



**Colorado PERA
12/31/08 Actuarial Valuation Results
and 30-year Projections**

Presented to the Colorado PERA Board of Trustees on June 19, 2009

- Key Findings
- Funded Status
- Benefit Financing
- Pension Results
 - Active and Retired Data
 - Funding Results
 - Gain/Loss Analysis
- Health Care Trust Fund (HCTF) Results
 - Changes from Prior Year
 - Funding Results
 - Gain/Loss Analysis
- 30-year Projections of Funded Status of Each Division

- Negative 25% investment return for 2008
- Funded status has decreased for all Divisions.
- However, the Unfunded Accrued Liability (UAL) funding period for the Local Government Division is below 30 years with current funding.
- Judicial, State and School Divisions UAL funding periods remain above 30 years even with AED and SAED.
- 30 Year Projections show significant drops in funding ratios for State and School Divisions
- All divisions will eventually benefit from structural changes made by SB 06-235.

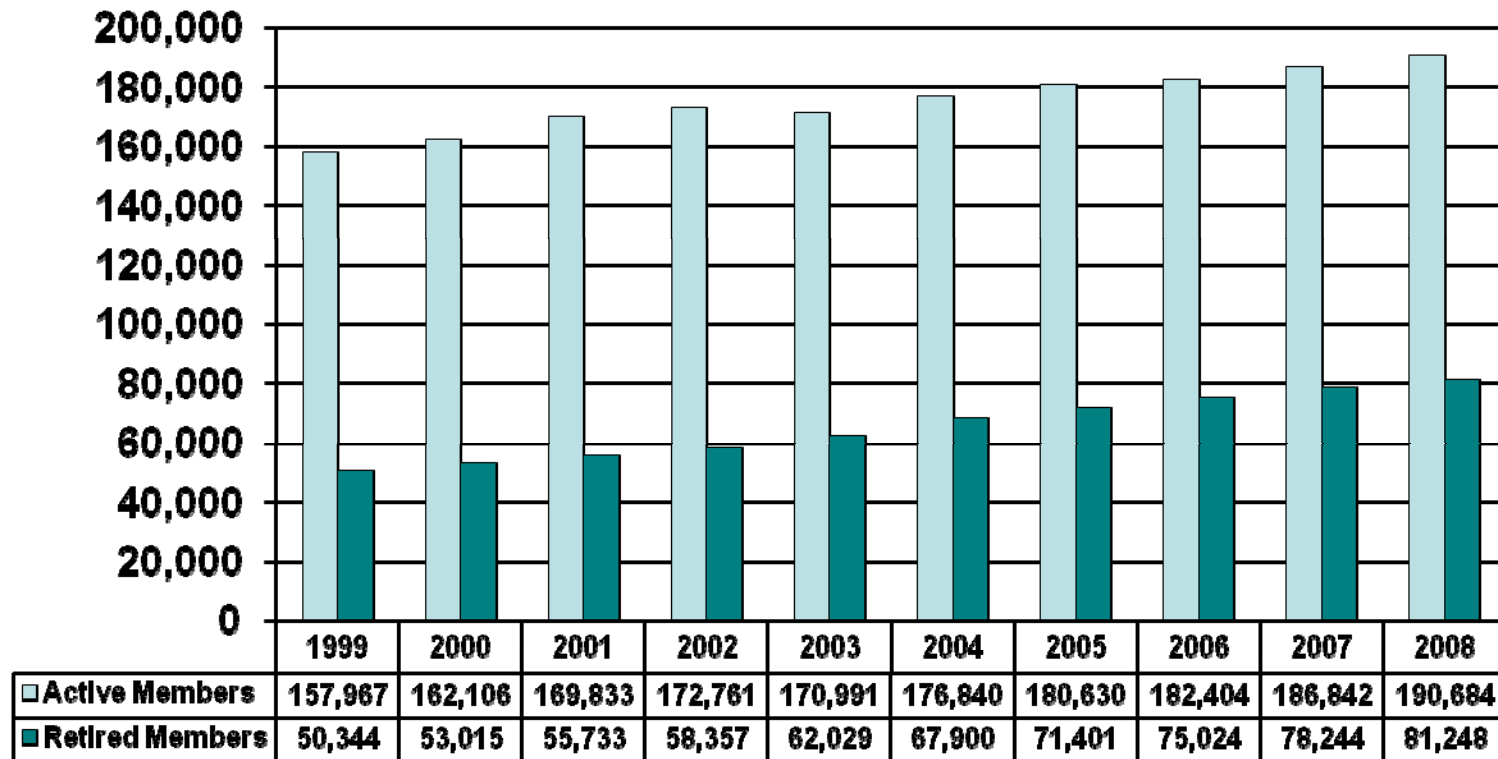
Funded Status



Division	December 31	
	2007	2008
State	73.3%	67.9%
School	75.5	70.1
Local Government	81.2	76.4
Judicial	87.5	80.2
HCTF	19.9	18.7

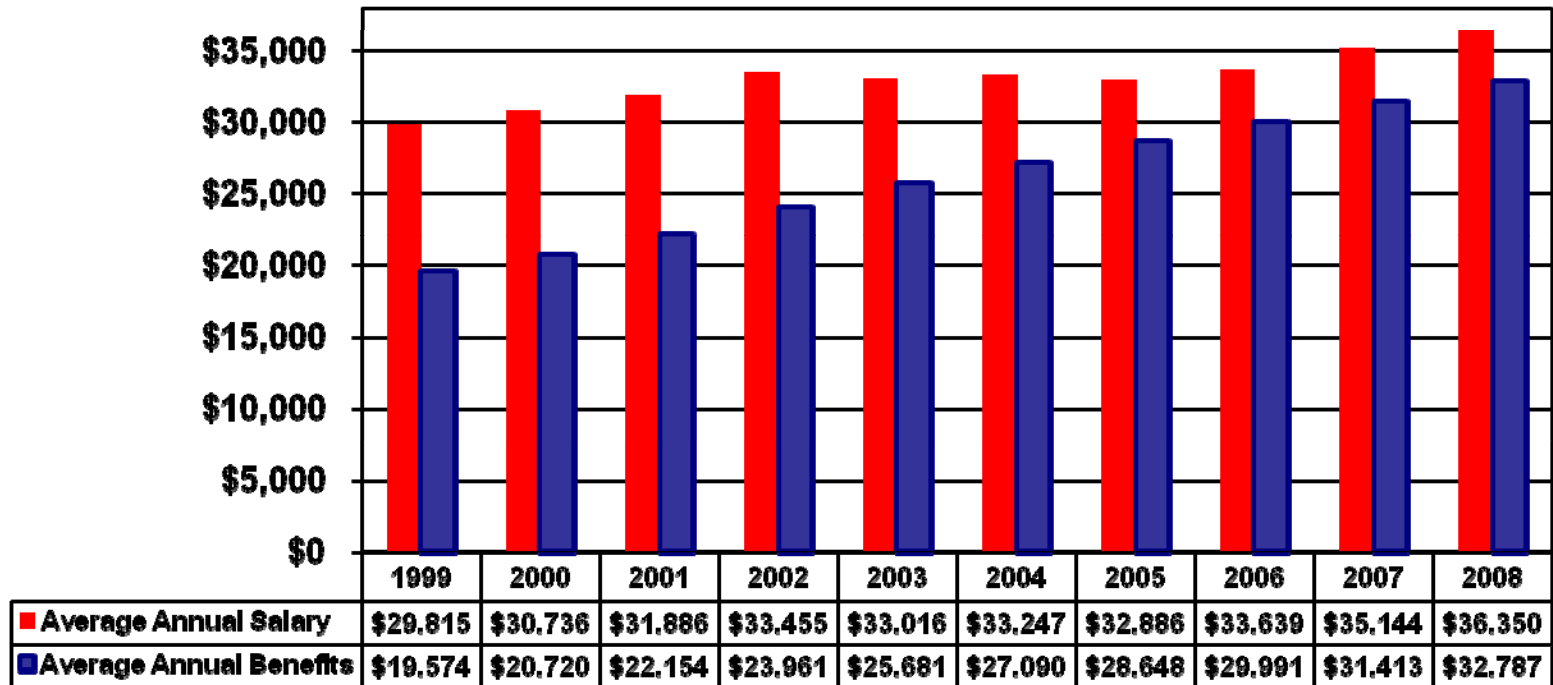
Pension Results

Total Active & Retired Members



*2.1% average increase for active members since 1999; 2.1% increase for 2008
 5.5% average increase for retired members since 1999; 3.8% increase for 2008
 3.1 actives per retiree 9 years ago, 2.3 actives per retiree now*

