



2015 PENNSYLVANIA COUNTY PENSION PLAN REPORT

EIGHTH EDITION

Prepared for

SCHUYLKILL COUNTY



PEIRCE PARK GROUP
INVESTMENT MANAGEMENT CONSULTANTS

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This report is produced for the sole use of Pennsylvania County Pension Funds that participated in this study. The report is not for public distribution unless Peirce Park Group's permission is explicitly sought and given.

INTRODUCTORY NOTES

This year, we are pleased to announce that 47 counties participated in our report. Noting that four counties are in the Pennsylvania Municipal Retirement System (PMRS) and Philadelphia County is not included due to its size, 47 of 62 counties participated, or 76% of all Pennsylvania counties.

Information in this report is based on each participating county's 2014 actuarial report. To ensure an "apples to apples" comparison across counties, we made a limited number of adjustments to the data. Wherever these adjustments have been made, you will find a notation explaining what was adjusted and why.

It is important to note that investment returns shown in this report are taken directly from each county's actuarial report. Actuaries attempt to report returns **gross of fees** (before investment management fees are deducted). To do this, they account for expenses paid by the plan. When asset values are reported net of fees, as is the case with mutual funds, the actuary is unable to account for the investment management fee. Therefore, any county that does not pay investment management fees outright may be at a disadvantage because the actuary does not credit the investment management fees back into the return calculation. Counties with a significant percentage of their assets in mutual funds are somewhat disadvantaged relative to counties without mutual funds. Those portfolios with mutual funds may have a lower "ranking" all else equal.

For example, if you have a separately managed portfolio with a 10% return, but have a ½ percentage point in investment management fees, your return would show as 10% in this report. If your funds were totally invested in mutual funds, the investment management fees are already deducted from the investment return, and, for example, you may show a return of 9.7%. This would make it appear that you had a lower return than the separately managed portfolio, but in fact, once investment management fees are deducted from the separately managed portfolio return (10% - 0.5% = 9.5%) the investment return of the portfolio with mutual funds would be 9.7%, and would be the higher return net of fees.

Finally, you will notice that several of the year-by-year charts do not contain data for 2010. This was a year in which we did not publish a report. However, we included investment return data for 2010 as reported in the county actuarial reports.

ALL of the information in this report needs to be considered in the context of your county's unique situation. Please use the information as a tool to assist you in continuing assessment of your plan management, not as an absolute assessment of how "well" you are doing.

THE 2015 PENNSYLVANIA COUNTY PENSION PLAN REPORT

We are pleased to provide you with the 2015 edition of the *Pennsylvania County Pension Plan Report*.

The *Pennsylvania County Pension Plan Report* provides an opportunity to compare certain aspects of your pension plan and fund in relation to those of other Pennsylvania counties. It also provides education to assist you in understanding your fiduciary role and the various components of the pension plan system.

Even though your county may have much in common with your Pennsylvania colleagues, there are likely some differences as well. In evaluating your pension plan and fund, you should consider:

- The economic environment in which you operate
- The current funded level of your plan
- Trends in Annual Required Contribution (ARC) payments
- Whether your contributions are covering your benefit payments (positive cash flow)
- The actuarial assumptions you use including:
 - Assumed Rate of Return
 - Salary Increases
 - Crediting Rate
- Funding Method
- Asset Valuation Method

All of these factors, and others, may lead you to make different decisions and use different approaches than those used by peer counties. While the information included in this report can be helpful in getting a sense of what other counties are doing, keep in mind that your situation is unique.

OVERVIEW OF THE PENNSYLVANIA COUNTY PENSION FUNDING SYSTEM

The defined benefit pension funding system is a dynamic one, with a variety of factors affecting monetary inflows and outflows. When plan fiduciaries understand the interplay between financial inflows and outflows they are able to make better informed decisions with regard to plan and fund management.

In the remainder of this section, we review the key elements of the pension fund.

Pennsylvania county retirement plans are governed by Act 96. There are two components to the system:

1. Traditional Defined Benefit Plan.

Through its **defined benefit plan**, the county promises that a retired employee will receive a specified monthly benefit that is determined through a formula based on the employee's earnings, length of service and the plan's benefit class.

(final average salary*) x (years of service) x (benefit class)

*The average of the participant's annual compensation received for the three years that produce the highest such average.

Funds to cover these benefits come from county contributions and investment returns. *(Figure 1)*

2. Cash Balance Plan.

Through the **cash balance plan**, employee benefits are based on the accumulated value of the participant's account. *Employees* contribute a mandated percentage of their salary to the plan.

At the beginning of each year, the county sets an interest rate between 4% and 5.5%, to be credited to each participant's account balance. Any investment return shortfall in comparison to the crediting rate is made up by the county. Any investment return in excess of the crediting rate is applied to subsidize the county's defined benefit plan contribution and therefore helps to lower the county's ARC. *(Figure 2)*

Figure 1: Defined Benefit Plan

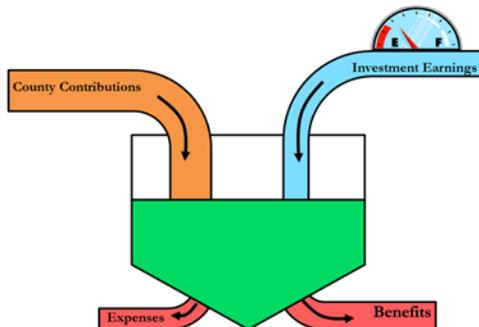
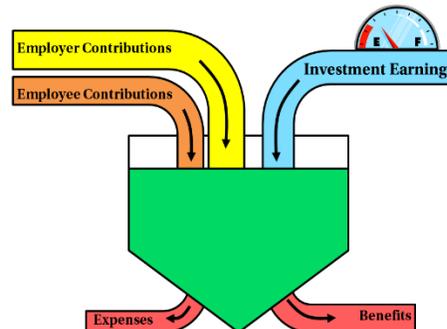


Figure 2: Cash Balance Plan



Fund Inflows

There are three ways money flows into the “pension bucket” to provide funds to cover the county’s benefit liability. Two of these are *Contributions* -- the county contribution (*Annual Required Contribution or ARC*) and employee contributions (into the cash balance plan). The third source of inflow into the pension fund is *Investment Earnings* – the return on your investment portfolio.

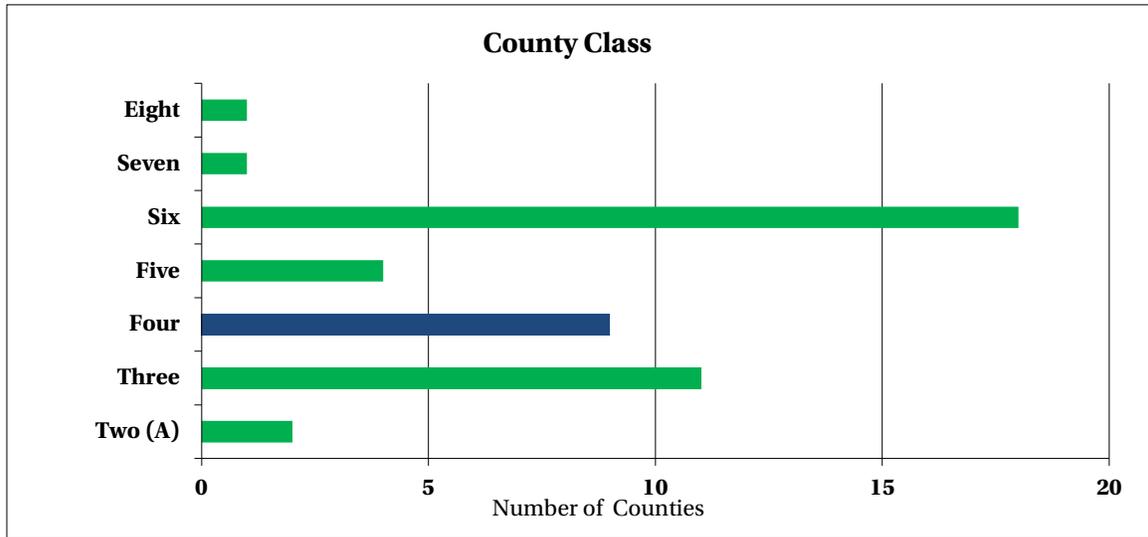
Fund Outflows

Money flows out of your fund to pay for retiree *Benefits* and *Fund Expenses*. Examples of fund expenses include fees associated with the fund custodian, actuary, investment managers, and investment consultant.

