June, 2018

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# Technical Proposal to Provide Actuarial Services RFP No. FPEN-180084-DH

## City of Gainesville

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# Company Overview

Nyhart is an employee benefit consulting, actuarial, and administration firm that has been in business since 1943. We were started as a family-owned business by Howard E. Nyhart and continued as such until 1979 when an ESOP purchased the company. We have been a completely 100% employee owned company since 1991, a unique factor that makes the success of our clients personally important to every one of our 142 employee-owners. We have 33 actuaries on staff.

We provide actuarial services, consulting and administrative services for defined contribution and defined benefit plans, consulting and administrative services for Flexible Spending Accounts (FSA), Health Reimbursement Arrangements (HRA), Health Savings Accounts (HSA) and COBRA, as well as human resource consulting to more than 2,000 clients in 48 States. Headquartered in Indianapolis, IN, we have offices in Atlanta, Chicago, Denver, Houston, Kansas City, New York, San Diego, and St. Louis.

## Business Organization

Nyhart is an ESOP (Employee Stock Ownership Plan) corporation. We were incorporated in the State of Indiana in 1955.

## Other Services Available

As the employee benefit field widened, so did the services offered by Nyhart. We offer services in the following areas:

- **Retirement Services**
  - ► Defined Benefit
    - ❖ Pension Financial Manager
    - ❖ Pension Design Modeler
    - ❖ Online Pension Administration Software
    - ❖ Benefit Statements
  - ► Defined Contribution
    - ❖ Balance Forward
    - ❖ Daily Valuation
- **Flex Administration**
  - ► Flexible Spending Accounts / Dependent Care Accounts
  - ► Health Savings Accounts
  - ► Health Reimbursement Accounts
  - ► COBRA
- **Health Care Actuarial Consulting**
  - ► GASB Interactive Modeler
  - ► Medicare Part D Subsidy Report
  - ► Rate Setting, Design Modeling, & IBNR Reserving for Self-Insured Plans
  - ► Medicare Part D Creditable Coverage Determination
  - ► ACA Minimum Actuarial Value Determination
  - ► Annuity Purchases and Consulting
- **HR Consulting**
- **Compensation Studies**
- **Votaire**

## Professional Organizations

Society of Actuaries
American Academy of Actuaries
Indiana Association of Cities and Towns
Iowa State Association of Counties
Michigan Association of Public Employee Retirement System
Conference of Consulting Actuaries
American Society of Pension Professionals
Government Finance Officers Association
Florida State Association of Counties

Nyhart participates and speaks at several public plan conferences (IPPFA, IAFPD, MAPERS), FPPTA (Florida) and others to share our thought leadership and learn from other professionals to best serve our public plan clients. Additionally, Nyhart has committed involvement with the Conference of Consulting Actuaries. This organization provides significant sessions on a regular basis throughout the year and at their annual conference. Many of these sessions are focused on public pension plan issues and allows our firm to make sure we are bringing the newest and best ideas to our clients.

## Financial Stability

Nyhart is a privately-owned company and, therefore, consider our financial records to be propriety and confidential information. Should Nyhart be chosen as the actuarial firm to assist the City, we will forward our records to the City should they deem that necessary.

You may be assured that Nyhart is a very financially-stable company. We have grown exponentially since our beginning in 1943. We started as a small local firm and we are now a mid-size national firm with offices across the country. We grew from one office to now having nine offices. This type of grown would not be possible if we are not a financially-stable company. As an ESOP company, we wouldn't be able to retain our high-quality employees if we weren't also growing an providing a good ESOP benefit.

# Experience

Having worked with a variety of plans for over 35 years, Nyhart consultants understand the history of pension plans and, since 2004, OPEB plans. We understand the necessity of balancing the protection of employees' benefits within the constraints of a budget. Our approach is to involve all stakeholders (e.g. Boards, City, Members), which has proven to be the most efficient and effective approach when analyzing and recommending plan design changes.

As an actuary, we are asked to analyze proposed changes to benefits and to provide Actuarial Impact Statements. We also perform detailed annual gain/loss analyses and periodic experience studies for our clients to ensure that the funding assumptions underlying the calculation of costs for the plan are both reasonable and appropriate. Nyhart serves over 225 pension clients across the United States and has performed over 2,000 GASB 43/45 and valuations, studies, and experience studies since the standard became effective. We have also performed over 125 GASB 74/75 OPEB since September, 2017.

We have supplied actuarial services since our company was founded in 1943. This provides us with a great deal of expertise upon which to draw and we always expect from ourselves to exceed our clients' expectations.

We have supplied the same services to many funds for police, firemen, cities, counties, and states across the country. Our staff serves not only governmental clients, but churches, single employers, multi-employers, and multiple-employer plans. While some providers highlight the value of their public-only focus, we believe our broad experience with plans of varying types and sizes provides a valuable actuarial consulting perspective. To borrow a phrase from a well-known commercial, "We know a few things, because we've seen a few things".[1]

Nyhart can be more to the City than just an expense; we can be a significant value.

Our philosophy for providing actuarial consulting services is based on our desire to be a value-added resource and trusted advisor to our clients. We believe this is achieved by consistently performing requested services at a level that meets or exceeds the client's expectations, by putting forth the extra effort to ensure the client's satisfaction, and by maintaining frequent communication with our clients. It is through this kind of relationship that excellent service becomes routine.

Many implicit-only clients are only doing an OPEB valuation to be in compliance with reporting requirements. These clients select an actuary based on price ($1^{st}$) and recommendations from others ($2^{nd}$).

Most OPEB clients that started prefunding do not have a long-term strategy. The decision to start funding was made as a starting point to do the proper fiduciary and responsible action. The long-

[1] Farmers Insurance Commercial

term aspects of how long should they fund, what is a reasonable target and when can they start taking money out were delayed to a later time.

Most OPEB and pension clients make short-term decisions such as what they should budget for next year. Nyhart tries to shift their focus from what happened last year to what is going to happen in 5 and 10 years in the future.

Our clients are not actuaries and do not deal with actuarial-related activities very often during the year. It is important to keep the process simple and defined in non-technical terms. It is productive to remind our clients of deadlines and educate them on what their peers are doing and to offer up innovative ideas.

Government-sector clients are more reluctant to reduce benefits than private-sector clients. If benefit reductions are needed, new hires and non-vested employees are the first group to be cut. Retirees and those near retirement age are the last to be affected by benefit reductions.

The implementation of GASB 43/45 had a similar employer reaction as the private sector did when the FAS 106 OPEB standard came out. The increased visibility and large unfunded actuarial liabilities led many employers to reduce or eliminate OPEB plans.

## Our Experience with GASB 74/75

Few clients have decided to adopt GASB 74/75 early. For those that did early adopt, their motivations were to stay on the same two-year valuation cycle as before or early adopt because they are a component part of a larger entity that was early adopting.

We have seen a significant number of clients ask for the modeling and consulting advice.

Their key questions are (1) what will the rating agencies do about it and (2) how will it affect the running of their business.

## Statement of Project Understanding — Pension Actuarial Work

We understand the services being requested and perform these same services for over 200 pension plan clients daily.

The purpose of an actuarial valuation is 1) to determine the amount of actuarially determined contributions (i.e., an amount that, if contributed consistently and combined with investment earnings, would be sufficient to pay promised benefits in full over the long-term) and 2) to measure the plan's funding progress. Key items to consider in reviewing the valuation report include:

- **Actuarially Determined Contribution**. The actuarially determined contribution represents the amount needed to fund benefits over time. If the contributions are not fully paid, interest accrues on the unpaid portion at the plan's expected long-term rate of return. Persistent underfunding will ultimately jeopardize the plan's sustainability.

- **Liabilities, Assets, and Funded Ratio**. The *actuarial accrued liability* (AAL) represents the present value of benefits earned, calculated using the plan's actuarial cost method. The *actuarial value of assets* (AVA) reflects the financial resources available to liquidate the liability. The *unfunded actuarial accrued liability* (UAAL) is the difference between the AAL and the AVA. The *funded ratio* (AVA/AAL) reflects the extent to which accumulated plan assets are sufficient to pay future benefits.

- **Actuarial Assumptions**. Since no one knows what the future will bring, actuarial valuations are based on assumptions. For an actuarial valuation to be reliable, the assumptions used should reflect the best information available, which should be supported by rigorous discussion and analysis. Also, information concerning the demographic characteristics of the covered population needs to be current.

- **Historical Information**. Certain historical information is especially useful to understanding funding:

    - Multi-year information on the plan's funding progress that includes the AAL, the AVA, the funded ratio, and the UAAL as a percentage of payroll, consistent with the government's funding policy; and

    - Multi-year information on both actuarially determined contributions and actual amounts contributed (by definition, if actuarially determined annual required contributions are paid faithfully each year to the plan, the plan should accumulate sufficient resources, over time to pay benefits, regardless of the actuarial cost method selected).

Our firm specializes in not only taking care in helping you understand annual results and how things changed from the prior year, but also dynamically looking at future potential results under a variety of economic scenarios. We believe this second step is critical to best managing the plan for future sustainability and successfully delivering benefits.

## Statement of Project Understanding - OPEB Actuarial Valuation

The City of Gainesville will require an actuarial review of their post-employment benefits in accordance with Governmental Accounting Standards Board (GASB) Statements 74/75.

This report will allow implementation and compliance of the GASB rules regarding accounting for OPEB.

The primary objective of Statement 45/75 was to improve accounting and financial reporting by state and local governments for postemployment benefits other than pensions (OPEB). It was also to improve information provided by state and local governmental employers about financial support for OPEB that is provided by other entities.

The new GASB 75 (transition year of FYE 2018) statements require a liability for OPEB known as the Net OPEB Liability to be acknowledged on the balance sheet of the plan and the District. Also, an OPEB expense will be acknowledged in the income statement of the District.

Under GASB 43 and 45, the unfunded actuarial accrued liability for OPEB was reported in the notes for the plan. The most important impact under the new accounting standards is the move from the notes for the plan to the balance sheet of the employer.

Our responsibility will be to provide consulting services to the City and the information it needs to fulfill its OPEB needs. It must be accurate and timely information.

Using the data that the City submits, we have technology and procedures in place to assure the City that we will provide them with the accurate and timely information they require.

## Our Approach to…

### the Client Relationship

An integral part of being the actuarial consultant to the City of Gainesville is the delivery of proactive consulting and advisement on all matters that may affect them .

Our philosophy for providing actuarial consulting services is based on our desire to be a value-added resource and trusted advisor to our clients. We believe this is achieved by consistently performing requested services at a level that meets or exceeds the client's expectations, by putting forth the extra effort to ensure the client's satisfaction, and by maintaining frequent communication with our clients. It is through this kind of relationship that excellent service becomes routine.

### the Transition of Services to Nyhart

There is no fee for the transition process. This is Nyhart's investment in the relationship.

Pension actuarial transitions are generally easy and painless for the plan sponsor. The transition process usually takes approximately eight weeks. A typical transition will include the following components:

- **Planning Meeting / Conference Call**: This meeting will be used to provide a brief review of the transition process, identify data needed (recent plan amendments, SPDs, participant identifiers, etc.), develop the upcoming year's timeline, and identify deliverables.

- **Data Collection**: We will request the participant data and other information needed directly from the actuary to match the prior year's valuation results. If you prefer, we can work with you to collect the appropriate data.

- **Matching Results**: We will conduct a thorough and independent review of the participant data, plan document, and sample benefit calculations to complete an independent valuation.

  - If there are significant differences in our results compared to the prior actuary for valuation results, we will work directly with them to reconcile the results. This process ensures we fully understand your plans and acts as an independent audit of the actuarial results

- **Present Findings**: We will present our findings of the transition process. This will include a comparison of results between Nyhart and the prior actuary and identify areas that may warrant further review.

## Sample Transition Timeline

| Timing | Task | Important Comments |
|---|---|---|
| Week 1 | Conference call to kick-off our relationship | This provides us an opportunity to better understand timing, the City's specific needs, define deliverables, etc. |
| Weeks 2-5 | Match prior year actuarial results | Our first step in this relationship is to ensure we fully understand your retirement plans and make sure we can match the prior year results. During this process, we will complete an audit of last year's valuation. Any significant differences will be reconciled with the actuary who prepared the report. In addition, we will identify any items that may warrant further review with the City.<br><br>**We do not charge for these services. This is our investment in the relationship.** |
| Week 6 | Present matching results | We will present the results of our matching of last year's results and identify (if any) areas that may warrant further review. |

## the Annual Actuarial Valuations

The annual valuation steps are fairly standard and we expect the valuation to be complete within 8 to 12 weeks after receiving all required data. The valuation timeline is determined based on the City's specific needs. The following outlines the typical valuation steps:

- Annual kick-off meeting/conference call to discuss timing requirements for the valuation, data required by Nyhart to complete the valuation, and identify changes (plan amendments, assumptions, etc.) that may be needed.

- Receive, reconcile and clean participant data and claims data.

- Review benefit provisions coding and actuarial assumptions coding. Make any necessary changes.

- Run liability program, check individual test cases, and compare liability results to the projected results based on the prior valuation.

