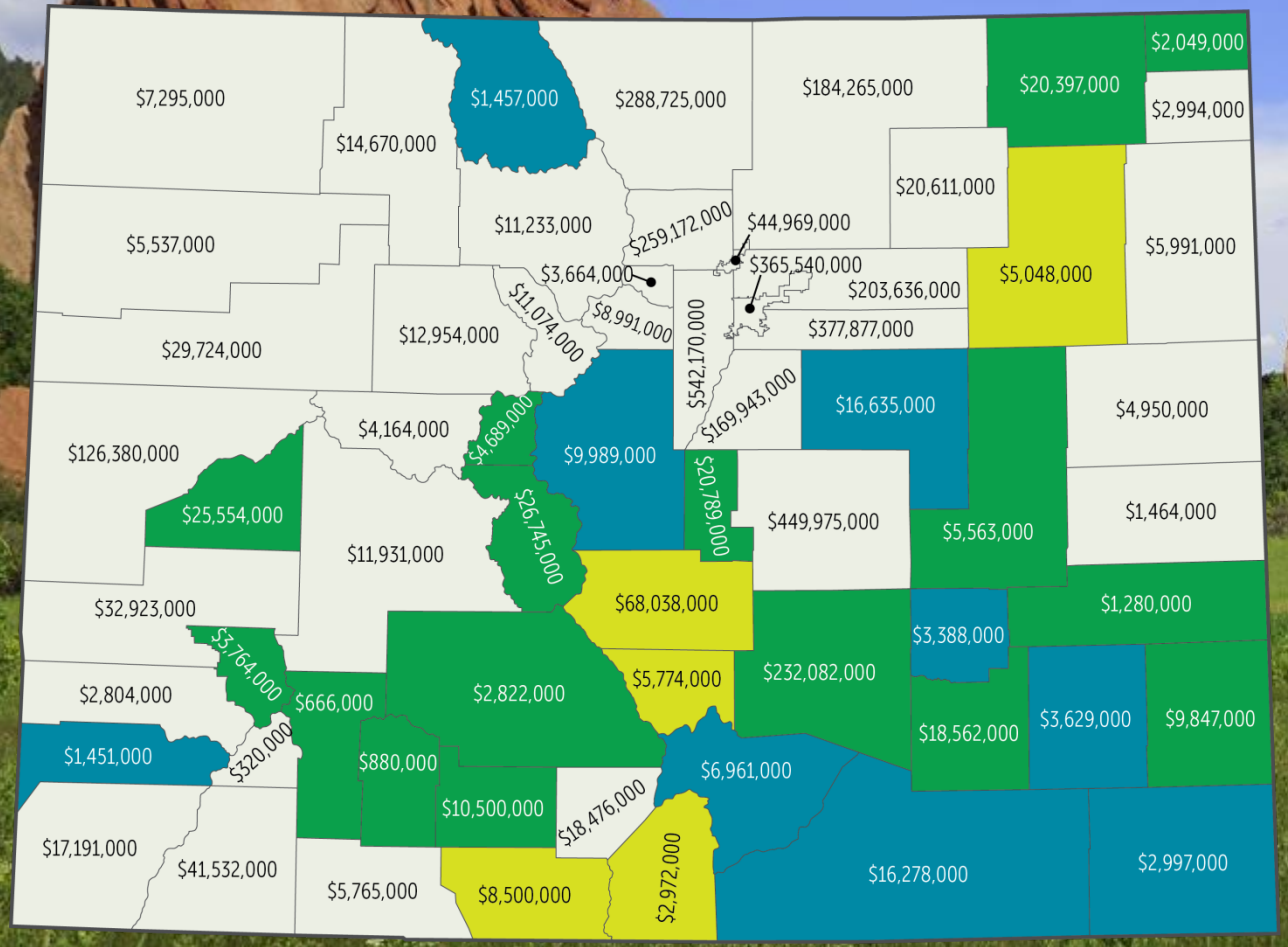


	State	School	Local Gov't	Judicial	DPS	Total
Benefit Recipients	39,997	66,144	7,567	377	7,138	121,223
Active Members	58,318	128,617	14,381	330	16,919	218,565
Inactive Members	82,958	139,167	26,498	14	13,077	261,714

PERA Contributes to the State Economy

$6.1 billion economic output **32,800** jobs statewide

Total Colorado Distributions = **$3.8 Billion**



Over 25 percent of Payroll

15-25 percent of Payroll

10-15 percent of Payroll

Less than 10 percent of Payroll

Annual benefit payments and percentage of payroll data from latest County Business Patterns and U.S. Census Bureau, calculation from Pacey & McNulty