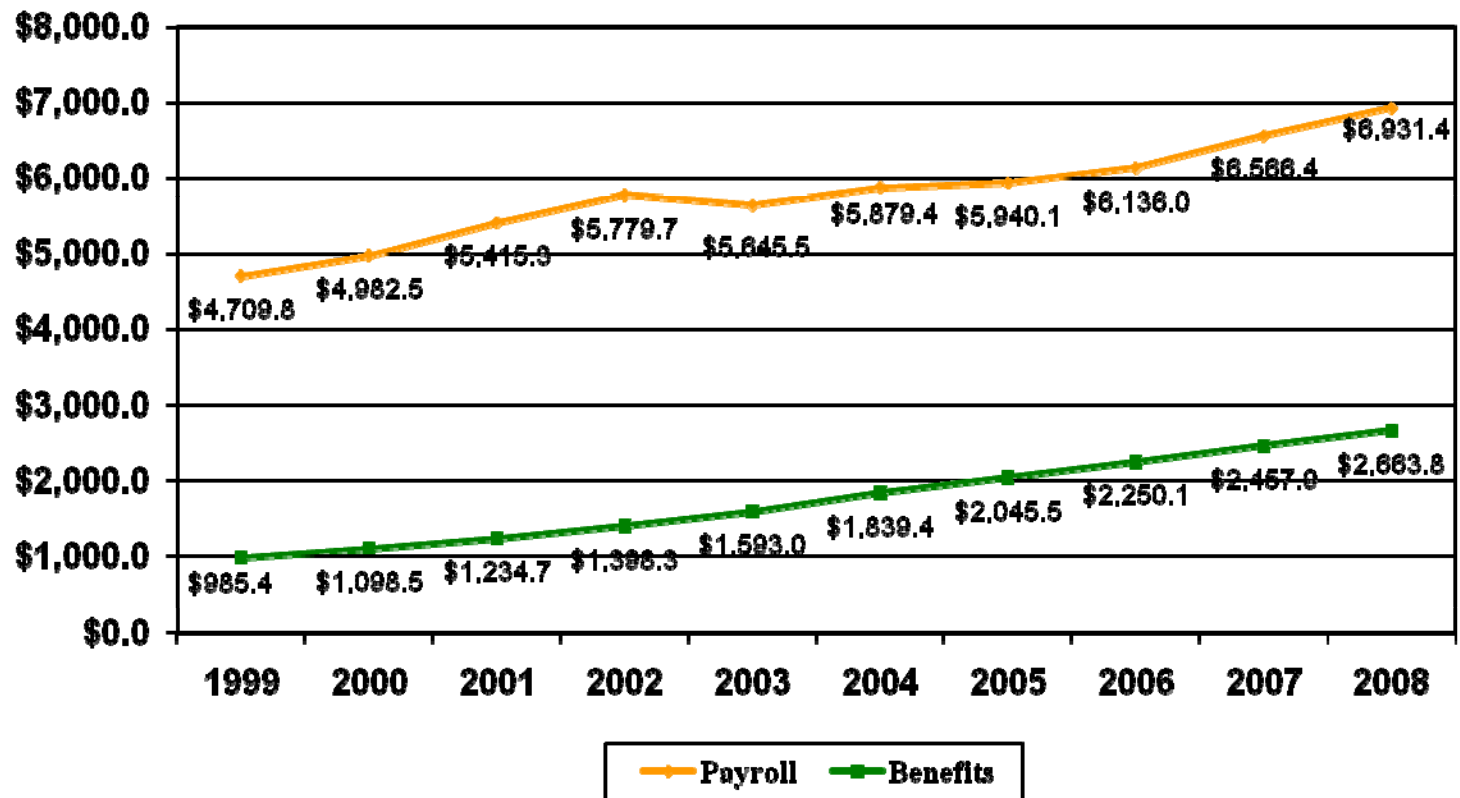
Average Salary & Benefits



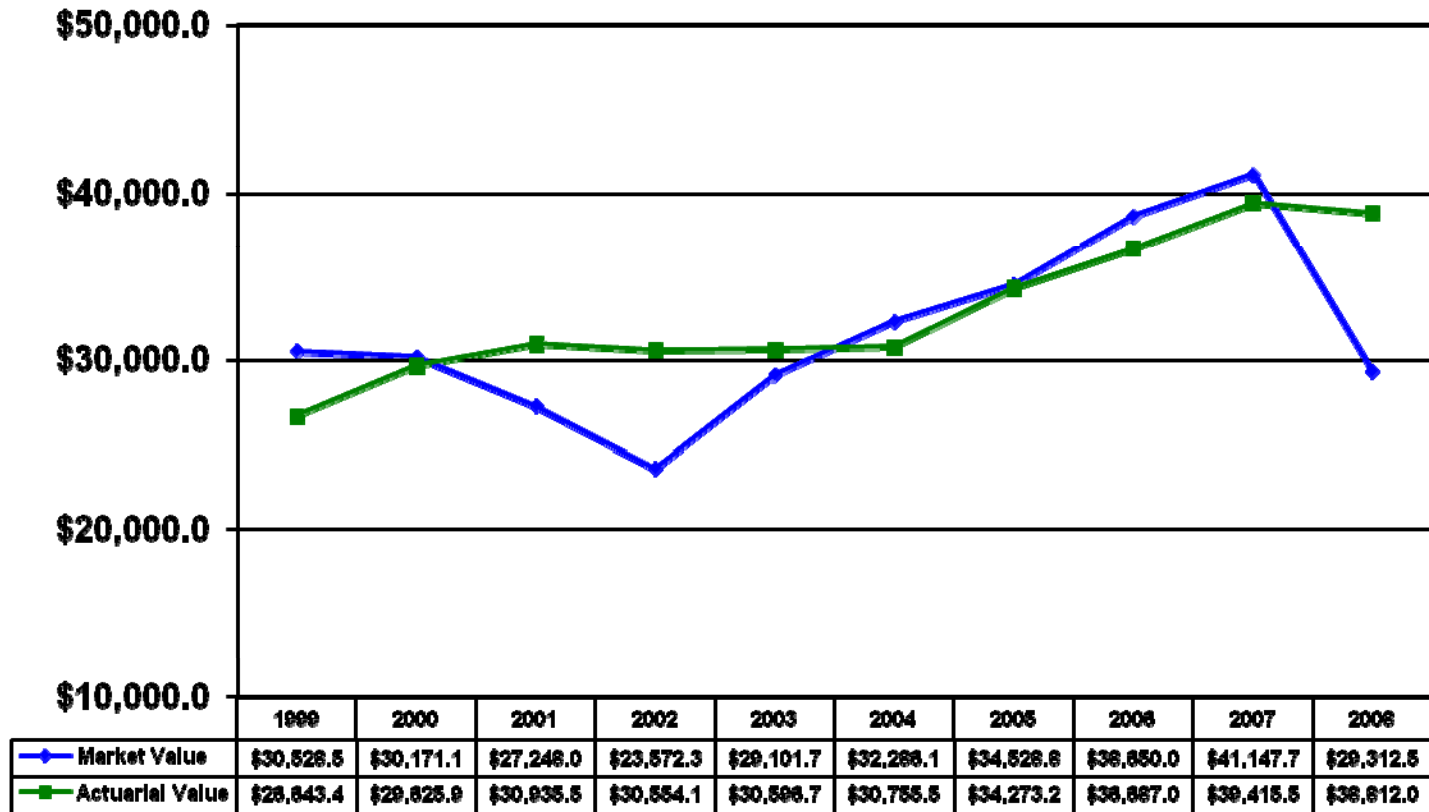
■ Average Annual Salary ■ Average Annual Benefits

*2.2% average increase in salary since 1998; 3.4% increase for 2008
5.9% average increase in benefit since 1998; 4.4% increase for 2008*

Total Payroll & Benefits (\$ Millions)



Assets (\$ Millions)



◆ Market Value ■ Actuarial Value

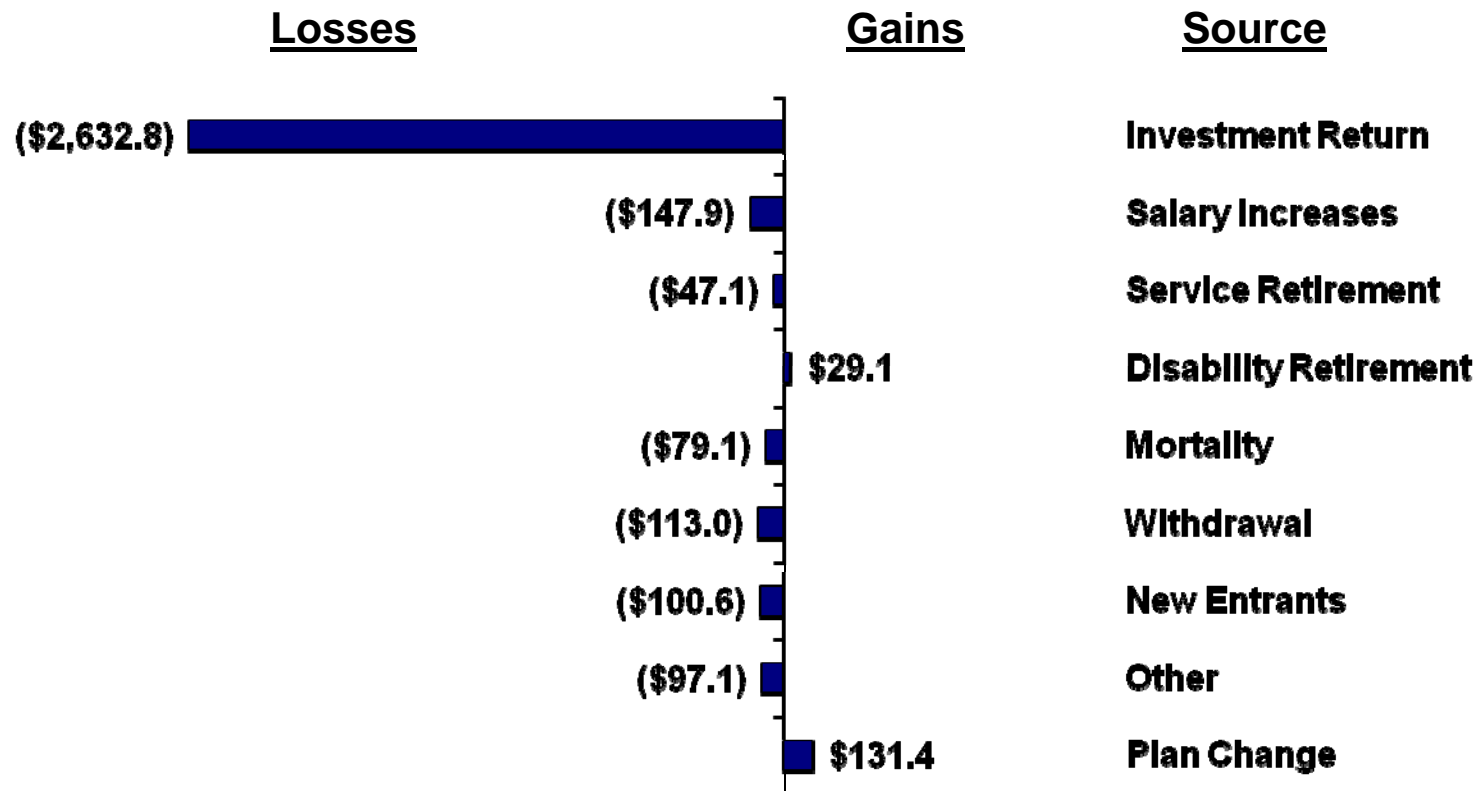


CY2010 Funding Results



	State	School	Local Government	Judicial
Statutory Employer Rate	10.07%	10.03%	9.82%	13.56%
AED & SAED	3.70	3.70	3.70	3.70
HCTF Rate	(1.02)	(1.02)	(1.02)	(1.02)
Rate Available for Pension Benefits	12.75%	12.71%	12.50%	16.24%
Total Normal Cost Rate	13.45%	13.80%	13.62%	19.42%
Member Rate	8.05	8.00	8.00	8.00
Employer Normal Cost Rate	5.40%	5.80%	5.62%	11.42%
Rate Available to Amortize UAAL	7.35%	6.91%	6.88%	4.82%
Funding Period – without AED	Infinite	Infinite	29 Years	Infinite
Funding Period – with AED	Infinite	Infinite	35 Years	Infinite
Funding Period – with AED & SAED	Infinite	75 Years	19 Years	48 Years
Employer Rate for 30 Year Funding (AED & SAED Paid Over Entire Period)	14.43%	13.02%	6.58%	14.14%

