

# York County Employees' Postemployment Benefit Plan

Actuarial Valuation for Funding  
Purposes as of January 1, 2019

Municipal

Finance

Partners, Inc.

**York County Employees' Postemployment Benefit Plan  
Actuarial Valuation as of January 1, 2019**

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# York County Employees' Postemployment Benefit Plan

## Actuarial Valuation as of January 1, 2019

### Executive Summary

The purpose of this report is to determine an actuarially appropriate contribution amount (the Actuarially Determined Employer Contribution or ADEC) to fund current and future plan benefits.

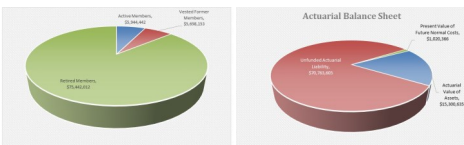
### The Actuarially Determined Employer Contribution (ADEC)

The Actuarially Determined Employer Contribution has decreased from \$8,323,521 in 2017 to \$7,004,918 for 2019. The ADEC is the sum of the following components:

- The Normal Cost of \$155,726,
- An amortization payment of \$6,616,184, and
- Interest to year end of \$233,008.

The determination of the ADEC is shown on [page 6-9](#).

These charts show the makeup of plan assets and liabilities as of the valuation date.



### Changes Reflected in the Actuarial Valuation

This actuarial valuation includes an update in the

mortality table, projecting mortality improvement through 2019 instead of 2017.

The medical plan for retired members has changed since the prior actuarial valuation. Most retired members over age 65 participate in a fully-insured plan instead of the County's self-funded plan. As this coverage changed in 2017, we have excluded the pre-2017 medical costs from the analysis of medical claims for the applicable coverages.

In addition, the method used to adjust premium and medical claims by age has been revised to include age adjustments for post-65 medical costs as well.

The actuarial valuation is based upon the following inputs:

- Investment performance
- Participant information
- Plan benefit provisions
- Medical claims and premium experience
- Actuarial assumptions and methods

### Investment Performance

The County established an OPEB fund in late 2016. The fund balance at December 31, 2018 was

\$15,300,635. The fund was fully invested; therefore, the fund is expected to earn 7.0% per year, based upon the fund's investment policy.

### Participant Information

The plan's membership consists of 578 retired members current receiving benefits under the plan, 23 former members eligible for future plan benefits who have vested in their pension benefits and 37 active employees eligible for benefits upon the future termination or retirement, 19 of whom are currently eligible for benefits. The active membership was closed to new members at January 1, 1989.

### Plan Benefit Provisions

The plan's benefits include medical, prescription drug, dental, vision and life insurance coverage. In addition, a closed group of retired members is eligible for medical cost reimbursement.

Medical benefits for active employees of the County are provided under a self-insured plan; however, the benefits for retired members eligible for Medicare is provided under an insured Medicare supplement plan.

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Benefits provided for retired members not eligible for Medicare and for some retired members who were grandfathered in the plan under which they retired, continue to be provided under the self-insured plan for active employees.

A description of the plan benefits and eligibility for benefits can be found on [page 10](#).

### Medical Claims and Premium Experience

Unlike pension benefits, which are determined at retirement and are unchanged, unless cost-of-living increases are granted, benefits under a postemployment benefit or OPEB plan are dependent upon medical insurance costs. As medical costs are related to the age and sex of the benefit recipients and are subject to medical inflation, we must build a model to predict future medical costs based on the demographic makeup of the participant group as well as expected medical inflation.

### The Implicit Rate Subsidy

Although the employer pays the same premiums or average costs (the *COBRA* cost or *composite premium*) for all plan members, the

inclusion of older, retired members (who tend to have higher claims costs than younger members) increases the composite premium for the entire group. The payment of the composite premium for younger members represents an implicit rate subsidy to the plan to cover the higher costs for the older members. Another way of viewing this is that if these were a group of individual policies, rather than one group policy, the younger members would pay lower premiums and the older members would pay higher premiums.

Medical costs for the Medicare eligible population also increase as they age, so the post-age 65 claims and premiums are also adjusted for age.