- If actual results vary significantly from projected results, pinpoint the source of the differences and confirm that this year's results are accurate.

- Develop annual recommended contribution based on submitted asset values and calculated liability results.

- Present the valuation results to the client. In addition to the formal report, we provide a management summary report that allows the plan sponsor to focus on the key results. Included in the management summary is several cost projections showing estimated costs over the next five years. These projections are very helpful as different funding strategies are considered.

- After presenting the valuation results, the formal report will be issued.

## Sample Pension Valuation Timeline

Note the first year process usually includes some overlap between the transition and valuation timeline. We can structure the timing to ensure we meet your timing needs.

| Timing | Task | Important Comments |
|---|---|---|
| Week 1 | Conference call to kick-off the valuation process | This provides us an opportunity to hear about any changes, identify any topics that may warrant additional review, and confirm timing for the delivery of results. |
| Weeks 2-4 | Request, collect, and reconcile data | We will complete a comprehensive data review to confirm participant movement from last year to this year, complete reasonable checks, etc. In this step, we will also calculate the accrued benefits needed for benefit statements. As part of the accrued benefit calculations, we will conduct additional checks to confirm accrued benefits changed in a reasonable fashion reflecting another year of service and pay changes. |
| Weeks 5-6 | Complete liability calculations and determine gain loss | Trace liability and cost movements and explain factors creating increases or decreases to plan costs. |
| Weeks 7-8 | Develop management summary report and draft valuation report | The management summary report is designed to provide the key results for the City's consideration, identify topics that my warrant further review, review cost projections, and share latest trends in the retirement landscape. The valuation report documents all calculations, assumptions, and participant data used in the valuation. |
| Week 9 | Share draft reports with Board staff | We will issue draft reports and review findings with City staff. This will allow us and the Board staff to identify anything odd about the participant data or results and properly research before presenting to the City. |
| Weeks 10-11 | Issue updated drafts to be delivered to the Board members and present results | We prefer to present valuation results in person. This allows us and our clients to have an open, productive meeting to ensure we have provided our clients with the information they need and answered all questions.<br><br>When we present valuation results, we consider them to be in draft form. We view the results as draft until we have presented the results and gathered feedback from our clients. |
| Week 12 | Issue final valuation report | Issue final valuation report with any refinements identified during the presentation of results. |

## Timelines are based on the client's need – not on Nyhart's capacity

Assuming we receive the necessary data in a timely manner, you may be assured we will meet or precede your deadline. If we do not receive the necessary data in a timely manner, we will still make every attempt to meet your deadline. We know how important your deadlines can be and we want our clients to feel they can depend on us when the "chips are down" to help them meet those deadlines.

## Working with the City's OPEB Staff

Generally speaking, Nyhart likes to relieve as much responsibility from our clients as possible. We do rely on the client to provide accurate census data, be prepared to discuss different actuarial assumptions (with our guidance) and to assist with other third party vendors (if needed).

Nyhart will interact with the City in the following areas:


**Collection of Data and Documents**

A formal data request will be prepared and discussed with the City's staff to clarify what is needed and in what format. It is our policy to allow clients to use whatever systems and programs they are comfortable with instead of forcing them to comply with our internal requirements.


**Project Management**

Key project deadlines will be discussed and agreed to early in the engagement. Our clients tell us when they want their results and it is our responsibility and job to adhere to those expectations.


**Assumption Setting**

The City will be expected to participate in the assumption setting process to help create modeling assumptions that are experience-based and appropriate for retiree health care purposes.

Our data request will include specific historical information that will help Nyhart develop appropriate assumptions.


**Review of Preliminary Results**

The City's staff will have the opportunity to review and discuss the preliminary GASB 45 / 75 results prior to finalizing the report.


**Auditors**

Outside auditors are welcome to ask questions or request documentation necessary for their due diligence.

Project planning is what Nyhart does best. In order to efficiently manage our more than 300 municipal clients, understanding what needs to be done and when is critical. For all of our healthcare projects, the project steps are very similar.

Briefly, the steps are described below:


**Planning**

Understanding what has been done in the past, what needs to be done now, and when it needs to be done is key to a successful project. Identify the players involved and assign appropriate tasks.

We are used to working with the client's staff and their other advisors (consultants, TPAs, lawyers, accountants).


**Data**

The client is responsible for providing timely data to Nyhart. The data will be screened for errors and problems resolved.


**Assumptions**

All actuarial calculations involve projections of future outcomes so it is necessary to use reasonable assumptions. It is our policy to set assumptions based on actual experience to the extent it is creditable and explain why the assumptions were recommended.

**Calculations**

Nyhart will use Proval valuation software for the GASB 45/75 valuations. Proval is the leading actuarial valuation software because of its flexibility in handling complicated cases and transparency in its calculations.

For the healthcare relative values, Nyhart uses Windsor Actuarial Assistant, which is an actuarial and underwriting software program used for health plan designs and rate setting. The software is leased from Windsor Strategy Solutions.


**Review Session**

It is our practice to release actuarial products on a preliminary basis to give our clients the opportunity to review the results and then have a constructive discussion on the results and ask questions.

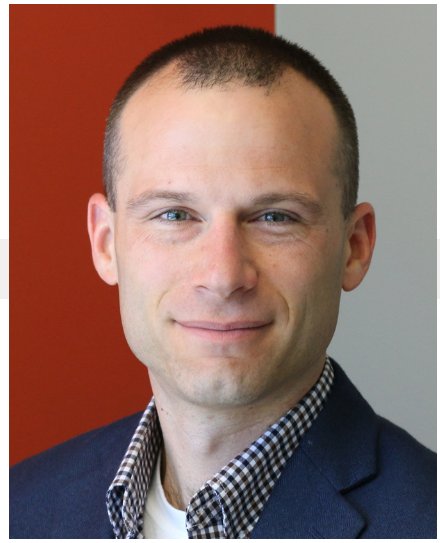
If necessary, data or assumption are changed based on feedback from the review session and the results updated.


**Final Results**

After all questions have been answered and the client approves the preliminary results, the final signed report is released.

# Tayt V. Odom

## FSA, FCA, MAAA, MBA



**Account Manager / Relationship Manager**

Tayt Odom is one of fourteen Principals of our company.  He is also our National Accounts Management Practice Leader.  Tayt will act as the Account Manager / Relationship Manager for the City of Gainesville, will oversee the overall client relationship, and will ensure that Nyhart is delivering exceptional consulting and value to the City.

| | |
|---|---|
| Education | **B.S. in Mathematics, University of Notre Dame**<br>**M.B.A., University of California at Los Angeles** |
| Corporate Role | • Manages teams across all departments and responsible for ensuring that each line of business functions appropriately across multiple locations<br>• Oversees overall operational staffing and talent management<br>• Consults with clients concerning retirement issues including plan design and funding strategies |
| Current Work Assignments | • Works with twenty actuarial clients<br>• Manages Nyhart's Consumer Driven Healthcare group<br>• Leads all operational functions at Nyhart |

# Danielle Winegardner

## ASA, EA, MAAA

**Valuation Actuary**

Danielle will work closely with Tayt and our actuarial analysts to provide the City with annual pension reporting and participate in the annual results meetings. She will also be involved in any administrative requests.

Danielle Winegardner has eight years of actuarial pension consulting experience. Danielle has a leadership role in Nyhart's Defined Benefit practice, mentoring students and establishing best practices for valuation processes.

Danielle is the valuation actuary for six public-sector pension clients and ten private-sector clients. Danielle has been with Nyhart for three years. In that time, she has become an invaluable source for our clients.

| Education | **B.S in Mathematics and Economics, University of Dayton** |
|---|---|
| Corporate Role | • Performs accounting and funding valuations for private-sector and public pension plans<br>• Benefits statements and benefit administration<br>• Meeting attendance and presentation of results |

# Professional Staff - OPEB

## Suraj Datta

ASA, MAAA, MBA

**Project Manager / Consulting Actuary**

Suraj will be the Project Manager for your OPEB team. As Project Manager, Suraj, Randy, Emily, and their team of analysts will manage the day-to-day operations of the engagement, which include activities such as project planning and execution, quality control, and on-time delivery of your results.

Suraj has been with Nyhart for six years.

| | |
|---|---|
| Education | **B.S. Mathematics and Statistics, Purdue University**<br>**M.B.A. Finance, Ball State University** |
| Corporate Role | • Actuary and Administration Consultant<br>• Responsible for project execution and consulting |
| Healthcare Specialties | • Consulting on postretirement healthcare valuations<br>• Development of actuarial modeling tools<br>• Consulting on health plan rate setting and budget projection |

### Some of Suraj's Clients

| | |
|---|---|
| City of Madison, WI | Peoria County IL |
| City of Sanford FL | City of Dover, DE |
| City of West Palm Beach FL | City of Fernandina Beach FL |
| Dane County WI | City of Burlington IA |
| City of Des Moines IA | Bradford County FL |

# Emily Clauss

## ASA, MAAA

### Actuary / Actuary Analyst

Another valuable member of the team will be Emily Clauss. She will be the Actuarial Analyst for the City. As Actuarial Analyst, Emily will have the responsibility of dealing with the data, inputting it, and running the first report for proofing.

Emily has been with Nyhart for three years and is working towards further actuarial credentials.

| Education | **B.A. Actuarial Science and Applied Statistics, Purdue University** |
|---|---|
| Healthcare Specialties | • Consulting on postretirement healthcare valuations<br>• Development of actuarial modeling tools<br>• Consulting on health plan rate setting and budget projections |

# Randy Gomez

## FSA, FCA, MAAA

**National Healthcare Practice Leader / Peer Review**

Randy is the senior actuarial consultant in our health area and the National Healthcare Practice Leader.  Randy has been with Nyhart for 22 years and provides a broad range of healthcare-related services to his clients.  Randy consults on benefit issues such as plan design, cost modeling, post-retirement health, clinic evaluations, budget setting and funding adequacy.

| | |
|---|---|
| Education | **B.B.A. and M.A.S. in Actuarial Science,<br>Georgia State University** |
| Corporate Role | • Principal<br>• National Healthcare Practice Leader<br>• Consults on key accounts, determines team policies and procedures, responsible for overall quality of services<br>• Has over 33 years in the retirement business including 17 years with public- sector clients |
| Healthcare Specialties | • Product development<br>• Modeling of plan design and funding strategies<br>• Long-term cost projections |

# Society of Actuaries

## Danielle Rae Winegardner

**Personal Information**
Danielle Rae Winegardner
Nyhart
8415 Allison Pointe Blvd.
Suite 300
Indianapolis, IN 46250-4201
United States

Tel: +1 (317) 845-3537
Email: danielle.winegardner@nyhart.com

**Designations**
ASA 2013
MAAA 2014
EA 2015

**SOA Continuing Professional Development Requirement**
Compliant (2016-2017)
Compliant (2015-2016)
Compliant (2014-2015)

**Academic Degrees**
B.S.

**Other Professional Designations**

**Industry**
Consulting

**Primary Area of Practice**
Retirement

**Specializations**
Private Sector – Pension
Public Sector - Pension

**Society of Actuaries Sections**

## Suraj M. Datta

**Personal Information**
Suraj M. Datta
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8415 Allison Pointe Blvd.
Suite 300
Indianapolis, IN 46250-4201
United States

Tel: (317) 845-3594
Fax: (317) 845-3654
Email: suraj.datta@nyhart.com

**Designations**
ASA 2015
MAAA 2015

**SOA Continuing Professional Development Requirement**
Compliant (2015-2016)

**Academic Degrees**
B.S.
M.B.A.

**Other Professional Designations**

**Industry**
Consulting

**Primary Area of Practice**
Health

**Specializations**
Employee Health Benefits
Health Insurance – Commercial
Other Post-employment Benefits

**Society of Actuaries Sections**
Health

## Emily Clauss

**Personal Information**
Emily Clauss

Tel: +()
Email:

**Designations**
ASA 2018

**SOA Continuing Professional Development Requirement**
Compliant (2016-2017)

**Academic Degrees**

**Other Professional Designations**

**Industry**

**Primary Area of Practice**

**Specializations**

**Society of Actuaries Sections**

## Randy A Gomez

**Personal Information**
Randy A Gomez
Nyhart
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Indianapolis, IN 46250-4201
United States

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Fax: 1 (317) 845-3654
Email: randy.gomez@nyhart.com