2008 Pension Actuarial Gain/Loss Analysis (\$ Millions)



HCTF Results

➤ Assumptions

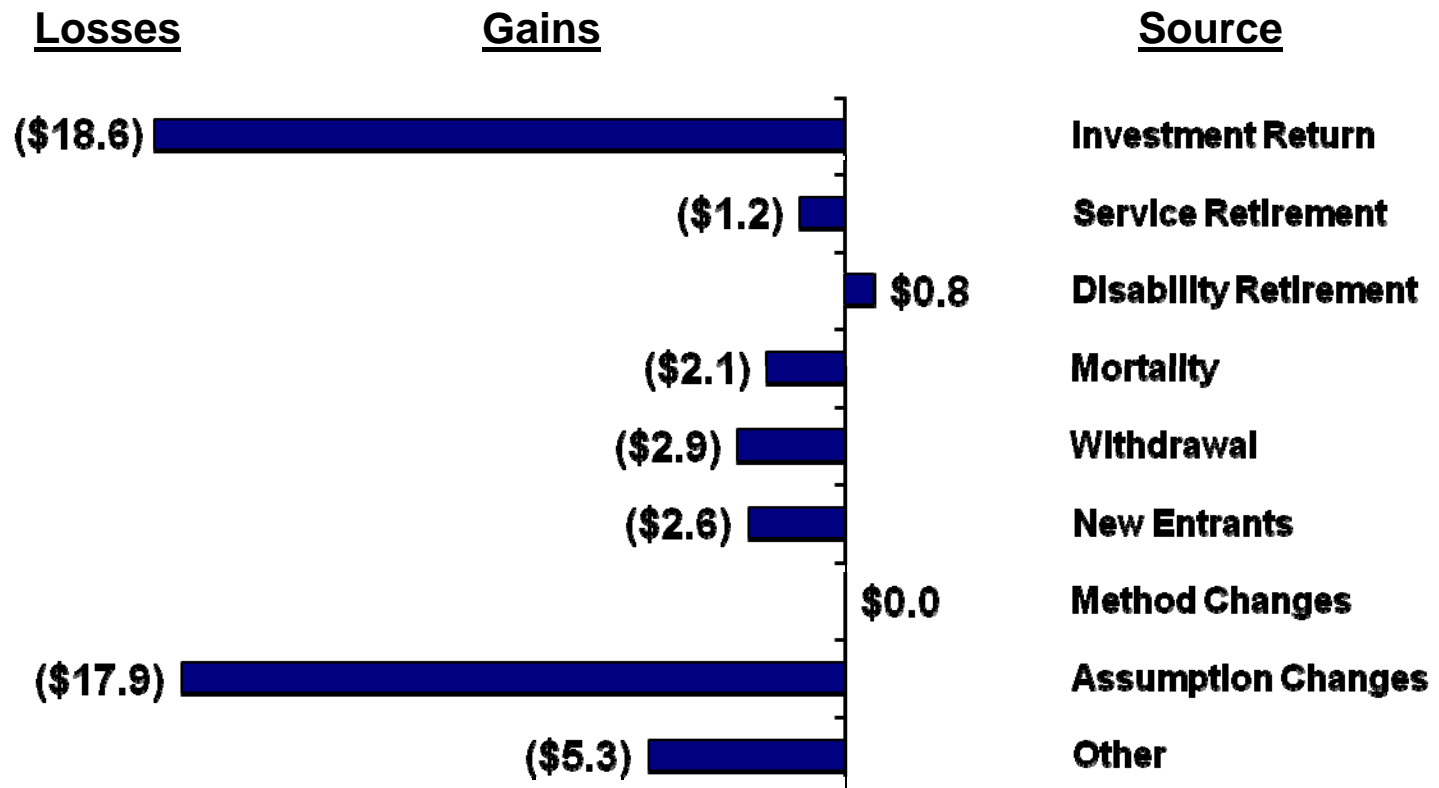
- Expected costs for some retirees who are age 65 and older have been updated to reflect their change in costs for the 2009 plan year.
- Starting per capita payments under RDS have been updated based upon most recent attestation of actuarial equivalence.
- Assumed level of spousal participation updated to better match experience.
- Year in which prescription drug benefit provided to those members eligible for Part D ceases to be actuarially equivalent was extended to 2018.
- Premium payable to CMS for Part A coverage was updated to reflect change in costs for 2009.

HCTF Funding Results



	<u>HCTF</u>
Employer Rate	1.02%
Total Normal Cost Rate	0.27%
Member Rate	<u>0.00</u>
Employer Normal Cost Rate	0.27%
Rate Available to Amortize UAAL	0.75%
Funding Period	39 Years
Employer Rate for 30 Year Funding	1.12%

2008 HCTF Actuarial Gain & Loss Analysis (\$ Millions)



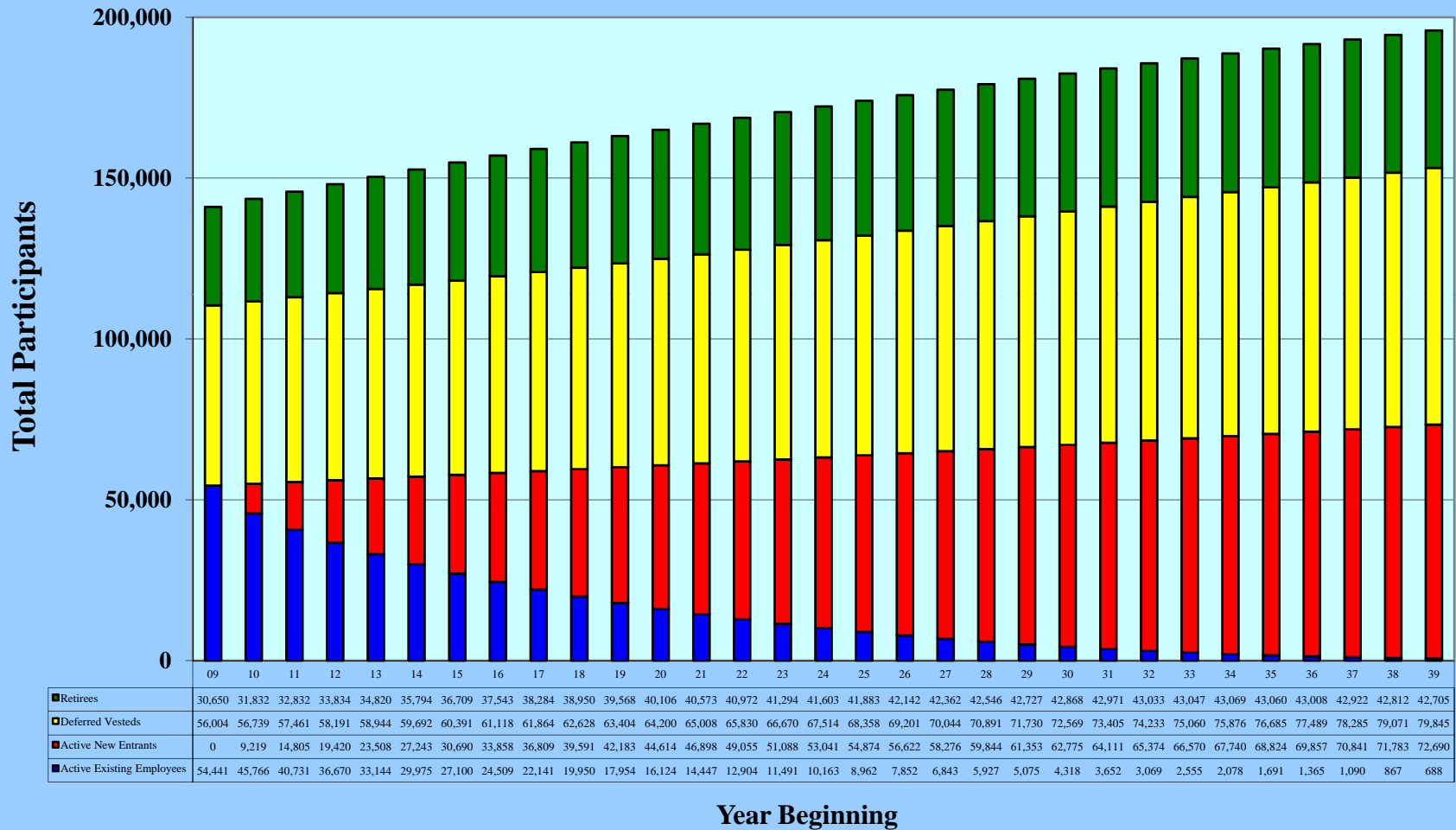
30-year Projections

- Annual actuarial valuations are a “snapshot” of the financial position on the valuation date, based on the existing active and retired members.
- Projections simulate future actuarial valuation results over a forecast period (30 years in this case) by “creating” future new hires and performing valuations using the projected membership.
- Benefit changes under SB 06-235 are reflected beginning in 2007.

- Demographic and economic changes are assumed to occur in accordance with the actuarial assumptions. However, three scenarios of investment rates of return included to test sensitivity of the financial position due to varying rates of return:
 - Expected return of 8.5% per year
 - Optimistic return of 10.0% per year
 - Pessimistic return of 7.0% per year
- All projections assume a 1% Active Headcount Increase each year.

