

DAUPHIN COUNTY EMPLOYEE RETIREMENT FUND

SUMMARY REPORT FOR YEAR ENDED DECEMBER 31, 2017

PREPARED BY:
OFFICE OF THE DAUPHIN COUNTY CONTROLLER
TIMOTHY L. DEFOOR

SECRETARY, DAUPHIN COUNTY RETIREMENT BOARD

A Message from the Controller

It is with great pleasure that I present to you the first Dauphin County Employee Retirement Fund Summary Report containing fund activity from January 1, 2017 through December 31, 2017, as well as historic data and statistics. As Dauphin County Controller, I serve as the Secretary of the Dauphin County Retirement Board. Since taking office in 2016, I have strived to bring information to the public in an easy-to-understand format so to improve transparency of government activities.

This summary report was prepared to give you and our Retirement Fund members an overview of Dauphin County's Retirement Fund, and to provide helpful information, such as definitions of important pension terms. In this report, you will find information on the County's Plan membership, the Fund's rate of return, expenses and contributions, as well as the Fund's investment portfolio and investment managers for 2017.

The Dauphin County Retirement Board operates under the County Pension Law, Act of August 31, 1971, P.L. 398, No. 96, as amended, 16 P.S. §11651, et seq. As provided by law, the Retirement Board members are the County Commissioners, the County Controller and the County Treasurer. The Chairman of the Board of Commissioners is the Chairman of the Retirement Board. The members of the Retirement Board are the trustees of the Fund, and are responsible for the management and investment of the Fund. Serving with me on the Retirement Board are Chairman Jeff Haste, Commissioner Mike Pries, Commissioner George Hartwick III, and Treasurer Janis Creason.

I am proud to work alongside the many dedicated and hard-working Dauphin County employees, and honored to have the responsibility of serving on the Dauphin County Retirement Board. I would like to thank the County staff for supporting our retirees, and our intern, Cody Boyer for his contributions in the preparation of this summary report. I hope this report is interesting, helpful and informative to the people who matter most, you the citizens and employees of Dauphin County.

Sincerely,

Timothy L. DeFoor Dauphin County Controller



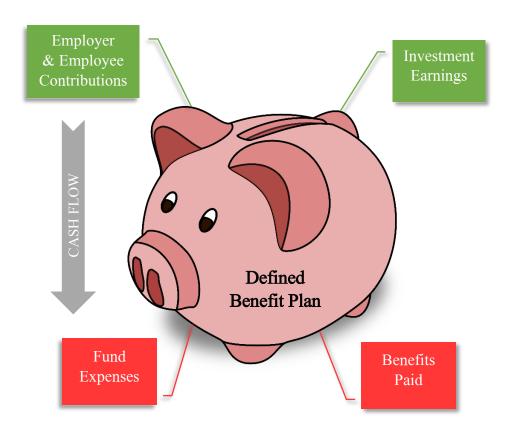
What is a Defined Benefit Pension Plan?

The Dauphin County Retirement Trust Fund is a single employer contributory defined benefit plan covering all full-time employees of the County and part-time employees exceeding 1,000 hours per year. Management of the Fund is vested in the Retirement Board, which consists of five (5) members: three (3) County Commissioners, the County Controller, and the County Treasurer. The Plan provides retirement, disability, and death benefits to its members and their beneficiaries.

The Plan is "defined benefit" because it provides a benefit that is specified by a calculation that accounts for length of employment, salary history, and benefit class. A defined benefit plan differs from a defined contribution plan as employees are guaranteed a specific benefit upon retirement.

Retirement benefits for plan members are calculated as a percentage of the member's highest 3-year average salary multiplied by the member's years of service multiplied by class basis. Annual County contributions are calculated and recommended by Korn Ferry Hay Group, the County's actuary.

In addition to the County benefit, employees contribute a minimum 5% of annual pay, which provides an additional employee benefit "cash balance." Employees may also choose to contribute up to an additional 10% of gross pay after taxes. Plan members with 20 years of service are eligible to retire at age 55. Plan members that have attained age 60 are eligible to retire. All Plan members are eligible for disability benefits after 5 years of service if disabled while in service and unable to continue as a County employee. Disability retirement benefits are equal to 25% of the highest average salary at the time of retirement. The death benefit for a member who dies with 10 years of service prior to retirement is the total present value of the member's retirement paid in a lump sum.



Plan Membership Status

The graph below displays membership status for employees participating in the Plan from 2014 through 2017. As of December 31, 2017, there were 2,844 Plan members. Of these members, 1,467 are active members, 1,139 are retired members or beneficiaries currently receiving benefits, and 238 are terminated Plan participants entitled to but not yet receiving benefits. Over time, the total number of Plan members has gradually increased as members retire and are replaced by new members.