It is important to have a good understanding of the projected size and timing of benefit payments and fund expenses so you can be sure adequate cash from your portfolio is available to pay benefits and expenses.

2015 Report Participants by County Class

This year’s report is based on information provided by 47 participating Pennsylvania counties. The chart below shows the number of participants from each County Class (based on population size).



In the report graphs, data related to your county is represented by the blue bar.

ANNUAL REQUIRED CONTRIBUTION (ARC)

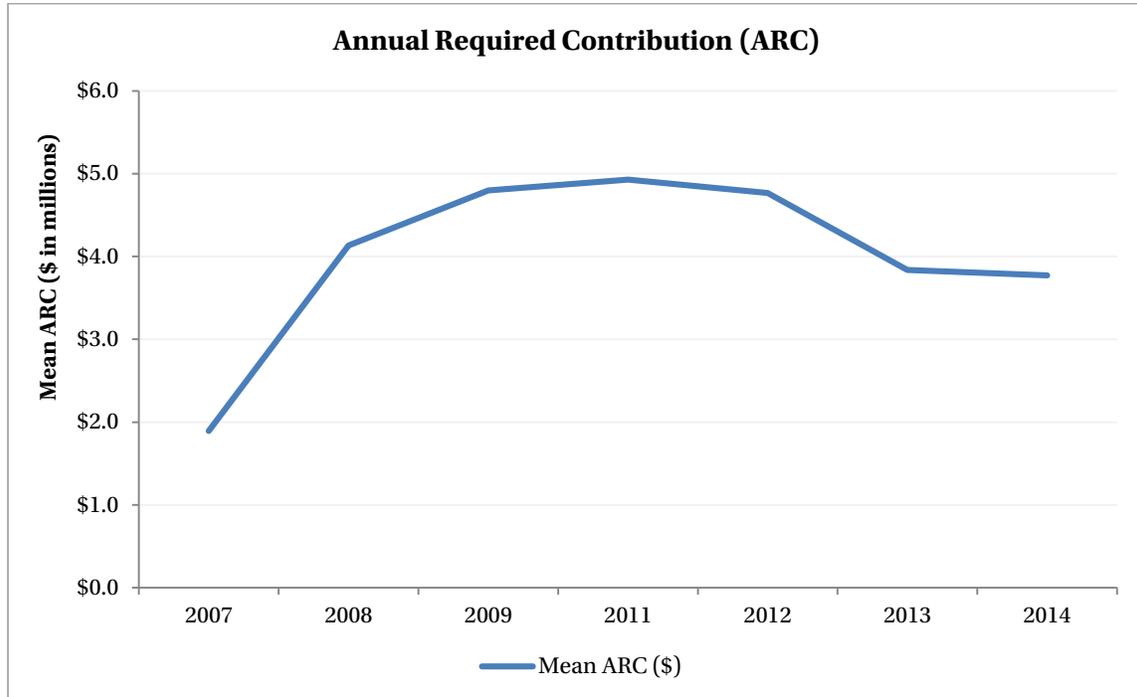
In the 1990s, most county pension plans had a small or no ARC. However, due to the 2000 – 2002 bear market and 2008 market crash, many funds' assets declined significantly, leaving fewer dollars available to pay pension benefits. In addition, following the very strong market returns in the late 1990s, many counties granted COLAs and increased benefit packages. These two adjustments significantly increased county liabilities. Thus, higher ARCs today are partly the result of decisions made 20 years ago.

Based on data from the 19 counties that have continuously participated in our *Pennsylvania County Pension Plan Report*, we can make the following observations:

- In 2007, the average county ARC for those 19 counties was \$1.9 million.
- In 2008, this jumped 119% to \$4.1 million.
- Even though the equity markets rebounded strongly since 2009, average county ARCs continued to increase through 2011.

The continued ARC increases through 2011 were primarily due to the asset smoothing methods employed by actuaries. County plans did not absorb all of their 2008 losses in one year. Strong returns over the past five years have now offset much of the losses in 2008.

In 2014, the average (mean) ARC of the 19 continuously reporting counties decreased by about 2%.



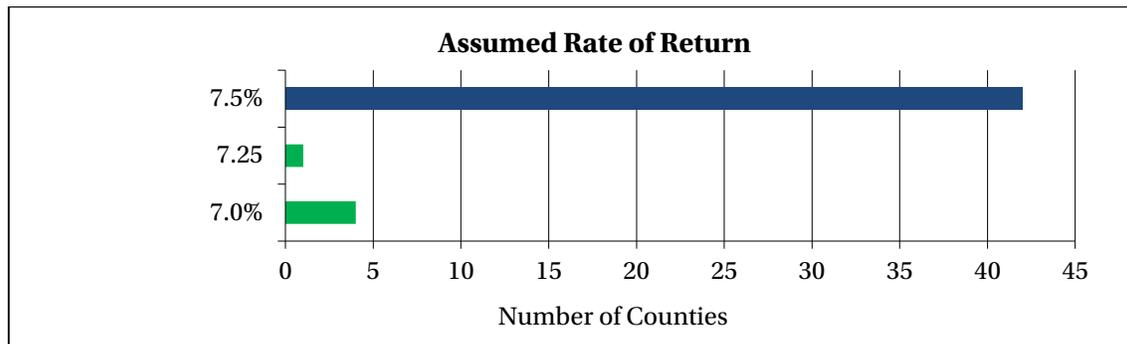
ACTUARIAL ASSUMPTIONS & METHODS

Administering a pension plan requires looking into the future and making a set of projections. Plans hire an actuary to make these projections. The actuary uses a set of actuarial assumptions and chooses from among several calculation methods. These assumptions are either economic (e.g., assumed rate of return, assumed future salary increases) or demographic (e.g., number of employees, length of service, mortality). The methods include how the fund assets will be valued and how the fund's likely costs will be calculated.

Assumed Rate of Return (ARR)

ARR is the long-term rate of return your actuary assumes the fund's investment portfolio will achieve. A higher ARR assumes more investment earnings will be generated, therefore requiring lower county contributions to the fund. However, a county may need to invest more aggressively to achieve those higher returns and therefore will likely experience greater volatility in the ARC. (If your fund does not earn the assumed rate of return, you will need to make up the difference with larger contributions.)

In 2007, almost all reporting counties were using 7.5% as their ARR. More recently we have seen a small number of counties lowering their ARR. According to the 2014 data, 5 of the 47 participating counties have lowered their return assumption. In view of some forecasts predicting lower expected returns for fixed income, we may see more pension plans lowering their ARR in the future.



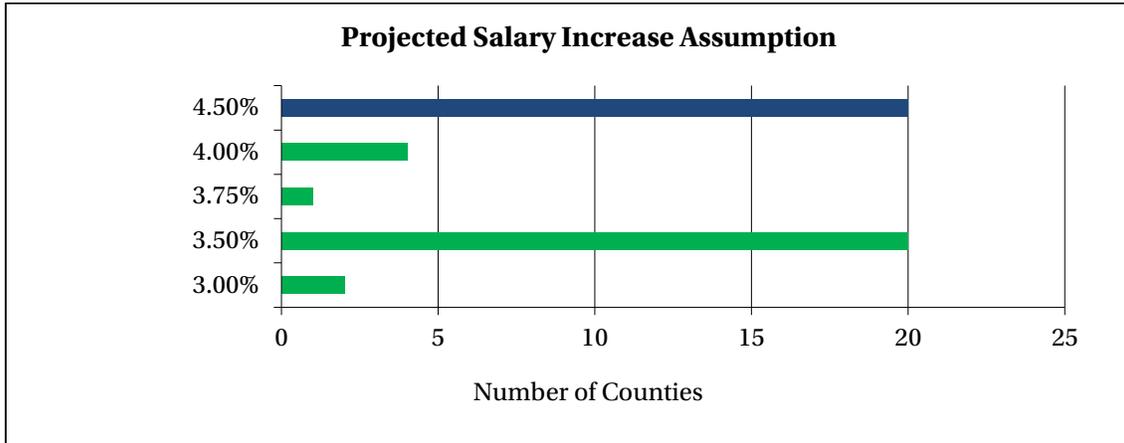
Salary Increase Assumption

The salary increase assumption is used to project future benefit payments and is included in the calculation of a county's actuarial accrued liability. The larger the percentage salary increase assumption, the greater the actuarial liability and, in the short term, the larger your ARC.

Lowering the salary increase assumption will lower your liability and lower your current ARC. However, using too low an assumption could leave the plan underfunded.