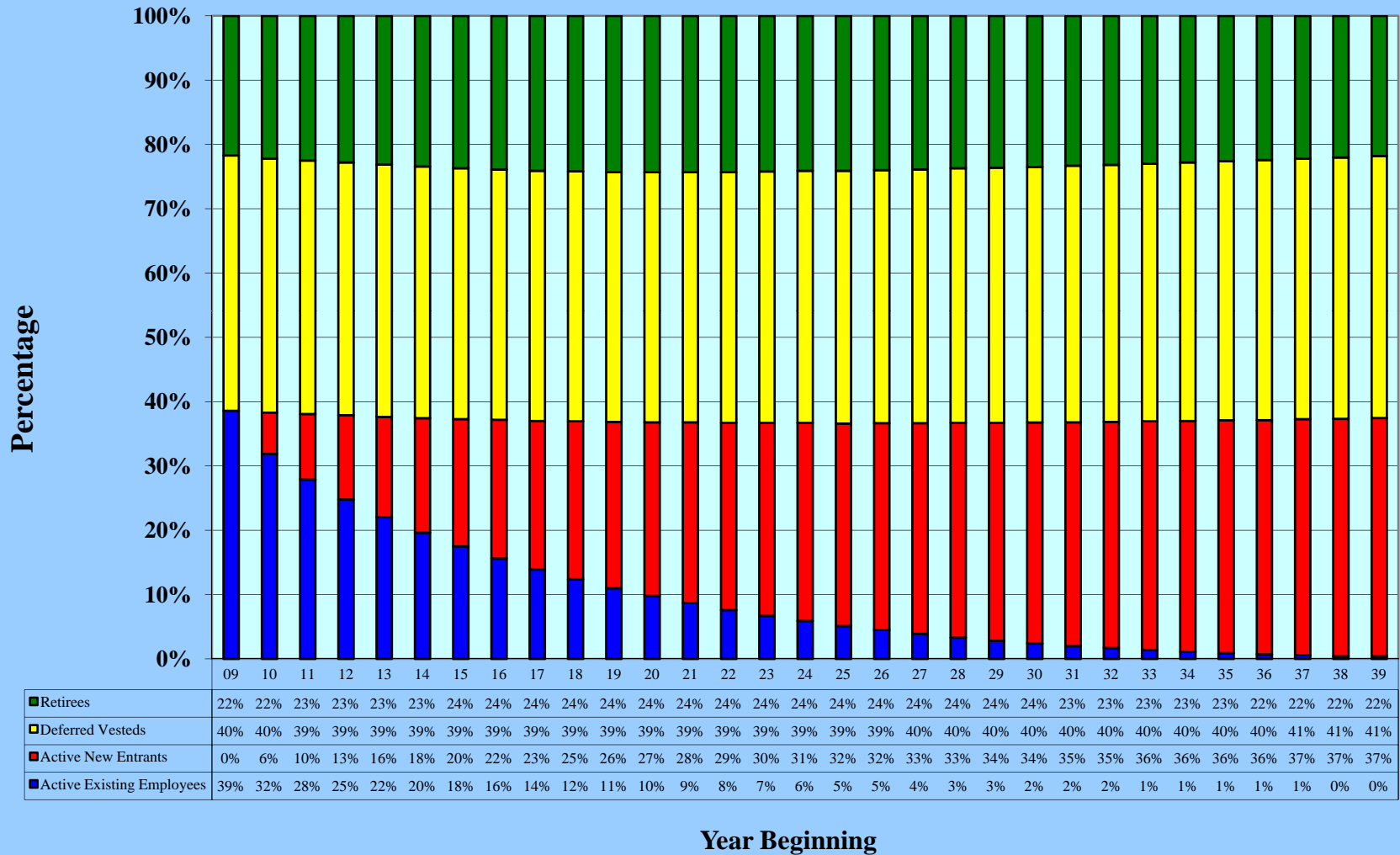
State Division

Colorado PERA - State Division 30-Year Projection of Population Breakdown Based on December 31, 2008 Valuation Results



Active Existing Employees
 Active New Entrants
 Deferred Vesteds
 Retirees

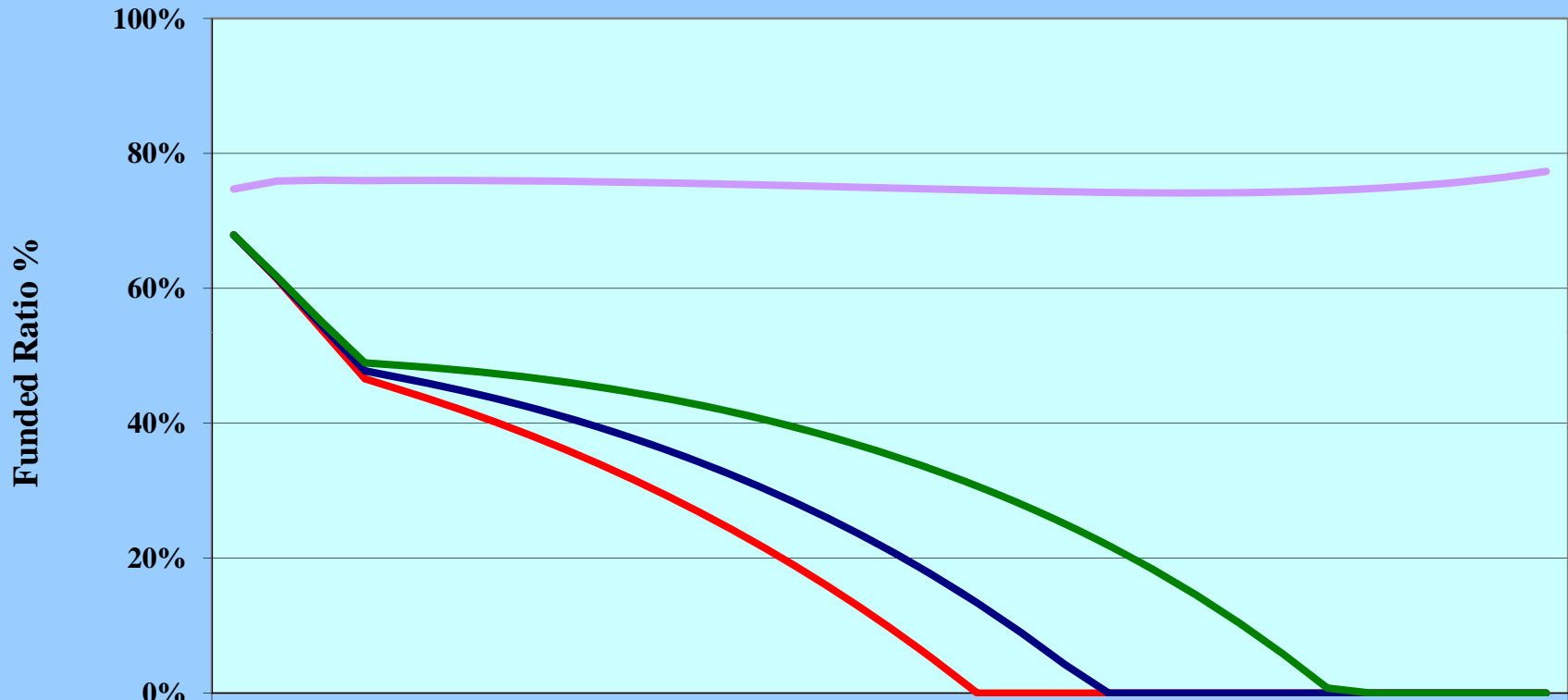
Colorado PERA - State Division 30-Year Projection of Population Breakdown Based on December 31, 2008 Valuation Results



■ Active Existing Employees
 ■ Active New Entrants
 ■ Deferred Vesteds
 ■ Retirees

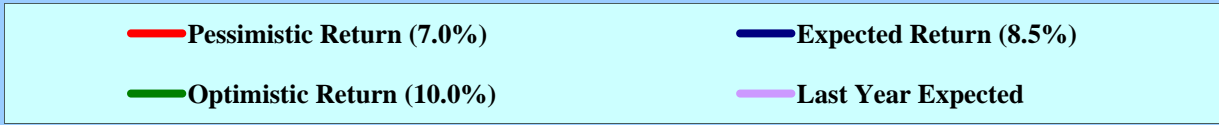
Colorado PERA - State Division

30-Year Projection of Funded Ratio on Actuarial Asset Value Based on December 31, 2008 Valuation Results



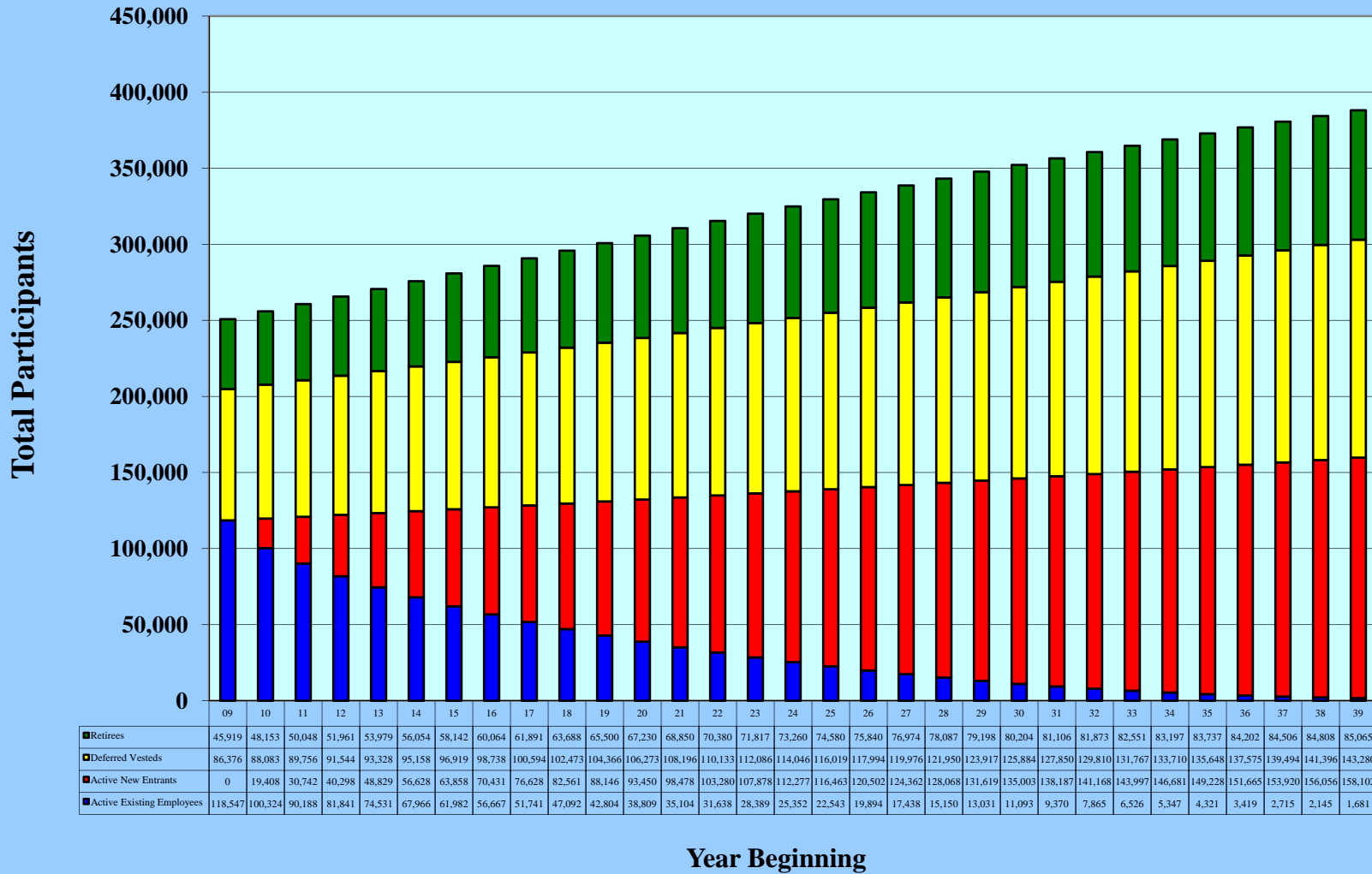
	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
— Pessimistic Return (7.0%)	68%	61%	54%	47%	45%	42%	40%	38%	35%	32%	29%	26%	22%	18%	14%	10%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
— Expected Return (8.5%)	68%	61%	55%	48%	46%	45%	44%	42%	40%	38%	36%	33%	31%	28%	25%	21%	17%	13%	9%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
— Optimistic Return (10.0%)	68%	62%	55%	49%	48%	48%	47%	47%	46%	45%	44%	42%	41%	39%	37%	35%	33%	31%	28%	25%	22%	18%	15%	10%	6%	1%	0%	0%	0%	0%	0%	
— Last Year Expected	75%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%	75%	75%	75%	75%	75%	75%	75%	74%	74%	74%	74%	74%	74%	74%	74%	75%	75%	76%	76%	77%	