PERA Financial Recap

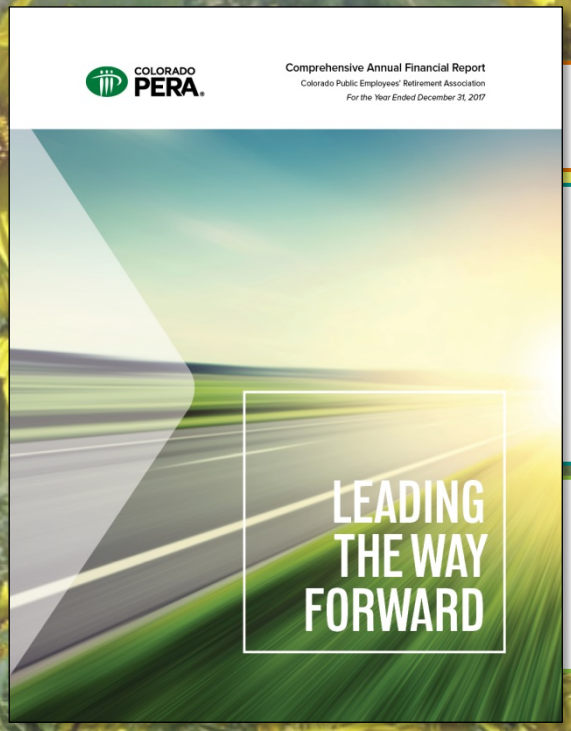
$48,995,016 net position as of December 31, 2017

September 2018 (in thousands of dollars; does not include defined contribution plans)

Contributions $2,108,149		Investments $1,979,157		Benefits Paid ($3,706,001)	
Employer – Pension – Regular	$819,734	Net Change in Fair Value	$1,261,560	Pension Benefits	($3,448,565)
Employer – Pension – AED	$288,809	Interest	$245,046	Health Care Benefits	($75,184)
Employer – Pension – SAED	$320,751	Dividends	$438,718	Disability/Life Insurance	($5,089)
Employer – Health Care	$69,514	Real Estate/Opportunity Fund/ Private Equity	$119,878	Refunds	($127,368)
Member	$545,795			Other	($3,932)
Purchased Service	$48,717	Securities Lending	$7,455	Administrative Expense	($45,863)
Other Additions	$14,829	Investment Expense	($93,500)		

$49,376,321 net position as of September 30, 2018

2017 *Comprehensive Annual Financial Report*



Issued annually in June

Thorough reporting on financials, membership, investment performance, and funded status

Available online and delivered to legislative offices

CAFR Snapshot

115,801 Retirees and beneficiaries receiving a benefit from PERA in 2017

$3,232 Average monthly benefit for all retirees

58.6 years Average age at retirement

23.1 years Average years of service at retirement

PERA Management Plan

Document the robust procedures currently being performed in the review of the actuarial reports issued for financial reporting.

- Management has enhanced the existing procedure from a “review and reasonability check” to a “review and verify” of the calculation of the SEIR, including verification of the applied 20-year Municipal Bond Index Rate back to the original source data.