Historically, counties used 4.5% for their salary increase assumption. Due to the low inflationary environment of the past few years, we have seen a downward trend. A majority of participating counties now use a salary increase assumption below 4.5%, with most participating counties not using 4.5%.

The average salary increase assumption across participating counties is 3.95%.



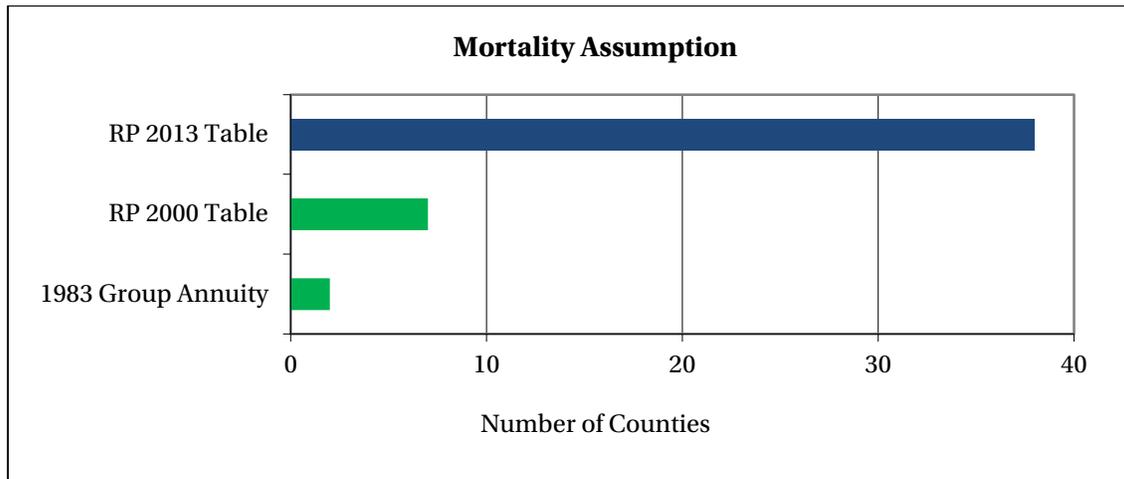
Mortality Assumptions

Mortality assumptions are used to project how long plan participants and their beneficiaries are expected to live, and thus the expected length (and therefore total amount) of benefit payments.

As people live longer (as reflected in the newer mortality tables), plan liabilities increase and a county's pension benefit costs go up.

As life expectancy has improved, most counties have moved away from using the 1983 Group Annuity Rates to the more current RP 2000 or RP 2013 mortality tables. As the chart below shows, most of the participating counties in this year's report are now using the RP 2013 Table.

If the mortality table you use under-represents the likely length of the benefit payment period, your county may not be properly funding its obligations.

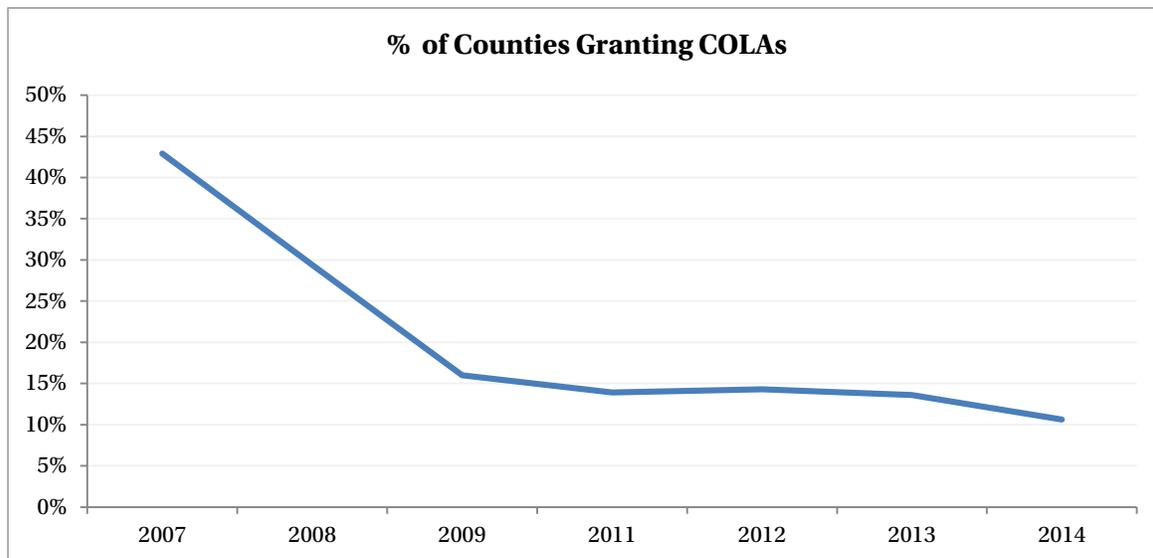
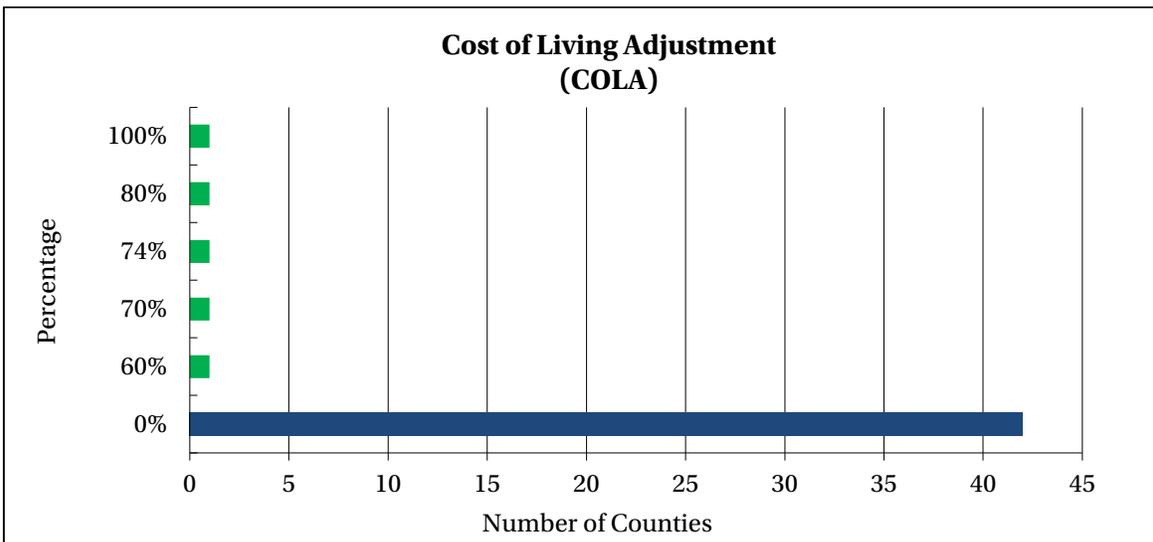


Cost of Living Adjustments (COLAs)

Cost of Living Adjustments change the amount of benefit payment to plan retirees and their beneficiaries. This, in turn, increases plan liabilities, which increases ARCs. Act 96 allows counties to provide COLA adjustments up to 100% of the inflation rate.

Although popular prior to 2008, in light of recent economic challenges most counties have not provided COLAs for several years. Only 5 of the 47 participating counties granted a COLA in 2014. Few counties have granted COLAs during the past three years.

There are proposed changes to how the COLA is calculated. Please see the "Looking Ahead" section on Page 19 for more information regarding PA House Bill 239.



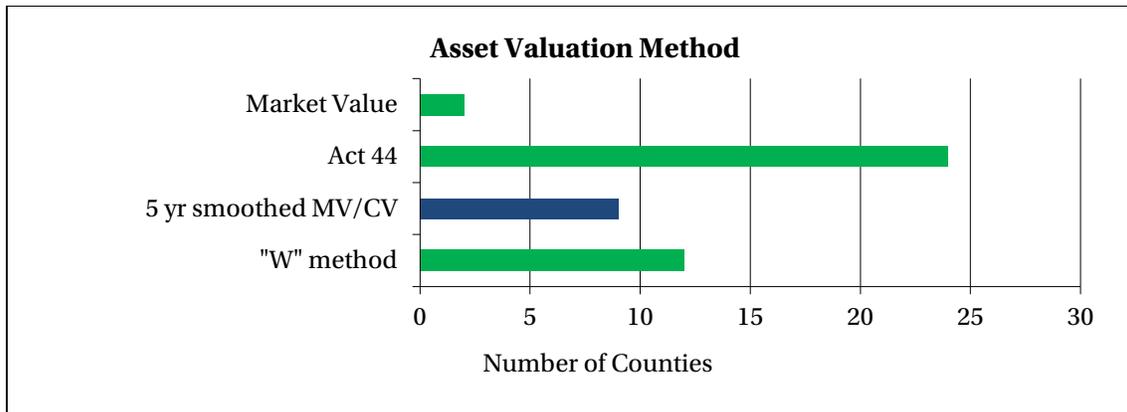
Asset Valuation Method

There are a variety of methods that can be used to calculate your fund's Actuarial Value of Assets (AVA). Since there can be large swings up or down in investment markets, county fund asset values may be quite volatile. Using the *actual* asset value in annual calculations would mean there could be large swings in the size of the ARC due to the volatility of the assets. Therefore, most actuarial asset valuation methods incorporate a smoothing approach, which moderates the effect of market swings on fund asset values for any one year and helps moderate volatility in ARCs.