Year Beginning



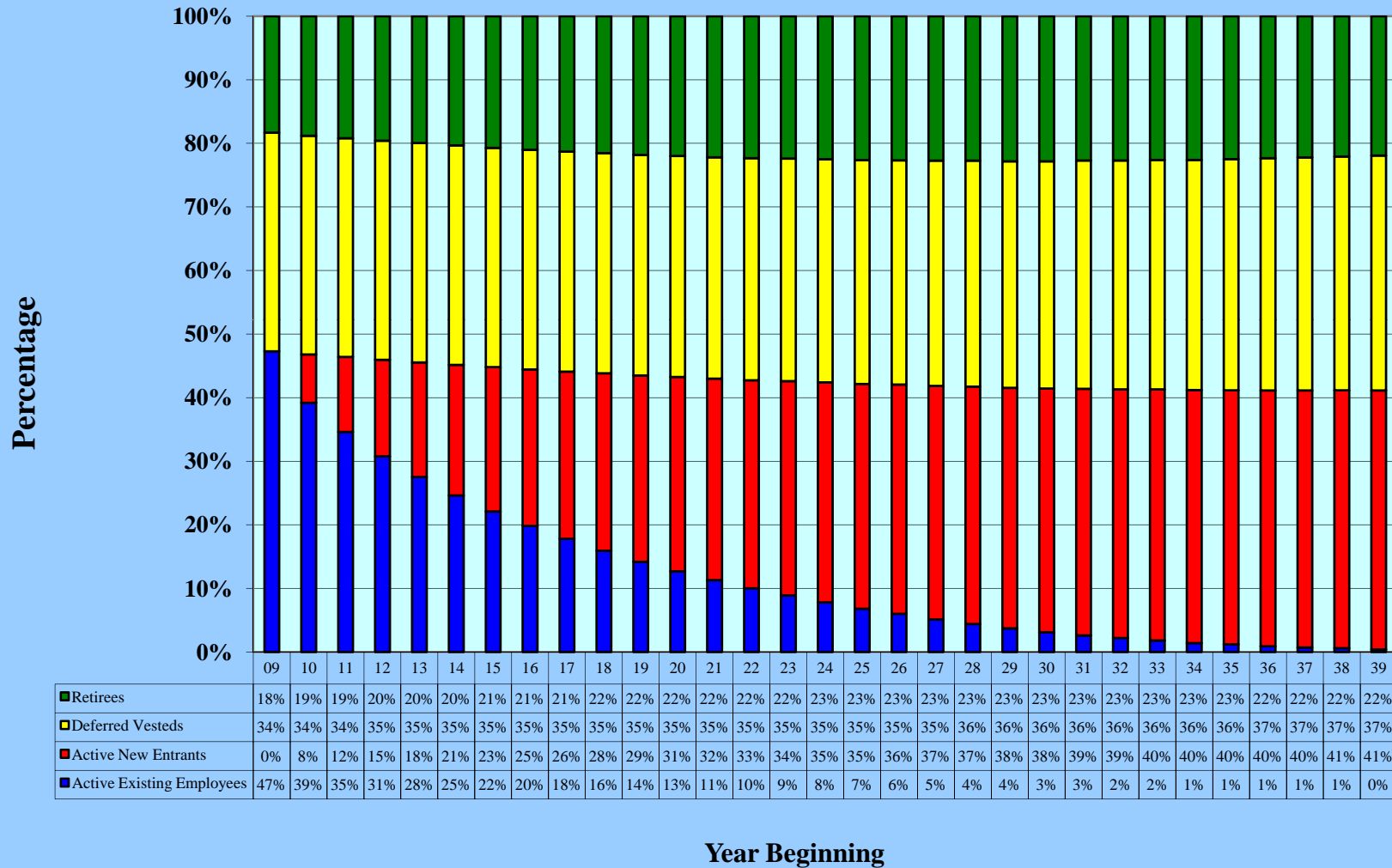
School Division

Colorado PERA - School Division 30-Year Projection of Population Breakdown Based on December 31, 2008 Valuation Results



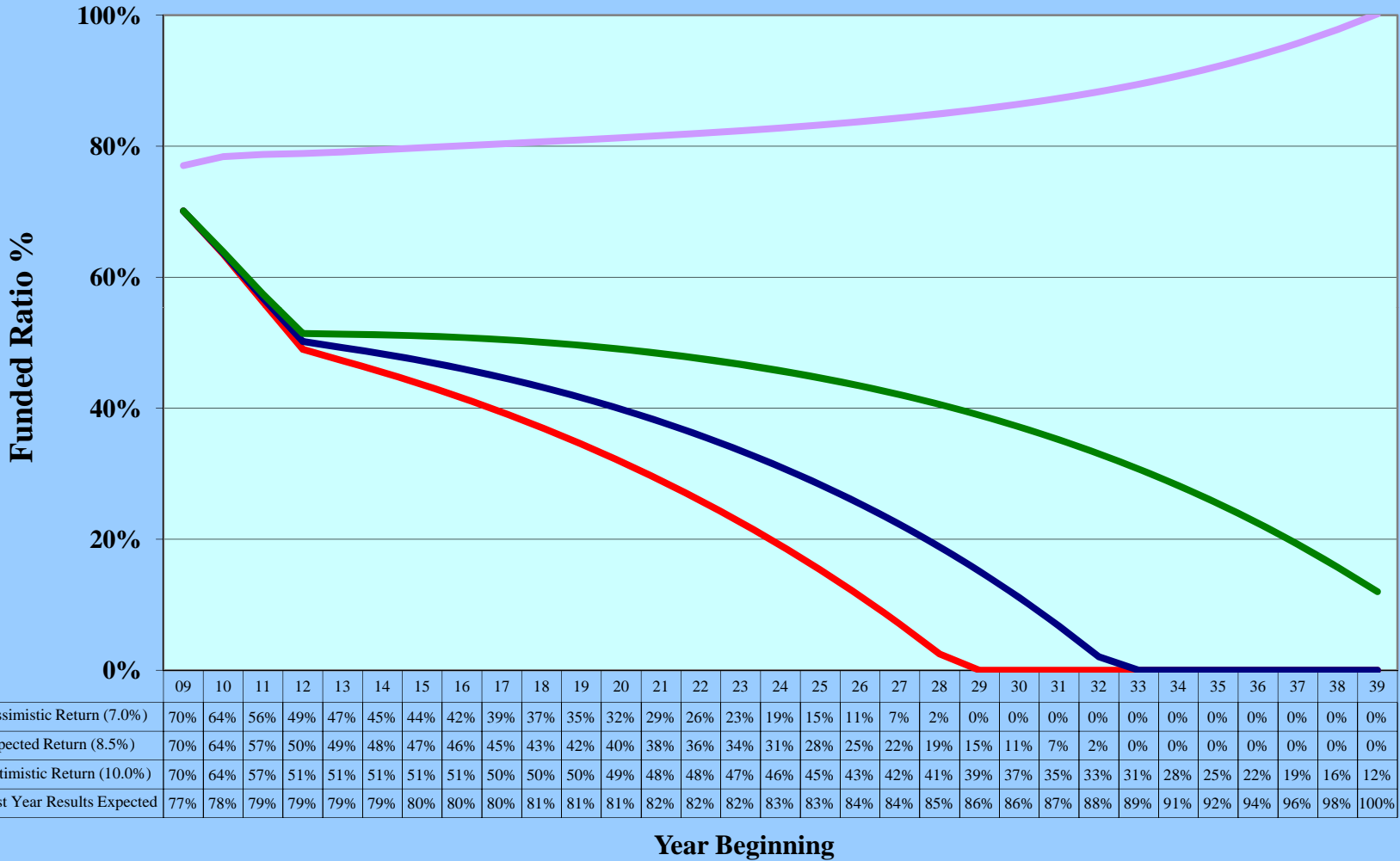
■ Active Existing Employees
 ■ Active New Entrants
 ■ Deferred Vesteds
 ■ Retirees

Colorado PERA - School Division 30-Year Projection of Population Breakdown Based on December 31, 2008 Valuation Results



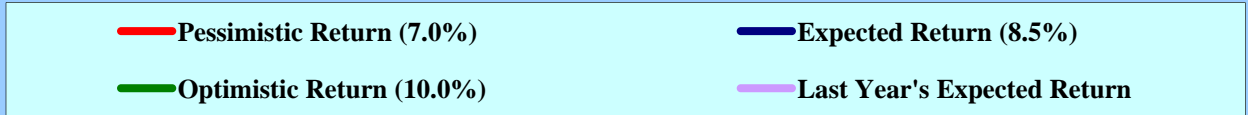
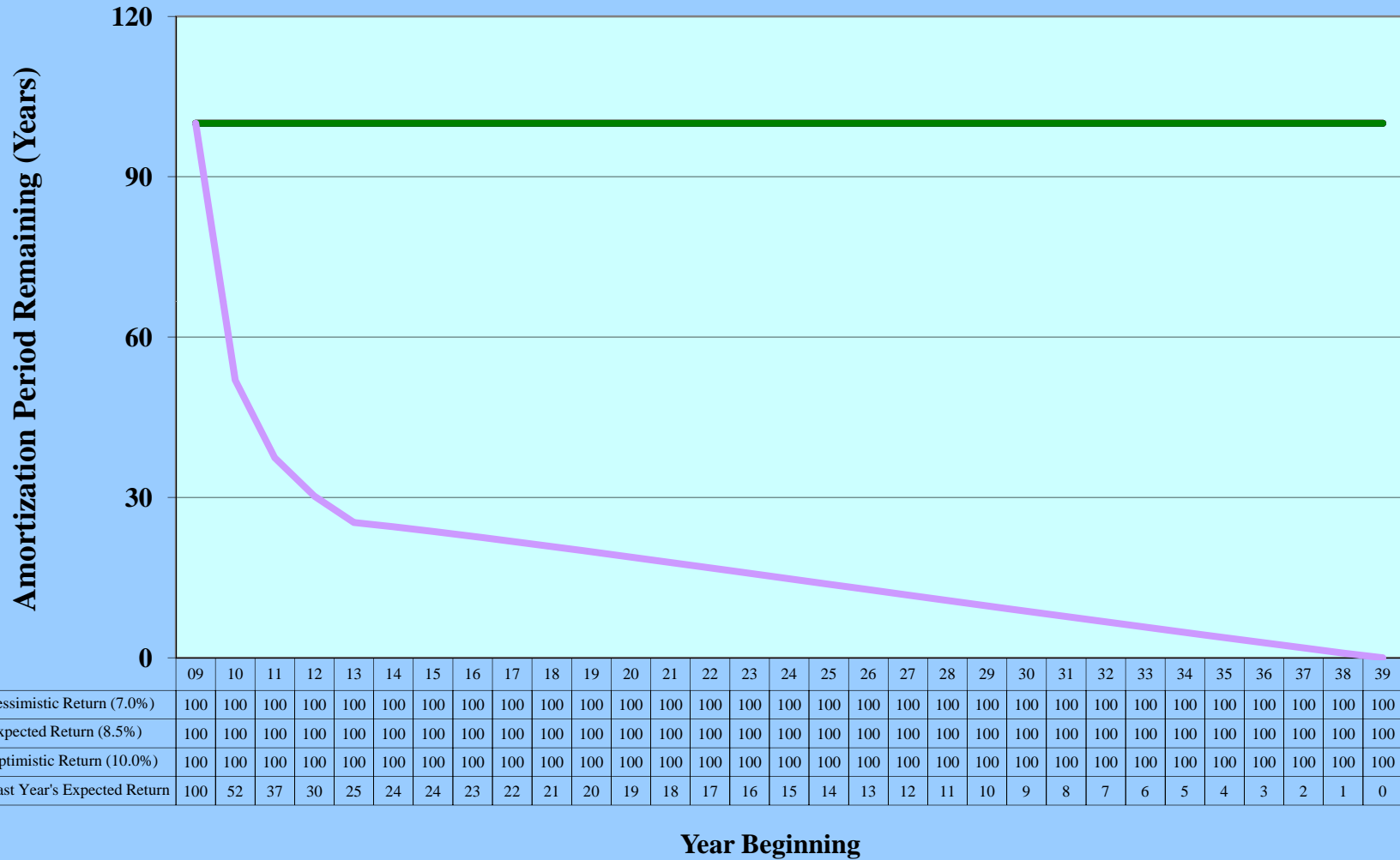
■ Active Existing Employees
 ■ Active New Entrants
 ■ Deferred Vesteds
 ■ Retirees