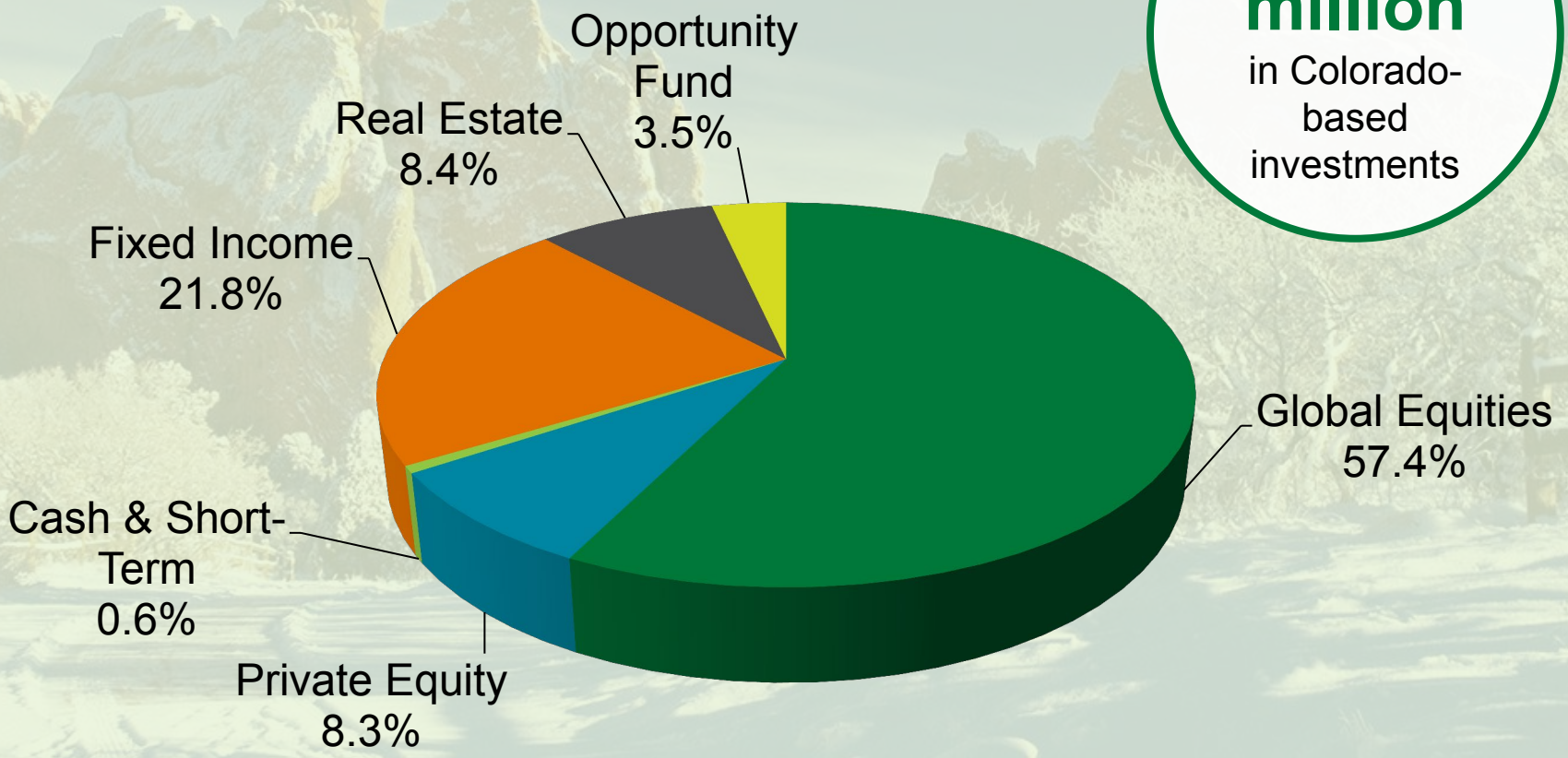
Review of PERA’s controls over financial reporting and include the Internal Audit Department in the process of identifying areas where PERA’s controls should be enhanced to reasonably ensure accuracy in PERA’s financial reporting. The Internal Audit Department’s annual plan will be approved by the Audit Committee of the PERA Board, as is standard practice.

Review of the current procedures in place for the review of the actuarial reports and implement additional procedures as necessary to further assist in the identification of actuarial calculation errors or disclosures.