Historically, most Pennsylvania counties used the 5-year smoothing method incorporating security cost value.

Following the market crash in 2008, the state legislature passed Act 44 to help Pennsylvania public pension funds find some relief from huge contribution increases. One aspect of Act 44 was the introduction of a valuation method that allowed counties to use the greater of the market value or the previous year's AVA increased by the AAR less 1% and adjusted for cash flows (limited to 120% of their market value).

In recent years, we have seen participating counties move toward the more widely accepted actuarial 5-year smoothing method, which adjusts for unrecognized gains and losses, the so-called "W" method (shown at the bottom of the chart below).



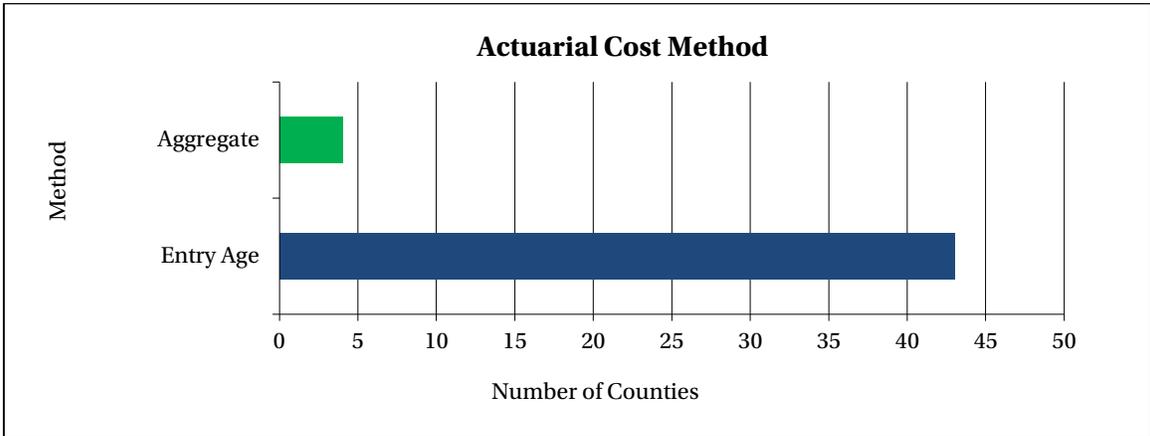
Actuarial Cost Method

There are different actuarial cost methods for calculating future liabilities. In recent years, the trend among participating counties has been to move from *Aggregate* to *Entry Age Normal*.

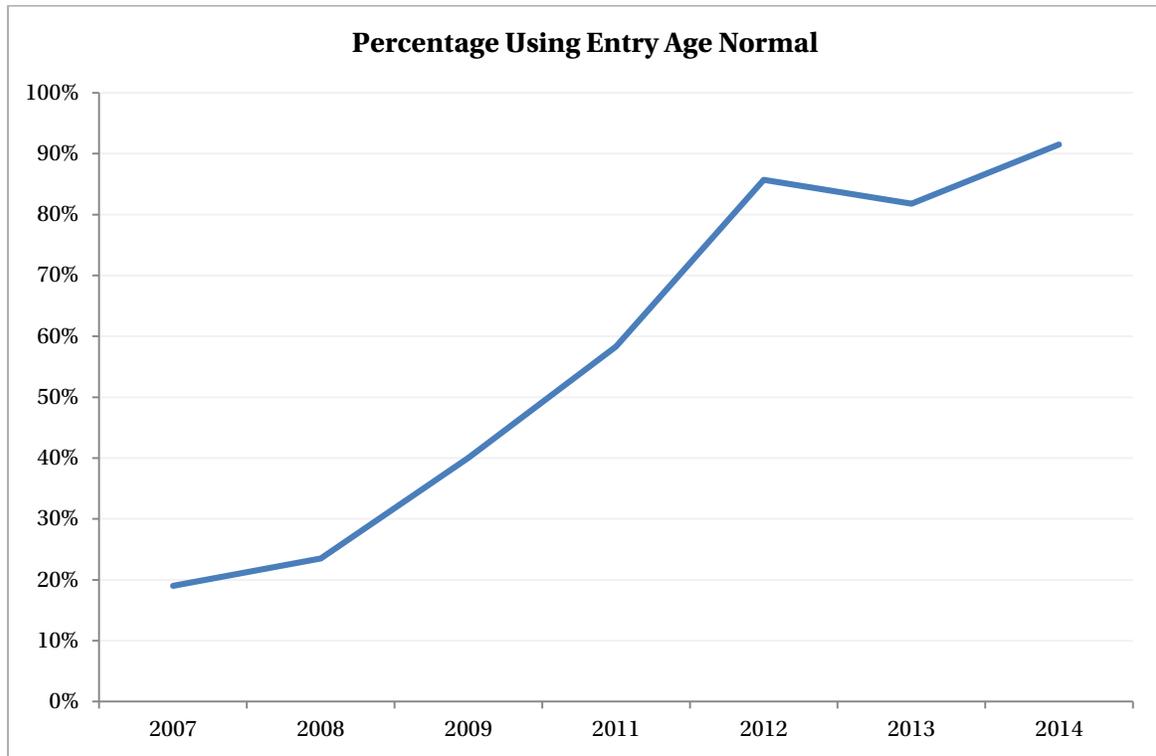
The **Aggregate** method takes the present value of benefits minus the asset value and spreads the excess amount over the future average years of service of the participants. It considers future projected years of service and future projected salary increases for current employees.

Entry Age Normal attempts to create a level percentage of salary contributions throughout the employee's tenure with the county. Under this method, the cost of each individual's pension is allocated on a level percentage of payroll between the time employment starts (entry age) and the assumed retirement date. The goal is to spread the cost over the career of the member as a level percentage of payroll.

Entry Age Normal (EAN) is the method most commonly used by accounting and credit rating agencies. In fact, GASB Statements 67 & 68 reflect a strong preference for the use of Entry Age Normal when calculating the plan's total pension liability for *accounting purposes*.



For this year's report, 92% of participating counties report using the EAN method. This is a substantial increase from the 19% of reporting plans that used the EAN method in 2007.