**Designations**
MAAA 1990
FSA 1991
FCA 2014

**SOA Continuing Professional Development Requirement**
Compliant (2015-2016)
Compliant (2016-2017)

**Academic Degrees**
B.B.A.
M.A.S.

**Other Professional Designations**

**Industry**
Consulting

**Primary Area of Practice**
Health

**Specializations**
Employee Health Benefits
Health Insurance - Commercial
Public Sector – Pension
Underwriting

**Society of Actuaries Sections**
Health
International
Modeling
Reinsurance

# References

| Client | Contact | Service Provided |
|---|---|---|
| **City of St. Petersburg**<br>P. O. Box 2842<br>St. Petersburg, FL 33731 | Vicki Grant, CBP, PHR<br>Manager, Benefits Division<br>727-893-7372<br>vicki.grant@stpete.org | Pension Actuarial<br>(City, Firefighters, Police, Employees')<br>OPEB Actuarial<br>Since 2016 |
| **City of Daytona Beach**<br>P.O. Box 2451<br>Daytona Beach, FL 33115 | Mark Eisner, Vice Chairman<br>386-383-8096<br>eisnerM@dbpd.fl.us | Pension Actuarial<br>Police & Firefighters<br>Since 1997 |
| **Pompano Beach Police and Firefighters Retirement System**<br>2335 E. Atlantic Blvd., Suite 400<br>Pompano Beach, FL 33062 | Debra Tocarchick<br>Executive Director<br>954-782-4161<br>debbie@pbpfrs.org | Pension Actuarial<br>Police & Firefighters<br>Since 2012 |
| **City of Miami**<br>1895 SW 3rd Avenue<br>Miami, FL 33129 | Dania Orta<br>Pension Administrator<br>305-858-6006<br>dania@miamifipo.org | Pension Actuarial<br>Police & Firefighters FIPO<br>For Over 35 Years |
| **City of Orlando**<br>400 S. Orange Avenue<br>Orlando, FL 32802 | Ronald A. Glass<br>407-448-1027<br>GlassFF@aol.com | Pension Actuarial<br>The City of Orlando Firefighters<br>Since 2004 |
| **City of Fernandina Beach**<br>204 Ash Street<br>Fernandina Beach, FL 32034 | Patti Clifford, Comptroller<br>904-310-3333<br>pclifford@fbfl.org | OPEB Actuarial<br>Since 2012<br>Lost in Re-bidding in 2016<br>Regained in 2017 |
| **City of Port St. Lucie**<br>121 SW Port St. Lucie Boulevard<br>Port St. Lucie, FL 34984 | Tom O'Reilly, CPA<br>Assistant Finance Director / Treasurer<br>772-871-5008<br>toreilly@cityofpsl.com | OPEB Actuarial<br>Since 2017 |
| **City of Sanford**<br>300 N. Park Avenue<br>Sanford, FL 32771 | Cynthia M. Lindsay<br>407-688-5026<br>lindsay@sanfordfl.gov | OPEB Actuarial<br>Since 2011 |
| **City of West Palm Beach**<br>401 Clematis Street<br>West Palm Beach, FL 33402 | Bruce Cuningham<br>561-822-1330<br>bcuningham@wpb.org | OPEB Actuarial<br>Since 2010 |

# Data Security

## Secure Website

Nyhart has a secure data transfer website ("ClientConnect") for receiving and sending confidential personal information or HIPAA-protected data.

Nyhart ensures data confidentiality for your plan in two main ways:

1. First, we make sure when data is passed between you and Nyhart it is done in a secure way by the use of the secure data transfer part of our website ("ClientConnect")

2. Secondly, we ensure the security of your data that is stored on Nyhart's servers by the use of TDE (Transparent Data Encryption) so the databases cannot be copied and accessed from any external servers.

Nyhart was a healthcare TPA for over 50 years. We are well aware of the need for confidentiality in client data.

Please see the Appendix for a copy of our IT CyberSecurity policy.

# Appendix

Required Forms

- Drug-Free Workplace Form
- Exhibit B - Certification of Compliance with Living Wage
- Exhibit D – Living Wage Compliance
- Exhibit E – Proposal Response Form – Signature Page
- Addendum No. 1
- Addendum No. 2

Sample Pension Valuation Report

Sample GASB 67 & 68 Valuation Report

Sample Management Summary

Sample Experience Report

Sample OPEB Valuation Report

Nyhart Innovations

IT CyberSecurity Plan

Votaire Sample Plan

# DRUG-FREE WORKPLACE FORM

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that

The Howard E. Nyhart Company, Incorporated does:
(Name of Business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for the drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Bidder's Signature

June 21, 2018
Date

# CITY OF GAINESVILLE

## CERTIFICATION OF COMPLIANCE WITH LIVING WAGE

**The undersigned** hereby agrees to comply with the terms of the Living Wage Ordinance and to pay all covered employees, as defined by City of Gainesville Ordinance 020663 as amended at 030168 (Living Wage Ordinance), during the time they are directly involved in providing covered services under the contract with the City of Gainesville for ______________________________ a living wage of $__________ per hour to covered employees who receive Health Benefits from the undersigned employer and $__________ per hour to covered employees not offered health care benefits by the undersigned employer.

Name of Service Contractor/Subcontractor: The Howard E. Nyhart Company, Incorporated

Address: ______________________________

Phone Number: ______________________________

Name of Local Contact Person ______________________________

Address: ______________________________

Phone Number: ______________________________

This form is not applicable.

$__________
(Amount of Contract)

Signature: ______________________________ Date: June 21, 2018

Printed Name: Thomas L. Totten

Title: Chief Executive Officer

# LIVING WAGE COMPLIANCE

See Living Wage Decision Tree (Exhibit C hereto)

Check one:

[X] Living Wage Ordinance does not apply
(check all that apply)

- [X] Not a covered service
- [X] Contract does not exceed $100,000
- [ ] Not a for-profit individual, business entity, corporation, partnership, limited liability company, joint venture, or similar business, who or which employees 50 or more persons, but not including employees of any subsidiaries, affiliates or parent businesses.
- [ ] Located within the City of Gainesville enterprise zone.

[ ] Living Wage Ordinance applies and the completed Certification of Compliance with Living Wage is included with this bid.

NOTE: If Contractor has stated Living Wage Ordinance does not apply and it is later determined Living Wage Ordinance does apply, Contractor will be required to comply with the provision of the City of Gainesville's living wage requirements, as applicable, without any adjustment to the bid price.

# PROPOSAL RESPONSE FORM – SIGNATURE PAGE

(submit this form with your proposal)

TO: City of Gainesville, Florida
200 East University Avenue
Gainesville, Florida 32601

PROJECT: Actuarial Services for the City of Gainesville General Employees' Pension Plan and the City of Gainesville Retiree Health Insurance Trust Fund

RFP #: FPEN-180084-DH

RFP DUE DATE: June 25, 2018

Proposer's Legal Name: The Howard E. Nyhart Company, Incorporated

Proposer's Alias/DBA: The Nyhart Company / Nyhart

Proposer's Address: 8415 Allison Pointe Boulevard, Suite 300
Indianapolis, IN 46250

PROPOSER'S REPRESENTATIVE (to be contacted for additional information on this proposal)

Name: Heath Merlak

Telephone Number 618-307-5523 / 800-428-7106

Date: June 21, 2018

Fax Number 317-845-3654

Email address heath.merlak@nyhart.com

## ADDENDA

The Proposer hereby acknowledges receipt of Addenda No.'s 1, 2, ______, to these Specifications.

## TAXES

The Proposer agrees that any applicable Federal, State and Local sales and use taxes, which are to be paid by City of Gainesville, are included in the stated bid prices. Since often the City of Gainesville is exempt from taxes for equipment, materials and services, it is the responsibility of the Contractor to determine whether sales taxes are applicable. The Contractor is liable for any applicable taxes which are not included in the stated bid prices.

## LOCAL PREFERENCE (check one)

Local Preference requested: ☐ YES ☒ NO

A copy of your Business tax receipt and Zoning Compliance Permit should be submitted with your bid if a local preference is requested.

## QUALIFIED LOCAL SMALL AND/OR DISABLED VETERAN BUSINESS STATUS (check one)

Is your business qualified as a Local Small Business in accordance with the City of Gainesville Small Business Procurement Program? (Refer to Definitions) ☐ YES ☒ NO

Is your business qualified as a Local Service-Disabled Veteran Business in accordance with the City of Gainesville Small and Service-Disabled Veteran Business Procurement Program? (Refer to Definitions) ☐ YES ☐ No

**SERVICE-DISABLED VETERANS' BUSINESS (check one)**

Is your business certified as a service-disabled veterans' business? ☐ YES ☒ NO

**LIVING WAGE COMPLIANCE**

See Living Wage Decision Tree (Exhibit C hereto)

**Check One:**

☒ Living Wage Ordinance does not apply (check all that apply)

- ☒ Not a covered service
- ☒ Contract does not exceed $100,000
- ☐ Not a for-profit individual, business entity, corporation, partnership, limited liability company, joint venture, or similar business, who or which employees 50 or more persons, but not including employees of any subsidiaries, affiliates or parent businesses.
- ☐ Located within the City of Gainesville enterprise zone.

☐ Living Wage Ordinance applies and the completed Certification of Compliance with Living Wage is included with this bid.

NOTE: If Contractor has stated Living Wage Ordinance does not apply and it is later determined Living Wage Ordinance does apply, Contractor will be required to comply with the provision of the City of Gainesville's living wage requirements, as applicable, without any adjustment to the bid price.

SIGNATURE ACKNOWLEDGES THAT: (check one)

☒ Proposal is in full compliance with the Specifications.

☐ Proposal is in full compliance with specifications except as specifically stated and attached hereto.

Signature also acknowledges that Proposer has read the current City of Gainesville Debarment/Suspension/Termination Procedures and agrees that the provisions thereof shall apply to this RFP.

ATTEST:

Lisa Hague

Signature

By: Lisa Hague

Title: Chief Financial Officer

(CORPORATE SEAL)

PROPOSER:

Signature

By: Thomas L. Totten

Title: Chief Executive Officer

# ADDENDUM NO. 1

Date: June 12, 2018

Bid Date: June 25, 2018
at 3:00 P.M. (Local Time)

Bid Name RFP for Actuarial Services for City of Gainesville General Employees' Pension Plan and the City of Gainesville Retiree Health Insurance Trust Fund

Bid No.: FPEN-180084-DH

NOTE: This Addendum has been issued only to the holders of record of the specifications.

The original Specifications remain in full force and effect except as revised by the following changes which shall take precedence over anything to the contrary:

1. Any questions shall be submitted in writing to the City of Gainesville Purchasing Division by 3:00 p.m. (local time), June 18, 2018. Questions may be submitted as follows:
   Email: holderds@cityofgainesville.org
   or
   Faxed (352) 334-3163
   Attention: Diane Holder

2. Please find attached:

   a) Copy of the black out period information (Financial Procedures Manual Section 41-423 Prohibition of lobbying in procurement matters)) distributed during mandatory pre-bid meeting.
   b) Exhibit A-October 1, 2016 Valuation Report-General Employees Retirement Plan
   c) Exhibit B-2015 Retiree Health Fund Valuation Report final 7-28-16
   d) Exhibit C-FY2017 General Employees' Pension GASB 67 Report
   e) Exhibit D-FY2017 General Employees' Pension GASB 68 Report
   f) Exhibit E-FY17 Retiree Health Insurance Fund GASB 45 and 74 Report Final

The following are answers/clarifications to questions received:

3. Question: Who is your current provide and can we get the latest copies of your valuation and GASB reports?
   Answer: Conduent currently provides actuarial services for the City of Gainesville General Employees' Pension Plan and the Retiree Health Insurance Trust Fund. Requested Reports attached.

4. Question: Why are you going out to bid?
   Answer: Original Agreement was with Xerox/Buck which was changed to Conduent in 2017. Now Conduent actuarial services business is being sold to H.I.G. Private Equity. Too many firm changes, and actuarial services team turnover.

5. Question: Are there any service issues with your current provider?
   Answer: No

6. Question: What fees do you currently pay for the services covered by the RFP?
   Answer:

| | |
|---|---|
| General Employees' Pension Valuation Report | $28,500 |
| General Employees' Pension GASB 67 & 68 | $12,500 |
| General Employees' Pension FL Chapter 112.664 Disclosure | $5,500 |
| General Employees' Pension Benefit Calculation Review | $250 |
| Retiree Health Fund Valuation Report/GASB 45 | $25,500 |
| Retiree Health Fund GASB 74 & 75 | $5,500 |

7. Question: Can you provide the amount of the total fees paid to the current actuarial vendor in 2015, 2016 and 2017? Was the scope of that work the same as required in this RFP?
   Answer: Most recent/current fees have been provided. Scope of work is the same as required in RFP.

8. Question: Please identify a current actuarial vendor. How long has the current actuarial vendor served the City in that capacity?
   Answer: Prior to 2016, Actuarial Concepts was actuary for referenced City Plans for over 20 years. Through a 2016 RFP process, Xerox/Buck was hired as actuary. In 2017 Xerox/Buck became Conduent, who is current actuary.

9. Question: Is the current actuarial vendor allowed to bid on this assignment?
   Answer: Yes.

10. Question: Has the City been totally satisfied with the current vendor?
    Answer: Yes.

11. Question: Can you provide the copies of the most recent actuarial funding valuation report for Pension and OPEB plans and GASB disclosure reports (if prepared separately)?
    Answer: Previously provided.

12. Question: Will any preference be given to the bidder maintaining an office in the State of Florida?
    Answer: No.

13. Question: Is it mandatory that the successful bidder provides the similar services for public entities in the State of Florida?
    Answer: Preferred.