Investment Asset Allocation

$49.3 Billion Market Value

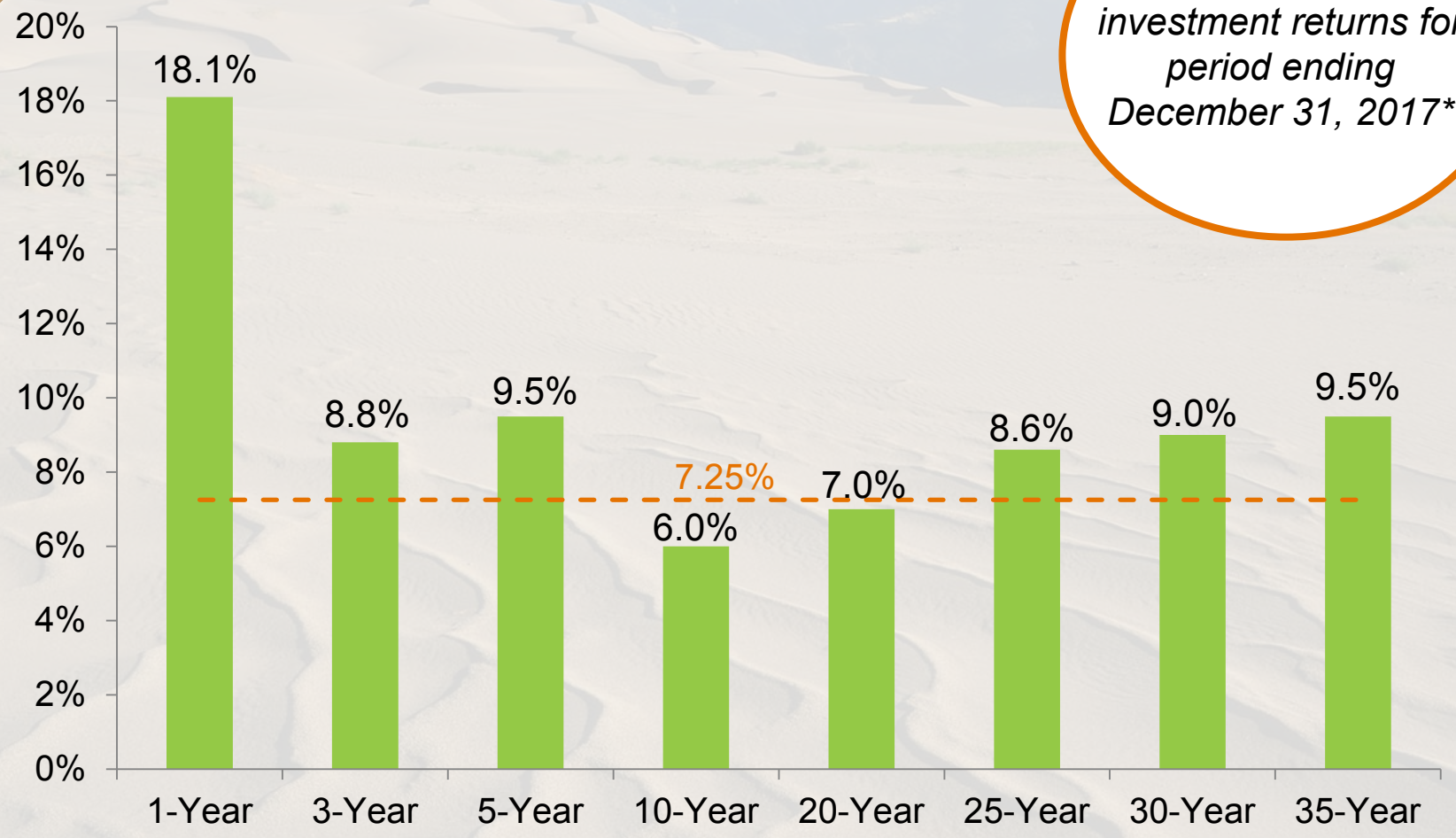
As of September 30, 2018



$515 million in Colorado-based investments

Investing for Long Term

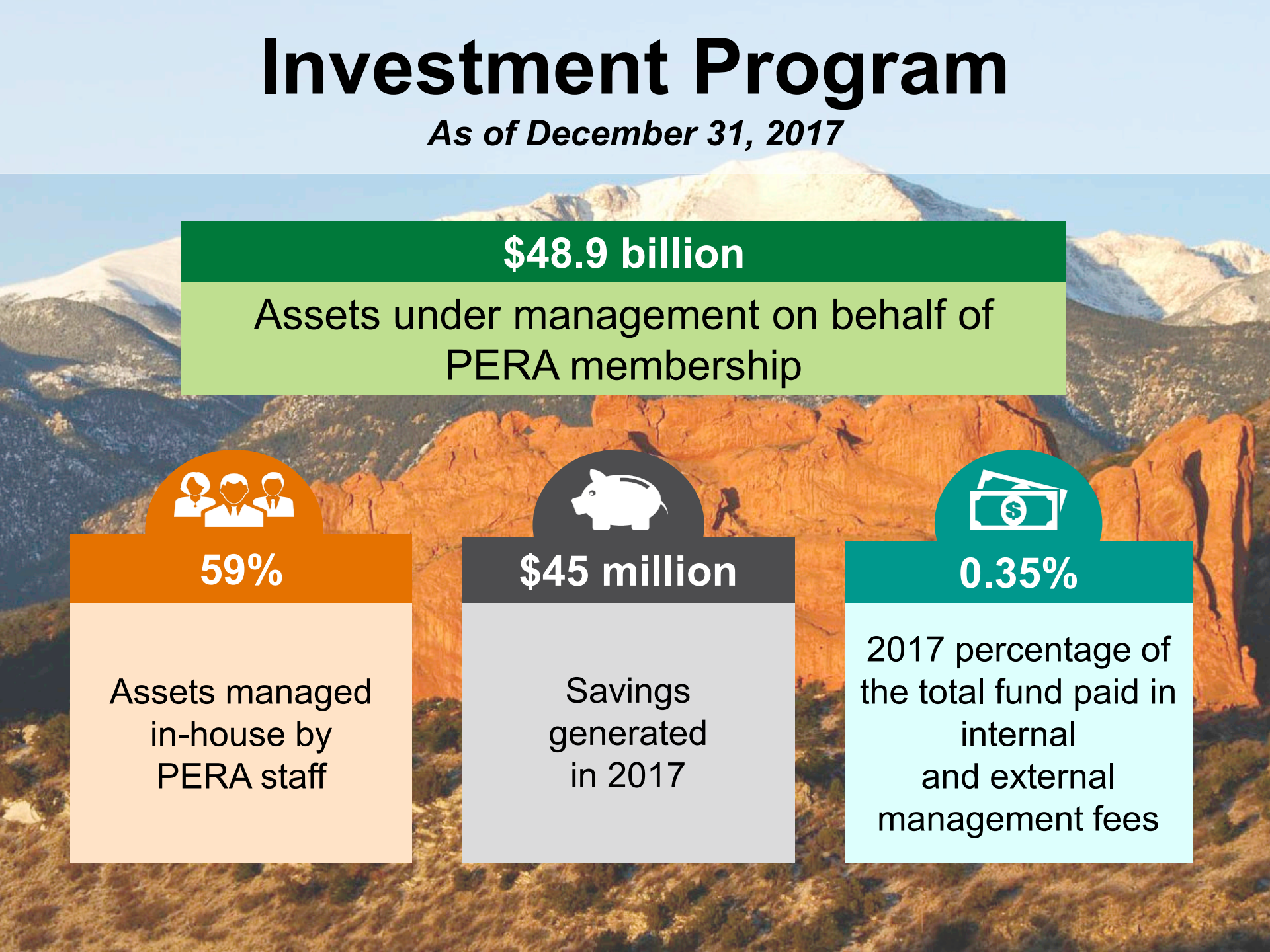
*Annualized investment returns for period ending December 31, 2017**