Similarly, the costs of benefits in the self-funded plan are adjusted to reflect the age of the member.

The actuarial standards regarding the valuation of postretirement medical benefits requires the recognition of these higher costs of including older members in the same plan as active members. Specifically, we cannot use the composite

premium or average claims to represent the cost for retired members. Among the acceptable methods for valuing the liability for retired members is to use insurers' demographic (age/sex/family status) ratings to represent the "true" cost of the benefits.

### Actuarial Assumptions and Methods

Once the plan provisions and participant information have been established and we have built the model to forecast future medical costs by age and sex, we project potential future events (medical inflation, retirements, deaths, etc.) using a set of actuarial assumptions, as described in on [pages 11-12](#).

Due to the adoption of a funding policy that requires contributing the ADEC in future years and an investment policy that requires full investment in the market, we are using a valuation interest rate of 7.0% per year.

The medical claims rates have been updated to reflect claims experience and premium changes since the prior actuarial valuation.



# York County Employees' Postemployment Benefit Plan

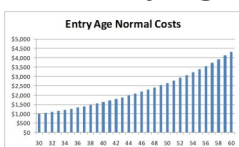
## Actuarial Valuation as of January 1, 2019

The only change in the actuarial assumptions from the prior actuarial valuation was an update in the mortality table to project mortality improvement through 2019 (previously this was projected through 2017).

At this point, we have determined the plan's liabilities. The next step is to use an actuarial cost method to assign these liabilities to particular time periods, such as the member's career.

Under the [Entry Age Normal Cost Method](#), this present value is divided into two pieces: the amount to be funded by future normal costs and the amount that should have been funded by prior contributions (the *actuarial accrued liability*). The amount of the actuarial accrued liability that is not funded by current plan assets is called the *unfunded actuarial accrued liability*.

This chart shows the pattern of normal costs under the Entry Age method.



The value of these normal

costs, as of the valuation date, is the actuarial present value of all future benefits expected to be paid for each participant.

The current and future normal costs will be funded as part of the plan's Annual Required Contribution (ARC). The value of prior years' normal costs is the actuarial accrued liability. The actuarial accrued liability is compared to plan assets and the unfunded portion of the liability is amortized over 20 years and added to the Normal Cost to determine the ARC.

### A Discussion of Risk

The projections that make up an actuarial valuation are expected values which, are based on the average, or mean, of the distribution of potential results. Actual results will vary over time. These variances, or deviations from the mean, represent the potential risks (and rewards) inherent in the operation of a pension plan.

Below are five basic types of risk that are characteristic to retirement and postretirement benefit plans and how we work to manage them:

- **Investment Risk** is the potential that investment returns will differ from expectations and is the largest risk a plan faces. We moderate this risk by using actuarial asset smoothing and amortizing gains and losses over future years.

**Asset/Liability Mismatch Risk** is the potential that changes in assets and liabilities do not match. As financial instruments, pension liabilities behave like bonds; their market value rising and falling as interest rates fall and rise. Equity investments achieve larger returns as a *risk premium*. This risk could be defused by investing solely in fixed income investments that match the duration of the liabilities, but at the cost of dramatically lower fund returns, leading to significantly higher contributions.

- **Interest Rate Risk** works in two ways: Higher yields will benefit new investments in bonds or other fixed income investments, while decreasing the value of bonds currently held. It is important to understand the cause of the change; for example, if interest rates rise due to

# York County Employees' Postemployment Benefit Plan

## Actuarial Valuation as of January 1, 2019

inflationary pressures, the plan's equity investments will generally rise, offsetting the drop in fixed income investments.

- **Longevity and Demographic Risk** is the potential for losses (and gains) on the liability side of the pension balance sheet when plan member experience differs from the demographic assumptions used to predict it. This risk can be mitigated by updating mortality assumptions as new tables are released, using updated medical claims analysis methods and data, reviewing the impact of deviations from expectations and changing assumptions when these reviews and/or experience studies indicate.
- **Contribution Risk** is the potential that contributions will deviate from actuarial requirements or recommendations. Actuaries consider this risk to be a moral hazard.