14. Question: How many live meetings will be required under the terms of the engagement and must be included into the total fees?
    Answer: 1

15. Question: Must our proposal cover all services listed in the RFP or will the City accept proposals only providing the requested GASB Reporting and Biannual Actuarial Valuation Reports Plan and the Retiree Health Insurance Trust Fund?
    Answer: Proposals should cover all services listed in RFP.

16. Question: Please provide the most recent Pension and OPEB actuarial reports and experience study
Answer: See Attachments, No recent Experience Studies are available.

17. Question: Were any plan changes made since the last valuation reports?
Answer: The assumed rate of return on investments was lowered from 8.10% in FY2016 to 8.0% in FY2017, and will be lowered to 7.9% in FY2018.

18. Question: Is the OPEB plan fully insured or self-insured?
Answer: Self-Insured.

19. Question: What is the budget for services being requested in this RFP?
Answer: The budget will be in line with previous fees paid for actuarial services, with adjustments made for fees quoted in the newly accepted proposal.

20. Question: How long has the current actuary been providing these services?
Answer: See question #8.

21. Question: Is the current actuary invited to bid on this RFP?
Answer: See #9

22. Question: Are you open to accepting mutually-agreeable contract terms, which include some limitation of liability on the work performed by the contracting actuarial firm? Also, are there any statutory requirements regarding limitation of liability of which we should be aware?
Answer: The City will negotiate contract terms with the firm whose proposal is accepted. Limitations of liability are negotiable. There are no statutory requirements regarding limitations of liability.

23. Question: How many full time employees does the municipality currently have?
Answer: See attached Actuarial Valuations

24. Question: How many retirees currently receiving healthcare benefits does the municipality have?
Answer: See attached Actuarial Valuations

25. Question: Are you self-insured or fully-insured?
Answer: Self-Insured

26. Question: Are there different types of plans (high-coverage, low-coverage, etc.) that retirees can choose from? Or is everyone covered by the same plan?
Answer: The City offers one plan for retirees. When a retiree reaches age 65 Medicare eligibility, they can choose to enroll in a Medicare Supplement sponsored by the employer and billed to the employer. The City's contribution can be applied to the Medicare Supplement and Part D option or the City's Health Plan.

27. Question: Does the plan provide just health insurance, or do you provide dental, vision, life insurance, or any other type?
    Answer: Health Insurance only. There is a separate Group Life Insurance Policy for active employees that has a retiree classification. The retiree benefit reduces at retirement until it reaches a minimum benefit of $5000.

28. Question: Are there any other post-retirement benefits that need to be included in the valuation?
    Answer: No

29. Question: Will your valuation need to be broken out by different employee departments? If so, how many departments? (Note: this will most likely increase the cost of the valuation)
    Answer: No

30. Question: Does the City have a trust fund which post employments benefits are paid?
    Answer: Yes

31. Question: Subsidized post-employment life insurance is or not provided?
    Answer: Employer paid Life Insurance is provided for active employees - at retirement, the benefit is gradually reduced to $5000.

32. Question: Are there unit(s) for which costs and liabilities must be separately disclosed?
    Answer: No

33. Question: Does the municipality value life insurance?
    Answer: Employer paid Life Insurance program is not for of the Retiree health Insurance Trust Fund, and is not included in the actuarial valuation of that Fund.

ACKNOWLEDGMENT: Each Proposer shall acknowledge receipt of this Addendum No. 1 by his or her signature below, **and a copy of this Addendum to be returned with proposal.**

CERTIFICATION BY PROPOSER

The undersigned acknowledges receipt of this Addendum No. 1 and the Proposal submitted is in accordance with information, instructions, and stipulations set forth herein.

PROPOSER: The Howard E. Nyhart Company, Incorporated

BY:

DATE: June 21, 2018

## ADDENDUM NO. 2

CITY OF GAINESVILLE every path starts with passion FLORIDA

Date: June 19, 2018

Bid Date: June 25, 2018 at 3:00 P.M. (Local Time)

Bid Name RFP for Actuarial Services for City of Gainesville General Employees' Pension Plan and the City of Gainesville Retiree Health Insurance Trust Fund

Bid No.: FPEN-180084-DH

NOTE: This Addendum has been issued only to the holders of record of the specifications.

The original Specifications remain in full force and effect except as revised by the following changes which shall take precedence over anything to the contrary:

1. The deadline for questions was June 18, 2018.

2. Please find attached:

   a) Copy of the black out period information (Financial Procedures Manual Section 41-423 Prohibition of lobbying in procurement matters)) distributed during mandatory pre-bid meeting.

The following are answers/clarifications to questions received:

3. Question: Please provide the current contracted fees for each of the services outlined in the price proposal section of the RFP.
   Answer: See Addendum No. 1.

4. Question: Please provide a copy of the most recent actuarial valuation reports for each of the services requested (i.e., funding, GASB, 112.664)?
   Answer: See Addendum No. 1.

5. Question: For the Retiree Health Insurance Trust Fund, are the GASB 74/75 valuations prepared annually with updated census data and financial information or is the valuation bi-annual with a rollforward of results for interim years?
   Answer: The valuation is done bi-annually with a roll forward of results for interim years.

6. Question: Are there any service issues with your current actuarial provider?
   Answer: See Addendum No. 1.

7. Question: Are there any areas of concern that should be addressed in the proposal?
   Answer: If there is going to be a fee to perform an initial reproduction of the most recent actuarial valuation, state so clearly.

8. Question: Would the City entertain language that clarifies that the successful bidder may rely on the data provided by the City and is not responsible for data clean up or inaccurate data?
   Answer: The City is willing to discuss such language with the successful bidder, but some data reconciliation is expected.

9. Question: Would the City entertain language that sets out a limitation of liability on asserted negligence or breach of contract, without limiting gross negligence or willful misconduct, to a mutually agreed amount?
   Answer: The City is willing to discuss such language with the successful bidder.

10. Question: Would the City entertain language that clarifies that the indemnity is solely triggered when a claim from a non-party arises against the City that is due to the successful bidder's fault?
    Answer: The City is willing to discuss such language with the successful bidder.

11. Question: Would the City entertain language clarifying that the insurance carried is slightly edited?
    Answer: The City is willing discuss such language with the successful bidder.

12. Question: Would the City entertain a non-solicitation of employment clause that allows exceptions for non-targeted general job recruiting?
    Answer: The City is willing to discuss such language with the successful bidder.

13. Question: Please confirm whether the RFP includes services the successful bidder is expected to perform related to pension plan benefit calculation and/or administration system(s) maintained and operated by the City.
    Answer: The RFP specifies that the successful bidder is expected to perform pension benefit calculations, however there are no responsibilities related to the City's pension administration systems.

14. Question: Section 1 ( C ) Proposal Submission: This section asks that we submit the proposal on a CD or USB Flash Drive and that the electronic document should not be password protected or encrypted. It is Gallagher's policy to encrypt the CD or Flashdrive as a whole. Are we able to submit the flashdrive with a password included? Or can we submit an electronic copy via Sharefile or email?
    Answer: The City will accept a flashdrive with the password included.

15. Question: How will addenda be communicated?
    Answer: Addenda will be posted on Demandstar.

16. Question: Section III (A)(3) Format and Contents of Proposal – Price Proposal: Is the price proposal required to be submitted in a separate sealed envelope?
    Answer: The price proposal is not required to be submitted in a separate sealed envelope.

17. Question: Section III (B) Qualifications/Statement of Qualifications: Is the City looking for a complete client list or just a listing of our references?
    Answer: References are required. A representative list of public pension clients, including Florida public pension clients is preferred.

ACKNOWLEDGMENT: Each Proposer shall acknowledge receipt of this Addendum No. 2 by his or her signature below, **and a copy of this Addendum to be returned with proposal.**

CERTIFICATION BY PROPOSER

The undersigned acknowledges receipt of this Addendum No. 2 and the Proposal submitted is in accordance with information, instructions, and stipulations set forth herein.

PROPOSER: The Howard E. Nyhart Company, Incorporated

BY:

DATE: June 21, 2018

# CITY OF GAINESVILLE — FINANCIAL SERVICES PROCEDURES MANUAL

**41-423** **Prohibition of lobbying in procurement matters**

Except as expressly set forth in Resolution 060732, Section 10, during the black out period as defined herein no person may lobby, on behalf of a competing party in a particular procurement process, City Officials or employees except the purchasing division, the purchasing designated staff contact. Violation of this provision shall result in disqualification of the party on whose behalf the lobbying occurred.

Black out period means the period between the issue date which allows for immediate submittals to the City of Gainesville Purchasing Department for an invitation for bid or the request for proposal, or qualifications, or information, or the invitation to negotiate, as applicable, and the time the City Officials and Employee awards the contract.

Lobbying means when any natural person for compensation, seeks to influence the governmental decision making, to encourage the passage, defeat, or modification of any proposal, recommendation or decision by City Officials and Employees, except as authorized by procurement documents.

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***Employees' Retirement System***
***of the***
***ABC City, Town, County***

*January 1, 2016*

*Actuarial Valuation Report*

At the request of the plan sponsor, this report summarizes Employees' Retirement System of the ABC City, Town, County as of January 1, 2016. The purpose of this report is to communicate the following results of the valuation:

- Funded Status; and
- Determine Recommended Contribution for the fiscal year January 1, 2017 through December 31, 2017.

This report has been prepared in accordance with the applicable Federal and State laws. Consequently, it may not be appropriate for other purposes. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than that explained above. Failure to do so may result in misrepresentation or misinterpretation of this report.

The results in this report were prepared using information provided to us by other parties. The census information has been provided to us by the employer. Asset information has been provided to us by the trustee. We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we have made assumptions we believe to be reasonable. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report. A summary of the data used in the valuation is included in this report.

The actuarial assumptions and methods were chosen by the Board. In our opinion, all actuarial assumptions and methods are individually reasonable and in combination represent our best estimate of anticipated experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement. This report has been prepared in accordance with generally accepted actuarial principles and practice.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are available for any questions

Nyhart

David D. Harris, ASA, EA, MAAA
Enrolled Actuary No. 14-5609

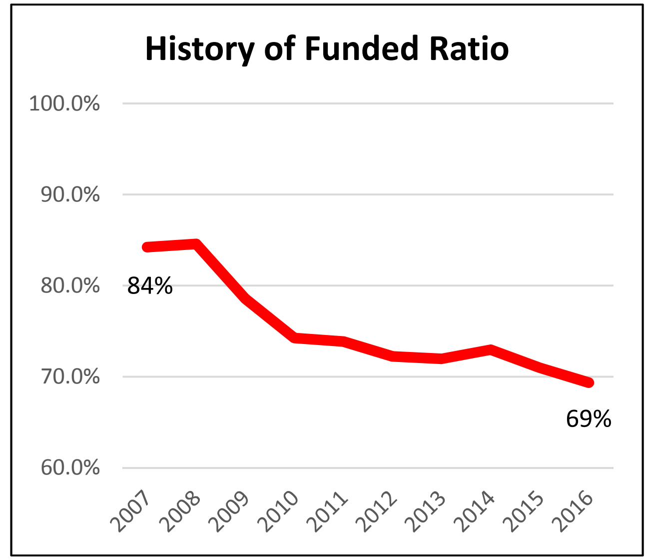
Heath Merlak, FSA, EA, MAAA
Enrolled Actuary No. 14-5967

May 11, 2016
Date

## Summary Results

The actuarial valuation's primary purpose is to produce a scorecard measure displaying the funding progress of the plan toward the ultimate goal of paying benefits at retirement. -The second liability is based on an entry age level percentage of pay.

| | January 1, 2015 | January 1, 2016 |
|---|---|---|
| **Funded Status Measures** | | |
| Accrued Liability | $1,559,275,063 | $1,614,978,634 |
| Actuarial Value of Assets | 1,106,575,866 | 1,119,731,517 |
| Unfunded Accrued Liability | $452,699,197 | $495,247,117 |
| Funded Percentage | 71.0% | 69.3% |
| **Cost Measures** | | |
| Required Contribution | $39,173,320 | $41,887,796 |
| Required Contribution (as a percentage of payroll) | 28.9% | 30.4% |
| **Asset Information** | | |
| Market Value of Assets | $1,072,492,947 | $1,021,631,460 |
| Actuarial Value of Assets | $1,106,575,866 | $1,119,731,517 |
| Actuarial Value / Market Value | 103.2% | 109.6% |
| **Member Information** | | |
| Active Members | 3,181 | 3,138 |
| Terminated Vested Members | 22 | 20 |
| Retirees, Beneficiaries, and Disabled Members | 3,181 | 3,257 |
| DROP Participants | 332 | 341 |
| Total | 6,716 | 6,756 |
| Total Payroll | $135,556,888 | $137,591,450 |



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**Changes since Prior Valuation and Key Notes**

The following changes in system provisions have changed since the last valuation:

For those members with dates of hire on or after September 1, 2015:

- Service retirement eligibility is age 55 for public safety members or age 60 for non-public safety members with at least 10 years of service or 20 years of service regardless of age.
- Full retirement eligibility (3% of final average compensation for each year of creditable service) is age 50 for public safety members or age 55 for non-public safety members with at least 25 years of service.
- Early retirement benefits are reduced to an actuarial equivalent benefit.
- The normal form of benefit is a life annuity.
- Final average compensation is based on the average compensation during the highest 60 consecutive months of creditable service.
- The policy of rounding service up to the next highest quarter has been abolished.