* 1-, 3-, 5-, 10-, and 20-year returns are net of fees
25-, 30-, and 35-year returns are gross of fees

Investment Program

As of December 31, 2017



$48.9 billion

Assets under management on behalf of PERA membership

59%

Assets managed in-house by PERA staff

$45 million

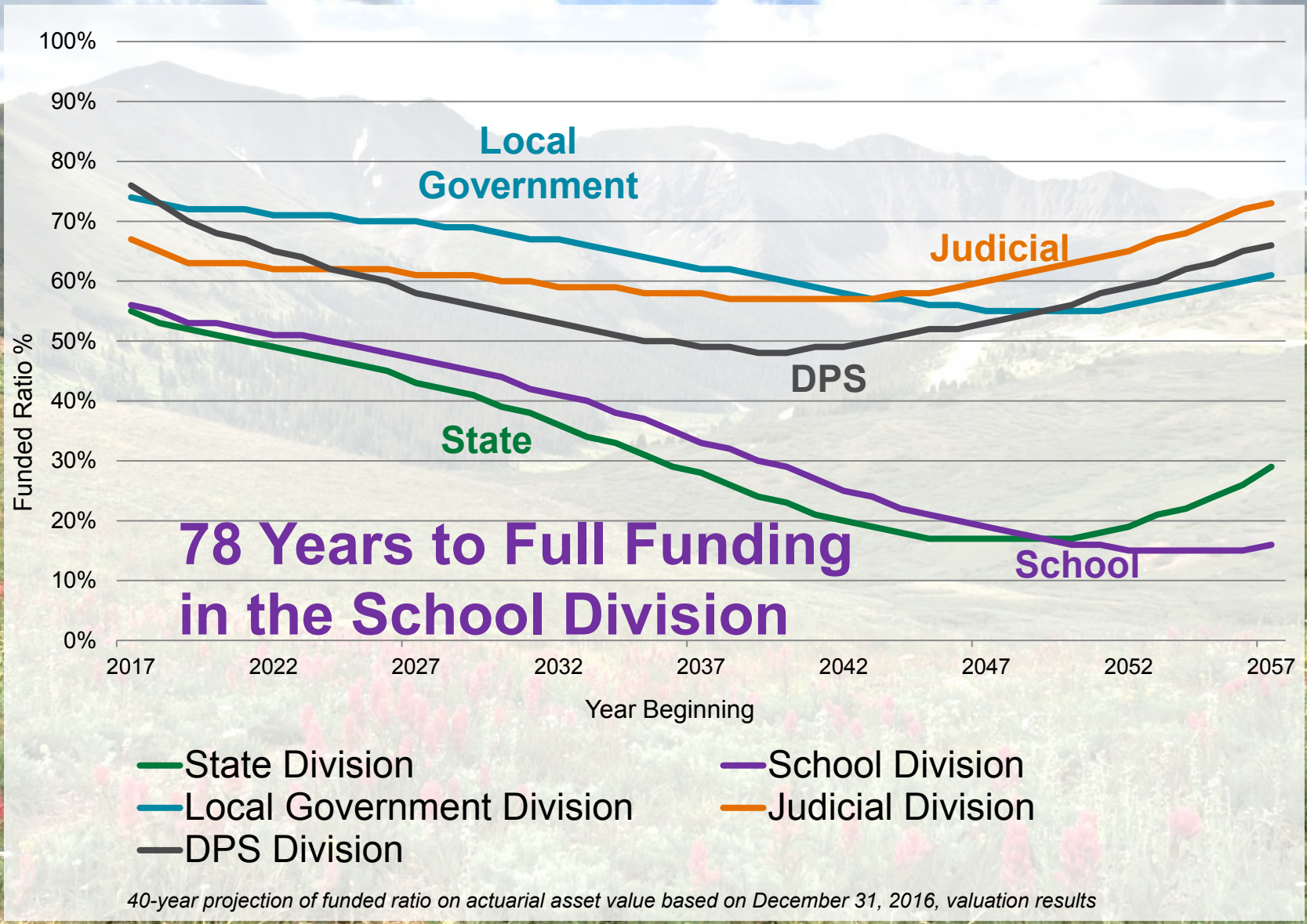
Savings generated in 2017

0.35%

2017 percentage of the total fund paid in internal and external management fees

Where We Were

2016 Funding Levels



40-year projection of funded ratio on actuarial asset value based on December 31, 2016, valuation results

The Goal:
Fully Funded Within 30 Years

PERA Funding Policy

Colorado Statute

Pension Best Practices

When PERA is fully funded within 30 years, it means that the fund is within tolerable risk levels