Active member- An individual currently employed by the County that is contributing to the Pension Plan. An active member does not include a member receiving disability benefits.

Includes full time employees and part time employees exceeding 1,000 per year

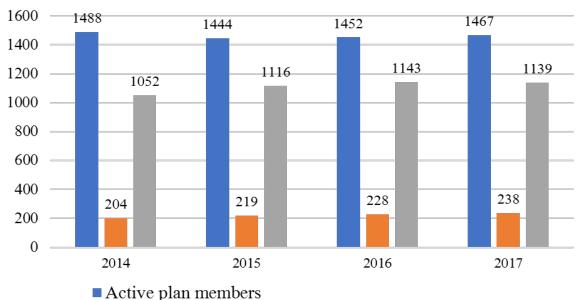
Terminated vested member- Former employee who earned vested benefits by working for five (5) years or more has terminated employment with the County and is not yet receiving retirement benefits.

• Such participants can receive benefit payments from the Plan once they reach the Plan's normal retirement age or, if the Plan allows, the Plan's early retirement age

Retiree/beneficiary- A Plan member who is retired and receiving benefits, or their beneficiary.

• Eligible for retirement at age 60, or age 55 with 20 years of credited service

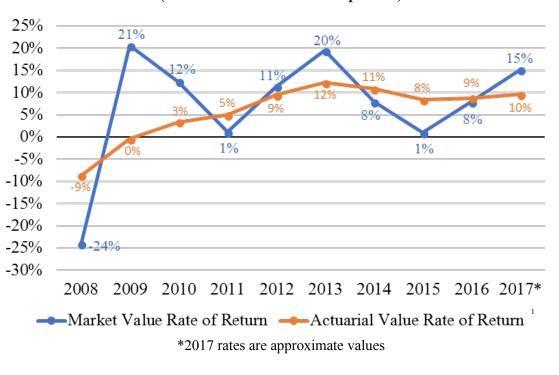
Retirement Plan Membership Status



- Terminated vested members
- = 1 climitated vested memoers
- Retirees and beneficiaries currently receiving benefits

History of Investment Returns

(Net of Investment Expense)



As of December 31, 2017, market value of the investment portfolio was \$337,190,411. In 2017 the portfolio experienced a net investment gain of \$45,036,677, which resulted in a net investment return of 15.1% for the year. The County's assumed rate of return for 2017 was 7.5%. The 2017 returns were attributable to strong global equity returns. Anticipation of a tax overhaul bill being passed by Congress, which eventually was approved in late December, drove stock prices higher. Fixed income sectors experienced small gains overall as their returns were offset by rising yields. The yield curve also began to flatten after exposure to rising short-term yields due to investors expecting the tax overhaul to facilitate growth and inflation.

Nearing the end of October, the S&P 500 achieved its longest streak of consecutive days without a 3% market correction. Due to monetary tightening from the Federal Reserve, short-term rates rose, and the S&P 500 dividend yield converged with 2-year Treasury yields. This incidence was last observed in 2007. An international trend that proved dominant in the U.S. was growth stocks outperforming value stocks, which did so by 16 percentage points.

Throughout the past 10 years, from 2008 to 2017, the Plan averaged a market value rate of return of 7.3%. From 2011 to 2017, a span of 7 years, the average rate of return was 9.1%. Within the past 3 years, the Plan realized an average rate of return of 10.3%. This gradual increase over time is due to the market recovering after the downturn of 2008, where returns were more than -24%.

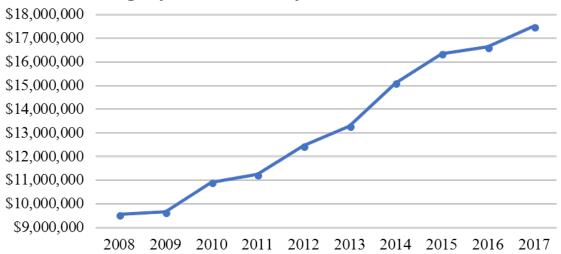
¹ Actuarial market values are determined by "smoothing" gains and losses over a 5-year period. Making these adjustments helps smooth market values and therefore allows the County to better handle fluctuations in its actual experience. When looking at the Fund, actuarial values grow more smoothly than market values. This method is used to reduce book asset, funding ratio and contribution volatility.