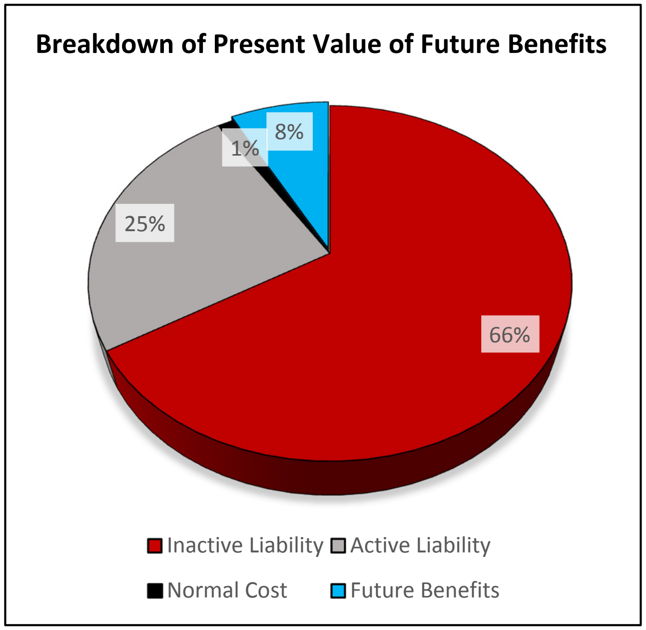
Leave accrual rates for new members hired on or after April 4, 2015 have been reduced. This may result in smaller leave balances being traded in for additional service upon their retirement.

There have been no changes to the assumptions since the last valuation date

**Present Value of Future Benefits**

The Present Value of Future Benefits represents the future benefits payable to the existing participants.

| | January 1, 2016 |
|---|---|
| **Present Value of Future Benefits** | |
| Active members | |
| Retirement | $541,251,690 |
| Disability | 29,439,690 |
| Death | 8,495,579 |
| Termination | 17,785,017 |
| Total active | $596,971,976 |
| Inactive members | |
| Retired members | $693,555,330 |
| DROP members | 387,527,255 |
| Beneficiaries | 58,968,737 |
| Disableds | 29,285,979 |
| Terminated vested members | 8,283,666 |
| Total inactive | $1,177,620,967 |
| **Total** | $1,774,592,943 |
| | |
| Present value of future salaries | $970,204,430 |





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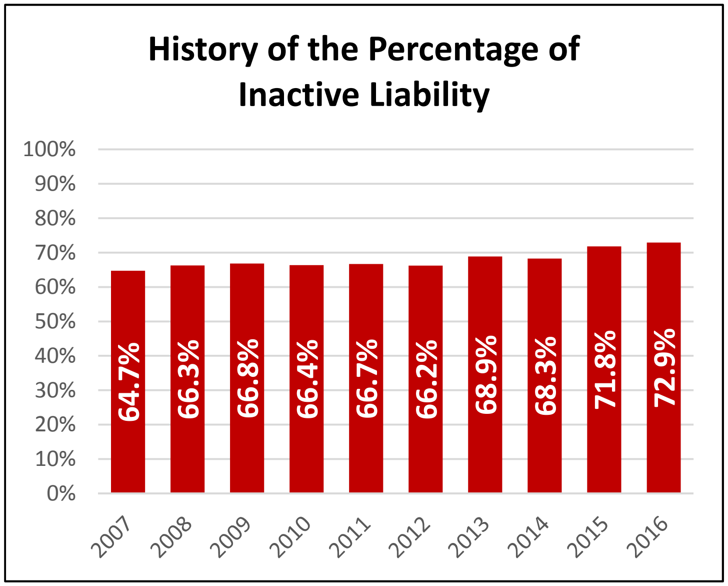
**Entry Age Accrued Liability**

The Funding Liability measures the present value of benefits earned as of the valuation date, using a specified set of actuarial assumptions.

| | January 1, 2016 |
|---|---|
| **Funding Liabilities** | |
| Active members | |
| Retirement | $405,647,236 |
| Disability | 17,580,287 |
| Death | 5,325,545 |
| Termination | 8,804,599 |
| Total active | $437,357,667 |
| Inactive members | |
| Retired members | $693,555,330 |
| DROP members | 387,527,255 |
| Beneficiaries | 58,968,737 |
| Disableds | 29,285,979 |
| Terminated vested members | 8,283,666 |
| Total inactive | $1,177,620,967 |
| **Total** | $1,614,978,634 |
| | |
| **Normal Cost** | $21,919,079 |



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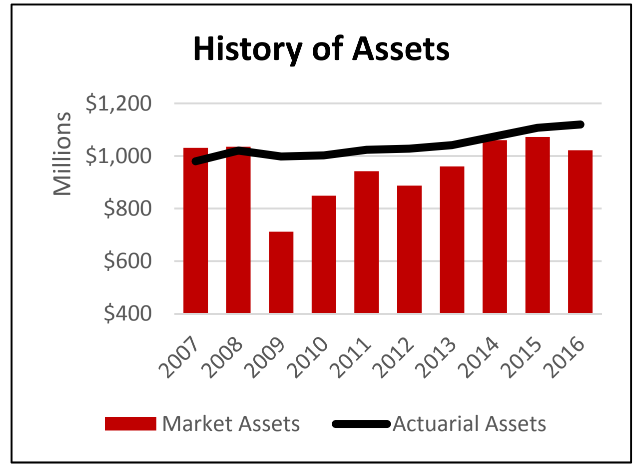
**Asset Information**

The amount of assets backing the pension promise is the most significant driver of volatility and future costs within a pension plan. The investment performance of the assets directly impacts the ultimate cost.

| | | January 1, 2016 |
|---|---|---|
| **Market Value Reconciliation** | | |
| Market value of assets - beginning of prior year | | $1,073,878,697 |
| Contributions | | |
| Employer contributions | $40,354,154 | |
| Employee contributions | 13,596,282 | |
| Non-employer contributing entity | 2,491,426 | |
| Total | | 56,441,862 |
| Investment income | | (2,674,967) |
| Investment expenses | | (6,933,916) |
| Benefit payments [1] | | (96,206,645) |
| Administrative expenses | | (1,318,104) |
| Market value of assets - beginning of current year | | $1,023,186,927 |
| Return on Market Value | | -0.9% |
| Reserve assets [2] | | $1,555,467 |
| Market Value of assets available for pension benefits | | $1,021,631,460 |
| | | |
| **Actuarial value of assets** | | |
| Value at beginning of current year | | $1,119,731,517 |




[1] Includes benefit payments, contribution refunds, supplemental benefit payments, and DROP distributions
[2] SBP account



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**Asset Information (continued)**

Actuarial Value of Assets is used to develop funded percentages and contribution requirements.

| | | January 1, 2016 |
|---|---|---|
| **1.** | **Expected actuarial value of assets** | |
| | (a) Actuarial value of assets, beginning of prior year | $1,106,575,866 |
| | (b) Contributions | 56,441,862 |
| | (c) Benefit payments | (96,206,645) |
| | (d) Expenses | (1,318,104) |
| | (e) Expected return | 78,763,552 |
| | (f) Expected actuarial value of assets – end of year | $1,144,256,531 |
| **2.** | **Market value of assets – beginning of current year** | $1,021,631,460 |
| **3.** | **Amount subject of phase in** | ($122,625,071) |
| **4.** | **Phase in of gain/(loss) (20% x ($122,625,071))** | ($24,525,014) |
| **5.** | **Transfer of excess investment return** | $0 |
| **6.** | **Preliminary actuarial value of assets, beginning of current year ((1f)+(4)+(5))** | $1,119,731,517 |
| **7.** | **80% Market value of assets** | $817,305,168 |
| **8.** | **120% Market value of assets** | $1,225,957,752 |
| **9.** | **Adjusted actuarial value of assets** | $1,119,731,517 |
| **10.** | **Final actuarial value of assets** | $1,119,731,517 |
| **11.** | **Return on actuarial value of assets** | 5.0% |

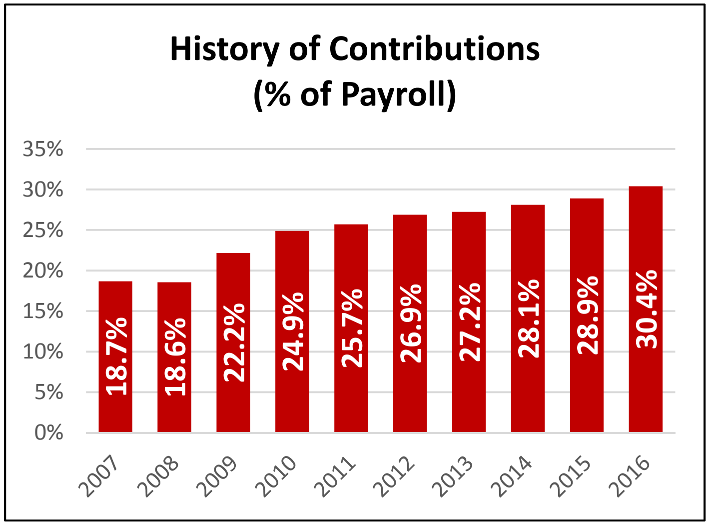
## Reconciliation of Gain/Loss

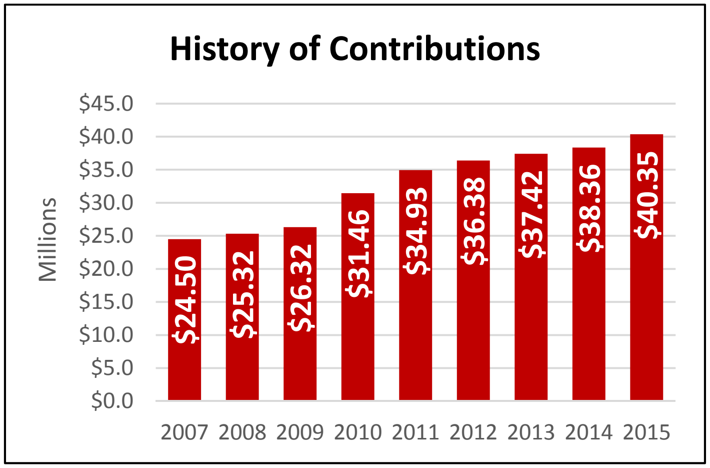
| | January 1, 2016 |
|---|---|
| **Liability (gain)/loss** | |
| Actuarial liability, beginning of prior year | $1,559,275,063 |
| Normal cost | 21,575,938 |
| Benefit payments | (96,206,645) |
| Interest | 111,185,225 |
| Plan provision changes | (248,311) |
| Expected actuarial liability, beginning of current year | $1,595,581,270 |
| Actual actuarial liability | $1,614,978,634 |
| Liability (gain)/loss | $19,397,364 |
| **Asset (gain)/loss** | |
| Actuarial value of assets, beginning of prior year | $1,106,575,866 |
| Contributions | 56,441,862 |
| Benefit payments and expenses | (97,524,749) |
| Expected investment return | 78,763,552 |
| Expected actuarial value of assets, beginning of current year | $1,144,256,531 |
| Actual actuarial value of assets, beginning of current year | $1,119,731,517 |
| Asset (gain)/loss | $24,525,014 |
| **Total (gain)/loss** | $43,922,378 |

## Development of Recommended Contribution

The minimum recommended contribution is the annual amount necessary to fund the plan according to funding policies and/or applicable laws. The recommended contribution is composed of the normal cost, administrative expenses, plus an amortization charge.

| | January 1, 2016 |
|---|---|
| **Funded Position** | |
| 1. Entry age accrued liability | $1,614,978,634 |
| 2. Actuarial value of assets | $1,119,731,517 |
| 3. Unfunded actuarial accrued liability (UAAL) | $495,247,117 |
| **Employer Contributions** | |
| 1. Normal Cost | |
| (a) Total normal cost | $21,919,079 |
| (b) Expected member contributions | 12,788,284 |
| (c) Net normal cost | $9,130,795 |
| 2. Administrative expenses | 1,318,104 |
| 3. Amortization of UAAL | 29,998,338 |
| 4. Applicable interest | 1,440,559 |
| 5. Total recommended contribution | $41,887,796 |
| As a percentage of payroll | 30.4% |