SB 200: Major Provisions

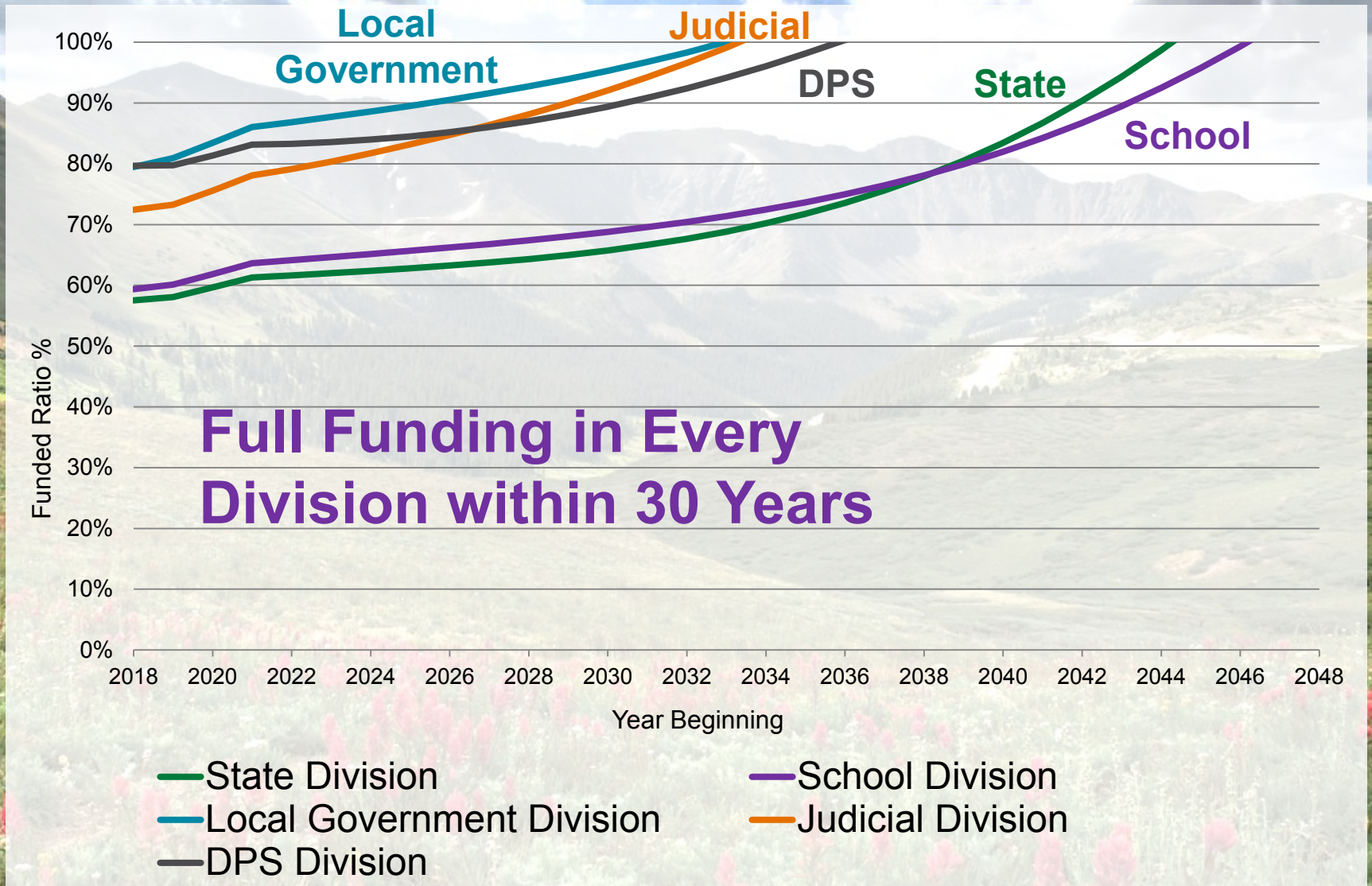
Increase Contributions

Modify Benefits

Align Contributions With Benefits

Automatic Adjustment Provision