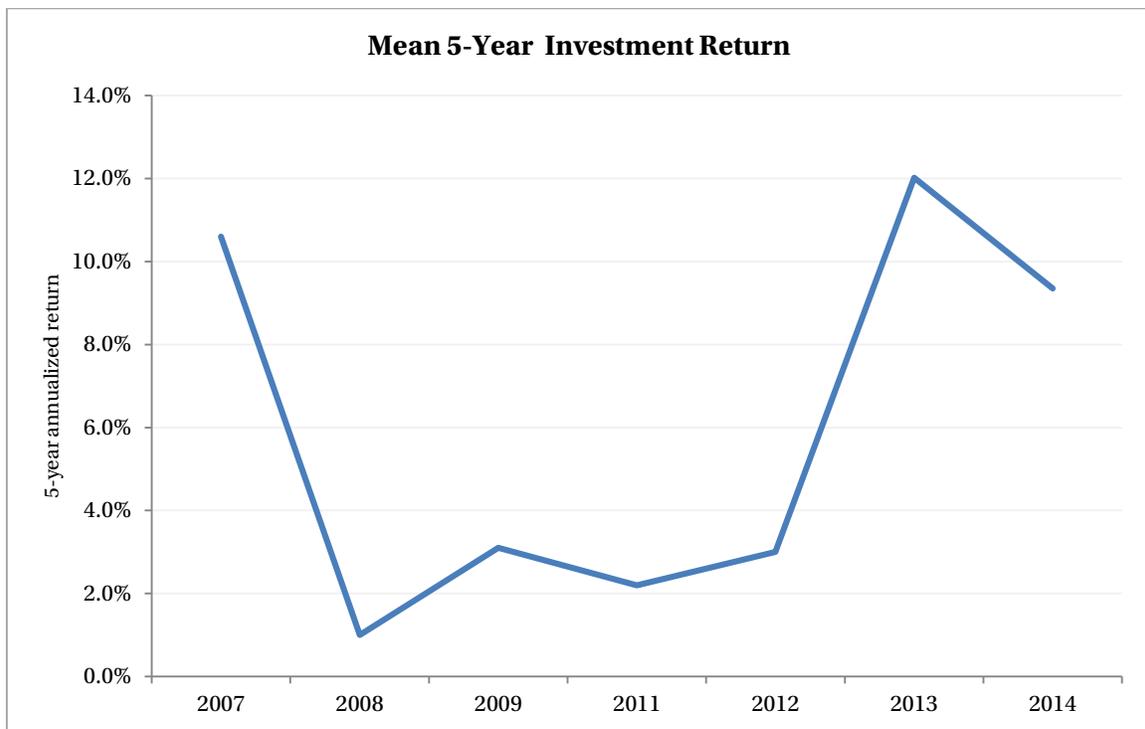
INVESTMENT PERFORMANCE & FUNDED RATIO

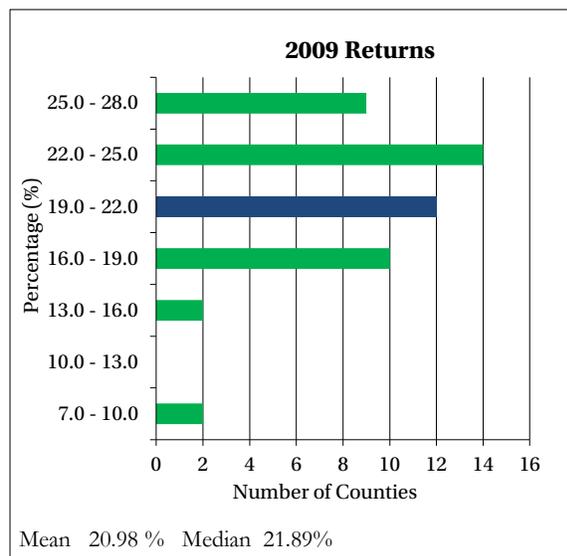
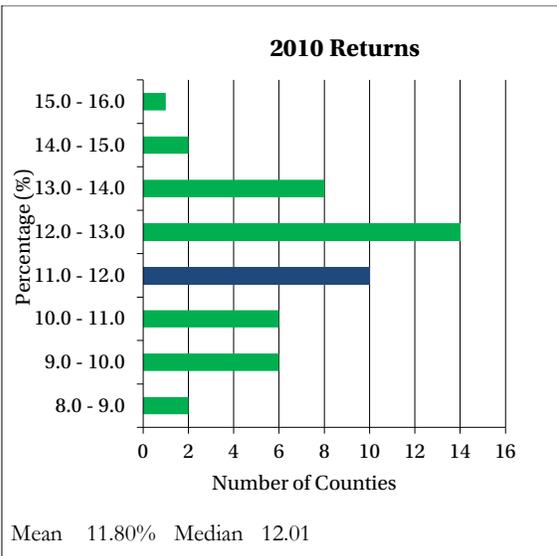
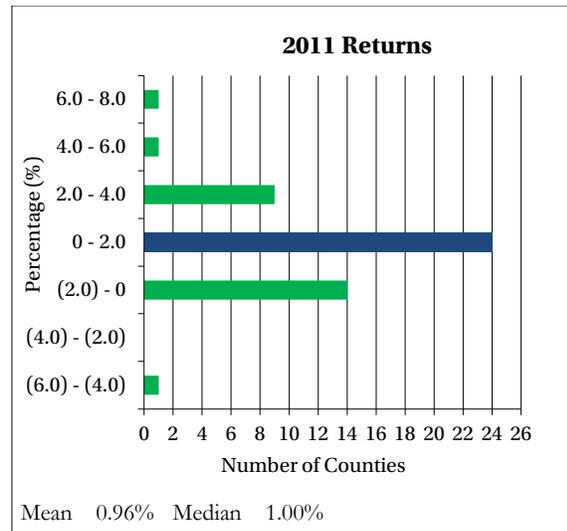
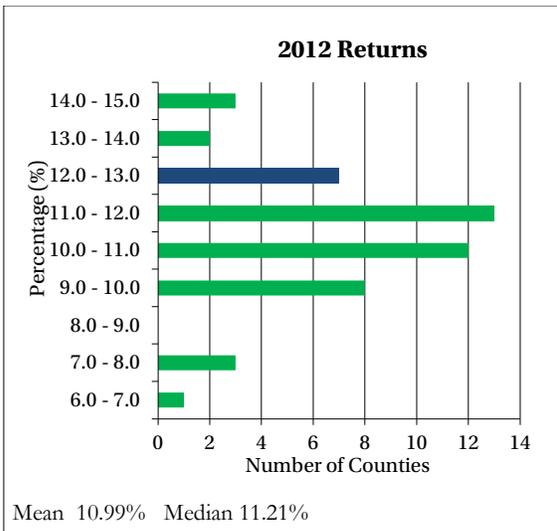
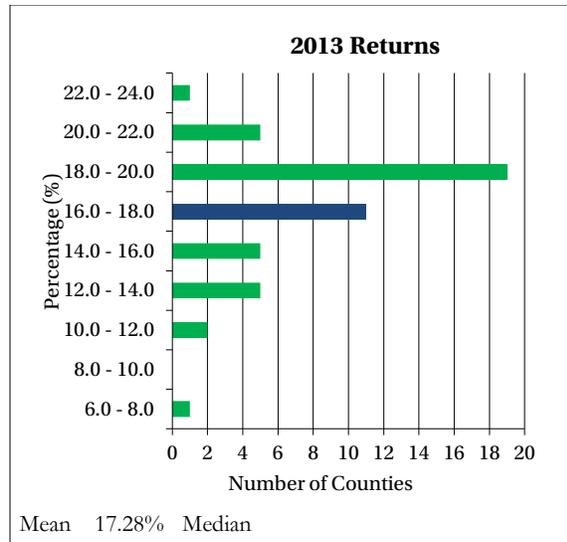
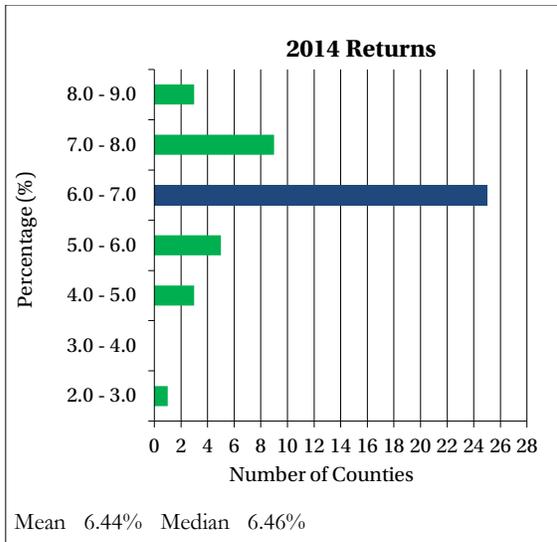
The following pages contain data on annual investment returns from the past six years, and a summary of 5-year returns and 10-year returns. This data was taken from the actuarial reports submitted by participant counties. (Please see the note on Page 1 of this report regarding the treatment of investment returns for portfolios with mutual funds.)