### Actuarial Certification

The calculations within this report have been prepared for the purpose of determining a recommended contribution (the Actuari-

ally Determined Employer Contribution, or ADEC) to fund future plan benefits on an actuarial basis.

Determinations for purposes other than determining funding adequacy on an ongoing basis may differ significantly from the results in this report. Additional determinations are needed for other purposes, such as the plan's or plan sponsor's financial disclosures under GASB standards or gauging benefit security upon plan termination.

The actuarial valuation is a projection of liabilities based on the plan provisions, financial information, participant data and actuarial assumptions and methods as described within the report. The actuarial valuation is not an exact statement of the Plan's ultimate benefits and liabilities.

The actuarial valuation is based on actuarial assumptions as to future economic, demographic and medical cost experience. Future results may differ significantly from the results of the actuarial valuation. Analysis of the sensitivity of the valuation results to

future experience was beyond the scope of this assignment.

To the best of my knowledge, this report is complete and accurate, based upon the data furnished to us. The participant and beneficiary data, trust fund information and the information regarding medical claims and premiums were provided by York County.

The participant information used to prepare the January 1, 2019 actuarial valuation was as of January 1, 2019. The medical claims and premium information used to project the plan's expected future medical costs was generally for the years 2016-2018.

The actuarial assumptions and methods used to prepare the actuarial valuation were arrived at by consensus of the Actuary and the County Management.

I, Charles B. Friedlander, am President & Chief Actuary for Municipal Finance Partners, Inc. I am a Member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, a Fellow of the Conference of

# York County Employees' Postemployment Benefit Plan

## Actuarial Valuation as of January 1, 2019

Consulting Actuaries, and an Enrolled Actuary under ERISA, and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

I am available to discuss this report and can be contacted at:

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*Charles B. Friedlander, F.S.A.  
President & Chief Actuary*

November 1, 2019

*Date*

# York County Employees' Postemployment Benefit Plan

## Actuarial Valuation as of January 1, 2019

***The Actuarially Determined Employer Contribution (ADEC).***

*This section contains the calculation of the Actuarially Determined Employer Contribution (ADEC).*

*The tables on this page show the determination of the Normal Cost and Actuarially Accrued Liability. The following page shows how the ADEC is determined from its components.*

|   |                  |                            |
|---|------------------|----------------------------|
| <u>Normal Cost</u>                          |                  | <u><u>\$155,726</u></u>    |
| <br>  |                  |                            |
| <u>Present Value of Future Benefits</u>     |                  |                            |
| Active Members                              |                  |                            |
| Medical Insurance                           | \$2,405,226      |                            |
| Prescription Drug                           | 3,031,870        |                            |
| Dental Insurance                            | 259,398          |                            |
| Vision Reimbursement                        | 38,544           |                            |
| Life Insurance                              | <u>209,404</u>   |                            |
| Total Active Members                        |                  | \$5,944,442                |
| Vested Former Members                       |                  |                            |
| Medical Insurance                           | \$2,738,474      |                            |
| Prescription Drug                           | 2,631,172        |                            |
| Dental Insurance                            | 211,642          |                            |
| Vision Reimbursement                        | 31,448           |                            |
| Life Insurance                              | <u>85,417</u>    |                            |
| Total Vested Former Members                 |                  | 5,698,153                  |
| Retired Members                             |                  |                            |
| Medical Insurance                           | \$43,365,921     |                            |
| Prescription Drug                           | 24,309,206       |                            |
| Dental Insurance                            | 3,576,535        |                            |
| Vision Reimbursement                        | 447,931          |                            |
| Life Insurance                              | <u>3,742,419</u> |                            |
| Total Retired Members                       |                  | <u>75,442,012</u>          |
| Total Present Value of Future Benefits      |                  | <u><u>\$87,084,607</u></u> |
| <br>  |                  |                            |
| <u>Unfunded Actuarial Accrued Liability</u> |                  |                            |
| Present Value of Future Benefits            |                  | \$87,084,607               |
| Present Value of Future Normal Costs        |                  | <u>(1,020,367)</u>         |
| Actuarial Accrued Liability                 |                  | \$86,064,240               |
| Actuarial Value of Assets                   |                  | <u>(15,300,635)</u>        |
| Unfunded Actuarial Accrued Liability        |                  | <u><u>\$70,763,605</u></u> |