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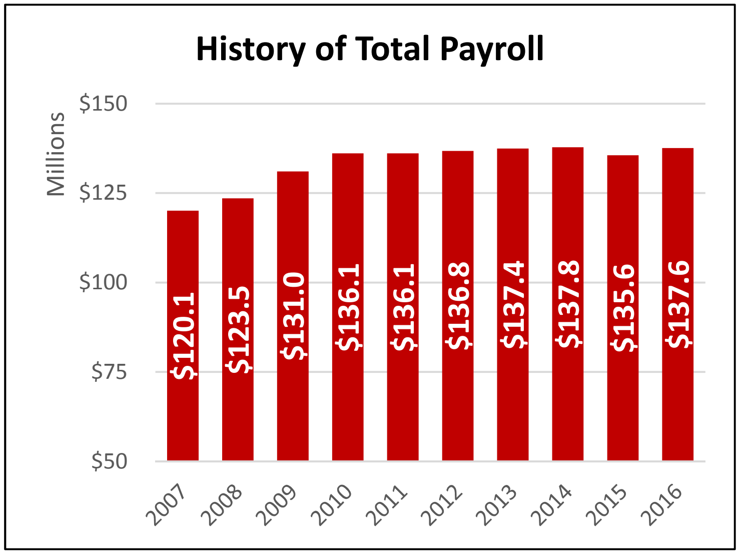
The foundation of a reliable actuarial report is the member information provided by the plan sponsor. Monitoring trends in demographic information is crucial for long-term pension planning.

| | January 1, 2016 |
|---|---|
| **Member Counts** | |
| Active members | 3,138 |
| Retired members | 2,401 |
| Beneficiaries | 654 |
| Disabled members | 202 |
| Terminated vested members | 20 |
| DROP members | 341 |
| Total members | 6,756 |
| | |
| **Active Members Demographics** | |
| Average age | 43.4 |
| Average service | 8.8 |
| Average compensation | $43,847 |
| Covered payroll | $134,613,512 |
| Total payroll | $137,591,450 |



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## Demographic Information (continued)

| | January 1, 2016 |
|---|---|
| **Retiree Statistics** | |
| Average age | 67.9 |
| Average monthly benefit | $2,272 |
| **Beneficiary Statistics** | |
| Average age | 70.7 |
| Average monthly benefit | $862 |
| **Disabled Members Statistics** | |
| Average age | 62.6 |
| Average monthly benefit | $1,301 |
| **Terminated Members Statistics** | |
| Average age | 54.6 |
| Average monthly benefit | $998 |
| **DROP Members Statistics** | |
| Average age | 57.7 |
| Average monthly benefit | $3,734 |

| | Active | Terminated Vested | Disabled | Retired | Beneficiaries | DROP | Totals |
|---|---|---|---|---|---|---|---|
| **Prior Year** | 3,181 | 22 | 204 | 2,338 | 639 | 332 | 6,716 |
| **Active** | | | | | | | |
| To Terminated Vested | | | | | | | |
| To Disabled | (4) | | 4 | | | | |
| To Retired | (28) | | | 28 | | | |
| To DROP | (107) | | | | | 107 | |
| To Terminated Non-Vested | (130) | | | | | | (130) |
| To Lump Sum Cash-Out | (137) | | | | | | (137) |
| To Death | (2) | | | | | | (2) |
| **Terminated Vested** | | | | | | | |
| To Retired | | (2) | | 2 | | | |
| **Disabled** | | | | | | | |
| To Death | | | (8) | | | | (8) |
| **Retired** | | | | | | | |
| To Lump Sum Cash-Out | | | | | | | |
| To Death | | | | (71) | | | (71) |
| **Survivor** | | | | | | | |
| To Lump Sum Cash-Out | | | | | (3) | | (3) |
| To Death | | | | | (26) | | (26) |
| **DROP** | | | | | | | |
| To Retired | | | | 94 | | (94) | |
| To Lump Sum Cash-Out | | | | | | (3) | (3) |
| To Death | | | | | | (1) | (1) |
| **Additions** | 365 | | 2 | 10 | 44 | | 421 |
| **Departures** | | | | | | | |
| **Current Year** | 3,138 | 20 | 202 | 2,401 | 654 | 341 | 6,756 |



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## Active Member Schedule

Active member information grouped based on age and service.

| Age Group | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 & up | Total | Average Pay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 25 | 59 | 56 | | | | | | | | | 115 | 31,100 |
| 25 to 29 | 87 | 223 | 57 | 1 | | | | | | | 368 | 34,879 |
| 30 to 34 | 45 | 166 | 166 | 58 | | | | | | | 435 | 40,940 |
| 35 to 39 | 38 | 105 | 117 | 104 | 46 | 2 | | | | | 412 | 47,006 |
| 40 to 44 | 35 | 82 | 91 | 70 | 104 | 36 | | | | | 418 | 48,841 |
| 45 to 49 | 24 | 67 | 69 | 72 | 75 | 82 | 12 | | | | 401 | 49,988 |
| 50 to 54 | 22 | 59 | 69 | 70 | 64 | 68 | 14 | | | | 366 | 45,202 |
| 55 to 59 | 23 | 61 | 90 | 50 | 47 | 55 | 11 | 1 | | | 338 | 41,936 |
| 60 to 64 | 13 | 42 | 52 | 24 | 27 | 30 | 2 | | | | 190 | 45,779 |
| 65 to 69 | 6 | 16 | 17 | 9 | 12 | 8 | 2 | | | 1 | 71 | 45,096 |
| 70 & up | | 5 | 9 | 5 | 3 | 2 | | | | | 24 | 38,565 |
| Total | 352 | 882 | 737 | 463 | 378 | 283 | 41 | 1 | | 1 | 3,138 | 43,847 |

**Plan Effective Date**

This plan was effective December 31, 1953 and was most recently amended effective August 12, 2015

**Fiscal Year**

Calendar year

**Authority for Provisions**

The plan is established and amended by the ABC City, Town, County acting through its Board of Trustees.

**Eligibility for Membership**

Any regular employee of the ABC City, Town, County, excluding Police employees who elected to transfer into Municipal Police Employees' Retirement System of ABC City, Town, County (MPERS) as of February 26, 2000 and Police employees hired after that date. Part-time council members with service prior to January 1, 1997, retroactive to December 31, 1976.

**Accrued Benefit**

For members whose date of hire is prior to September 1, 2015

| | |
|---|---|
| Creditable Service not yet 25 years: | 2.5% of Final Average Compensation for each year of Creditable Service |
| Creditable Service at least 25 years: | 3.0% of Final Average Compensation for each year of Creditable Service |

For public safety members whose date of hire is on or after September 1, 2015

| | |
|---|---|
| Creditable Service not yet 25 years nor age 50: | 2.5% of Final Average Compensation for each year of Creditable Service |
| Creditable Service at least 25 years and at least age 50: | 3.0% of Final Average Compensation for each year of Creditable Service |

For non-public safety members whose date of hire is on or after September 1, 2015

| | |
|---|---|
| Creditable Service not yet 25 years nor age 55: | 2.5% of Final Average Compensation for each year of Creditable Service |
| Creditable Service at least 25 years and at least age 55: | 3.0% of Final Average Compensation for each year of Creditable Service |

Maximum of 90% of Final Average Compensation

**Benefits**

**Normal Retirement**

| | |
|---|---|
| Eligibility | For members whose date of hire is prior to September 1, 2015: Age 55 with 10 years of service, or 20 years of service regardless of age<br>For public safety members whose date of hire is on or after September 1, 2015: Age 55 with 10 years of service; or 20 years of service regardless of age<br>For non-public safety members whose date of hire is on or after September 1, 2015: Age 60 with 10 years of service; or 20 years of service regardless of age |
| Benefit | 2.5% of Final Average Compensation for each year of Creditable Service |
| Eligibility | For members whose date of hire is prior to September 1, 2015: 25 years of service regardless of age<br>For public safety members whose date of hire is on or after September 1, 2015: Age 50 with 25 years of service<br>For non-public safety members whose date of hire is on or after September 1, 2015: Age 55 with 25 years of service |
| Benefit | 3.0% of Final Average Compensation for each year of Creditable Service (Maximum of 90% of Final Average Compensation) |

**Early Retirement**

For members whose date of hire is prior to September 1, 2015

| | |
|---|---|
| Eligibility | Less than 25 years of Creditable Service and prior to age 55 |
| Benefit | Benefits are reduced by 3%/year prior to age 55 |

For public safety members whose date of hire is on or after September 1, 2015

| | |
|---|---|
| Eligibility | Less than 25 years of Creditable Service and prior to age 50 |
| Benefit | Benefits are reduced to an actuarial equivalent benefits |

For public non-safety members whose date of hire is on or after September 1, 2015

| | |
|---|---|
| Eligibility | Less than 25 years of Creditable Service and prior to age 55 |
| Benefit | Benefits are reduced to an actuarial equivalent benefits |

**Termination**

| | |
|---|---|
| Eligibility | Member terminates employment, but does not retire |
| Benefit | Accumulated contributions without interest |
| Eligibility | Member terminates employment with at least 10 years of Creditable Service, but does not retire |
| Benefit | Benefits, based on Creditable Service and Final Average Compensation at termination date, deferred to age 55. If Member contributions are withdrawn, benefit is forfeited. |

**Death**

| | |
|---|---|
| Eligibility | Member eligible for retirement |
| Benefit | (1) Surviving spouse may elect Option 2 benefits (including 100% Joint & Survivor actuarially equivalent to 50% Joint & Survivor, without reduction for early commencement) or a refund of the Member's contributions |
| Eligibility | Member not eligible for retirement |
| Benefit | (2) Surviving spouse may elect a monthly benefit of $600 payable until remarriage, or a refund of the Member's contributions |
| Eligibility | Eligible children under age 18 |
| Benefit | (3) Monthly benefit of $150 per child (maximum $300), payable until age 18. These benefits are in addition to any benefits payable under (1) or (2). |
| Eligibility | Member died prior to May 24, 1989 |
| Benefit | (4) Monthly benefit to surviving spouse of $600 |
| Eligibility | No benefits are payable under (1), (2), (3) or (4) |
| Benefit | $150 monthly benefit to unmarried dependent parent until death or remarriage |

**Disability**

| | |
|---|---|
| Eligibility | Ordinary Disability after 10 or more years of Creditable Service |
| Benefit | 2.5% of Final Average Compensation times Creditable Service, with a minimum benefit of 50% of Final Average Compensation |
| Eligibility | Service Connected Disability |
| Benefit | 50% of Final Average Compensation, plus 1.5% of Final Average Compensation times Creditable Service in excess of 10 years, with a combined maximum benefit of 90% of Final Average Compensation |

**Final Average Compensation**

For members whose date of hire is prior to September 1, 2015:
Average compensation during the highest 36 consecutive months of Creditable Service

For members whose date of hire is on or after September 1, 2015:
Average compensation during the highest 60 consecutive months of Creditable Service

**Date of Hire**

The most recent date of hire for an active member, inactive member, or vested nonmember, or the date of hire on which a service retiree's or a disability retiree's original pension calculation was based

**Creditable Service**

Service credited under Retirement System; military service (maximum of three years); additional military service as required under USERRA for which member contributions are received

**Vesting**

If a member terminates employment for any reason other than retirement, death, or disability, he/she will be entitled to receive a nonforfeitable (vested) interest in their Accrued Benefit depending on years of service as shown below.

| Years of Service | Percentage Vested |
|---|---|
| Less than 10 | 0% |
| 10 or more | 100% |

**Contributions**

Members: 8% of compensation. Effective January 1, 2002, member contribution is equal to Maximum Employer Contribution, if less than 8%. If the Maximum Employer Contribution rate is 17% or greater, the member contribution rate will be 50% of the Employer Contribution rate, but not more than 9.5%. The Maximum Employer Contribution rate is the larger of the City, Town, County rate and the Special rate.

Employer Contribution: Balance, actuarially determined. Maximum Employer Contribution: Employer Contribution plus adjusting percentages for pro rata allocation of obligations for transfer of members to plans maintained by the State or a political subdivision thereof.

MERS payments received for 2006 and later are reserved for future Supplemental Benefit Payments

**Payment Forms**

| | |
|---|---|
| Normal Form | For members whose date of hire is before September 1, 2015: Normal form is joint and 50% contingent survivor. For members whose date of hire is on or after September 1, 2015: Normal form is a life annuity. For members entitled to Service Retirement Benefits, actuarially equivalent to regular retirement allowance. |
| Optional Forms | Option 1: Refund of excess of Member's contributions over aggregate benefits paid;<br>Option 2: 100% Joint & Survivor to designated contingent annuitant;<br>Option 3: Any other form approved by the Board |

**Retirement Benefit Adjustments**

For Members who retired before December 31, 1989, or surviving spouses of such Members, who did not enter DROP, an annual payment of $600 at July 1, 1992 plus $30 for each year retired since then (excluding first year)

**Supplemental Benefit Payments**

To be funded from (i) 1/10 of the first 2%, and 1/20 of the remainder, of excess return on the actuarial value of assets, provided the aggregate experience from all sources is an actuarial gain; (ii) decreases in Retirement Benefit Adjustment payments under 1:269 since July, 2002; and (iii) MERS payments received for 2006 and later

**Deferred Retirement Option Plan (DROP):**

Duration

For members whose date of hire is prior to September 1, 2015:
The lesser of 5 years, or 32 years minus Creditable Service at DROP entry

For members whose date of hire is on or after September 1, 2015:
The lesser of 5 years; or 35 years minus Creditable Service at DROP entry; for those not eligible at 30 years of Creditable Service because of age: duration is the difference between (a) & (b) provided the difference is at least 2 years:
(a) Earliest eligibility plus 5 years and
(b) Election for DROP

Eligibility

Prior to July 1, 1991, eligible to retire with an immediate service retirement allowance and between 25 and 30 years of Creditable Service

Benefit

Service retirement allowances are paid into the Member's DROP account and credited with interest at the rate set by the Board of Trustees. No further Member or employer contributions are payable and no further benefits are accrued.