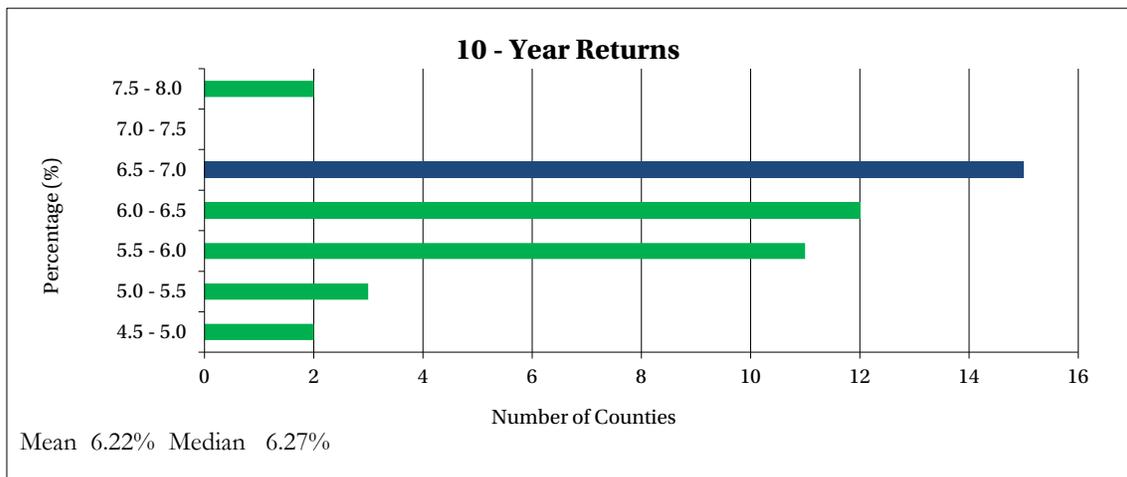
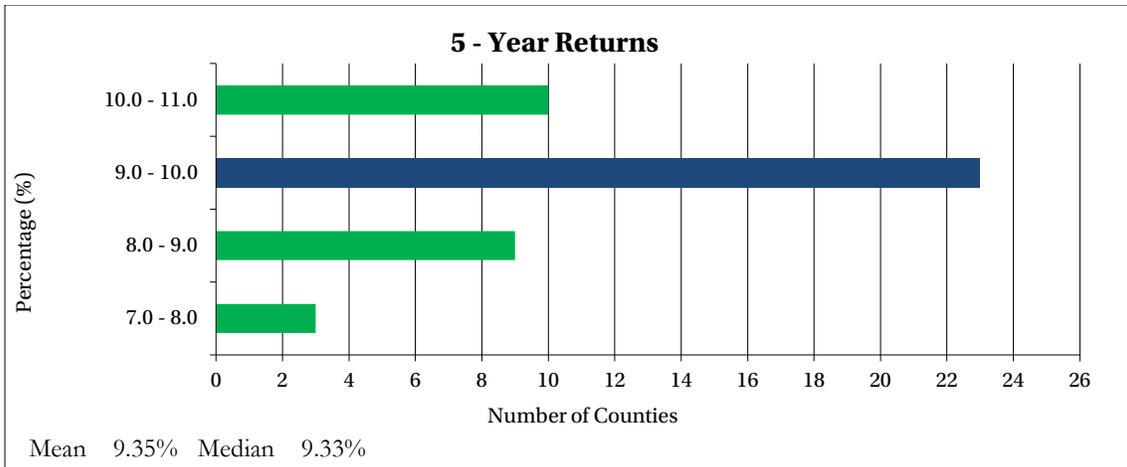
Prior to the global financial crisis in 2008, the 2007 average 5-year trailing return for the participant counties was 10.6%. This return was above the assumed rate of return (ARR) used by most counties (7.5%) and therefore, had a positive effect on the amount of required contributions.

During the global financial crisis in 2008, the equity markets collapsed leaving all counties with significant investment losses. County funds were down, on average, 23.8% for that year. At the end of 2008, the trailing 5-year return dropped to 1.0%, significantly lower than the ARR.

Over subsequent years, stronger equity markets have helped county funds recover from their 2008 lows. The average trailing 5-year return of 9.4% for county funds (as of 2014) is above the average ARR. However, the 10-year trailing return now averages 6.2% per year, which is still below the ARR.







Considerations Related to Investment Earnings

Naturally, most people like to see a high investment return. After all, higher investment returns increase assets available to pay benefits and help decrease the ARC. However, the search for higher returns should be balanced with the amount of risk each Pension Board is willing to take based on the individual county's circumstances and goals.

When assessing your situation, you might want to consider:

- How did your fund perform in different types of market environments?
- Did your portfolio perform as you had hoped in each type of market?
- Were there some elements of your portfolio that did not perform as you expected? Do you understand why that variance occurred?
- How much variability (volatility) was there in your investment returns compared with your peers?
- What aspects of your portfolio might account for investment return variability?

Funded Ratio

The ratio of fund assets to projected plan liabilities is the *Funded Ratio*.

In the pension system diagrams on Page 3:

- The green space represents the *Actuarial Value of fund Assets (AVA)*
- The total bucket (green space and white space above it) represents your *Actuarial Accrued Liability (AAL)*
- The white space within the bucket shows the *Unfunded Actuarial Accrued Liability (UAAL)*

The larger the green area, the more assets are available to pay for benefits.

The Actuarial Value of fund Assets (AVA) can be calculated using several different methods, (See Page 9).

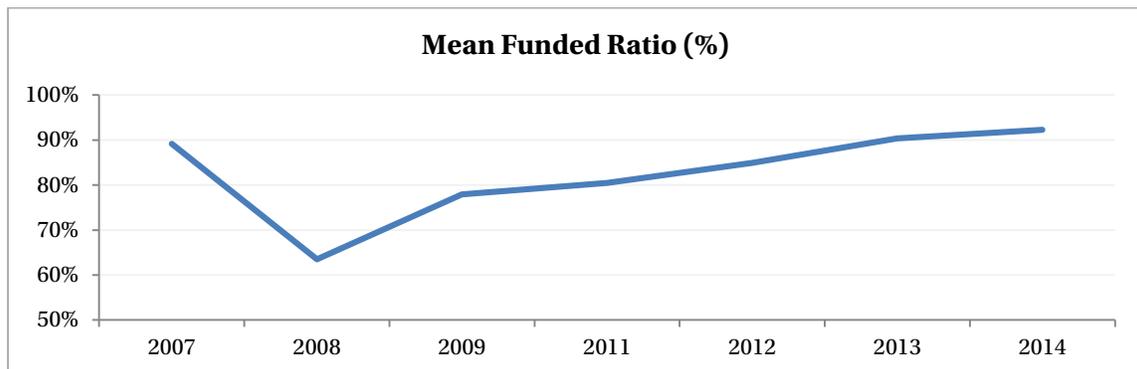
When calculating your *Actuarial Accrued Liability (AAL)* your actuary considers current benefit obligations and projected future salary increases. The size of your liability is determined by factors such as the number of employees, their salaries, projected future salary increases, length of service, employee turnover, mortality rates, benefit class and more.

(Data regarding the actuarial assumptions and methods participant counties are currently using can be found beginning on Page 6).

The *Funded Ratio* (assets/liabilities) is a key measure for evaluating the health of your pension plan. It shows how much you have in assets now versus how much you expect to need to pay future benefits. A higher funded ratio indicates a healthier plan.

Following the global financial crisis in 2008, the average (mean) funded ratio of participant counties fell from 89.2% to 63.5%. Since 2009, strong equity markets have helped counties steadily improve the health of their plans. The most recent average actuarial funded ratio is 92.3% for participating counties.

In your actuarial report, your funded ratio is calculated by dividing your actuarial value of assets by your actuarial accrued liability. However, due to the different methods for valuing assets and measuring liabilities, comparing actuarially reported funded ratios is not an apples-to-apples assessment.