# York County Employees' Postemployment Benefit Plan

## Actuarial Valuation as of January 1, 2019

*Changes in the unfunded actuarial accrued liability are amortized over a 20-year period from the date established, as shown below:*

### Amortization of Unfunded Actuarial Accrued Liability

| Initial<br>Period | Date<br>Established | Initial<br>Amount   | Current<br>Amount   | Annual<br>Payment  | Years<br>Remaining | Source                     |
|-------------------|---------------------|---------------------|---------------------|--------------------|--------------------|----------------------------|
| 20                | 1/1/2017            | \$83,868,082        | \$79,633,301        | \$7,398,648        | 18                 | Initial Unfunded Liability |
| 20                | 1/1/2019            | 351,559             | 351,559             | 31,014             | 20                 | Actuarial Assumptions      |
| 20                | 1/1/2019            | (9,221,255)         | (9,221,255)         | (813,478)          | 20                 | Actuarial Gain             |
| Totals            |                     | <u>\$74,998,386</u> | <u>\$70,763,605</u> | <u>\$6,616,184</u> |                    |                            |

# York County Employees' Postemployment Benefit Plan

## Actuarial Valuation as of January 1, 2019

*The table below shows changes in the plan's unfunded actuarial accrued liability since the prior actuarial valuation.*

|  |              |              |
|--|--------------|--------------|
| Unfunded Actuarial Accrued Liability at 1/1/2017 |              | \$83,868,082 |
| Normal Cost                                      | 750,401      |              |
| Administrative Expense                           | 0            |              |
| Interest on Above Items                          | 12,233,501   |              |
| Total  | 12,983,902   | 12,983,902   |
| Employer Contributions                           | (28,645,037) |              |
| Member Contributions                             | 0            |              |
| General Municipal Pension System State Aid       | 0            |              |
| Military Service Purchase                        | 0            |              |
| Interest on Contributions                        | (1,612,710)  |              |
| Total  | (30,257,747) | (30,257,747) |
| Adjustment for Funding Deviation                 |              | 13,039,064   |
| Modification to Actuarial Assumptions            |              | 351,559      |
| Modification to Active Member Benefits           |              | 0            |
| Modification to Retired Member Benefits          |              | 0            |
| Actuarial (Gain) or Loss                         |              |              |
| Investment (Gain) or Loss                        | \$1,187,109  |              |
| Experience (Gain) or Loss                        | 2,630,700    |              |
| Adjustment for Funding Deviation                 | (13,039,064) |              |
| Total  | (9,221,255)  | (9,221,255)  |
| Unfunded Actuarial Accrued Liability at 1/1/2019 |              | \$70,763,605 |

# York County Employees' Postemployment Benefit Plan

## Actuarial Valuation as of January 1, 2019

*The Actuarially Determined Employer Contribution, or ADEC, is calculated as the sum of the normal cost, administrative expenses expected to be paid from the plan, and the annual amortization payment, with interest to the end of the year.*

### Actuarially Determined Employer Contribution (ADEC)

|  |                    |
|--|--------------------|
| Normal Cost  | \$155,726          |
| Administrative Expenses                              | 0                  |
| Amortization of Unfunded Actuarial Accrued Liability | 6,616,184          |
| Interest to Year End                                 | 233,008            |
| Actuarially Determined Employer Contribution         | <u>\$7,004,918</u> |

# York County Employees' Postemployment Benefit Plan

## Actuarial Valuation as of January 1, 2019

### **Summary of Plan Provisions**

*The Plan is governed by Resolutions of the York County Retirement Board of January 5, 1983, December 7, 1983, February 22, 1984, December 31, 1986, December 21, 1988, September 12, 1990, March 3, 1993 and March 31, 2010 and the collective bargaining agreements between the County and its employee bargaining units. The following is a summary of the plan's salient provisions; actual benefits will be determined by the Resolutions and the collective bargaining agreements.*

#### **Plan Membership**

An employee hired on a full-time basis prior to January 1, 1989 enters the plan on the day he becomes a full-time County employee. Employees hired prior to January 1, 1989 who terminate employment and do not vest their pension benefit and are subsequently rehired on or after January 1, 1989 are not eligible for plan benefits.