Annual Expense Analysis

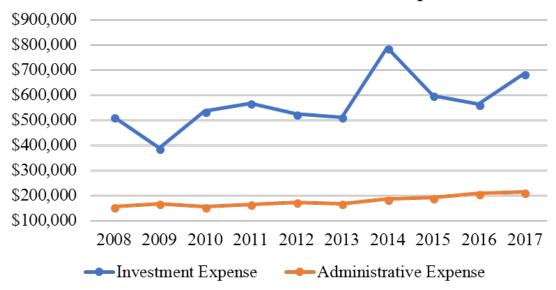
The first graph below illustrates payment reductions from the Fund for benefit payments and employee refunds. The second graph illustrates associated investment and administrative expenses directly paid by the Fund.

Investment expenses include fees paid to Investment Managers, the Fund Custodian, and various consulting fees. Administrative expenses include advertising, actuarial/financial services, benefits, salaries, and supplies. As of December 31, 2017, the County's investment expenses totaled \$685,737, while administrative expenses totaled \$213,874. Together, this was a 16.5% increase from December 31, 2016.

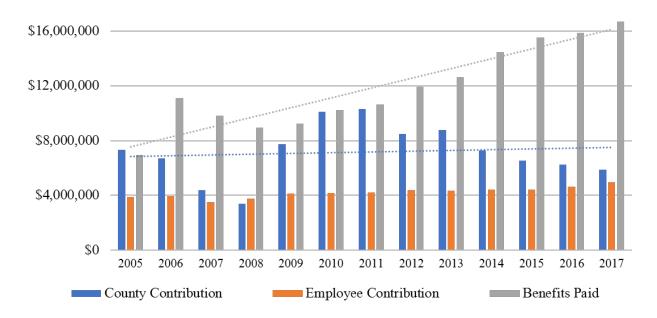




Investment & Administrative Expenses

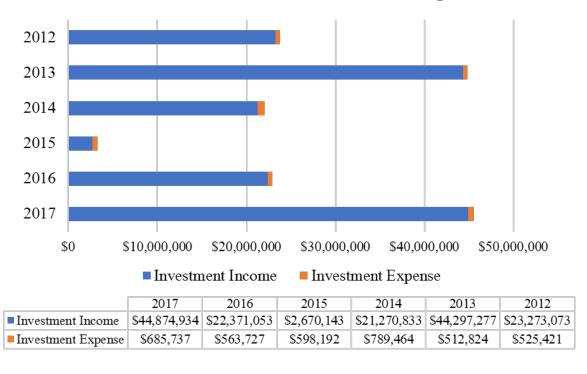


Pension Plan Cash Flows



In 2017, the County contributed \$5,852,311 into the Pension Plan, while employee contributions were \$4,940,140, for a total of \$10,792,451 in contributions. The County contributed at a rate of 7.57% of annual payroll. The Plan also realized a net appreciation in fair value of investments totaling \$41,779,326. Combined with dividends, interest, and miscellaneous revenue, the net investment income totaled \$44,874,934. Benefits paid to retirees as of December 31, 2017, amounted to \$16,697,044. This was an increase of 5.2% from 2016, when the benefit expense totaled \$15,873,329.

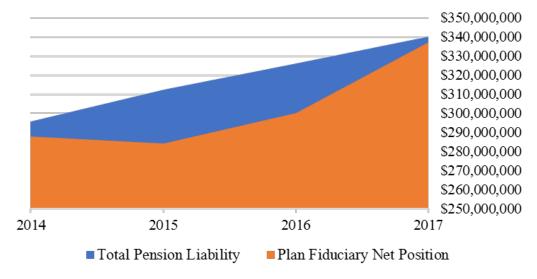
Schedule of Investment Income & Expenses



Statement of Plan Assets as of December 31, 2017

Assets	2017 Total	
Cash and Cash Equivalents	\$	2,110,749
Investments by Fair Value Level:		
U.S. Government Securities	\$	9,978,651
Corporate Bonds		18,662,891
Bond Mutual Fund		27,986,002
Equity Funds		124,835,623
Savings, CD's, and Time Deposits		2,534,750
Investments Measured at the Net Asset Level:		
Limited Partnership		18,593,702
Global Managed Equity Fund		45,128,878
Global Multi-Cap Quality Trust Fund		31,467,732
Global Opportunities Equity Fund		38,295,259
Multi-Strategy Trust Fund		17,830,217
Total Assets as of December 31, 2017	<u>\$</u>	337,648,605

County's Net Pension Liability



As of December 31, 2017, the County's funded ratio was 89.7%.