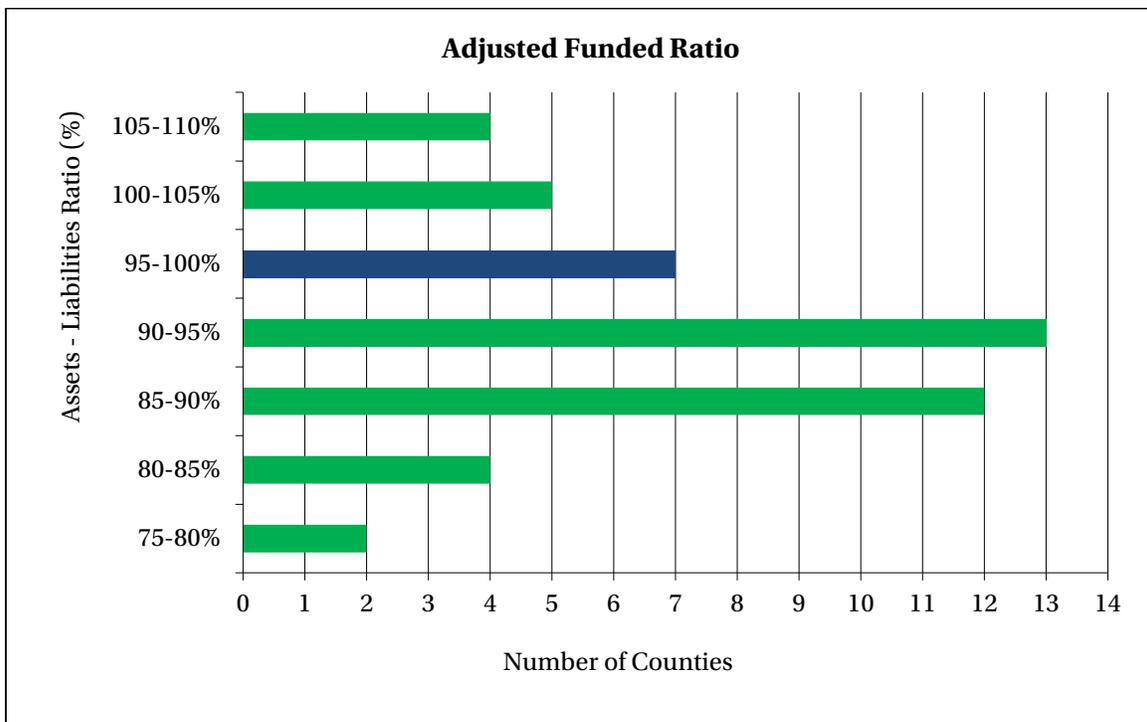
Adjusted Funded Ratio

As opposed to the Funded Ratio, the Adjusted Funded Ratio is your **actual market value** of assets divided by your **adjusted** actuarial assumed liabilities.

We believe the Adjusted Funded Ratio provides a better comparison between counties because it assumes that all counties use the same actuarial assumptions. Specifically,

- 4.5% salary increase
- 7.5% investment return
- RP 2013 mortality table

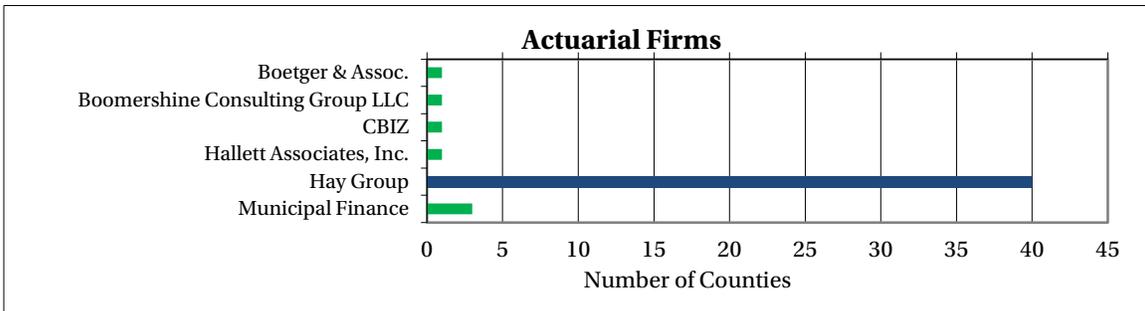
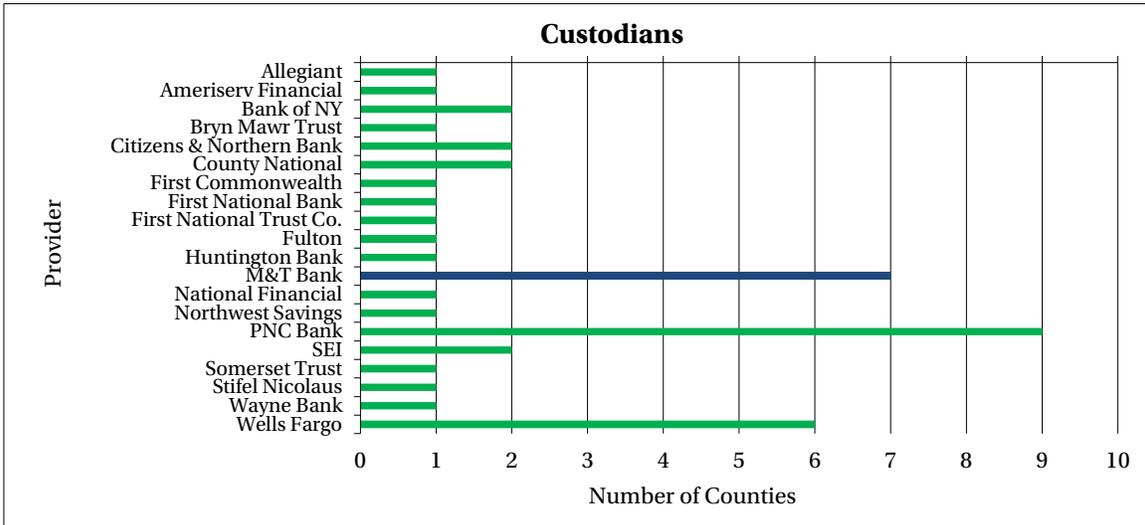
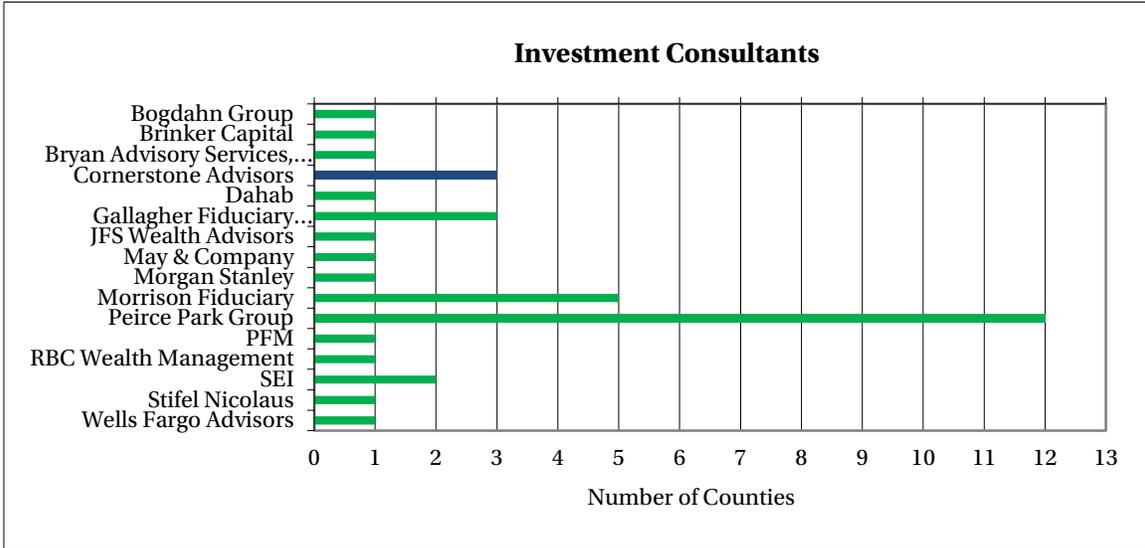
The change in assumptions “adjusts” your liabilities and this adjusted figure is used in the Adjusted Funded Ratio calculation. In 2014, the *average adjusted funded ratio* was 92.7%.



OTHER INFORMATION

Plan Vendors

The charts below show how many counties are using various investment consultants, custodians, and actuarial firms.