Post SB 200 Funding Levels

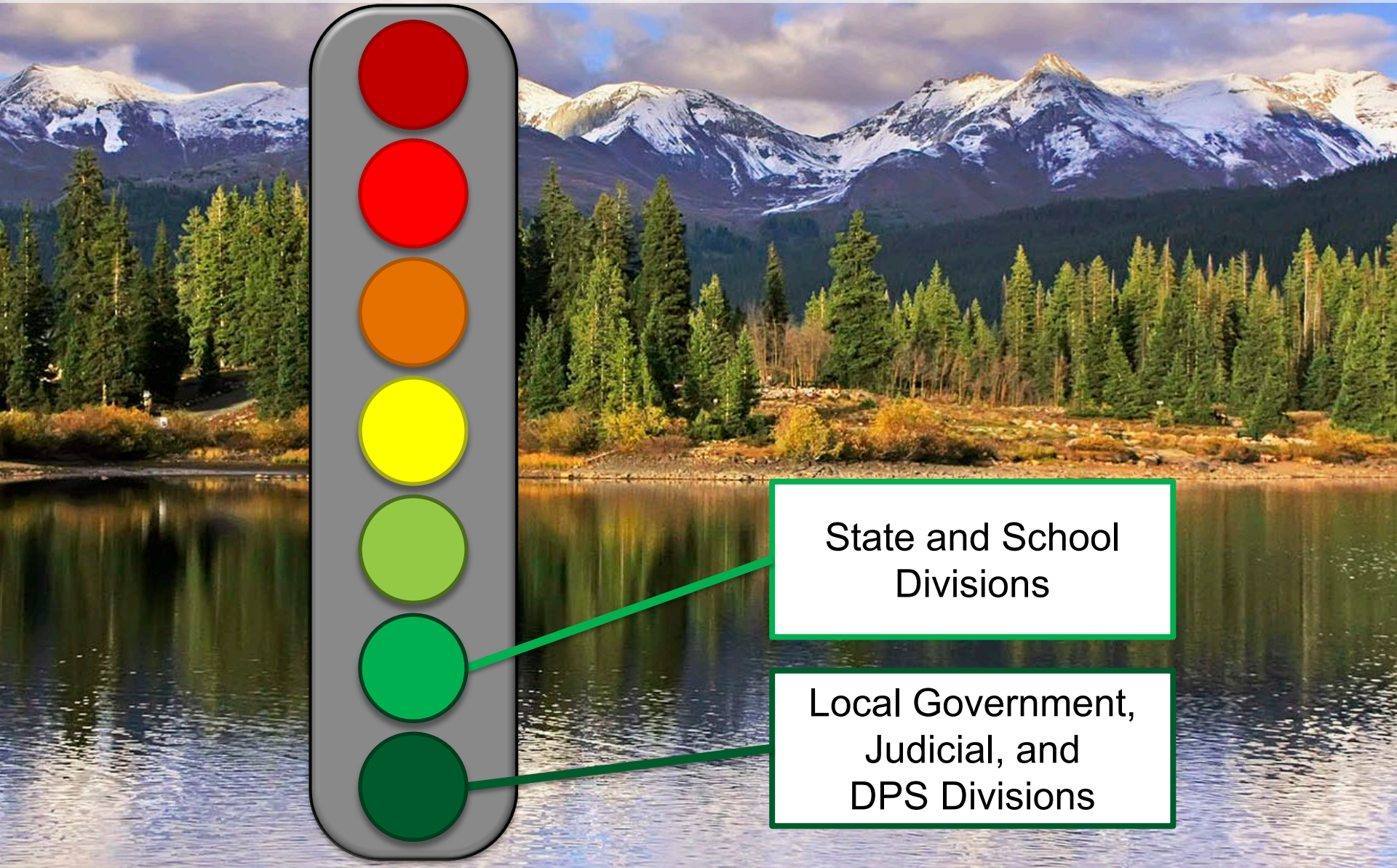


30-year projection of funded ratio on actuarial asset value based on December 31, 2017, valuation results