#### **Benefit Eligibility**

An eligible County employee who retires on or after January 1, 1983 after completion of 8 or more years of service and is both receiving a pension from the York County Employees' Retirement System and currently enrolled in the County's health benefits plan is eligible for paid health and life insurance benefits for the remainder of his lifetime.

Spousal coverage will be provided for retiring members if the spouse was covered under the County health benefits plan at the time of retirement.

#### **Normal Retirement**

If a member terminates after age 55 and completion of 20 years of service, or age 60, he will be eligible for normal retirement pension under the York County Employees' Retirement System.

#### **Early Retirement**

If a member retires after voluntary termination after completion of 20 years of service, or after involuntary termination (as defined in Act 96 of 1971, the *County Pension Law*) after 8 years of service, he will be eligible for an early retirement pension under the York County Employees' Retirement System.

#### **Termination of Employment**

A county employee who terminates employment after 8 or more years of service will be eligible for benefits at retirement.

#### **Death Benefit**

If an employee dies prior to retirement, no benefits will be payable under the plan unless he has elected the Option 2(d) death benefit under the Retirement System. If an eligible retired member receiving plan benefits had elected a pension payment option that included lifetime benefits for his spouse (i.e., Option Two, Three, Four (C) or Four (D)), should he predecease her, then the spouse will continue to receive coverage under the plan after the death of the eligible retired member.

#### **Medical Benefits Provided**

Upon meeting the eligibility requirements, the plan will pay the medical costs for benefits covered to the retired County employees. Currently, this coverage is provided under the County's self-funded insurance plan for active employees until Medicare eligibility and under an insured Medicare Supplement policy thereafter. County Employees who retired prior to April 1, 2010 will continue to receive the plan medical benefits that were in place at the time of their retirement.

The medical benefits provided at retirement include coverages:

- Coverage for hospitalization and doctor's care through the Indemnity or Preferred Provider Organization plan under which the member was covered as an active member.
- Prescription Drug expense reimbursement, which changes to an

insured prescription drug product for members over age 65.

- Reimbursement of Medical Expenses, which is provided for a small group of grandfathered retired members.
- Dental Coverage
- Vision Coverage

The medical coverage has varying deductibles, copayments and other provisions based upon the date of retirement, union contract provisions and participant elections.

#### **Life Insurance Benefits Provided**

The designated beneficiaries of eligible members will receive a death benefit of 100% of the member's pay at retirement, to a maximum of \$50,000. For deaths after age 70, this amount will be reduced by 50%.

#### **Contributions**

Retired members do not contribute towards their medical benefits, except for members of certain employee groups who will be required to make the following contributions towards their medical costs after retirement:

- For medical coverage (i.e., PPO or Indemnity coverage), the contributions by retired members will be determined based upon the monthly dollar amount being paid by active employees at their retirement. These amounts will not increase after retirement.
- For dental coverage, the participant will be required to pay the excess of the COBRA rate for the option and tier coverage chosen over the COBRA rate low-option single person coverage. These amounts will not increase after retirement.

# York County Employees' Postemployment Benefit Plan

## Actuarial Valuation as of January 1, 2019

### Actuarial Assumptions and Methods

The following is a summary of the actuarial assumptions and methods used for this actuarial valuation.

#### Interest Rate

7.0% per year.

The valuation interest rate represents the expected long-term investment return on plan assets, based upon the plan's investment and funding policies.

#### Salary Increases

Active plan members' salaries are assumed to increase by 4.5% per year.

#### Mortality

RP-2000 Table for healthy males and females, using the combined mortality table for active and retired members with mortality improvement projected to 2019.