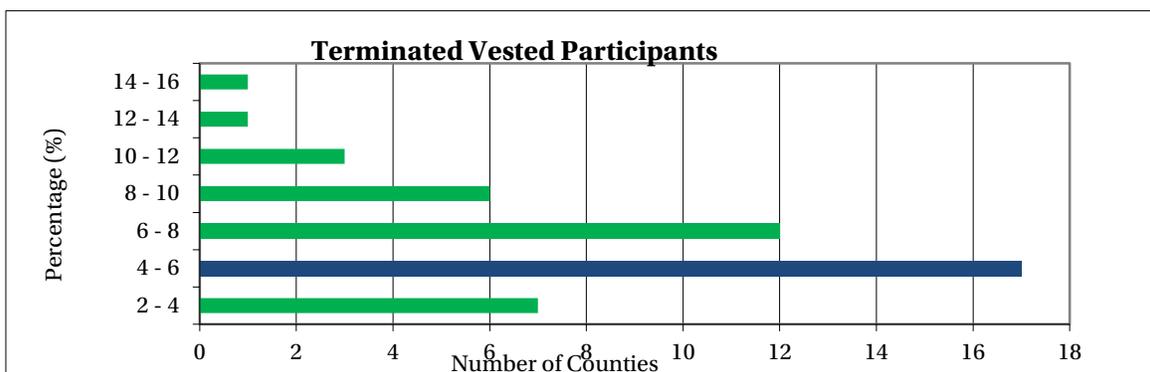
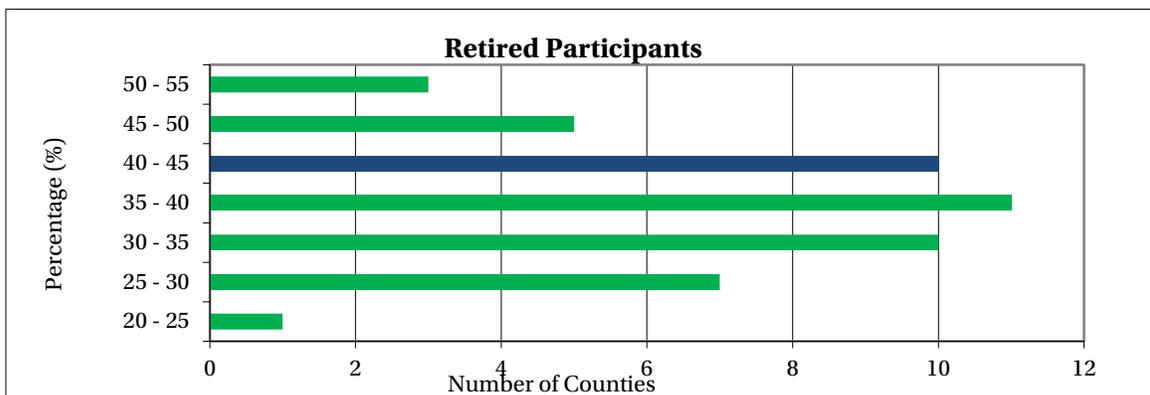
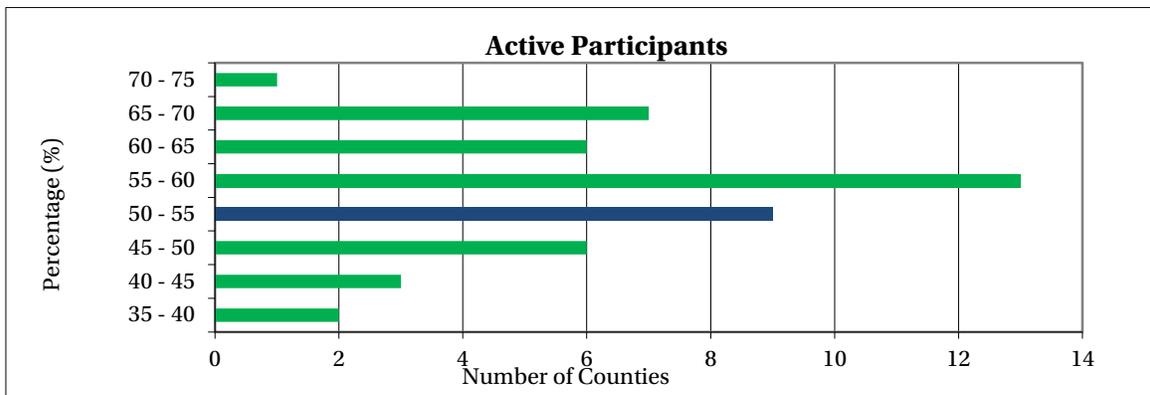


County Plan Participants

Participants in a retirement plan fall into one of three categories:

- Active: Still actively employed by the county
- Retired: No longer working and are drawing benefits
- Terminated vested: Formerly worked for the county, eligible for benefits but are not currently drawing them

If your plan has a significant number of retirees, you may want to choose a more conservative and liquid fund investment approach to ensure you can readily meet benefit payment obligations. This is one of the factors that needs to be taken into account when determining a realistic investment return, based on your county's specific situation.



Benefit Class

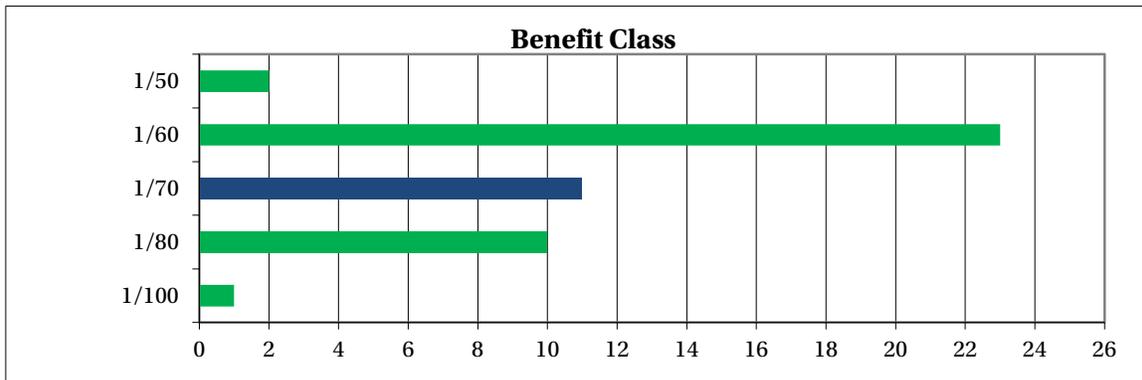
A retired employee receives benefits equal to their benefit class times their “final average salary” and years of service.

$$(\text{benefit class}) \times (\text{final average salary}^*) \times (\text{years of service})$$

*The average of the member’s annual compensation received for the three years that produce the highest such average.

For example: $(1/60) \times \$40,000 \times 30 = \$20,000$ per year benefit

A benefit class (ratio) with a lower denominator will yield a higher benefit payment to the retiree. In the 1950s, most Pennsylvania county pension plans used a benefit class of 1/120 to 1/100. Over the years as fund assets grew, counties improved the benefit packages. In 2014, the benefit ratio of the reporting counties ranged from 1/50 to 1/100, with the majority of counties using a benefit ratio of 1/60.



LOOKING AHEAD

GASB Statements 67 and 68

The Government Accounting Standards Board (GASB) Statements 67 and 68 are marking the most significant changes to Pennsylvania county pension plan financial reporting in many years. These standards are designed to increase comparability, consistency and transparency of pension related data reported in financial documents. In turn, they should create greater awareness of the full impact of benefits and liabilities and a clearer picture of the government unit's net pension position.

The most significant aspect of these regulations may be the change to the way government entities calculate and report the net pension liability. Under the new statements, the net pension liability is equal to the present value of total future benefits to be paid, less the net position of the plan market value of assets. Government entities are being required to include more extensive disclosures than in the past.

Implementation of GASB Statement 68 is underway beginning this year. In preparing for complete GASB implementation, you will want to:

- Ensure you understand Statement 68 and how it will apply to your situation
- Determine how these changes will affect your county
- Examine investment options that may help mitigate the financial statement effect
- Develop a pension funding policy, which can help you navigate potentially competing objectives

Feel free to contact Peirce Park Group if you would like more information about these important changes.

New GASB Statements 74 & 75 for Other Post Employment Benefits (OPEB)

In June 2015, GASB approved Statements 74 and 75, which deal with Other Post Employment Benefits (the primary one being health insurance for retirees). Implementation will begin in 2016. These statements follow closely with the provisions of GASB Statements 67 and 68 and will mean OPEB liabilities and costs will be reflected on the financial statements for the plan and the county in 2016 and 2017 respectively.

Pennsylvania House Bill 239

The Pennsylvania House and Senate have approved Bill 239, which would amend the County Pension Law (Act 96 of 1971). This bill provides a specific definition for the cost of living index, and addresses the method by which a cost-of-living adjustment (COLA) would be calculated by a county. The bill is currently awaiting the governor's signature or veto. If passed, the amendments will take effect 60 days following enactment.

2015 Market Update

As we enter the end of October, domestic equities have been flat after recovering from a sharp third-quarter correction. International equities have fared worse, down roughly 2%. Investment-grade fixed income has generated positive returns this year, supported by relatively strong performance among government and high-quality corporate debt. Intermediate-term fixed income is up 2.0% over the period. Put together, a portfolio of 60% global equities and 40% domestic fixed income will have eked out a modest positive return of 0.1% year-to-date.



PEIRCE PARK GROUP
INVESTMENT MANAGEMENT CONSULTANTS

Please feel free to contact Michael Shone (mshone@peircepark.com), Lee Martin (leemartin@peircepark.com), or Sarah Wilson (swilson@peircepark.com) at Peirce Park Group (610) 719-0300 if you would like any further information regarding the observations in this report.