Upon retirement and termination of DROP participation (or death), the Member (or beneficiary) may elect one of the following:

(a) A lump sum of the DROP account balance;
(b) A life annuity based on the DROP balance;
(c) Any other method of payment approved by the Board of Trustees

Normal survival benefits payable to survivors of retirees are paid upon death of the Member while a DROP participant

Eligibility

For members whose date of hire is prior to September 1, 2015:
On and after July 1, 1991, eligible to retire with an immediate service retirement allowance and between 25 and 30 years of Creditable Service.
On and after July 1, 2002, Member has at least ten (10) years of Creditable Service and has attained at least age 55, with DROP duration not greater than three (3) years.
For non-public safety members whose date of hire is on or after September 1, 2015:
On and after July 1, 1991, eligible to retire at age 55 with an immediate service retirement allowance and between 25 and 33 years of Creditable Service.
On and after July 1, 2002, Member has at least ten (10) years of Creditable Service and has attained at least age 60, with DROP duration not greater than three (3) years.
For non-public safety members whose date of hire is on or after September 1, 2015:
On and after July 1, 1991, eligible to retire at age 50 with an immediate service retirement allowance and between 25 and 33 years of Creditable Service.
On and after July 1, 2002, Member has at least ten (10) years of Creditable Service and has attained at least age 55, with DROP duration not greater than three (3) years.

Benefit

Comparable to pre-July 1, 1991 provisions, except interest is not credited to DROP account until the conditions of DROP participation have been satisfied. If the Member does not terminate employment at the end of the DROP period, potential interest credits are forfeited.

**Compensated Absences**

Eligibility — Upon written consent of the Member or his surviving spouse, the Retirement System will provide the following with respect to unused, accumulated vacation time and sick leave.

Benefit
(a) Cash payment for a portion, with the remainder added to the Member's Creditable Service, on the basis of one (1) hour for each two (2) hours of unused time
(b) Conversion of all of the accumulated time to Creditable Service, on the basis of one (1) hour for each hour of unused accumulated time and sick leave

Any unused time converted to service credit is included in determining eligibility for retirement and benefits. For purposes of determining Final Average Compensation, compensation at the time of retirement or death is assumed to continue for the period of added service.

**System Provisions Not Included**

We are not aware of any system provisions not included in the valuation

**Adjustments Made for Subsequent Events**

We are not aware of any event following the measurement date and prior to the date of this report that would materially impact the results of this report

**Changes Since Prior Report**

For those members with dates of hire on or after September 1, 2015:

- Service retirement eligibility is age 55 for public safety members or age 60 for non-public safety members with at least 10 years of service or 20 years of service regardless of age.
- Full retirement eligibility (3% of final average compensation for each year of creditable service) is age 50 for public safety members or age 55 for non-public safety members with at least 25 years of service.
- Early retirement benefits are reduced to an actuarial equivalent benefit.
- The normal form of benefit is a life annuity.
- Final average compensation is based on the average compensation during the highest 60 consecutive months of creditable service.
- The policy of rounding service up to the next highest quarter has been abolished.

**Valuation Date** January 1, 2016

**Participation and Asset Information Collected as of** January 1, 2016

**Investment Return** 7.25% per year, compounded annually, net of investment expenses

**Inflation** 2.75% per year

**Annual Pay Increases** Inflation, plus

| Age | ABC/Regular % | Fire/Police % |
|---|---|---|
| 30 | 2.50 | 4.00 |
| 35 | 1.50 | 2.00 |
| 40 | 1.25 | 2.00 |
| 45 | .75 | 1.00 |
| 50 | .50 | 0 |
| 55 | 0 | 0 |

**Aggregate Payroll Growth** 2.50% per year

**Mortality** RP-2000 Healthy Combined Blue Collar Projected with Scale BB to 2019, producing following specimen rates:

| Age | Male % | Female % |
|---|---|---|
| 20 | .0326 | .0180 |
| 30 | .0686 | .0277 |
| 40 | .1295 | .0829 |
| 50 | .2278 | .1854 |
| 60 | .7237 | .4089 |
| 70 | 2.0079 | 1.4815 |

**Disabled Mortality** RP-2000 Disabled Mortality Projected with Scale BB to 2019

**Withdrawal Rates**

| Age | Turnover |
|---|---|
| 20 | .079 |
| 25 | .077 |
| 30 | .072 |
| 35 | .063 |
| 40 | .052 |
| 45 | .040 |
| 50 | .026 |
| 55 | .009 |
| 60 | .001 |

Probabilities of turnover are in accordance with the Eleventh Actuarial Valuation of the Railroad Retirement System based on Table T-5. The turnover rates are modified as follows, based on years of employment:

| Years of Service | ABC/Regular % | Fire/Police % |
|---|---|---|
| 0-1 | 400 | 110 |
| 2 | 270 | 85 |
| 3 | 220 | 45 |
| 4-10 | 180 | 45 |
| 11-15 | 70 | 25 |
| 16+ | 50 | 15 |

**Retirement Rates**

| **Before 25 Years of creditable service** | | **After 25 Years of creditable service** | |
|---|---|---|---|
| Age | Retirement | Service | Retirement |
| 55-60 | 10% | 25 | 20% |
| 61-63 | 20% | 26 | 30% |
| 64 | 25% | 27 | 40% |
| 65+ | 100% | 28+ | 100% |

**Assumed Transfers to Retirement System (for accumulated vacation and sick leave, e.g.) (only for members hired on or before April 4, 2015)**

| | Total |
|---|---|
| ABC | 1.00 year |
| Regular | 1.00 year |
| Fire | 1.75 years |
| Police | 1.50 years |

**Disability Rates**

| Age | Disability |
|---|---|
| 20 | .0006 |
| 25 | .0006 |
| 30 | .0006 |
| 35 | .0007 |
| 40 | .0011 |
| 45 | .0022 |
| 50 | .0046 |
| 55 | .0102 |
| 60 | .0320 |
| 61 | .0355 |
| 62 | .0400 |
| 63 | .0450 |
| 64 | .0410 |
| 65 | .0195 |

Probabilities of disability are in accordance with the Eleventh Actuarial Valuation of the Railroad Retirement System. The disability rates for all members are increased by 100%.

**Type of Disability**

A percentage of disabilities is assumed to be ordinary disabilities, as shown below:

| | |
|---|---|
| ABC, Regular | 25% service-connected, 75% ordinary |
| Fire | 50% service-connected, 50% ordinary |
| Police | 75% service-connected, 25% ordinary |

**Actuarial Value of Assets**

Market Value as of January 1, 1996. Beginning January 1, 1997, adjusted Market Value with 20% of unrealized gains (or losses) recognized each year. Beginning January 1, 2002, Expected Value Method, with 20% of investment gains (or losses) recognized each year.

**Actuarial Cost Method**

Entry Age Normal. This method produces a normal cost as a level percentage of pay over the service life of each participant and amortization of the Unfunded Actuarial Accrued Liability (UAAL). Gains and losses are reflected in the UAAL and are included in its amortization.

Starting January 1, 2015, the UAAL is amortized over a 30-year period using an annual total payroll growth assumption. The period will be reduced in successive years until reaching a 15-year open period.

**Percent Married**

80% of employees are assumed married with males three years older than their female spouses.

**Administrative Expense Load**

The actual amount of the prior year's expense is added to the normal cost.

| | |
|---|---|
| **Withdrawal of Employee Contributions** | 100% of employees who terminate (other than retirement, death, or disability) are assumed to withdraw their contributions. |
| **Other** | The liability for Retirement Benefit Adjustments and the funding of the Supplemental Benefit Payments from decreases in the Retirement Benefit Adjustments is combined into a perpetuity |
| **Sources of Data** | Membership and asset data as of January 1, 2016 was furnished by Retirement Office staff. |
| **Changes Since Prior Valuation** | Members hired on or after April 4, 2015 are not assumed to transfer accumulated vacation and sick leave for additional service. |

The actuarial report also shows the necessary items required for plan reporting and the any state requirements.

- ✓ Reconciliation of unfunded actuarial liability
- ✓ Statement of changes on value of assets
- ✓ Distribution of assets
- ✓ Supplemental benefit payments account
- ✓ Transfer of excess investment income
- ✓ Active member schedule by division
- ✓ Membership data detail
- ✓ Experience review
- ✓ Analysis of financial experience
- ✓ Accrued liability detail
- ✓ Summary of actuarial accrued liabilities and percentage covered by net assets available for benefits

**Reconciliation of Unfunded Actuarial Liability**

| | | January 1, 2016 |
|---|---|---|
| 1. | Unfunded actuarial accrued liability, beginning of prior year | $452,699,197 |
| 2. | Normal cost | 21,575,938 |
| 3. | Expenses | 1,318,104 |
| 4. | Employer contributions | (40,354,154) |
| 5. | Non-employer contributions | (16,087,708) |
| 6. | Interest | 32,421,673 |
| 7. | Expected unfunded actuarial accrued liability | $451,573,050 |
| 8. | Liability changes due to: | |
| | (a) Amendments | (248,311) |
| | (b) Assumptions | 0 |
| | (c) Funding methods | 0 |
| | (d) (Gain)/Loss | 43,922,378 |
| | (e) Total | $43,674,067 |
| 9. | Unfunded actuarial liability beginning of current year | $495,247,117 |



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| Statement of Changes on Value of Assets | December 31, 2014 | December 31, 2015 |
|---|---|---|
| **Additions** | | |
| Contributions: | | |
| Employer | $38,356,684 | $40,354,154 |
| Member | 14,907,221 | 15,054,222 |
| Nonemployer contributing entity | 1,006,487 | 1,033,486 |
| Total contributions | $54,270,392 | $56,441,862 |
| Investment income | | |
| Net increase in fair value of investments | $57,188,273 | $(3,043,423) |
| Interest and dividends | 231,187 | 368,456 |
| Less investment expense, other than from securities lending | (6,888,351) | (6,933,916) |
| Net income other than from securities lending | $50,531,109 | $(9,608,883) |
| Securities lending income | 0 | 0 |
| Less securities lending expense | 0 | 0 |
| Net income from securities lending | $0 | $0 |
| Net investment income | $50,531,109 | $(9,608,883) |
| Other | (92,611) | (140,371) |
| Total additions | $104,708,890 | $46,692,608 |
| **Deductions** | | |
| Benefit payments, including refunds of member contributions | $90,949,249 | $96,206,645 |
| Administrative expense | 1,388,242 | 1,318,104 |
| Other | 0 | 0 |
| Total deductions | $92,337,491 | $97,524,749 |
| **Net increase in market value** | $12,371,319 | $(50,832,141) |
| **Market Value as of** | | |
| Beginning of year | $1,060,092,202 | $1,072,463,601 |
| End of year | $1,072,463,601 | $1,021,631,460 |

| Distribution of Assets | December 31, 2014 | December 31, 2015 |
|---|---|---|
| Cash and deposits | $17,428,674 | $16,264,555 |
| Securities lending cash collateral | 0 | 0 |
| Total cash | $17,428,674 | $16,264,555 |
| Receivables: | | |
| Contributions | $6,458,736 | $3,921,563 |
| Due from broker for investments sold | 2,794,739 | 3,645,416 |
| Investment income | 14,708 | 5,704 |
| Other | 131,914 | 138,862 |
| Total receivables | 9,400,097 | $7,711,545 |
| Investments: | | |
| Fixed Income – Domestic | $288,853,105 | $272,017,206 |
| Fixed Income – International | $21,687,936 | 24,610,440 |
| Equities – Domestic | 332,008,221 | 300,457,696 |
| Equities – International | 285,677,144 | 264,259,383 |
| Real Estate | 57,892,372 | 64,441,591 |
| Alternative Investments | 63,224,976 | 75,144,336 |
| Properties at cost | 571,724 | 565,317 |
| Total investments | $1,049,915,478 | $1,001,495,969 |
| Total assets | $1,076,744,249 | $1,025,472,069 |
| **Liabilities** | | |
| Payables | | |
| Investment management fees | $971,728 | $1,028,667 |
| Due to broker for investments purchased | 1,893,824 | 1,256,475 |
| Collateral payable for securities lending | 0 | 0 |
| Other | 0 | 0 |
| Total liabilities | $2,865,552 | $2,285,142 |
| Total | $1,073,878,697 | $1,023,186,927 |
| Reserved Assets | | |
| Supplemental Benefit Payments Account | $(1,415,096) | $(1,555,467) |
| **Assets available for benefits** | **$1,072,463,601** | **$1,021,631,460** |