The mortality is assumed to follow the above-named table, which is based on mortality among the general population. The size of the member group in the plan is not large enough to develop a table based upon the plan's experience.

#### Turnover

Select and Ultimate Withdrawal is assumed. The Ultimate Rates, for members with 6 or more years of service are from Table T-7 of the Actuary's Pension Handbook. The following is a list of the annual rates of withdrawal (employee turnover) at selected ages under the Ultimate table:

| Age | Rate of Turnover |
|-----|------------------|
| 20  | 10.0000%         |
| 25  | 9.7500%          |
| 30  | 9.4022%          |
| 35  | 8.8436%          |
| 40  | 7.9543%          |
| 45  | 6.7120%          |
| 50  | 4.8722%          |
| 55  | 1.7020%          |

For members with less than 7 years of service, the rate of withdrawal is a

percentage of the ultimate rate, as specified below:

| Years of Service | Percentage of Ultimate Rate |
|------------------|-----------------------------|
| 0-1              | 300%                        |
| 1-2              | 275%                        |
| 2-3              | 250%                        |
| 3-4              | 225%                        |
| 4-5              | 200%                        |
| 5-6              | 175%                        |
| 6 or more        | 100%                        |

#### Member Elections

100% of vested terminated members are assumed to receive medical benefits at their normal retirement age.

#### Disability

None assumed.

#### Retirement

Rates of retirement for members eligible for early or normal retirement are as follows:

| Age   | Rate of Retirement |
|-------|--------------------|
| 55-59 | 7%                 |
| 60-61 | 8%                 |
| 62-64 | 15%                |
| 65    | 34%                |
| 66-70 | 23%                |
| 71-79 | 21%                |
| 80+   | 100%               |

#### Benefit Elections

75% of male and 50% of female retiring members are assumed to elect a retirement benefit option that provides for spousal coverage under the plan.

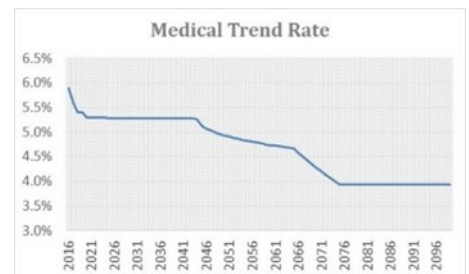
#### Medical Claims Rates

The annual expected medical claims for retired members' health insurance are based on a weighted average of monthly claims paid for retired members over the prior three years, or on

premium rates for insured coverages. Medical claims (i.e., claims other than prescription drug, medical reimbursement, dental and vision) were further adjusted based on the age of the participant to reflect both the increased claims at older ages and the effect of Medicare coverage for members age 65 and older.

#### Medical Inflation

For the medical (non-dental, non-vision) coverage, premium rates are assumed to increase at the following rates, based on the Gentzen Model of Long-Run Medical Cost Trends:



Vision and Dental claims are assumed to increase by 5% per year.

#### Census Data

The actuarial valuation was prepared using census data, plan benefits and claims and insurance data as of January 1, 2019.

#### Actuarial Funding Method

The actuarial cost method is the way that unfunded plan costs are allocated over future years, including the current year. This actuarial valuation uses the *Entry Age Normal Actuarial Cost Method*, which is the same actuarial cost method used for the funding of the County's pension plan. Under this method, the normal cost and actuarial accrued liability are determined on an individual basis. The unfunded actuarial accrued liability is determined as the excess of the actuarial accrued liability over the actuarial value of assets. If the actuarial accrued liability