Colorado PERA - School Division 30-Year Projection of Funded Ratio on Actuarial Asset Value Based on December 31, 2008 Valuation Results



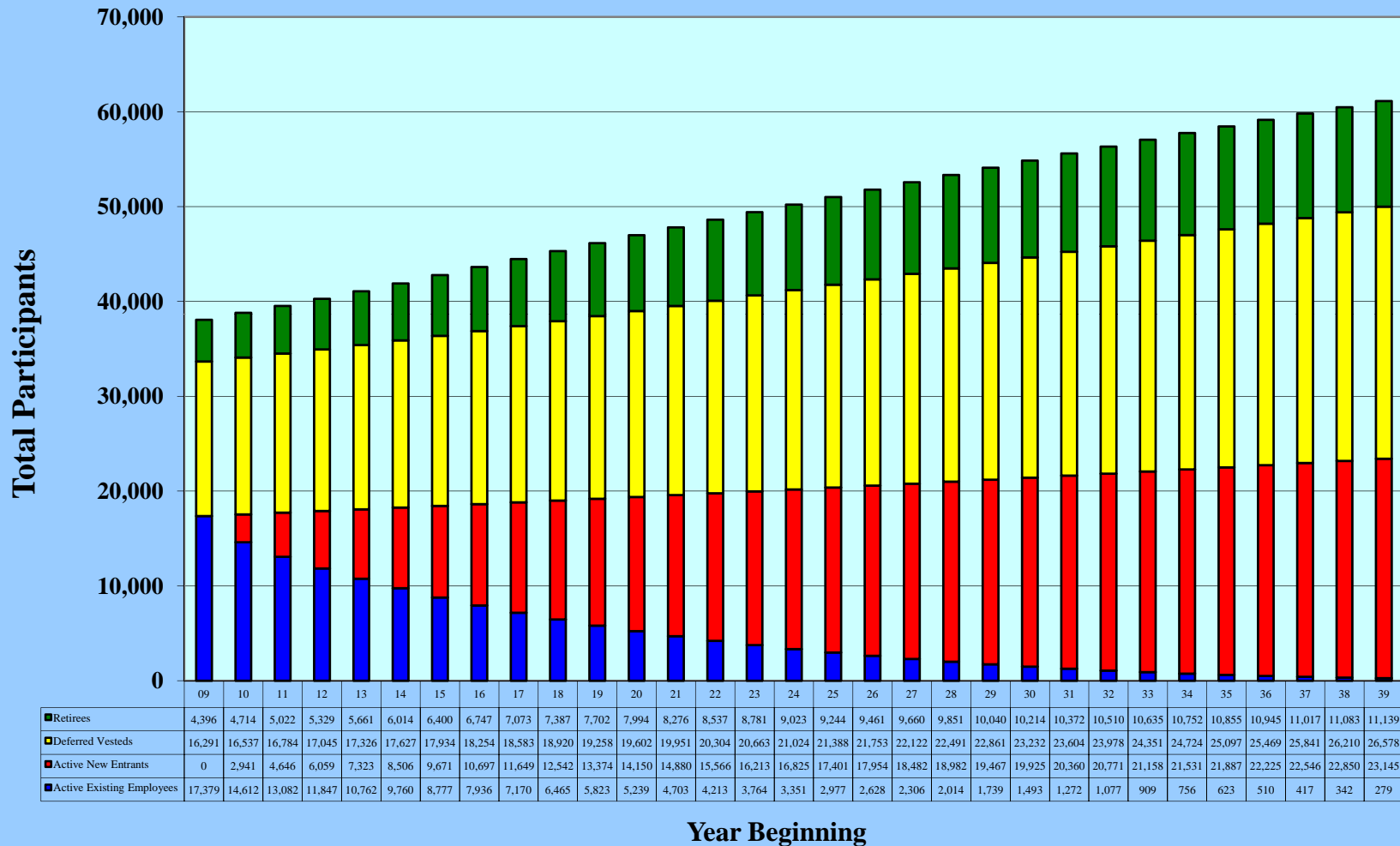
— Pessimistic Return (7.0%)	— Expected Return (8.5%)
— Optimistic Return (10.0%)	— Last Year Results Expected

Colorado PERA - School Division 30-Year Projection of Amortization Period Based on December 31, 2008 Valuation Results



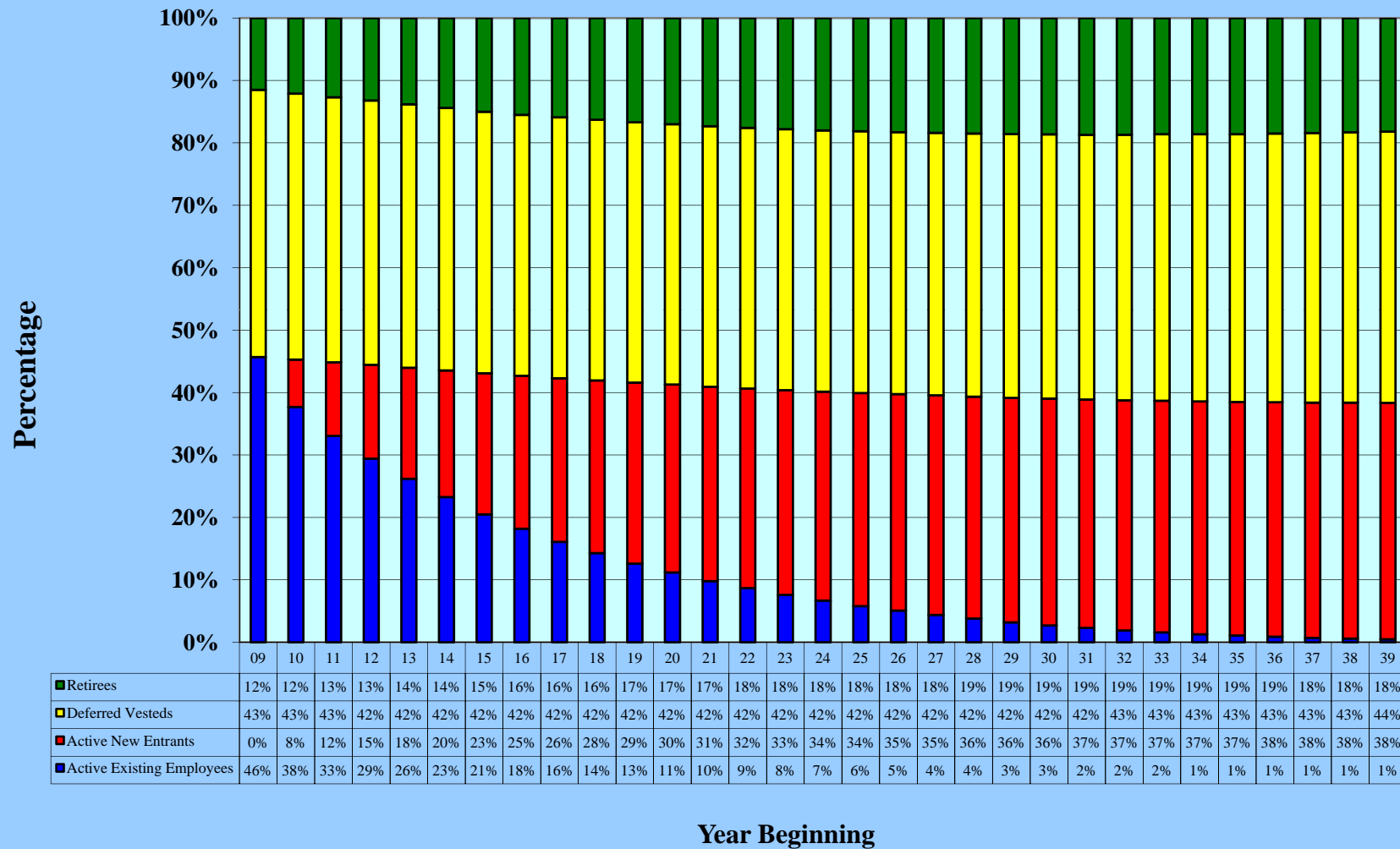
Local Government Division

Colorado PERA - Local Government Division 30-Year Projection of Population Breakdown Based on December 31, 2008 Valuation Results