Signal Light Methodology

Status	Definition
Dark Green	100% Funded by 2041 (30 years from 2011)
Green	100% Funded by 2048 (30 years from 2018)
Light Green	100% Funded by 2058 (40 years from 2018)
Yellow	100% Funded by 2068 (50 years from 2018)
Orange	Solvent but longer than 50 years to reach 100% Funded
Red	Insolvent after 2038 (after 20 years)
Dark Red	Insolvent by 2038 (within 20 years)

Post SB 200 Signal Light Indicator



Automatic Adjustment Provision

Four Components to Equally Distribute Cost

- Employer Contributions
- Employee Contributions
- Annual Increase (AI)
- Direct Distribution (reduction only)

June 2019

Report on Actuarially Determined Contribution (ADC) and Determined Blended Rates in 2018 *CAFR*

Review ADC and Total Blended Rates to determine any adjustment needed to stay on track

July 1, 2020

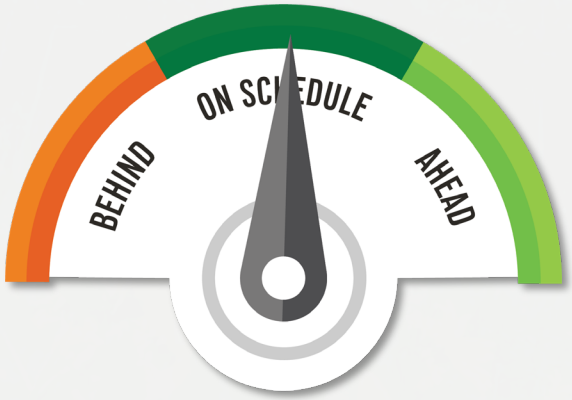
First eligible year for any adjustments needed

Automatic Adjustment Provision

BEHIND SCHEDULE

- Decrease Annual Increase percentage not to fall below .5%
- Increase employer contributions not to exceed 2%
- Increase employee contributions not to exceed 2%

CLOSED 30-YEAR FUNDING PERIOD



AHEAD OF SCHEDULE

- Increase Annual Increase percentage not to exceed 2%
- Decrease employer contributions not to fall below 2017 levels
- Decrease member contributions not to fall below 2017 levels
- Decrease the $225 million direct distribution from the State budget

Setting the Rate of Return

Assumed Rate of Return

Real Rate of Return + **Inflation** = **Nominal Assumed Rate of Return**

PERA Board Responsibility

- Lowered rate in **2008**, **2013**, and **2016**
- Extensive research, analysis and deliberation process incorporating analysis from multiple external experts

7.25%

Projected rate over a **30-year period**

Rate of Return:

Research and Analysis

Economic and Market Data Analysis

Economic Forecasts

Public Pension Fund Research

Assumed Rate of Return

Investment Consultations

Capital Markets Analysis

Actuarial Analysis

Rate of Return

Consultants' 2016 Recommendations

	Forecast Timeframe	Inflation	Real Return	Total Return*
Cavanaugh MacDonald	30-year	2.75	4.75	7.50
Aon Hewitt	10-year	2.10	4.46	6.56
Aon Hewitt	30-year	2.10	4.74	6.84
Buck Consultants	30-year	3.05	5.44	8.49
Horizon Average of 12 Consultants	20-year	2.31	5.45	7.76

** Assumes no active return beyond the capital market forecasts*

History of Economic Actuarial Assumptions

Valuations As of December 31 Each Year

Economic Assumptions	2008	2009[1]	2010	2011	2012	2013
Long-Term Rate of Investment Return and Discount Rate	8.50%	8.00%	8.00%	8.00%	8.00%	7.50%
Price Inflation	3.75%	3.75%	3.75%	3.75%	3.50%	2.80%
Real Rate of Return	4.75%	4.25%	4.25%	4.25%	4.50%	4.70%

Economic Assumptions	2014	2015	2016	2017[2]	2018
Long-Term Rate of Investment Return and Discount Rate	7.50%	7.50%	7.25%	7.25%	7.25%
Price Inflation	2.80%	2.80%	2.40%	2.40%	2.40%
Real Rate of Return	4.70%	4.70%	4.85%	4.85%	4.85%

[1] *Initial recognition of SB 10-001 pension reforms.*
[2] *Initial recognition of SB 18-200 pension reforms.*

Legislative Year Ahead

No legislative agenda items for 2019 have been identified

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