Statement of Changes in Fiduciary Net Position

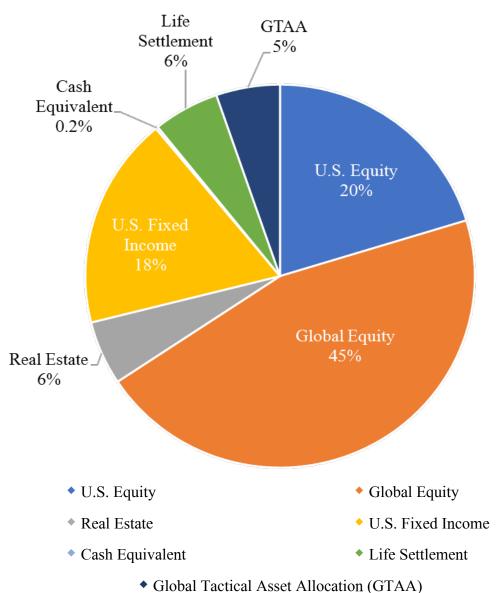
County of Dauphin, Pennsylvania

Year Ended December 31, 2017

Additions:	<u>2017</u>
Contributions	\$
County	5,852,311
Plan Members	 4,940,140
Total Contributions	 10,792,451
Investment Income:	
Net Appreciation in Fair Value of Investments	\$ 41,779,326
Interest	865,824
Dividends	2,212,815
Miscellaneous Revenue	 16,969
Total Investment Income	44,874,934
Less: Investment Expense	 (685,737)
Net Investment Income	 44,189,197
Total Additions	 54,981,648
Deductions:	
Pension Benefits	\$ 16,697,044
Refunds of Contributions	807,178
Administrative Expenses	 213,874
Total Deductions	 17,718,096
Increase in Net Position	37,263,552
Net Position Restricted for Pensions (Beginning of Year)	 300,128,306
Net Position Restricted for Pensions (End of Year)	\$ 337,391,858

Dauphin County Pension Plan Portfolio

Asset Allocation by Percentage As of December 31, 2017



Global Tactical Asset Allocation (GTAT)

The primary principle behind portfolio allocation is to minimize risk and maximize returns. Risk is broadly defined as the chance that the return on an investment will differ from the expected rate of return. In this case, risk accounts for the variance of expected contributions, volatility of investments, and the standard deviation of plan returns. The Plan's current allocation of assets is mostly a factor of meeting the assumed rate of return and doing so at the lowest level of risk.

Pension Plan Management Structure



Dauphin County Retirement Board Members



Jeff Haste Chairman



Mike Pries Board Member



Timothy L. DeFoor Secretary



George P. Hartwick III Board Member



Janis Creason Board Member

2017

Dauphin County Retirees

Daniel Henderson	Willie Reeves	
Gilbert Hirschel	Monica Reider	
Gary Hilliard	Cindy Rigg	
Keith Hoke	Tony Rock	
Robin Holtzman	Dianne Rodgers	
Debra Jenkyn	Leroy Rung	
Mark Jeszenka	Laura Segarra	
Patrick Kelly	Dganit Shefet	
Susan Kolanda	Joseph Shockley Jr.	
Kenneth Koller Jr.	Pamela Sites	
Margaret Kovach	Bradley Smith	
Michael Larks	Michelle Snell	
Cora Lewis	Thomas Speaks Jr.	
Sandra Lockerman	Linda Stanowski	
Edward Marsico Jr.	Nancy Staub	
Stephen Matusheski	Cathy Sukley	
Beth Miller	Robert Thorn	
Debra Napper	Shannon Tobin	
Karen Ouellett	Dennis Wagner	
Daniel Parrish	Earl Wanner Jr.	
Christopher Potts	Kevin Winter	
Carl Probst	Farid Yunez	
	Michael Zeigler	
	Gilbert Hirschel Gary Hilliard Keith Hoke Robin Holtzman Debra Jenkyn Mark Jeszenka Patrick Kelly Susan Kolanda Kenneth Koller Jr. Margaret Kovach Michael Larks Cora Lewis Sandra Lockerman Edward Marsico Jr. Stephen Matusheski Beth Miller Debra Napper Karen Ouellett Daniel Parrish Christopher Potts	

Thank you for your service!

Glossary of Terminology

Actuary

An actuary is a professional who assesses and manages the risks of financial investments, insurance policies and other potentially risky ventures.

Actuarial Assumption

An actuarial assumption is an estimate of an uncertain variable input into a financial model, normally for the purposes of calculating premiums or benefits.

Actuarial Valuation

An actuarial valuation is a type of appraisal of a pension fund's assets versus liabilities, using investment, economic and demographic assumptions for the model to determine the funded status of a pension plan.