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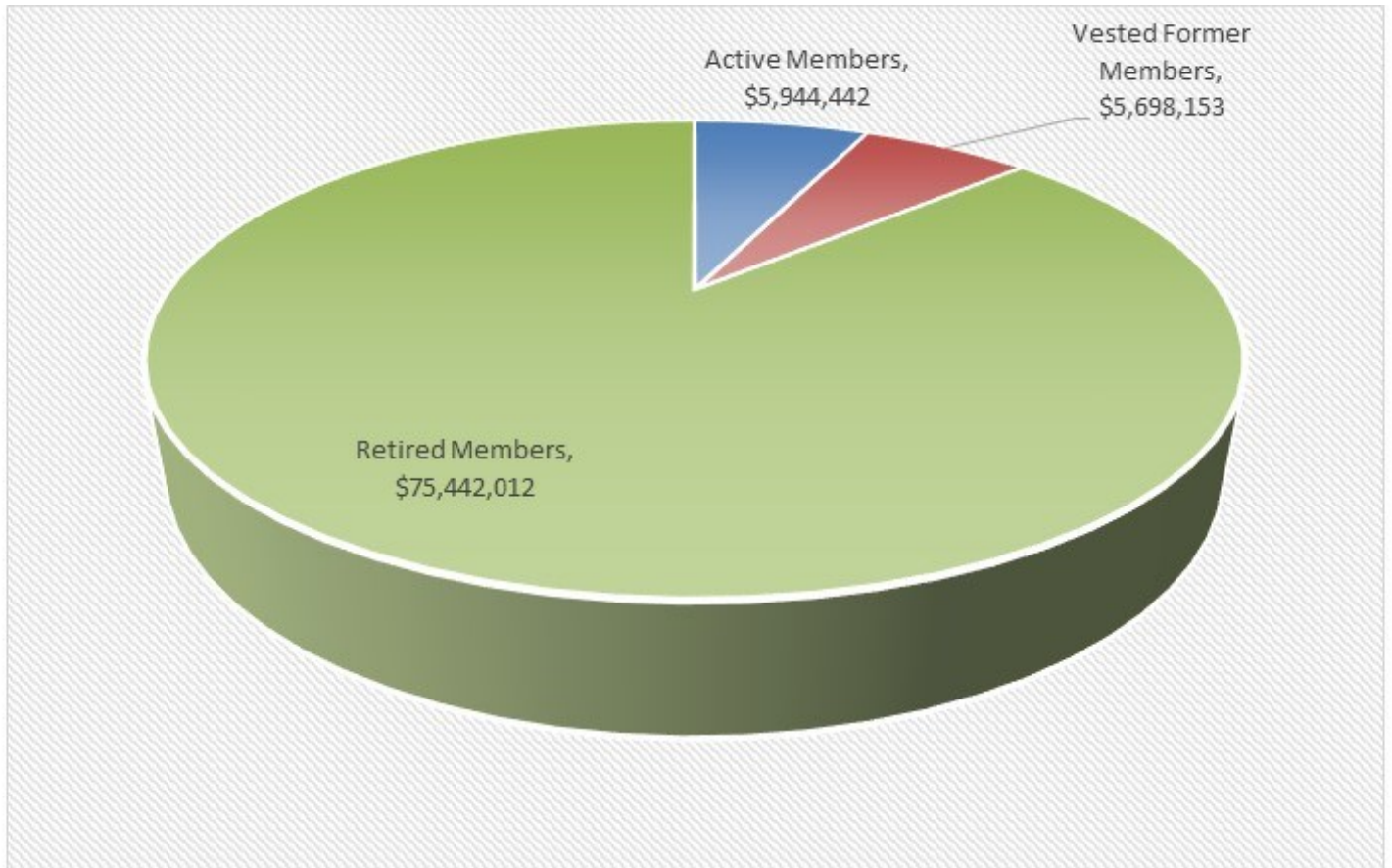
## Actuarial Valuation as of January 1, 2019

exceeds the actuarial value of plan assets, the unfunded actuarial accrued liability is amortized over future years as part of the annual contribution requirement. The amortization amounts are determined based on the source of each piece of the unfunded actuarial accrued liability (e.g., actuarial gains and losses, plan amendments, changes in assumptions, etc.). If the actuarial value of assets exceeds the actuarial accrued liability, 10% of this excess is used to reduce the plan's financial requirement.