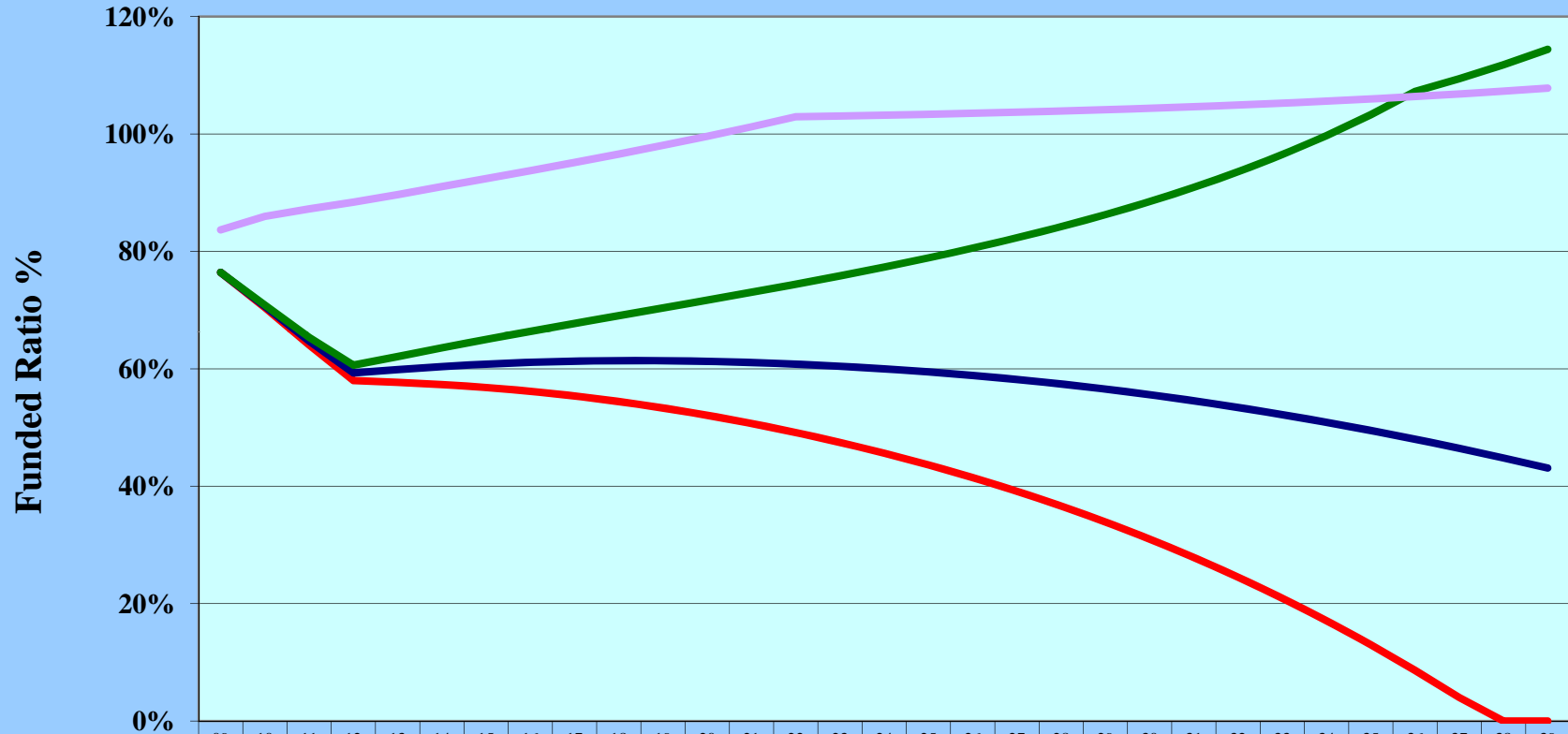


Retirees
 Deferred Vesteds
 Active New Entrants
 Active Existing Employees

Colorado PERA - Local Government Division 30-Year Projection of Population Breakdown Based on December 31, 2008 Valuation Results



Colorado PERA - Local Government Division 30-Year Projection of Funded Ratio on Actuarial Asset Value Based on December 31, 2008 Valuation Results

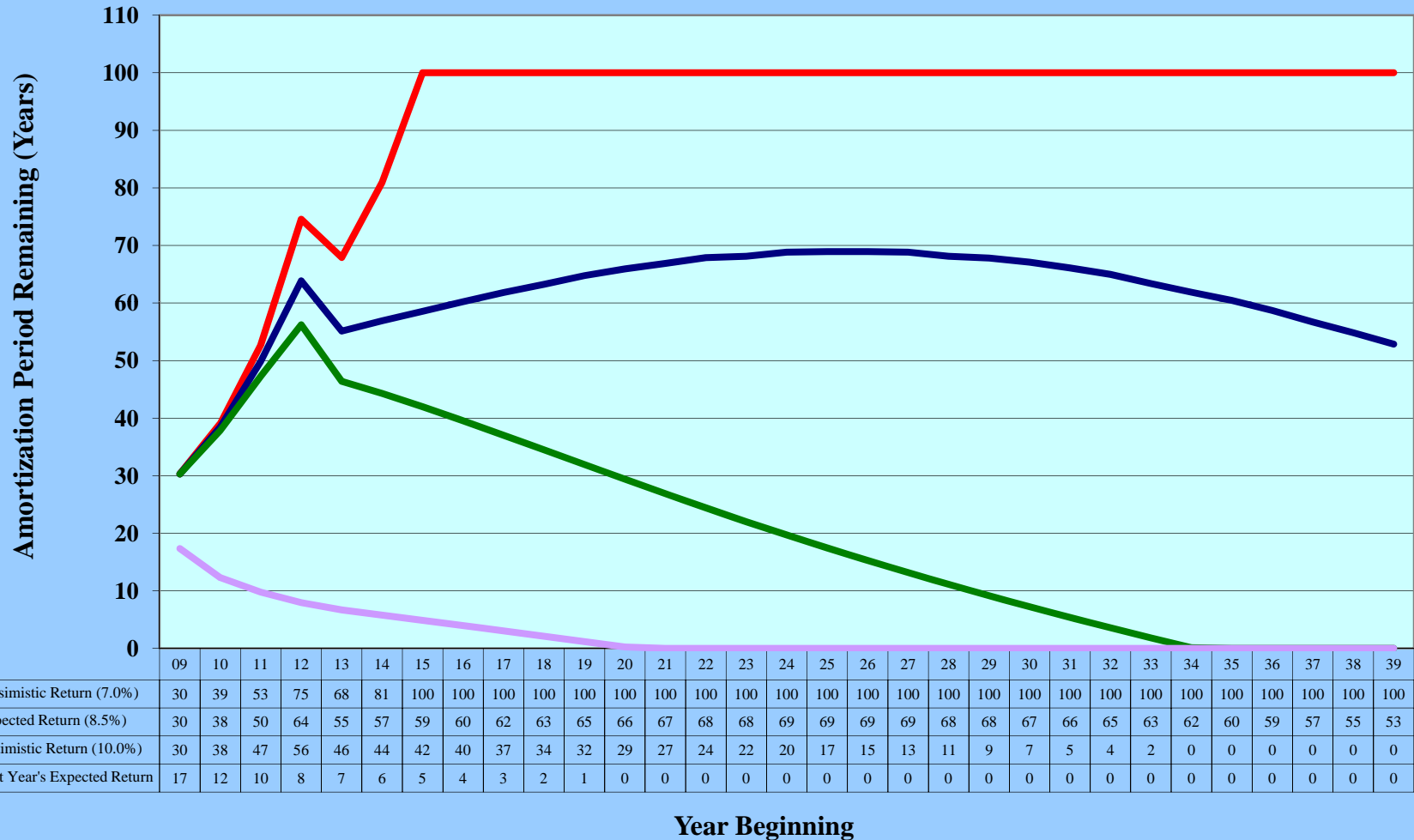


	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
— Pessimistic Return (7.0%)	76%	70%	64%	58%	58%	57%	57%	56%	55%	54%	53%	52%	51%	49%	47%	46%	44%	41%	39%	37%	34%	31%	28%	24%	21%	17%	13%	9%	4%	0%	0%
— Expected Return (8.5%)	76%	71%	65%	59%	60%	60%	61%	61%	61%	61%	61%	61%	61%	61%	60%	60%	59%	59%	58%	57%	57%	56%	55%	53%	52%	51%	49%	48%	46%	45%	43%
— Optimistic Return (10.0%)	76%	71%	65%	61%	62%	64%	65%	66%	68%	69%	70%	72%	73%	74%	76%	77%	79%	81%	82%	84%	86%	88%	91%	94%	97%	100%	103%	107%	109%	112%	114%
— Last Year Expected	84%	86%	87%	88%	90%	91%	92%	94%	95%	97%	98%	100%	101%	103%	103%	103%	103%	104%	104%	104%	104%	104%	105%	105%	105%	106%	106%	106%	107%	107%	108%

Year Beginning

— Pessimistic Return (7.0%)	— Expected Return (8.5%)
— Optimistic Return (10.0%)	— Last Year Expected

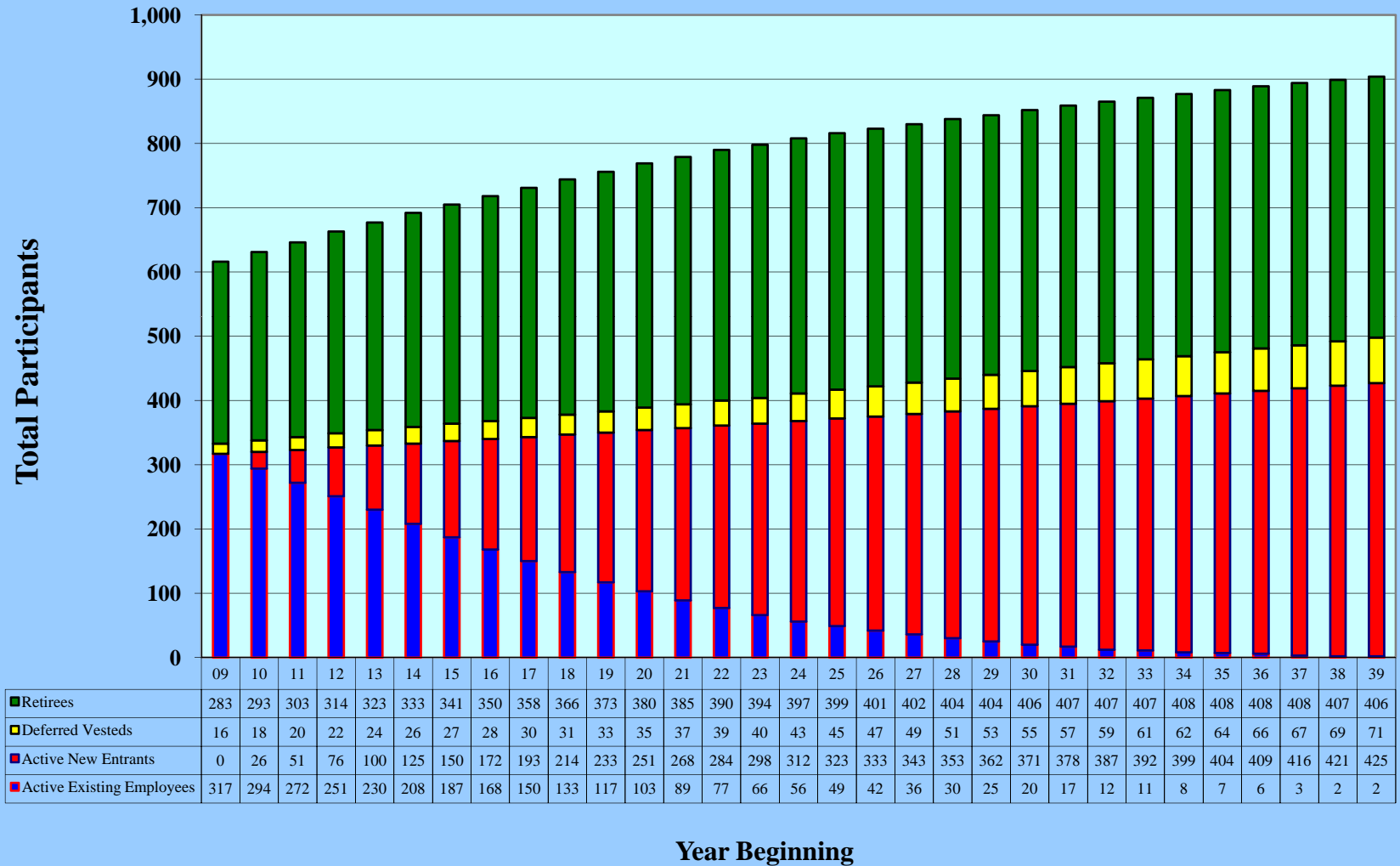
Colorado PERA - Local Government Division 30-Year Projection of Amortization Period Based on December 31, 2008 Valuation Results