Actuarial Value

Actuarial value is the percentage of total average costs for covered benefits that will be paid by a health insurance plan.

Appreciation

Appreciation is an increase in the value of an asset over time. The increase can occur for a number of reasons, including increased demand or weakening supply, or as a result of changes in inflation or interest rates. This is the opposite of depreciation, which is a decrease over time.

Fair Value

Fair value is the sale price agreed upon by a willing buyer and seller, assuming both parties enter the transaction freely and knowledgeably. Many investments have a fair value determined by a market where the security is traded. Fair value also represents the value of a company's assets and liabilities when a subsidiary company's financial statements are consolidated with a parent company.

Federal Reserve

The Federal Reserve System is the central bank of the United States and arguably the most powerful financial institution in the world. The Federal Reserve System was founded by the U.S. Congress in 1913 to provide the nation with a safe, flexible, and stable monetary and financial system.

It is based on a federal system that comprises a central governmental agency (the Board of Governors) in Washington, DC and 12 regional Federal Reserve Banks that are each responsible for a specific geographic area of the U.S. The Federal Reserve is considered to be independent because its decisions do not have to be ratified by the President or any other government official. However, it is still subject to Congressional oversight and must work within the framework of the government's economic and financial policy objectives. Often known simply as "the Fed".

Fixed Income

Fixed income is a type of investment in which real return rates or periodic income is received at regular intervals and at reasonably predictable levels. Fixed-income investments can be used to diversify one's portfolio, as they pose less risk than equities and derivative investments. Retired individuals typically tend to invest heavily in fixed-income investments because of the reliable returns they offer.

Fund Custodian

A custodian is a financial institution that holds customers' securities for safekeeping so as to minimize the risk of their theft or loss. A custodian holds securities and other assets in electronic or physical form. Since they are responsible for the safety of assets and securities that may be worth hundreds of millions or even billions of dollars, custodians generally tend to be large and reputable firms. A custodian is sometimes referred to as a "custodian bank".

Growth Stock

A growth stock is a share in a company that is anticipated to grow at a rate significantly above the average for the market. These stocks generally do not pay dividends, as the companies usually want to reinvest any earnings in order to accelerate growth in the short term. Investors then earn money through capital gains when they eventually sell their shares.

Market Value

A custodian is a financial institution that holds customers' securities for safekeeping so as to minimize the risk of their theft or loss. A custodian holds securities and other assets in electronic or physical form. Since they are responsible for the safety of assets and securities that may be worth hundreds of millions or even billions of dollars, custodians generally tend to be large and reputable firms. A custodian is sometimes referred to as a "custodian bank."

Present Value

Present value (PV) is the current value of a future sum of money or stream of cash flows given a specified rate of return. Future cash flows are discounted at the discount rate, and the higher the discount rate, the lower the present value of the future cash flows. Determining the appropriate discount rate is the key to properly valuing future cash flows, whether they be earnings or obligations.

Rate of Return

A rate of return is the gain or loss on an investment over a specified time period, expressed as a percentage of the investment's cost. Gains on investments are defined as income received plus any capital gains realized on the sale of the investment. Rate of return can also be defined as the net amount of discounted cash flows received on an investment.

Value Stock

A value stock is a stock that tends to trade at a lower price relative to its fundamentals, such as dividends, earnings and sales, making them appealing to value investors.

Volatility

Volatility is a statistical measure of the dispersion of returns for a given security or market index. Volatility can either be measured by using the standard deviation or variance between returns from that same security or market index. Commonly, the higher the volatility, the riskier the security.

Yield

The yield is the income return on an investment, such as the interest or dividends received from holding a particular security. The yield is usually expressed as an annual percentage rate based on the investment's cost, current market value or face value. Yields may be considered known or anticipated depending on the security in question as certain securities may experience fluctuations in value.

All terms and definitions in the Glossary of Terminology were sourced from Investopedia.com



The information contained within this report was compiled from the Dauphin County Employees' Retirement System Quarterly Performance Reports produced by Marquette Associates, Dauphin County Retirement Trust Fund reports produced by Zelenkofske Axelrod LLC, and Actuarial Valuation reports produced by Korn Ferry Hay Group.

DISCLAIMER: The sources of information used in this report are believed to be reliable. Dauphin County has not independently verified all of the information and its accuracy cannot be guaranteed. Opinions, estimates, projections and comments constitute our judgement and are subject to change without notice. References to specific securities are for illustrative purposes only and do not constitute recommendations. Past Performance does not guarantee future results.