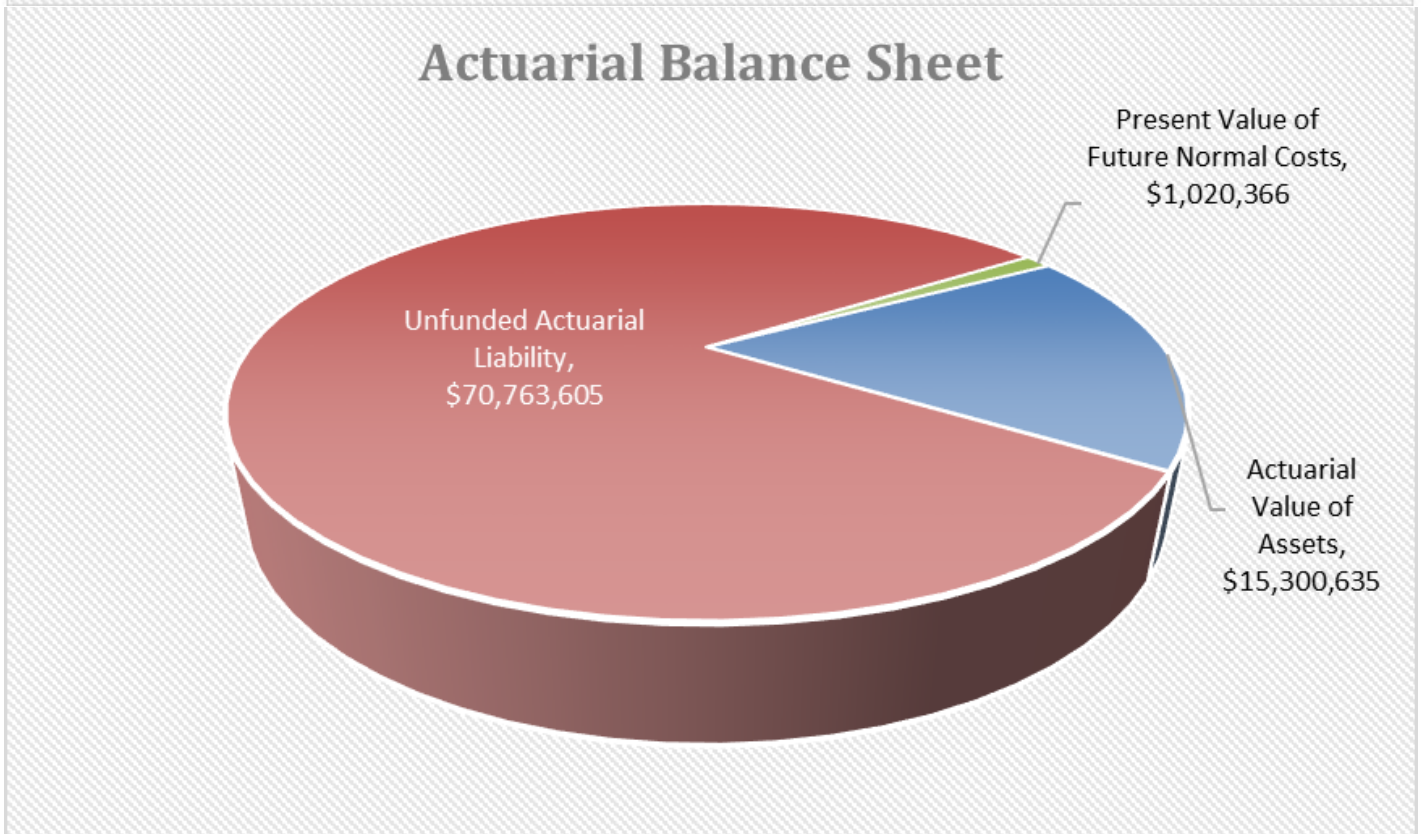
### Changes in Actuarial Assumptions and Methods

- The mortality table was updated to include mortality improvement through the year of the actuarial valuation.
- The medical claims and premiums were updated to reflect the 2016-2018 experience.

# York County Employees' Postemployment Benefit Plan Actuarial Valuation as of January 1, 2019



## Actuarial Balance Sheet



# York County Employees' Postemployment Benefit Plan Actuarial Valuation as of January 1, 2019