— **Pessimistic Return (7.0%)** — **Expected Return (8.5%)**
— **Optimistic Return (10.0%)** — **Last Year's Expected Return**

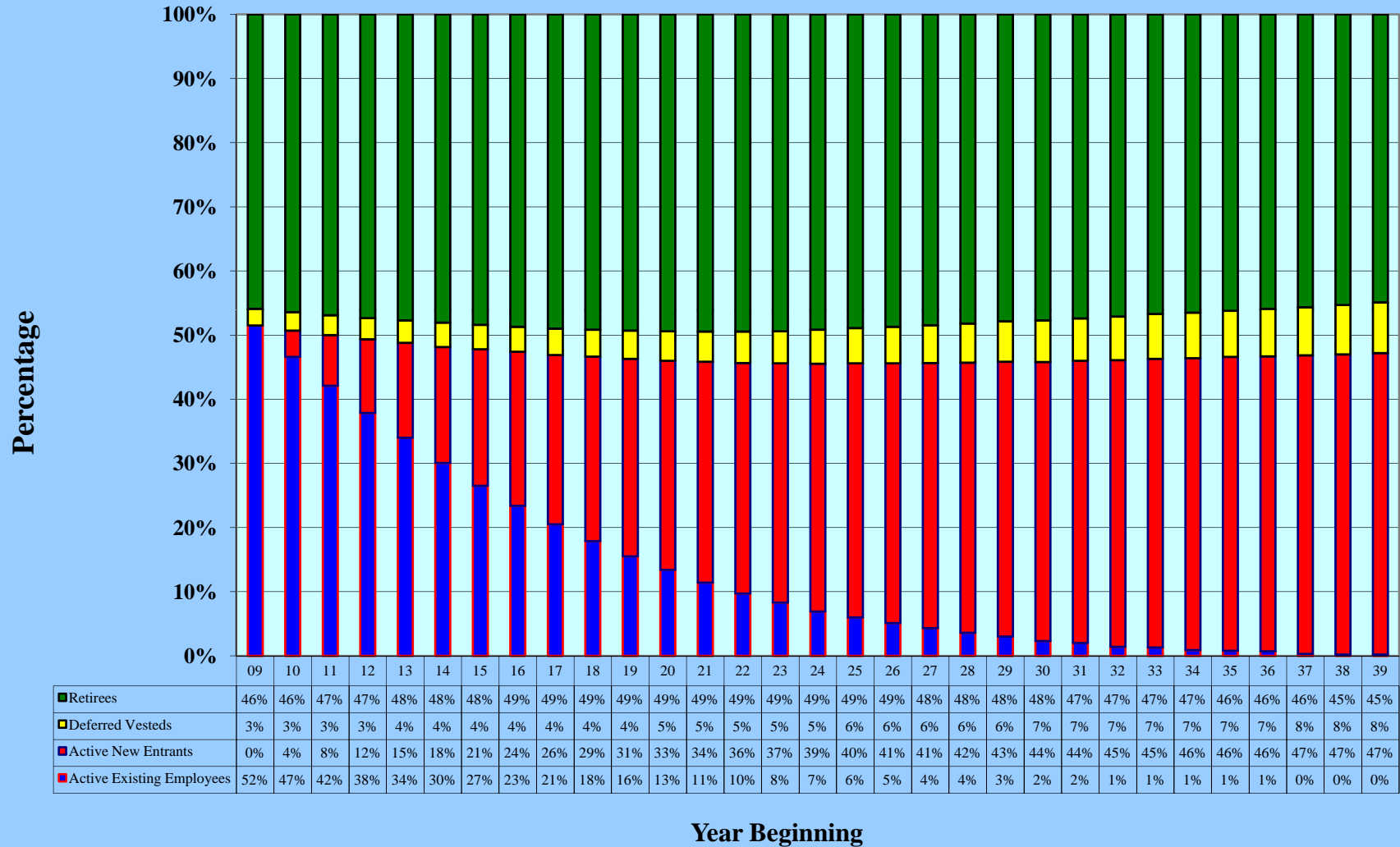
Judicial Division

Colorado PERA - Judicial Division 30-Year Projection of Population Breakdown Based on December 31, 2008 Valuation Results



■ Active Existing Employees
 ■ Active New Entrants
 ■ Deferred Vesteds
 ■ Retirees

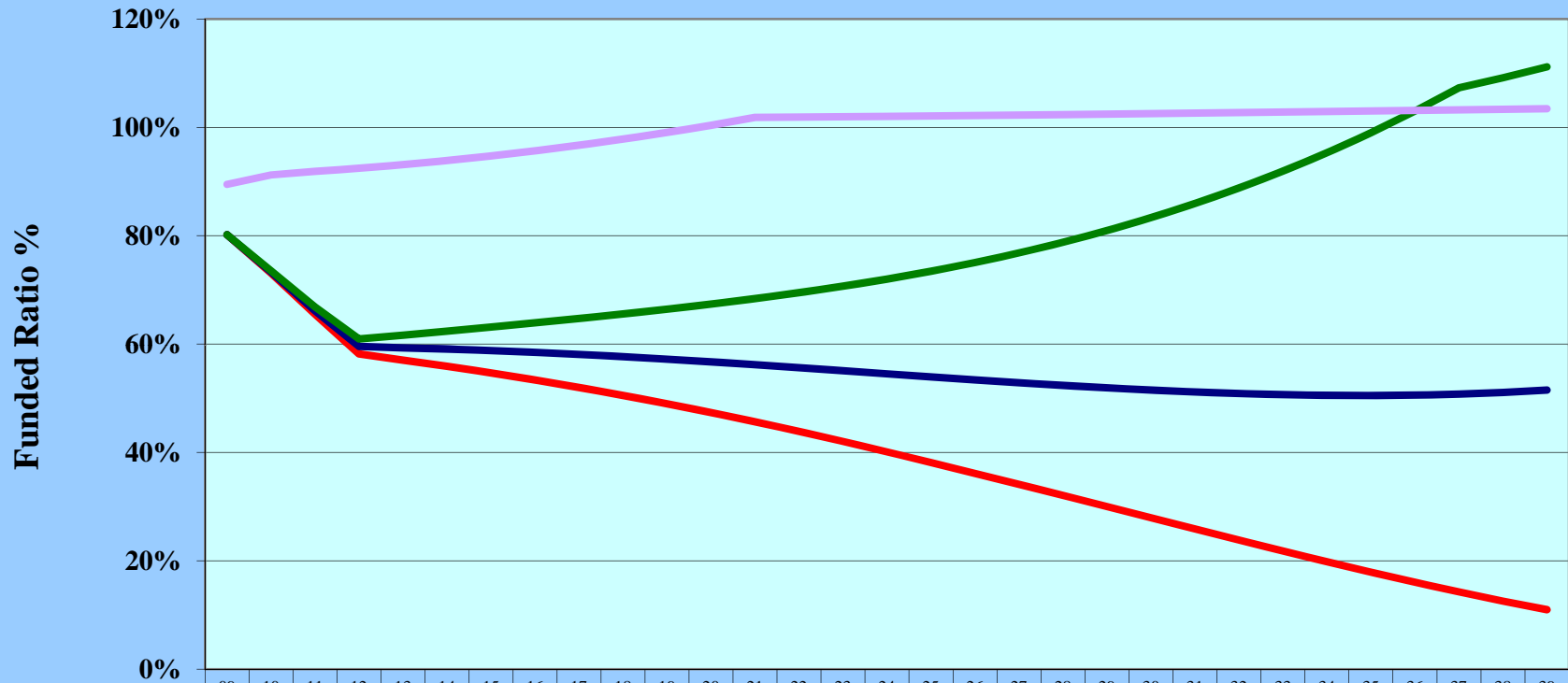
Colorado PERA - Judicial Division 30-Year Projection of Population Breakdown Based on December 31, 2008 Valuation Results



■ Active Existing Employees
 ■ Active New Entrants
 ■ Deferred Vesteds
 ■ Retirees

Colorado PERA - Judicial Division

30-Year Projection of Funded Ratio on Actuarial Asset Value Based on December 31, 2008 Valuation Results



	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
— Pessimistic Return (7.0%)	80%	73%	65%	58%	57%	56%	55%	53%	52%	51%	49%	47%	46%	44%	42%	40%	38%	36%	34%	32%	30%	28%	26%	24%	22%	20%	18%	16%	14%	13%	11%	
— Expected Return (8.5%)	80%	73%	66%	60%	59%	59%	59%	58%	58%	58%	57%	57%	56%	56%	55%	55%	54%	53%	53%	52%	52%	52%	51%	51%	51%	51%	51%	51%	51%	51%	51%	52%
— Optimistic Return (10.0%)	80%	74%	67%	61%	62%	62%	63%	64%	65%	66%	66%	67%	68%	69%	71%	72%	73%	75%	77%	79%	81%	83%	86%	89%	92%	95%	99%	103%	107%	109%	111%	
— Last Year's Expected Return	89%	91%	92%	92%	93%	94%	95%	96%	97%	98%	99%	100%	102%	102%	102%	102%	102%	102%	102%	102%	102%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	

Year Beginning