**Supplemental Benefit Payments Account**

1. RBA payments in 2002 $783,450

2. Accumulation of SBP account

| | | | |
|---|---|---|---|
| a. Year | 2013 | 2014 | 2015 |
| b. Valuation interest rate | 7.50% | 7.50% | 7.25% |
| c. Balance at beginning of year | 1,247,763 | 1,322,485 | 1,415,096 |
| d. Interest on balance | 93,582 | 99,186 | 102,594 |
| e. RBA payments in year | 548,490 | 518,160 | 471,570 |
| f. Addition to SBP account (1-2 (e)) | 234,960 | 265,290 | 311,880 |
| g. MERS Contribution for previous year | | | |
| i. Date received | 6/3/2013 | 6/16/2014 | 6/26/2015 |
| ii. Amount | 939,361 | 973,406 | 1,005,503 |
| iii. Days | 212 | 199 | 189 |
| h. Interest on g(ii) | 40,920 | 39,803 | 37,748 |
| i. MERS contribution for current year | | | |
| i. Date received | 6/16/2014 | 6/26/2015 | --/--/2016 |
| ii. Amount | 973,406 | 1,005,503 | 1,033,486 |
| j. Distributions from SBP account | | | |
| i. Date of distributions | 9/16/2013 | 9/15/2014 | 9/15/2015 |
| ii. Amount | 1,240,864 | 1,288,575 | 1,317,083 |
| iii. Days | 107 | 108 | 108 |
| k. Interest on j(ii) | 27,282 | 28,596 | 28,254 |
| l. Balance at end of year (c+d+f+h+i(ii)-j(ii)-k) | 1,322,485 | 1,415,096 | 1,555,467 |
| m. Transfer of excess investment income[1] | 0 | 0 | 0 |
| n. Final balance at end of year | 1,322,485 | 1,415,096 | 1,555,467 |

*1/10 of first 2% and 1/20 of additional excess returns

**Transfer of Excess Investment Income**

| | | |
|---|---|---|
| 1. | Actuarial value of assets as of 01/01/2015 | $1,106,575,866 |
| 2. | Contributions from employer, members, other | 56,441,862 |
| 3. | Benefits, refunds, and administrative expense | (97,524,749) |
| 4. | Theoretical actuarial value of assets without return at 12/31/2015 (1.+ 2. + 3.) | $1,065,492,979 |
| 5. | Average actuarial value of assets during 2015 (1. + 4.)/2 | $1,086,034,423 |
| 6. | Expected return at 7.25% | 78,763,552 |
| 7. | Actual return | 54,238,538 |
| 8. | Excess investment return | 0 |
| 9. | Excess Investment return transfer | |
| | (a) 10% of first 2% (10% x $0) = | 0 |
| | (b) 5% of additional return (5% x $0) = | 0 |
| | (c) Total Preliminary excess return transfer | 0 |
| 10. | Experience gain/(loss) for 2015 | $(43,922,378) |
| 11. | Final excess investment return transfer (lesser of 9(c) and 10, but not less than zero) | $0 |

## Active Member Schedule

Active member information grouped based on age and service.

### ABC

| Age Group | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 & up | Total | Average Pay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 25 | 13 | 4 | | | | | | | | | 17 | 22,490 |
| 25 to 29 | 10 | 23 | 4 | | | | | | | | 37 | 31,131 |
| 30 to 34 | 12 | 23 | 10 | 4 | | | | | | | 49 | 35,684 |
| 35 to 39 | 12 | 15 | 14 | 14 | 1 | | | | | | 56 | 41,885 |
| 40 to 44 | 7 | 17 | 13 | 10 | 5 | 2 | | | | | 54 | 42,724 |
| 45 to 49 | 3 | 13 | 7 | 10 | 1 | 2 | 1 | | | | 37 | 43,492 |
| 50 to 54 | 4 | 15 | 14 | 17 | 5 | | | | | | 55 | 41,547 |
| 55 to 59 | 11 | 9 | 19 | 5 | 4 | 2 | 2 | | | | 52 | 39,980 |
| 60 to 64 | 2 | 10 | 10 | 5 | 3 | | | | | | 30 | 40,159 |
| 65 to 69 | 3 | 3 | 3 | 2 | | | | | | | 11 | 36,615 |
| 70 & up | | 1 | 5 | 2 | | | | | | | 8 | 34,323 |
| Total | 77 | 133 | 99 | 69 | 19 | 6 | 3 | | | | 406 | 38,893 |

## Active Member Schedule

Active member information grouped based on age and service.

### GENERAL

| Age Group | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 & up | Total | Average Pay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 25 | 33 | 23 | | | | | | | | | 56 | 29,485 |
| 25 to 29 | 64 | 147 | 25 | | | | | | | | 236 | 33,190 |
| 30 to 34 | 29 | 113 | 114 | 11 | | | | | | | 267 | 38,615 |
| 35 to 39 | 26 | 78 | 83 | 47 | 16 | 1 | | | | | 251 | 43,531 |
| 40 to 44 | 28 | 63 | 70 | 47 | 60 | 10 | | | | | 278 | 43,822 |
| 45 to 49 | 21 | 54 | 59 | 54 | 54 | 46 | 8 | | | | 296 | 45,587 |
| 50 to 54 | 18 | 44 | 55 | 52 | 53 | 51 | 11 | | | | 284 | 42,811 |
| 55 to 59 | 12 | 52 | 71 | 45 | 43 | 49 | 7 | 1 | | | 280 | 41,565 |
| 60 to 64 | 11 | 32 | 41 | 19 | 23 | 29 | 2 | | | | 157 | 46,043 |
| 65 to 69 | 3 | 13 | 14 | 7 | 12 | 8 | 2 | | | 1 | 60 | 46,650 |
| 70 & up | | 4 | 4 | 3 | 3 | 2 | | | | | 16 | 40,686 |
| Total | 245 | 623 | 536 | 285 | 264 | 196 | 30 | 1 | | 1 | 2,181 | 41,665 |

**Active Member Schedule**

Active member information grouped based on age and service.

**FIREFIGHTERS**

| Age Group | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 & up | Total | Average Pay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 25 | 13 | 29 | | | | | | | | | 42 | 36,737 |
| 25 to 29 | 13 | 53 | 28 | 1 | | | | | | | 95 | 40,533 |
| 30 to 34 | 4 | 30 | 42 | 43 | | | | | | | 119 | 48,320 |
| 35 to 39 | | 12 | 20 | 43 | 27 | 1 | | | | | 103 | 58,049 |
| 40 to 44 | | 2 | 8 | 13 | 32 | 19 | | | | | 74 | 68,540 |
| 45 to 49 | | | 3 | 8 | 20 | 29 | 3 | | | | 63 | 72,793 |
| 50 to 54 | | | | 1 | 5 | 14 | 2 | | | | 22 | 77,534 |
| 55 to 59 | | | | | | 3 | 1 | | | | 4 | 81,147 |
| 60 to 64 | | | 1 | | 1 | 1 | | | | | 3 | 88,142 |
| 65 to 69 | | | | | | | | | | | | |
| 70 & up | | | | | | | | | | | | |
| Total | 30 | 126 | 102 | 109 | 85 | 67 | 6 | | | | 525 | 55,382 |

## Active Member Schedule

Active member information grouped based on age and service.

### POLICE

| Age Group | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 & up | Total | Average Pay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 25 | | | | | | | | | | | | |
| 25 to 29 | | | | | | | | | | | | |
| 30 to 34 | | | | | | | | | | | | |
| 35 to 39 | | | | | 2 | | | | | | 2 | 57,707 |
| 40 to 44 | | | | | 7 | 5 | | | | | 12 | 71,166 |
| 45 to 49 | | | | | | 5 | | | | | 5 | 71,303 |
| 50 to 54 | | | | | 1 | 3 | 1 | | | | 5 | 78,989 |
| 55 to 59 | | | | | | 1 | 1 | | | | 2 | 66,224 |
| 60 to 64 | | | | | | | | | | | | |
| 65 to 69 | | | | | | | | | | | | |
| 70 & up | | | | | | | | | | | | |
| Total | | | | | 10 | 14 | 2 | | | | 26 | 71,281 |

## Membership Data

1. Actives

| | Count | Average Salary |
|---|---|---|
| | | -$- |
| ABC | 406 | 38,893 |
| Regular | 2,181 | 41,665 |
| Fire | 525 | 55,382 |
| Police | 26 | 71,281 |
| Total | 3,138 | 43,847 |

2. Annuitants

| | Count | Average Annuity |
|---|---|---|
| | | -$- |
| Retirees | 2,401 | 27,268 |
| Beneficiaries | 654 | 10,341 |
| Disabilities | 202 | 15,609 |
| DROP | 341 | 44,804 |
| Total | 3,598 | 25,179 |

3. Inactive Members

| | Count | Average Deferred Annuity |
|---|---|---|
| | | -$- |
| Deferred Vested | 20 | 11,972 |

**Retired and Terminated Members Data**

| | Number | Benefits |
|---|---|---|
| | | -$- |
| **ABC** | | |
| DROP | 14 | 297,333 |
| Retired | 142 | 3,204,615 |
| Beneficiaries | 27 | 191,339 |
| Disabled | 8 | 99,508 |
| Vested Terminated | 2 | 23,577 |
| Subtotal | 193 | 3,816,372 |
| **REGULAR** | | |
| DROP | 241 | 9,353,441 |
| Retired | 1,602 | 38,979,723 |
| Beneficiaries | 376 | 3,720,564 |
| Disabled | 143 | 2,186,066 |
| Vested Terminated | 15 | 148,683 |
| Subtotal | 2,377 | 54,388,977 |
| **FIRE** | | |
| DROP | 81 | 5,340,246 |
| Retired | 449 | 16,996,131 |
| Beneficiaries | 146 | 1,762,821 |
| Disabled | 27 | 541,516 |
| Vested Terminated | 2 | 43,058 |
| Subtotal | 705 | 24,683,772 |
| **POLICE** | | |
| DROP | 5 | 286,510 |
| Retired | 208 | 6,290,132 |
| Beneficiaries | 105 | 1,088,505 |
| Disabled | 24 | 325,977 |
| Vested Terminated | 1 | 24,129 |
| Subtotal | 343 | 8,015,253 |
| **TOTAL** | | |
| DROP | 341 | 15,278,030 |
| Retired | 2,401 | 65,470,602 |
| Beneficiaries | 654 | 6,763,228 |
| Disabled | 202 | 3,153,067 |
| Vested Terminated | 20 | 239,447 |
| **GRAND TOTAL** | 3,618 | 90,904,374 |

Experience Review

The following table quantifies the effects of each component of experience in 2015, based on the latest assumptions and method changes adopted by the Board as a result of the 2009-2013 Experience Study.

Table 1 - 2015 (Gain)/Loss Analysis

| | No. Active | Unfunded actuarial liability | Employer contribution | |
|---|---|---|---|---|
| | | -$- | -$- | -%- |
| 2015 - Actual | 3,181 | 452,699,197 | 39,173,320 | 28.90 |
| 2016 - Expected (for continuing members) | 2,786 | 451,573,050 | 38,361,510 | 30.96 |
| Elements of Experience | | | | |
| Investment return | | 24,525,014 | 1,538,449 | 1.12 |
| Salary increases | | 5,256,555 | 566,628 | (0.19) |
| Retirements, DROP | (14) | 10,489,140 | 657,982 | 0.53 |
| Mortality | 5 | (3,173,491) | (199,072) | (0.16) |
| Disability | 13 | 267,256 | 16,765 | 0.01 |
| Turnover | (17) | 1,411,162 | 88,522 | 0.07 |
| New members | 365 | 380,672 | 866,692 | (1.92) |
| Data, other | | 4,766,070 | 226,337 | 0.19 |
| Total | 352 | 43,922,378 | 3,762,303 | (0.35) |
| Assumption changes | | 0 | 0 | 0.00 |
| Plan changes | | (248,311) | (236,017) | (0.17) |
| 2016 Actual | 3,138 | 495,247,117 | 41,887,796 | 30.44 |

The expected 2016 components reflect a primary objective of the actuarial cost method, under which normal costs are a level percentage of payroll, and the January 1, 2016 unfunded liability is amortized over 29 years, increasing by 2.5% annually, while successive years amortization period will reduce until reaching a 15-year open period, if the aggregate experience of the Retirement System is the same as that predicted by the actuarial assumptions. This means that the expected 2016 Normal Cost is 6.9% of expected payroll, and the expected 2016 City, Town, County contribution is $38,361,510.

## Analysis of Financial Experience

Gains and losses in unfunded actuarial liability during years ended 2010 - 2015
resulting from differences between assumed experience and actual experience

$ Gain or (Loss) for year

| Elements of Experience | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| Investment return | $(20,396,885) | $(35,231,052) | $(20,304,794) | $(3,486,533) | $(8,520,730) | $(24,525,014) |
| Salary increases | 7,087,550 | (623,723) | 3,017,967 | 12,896,696 | 4,046,219 | (5,256,555) |
| Retirements | 26,986,427 | 15,933,989 | 3,351,339 | (398,081) | (1,433,818) | (10,489,140) |
| Mortality | (9,830,807) | (14,988,684) | (3,643,276) | 1,047,985 | 467,752 | 3,173,491 |
| Disability | (570,786) | (10,597) | 148,348 | (698,808) | 185,079 | (267,256) |
| Turnover | (10,119,063) | 1,878,566 | 571,654 | (1,710,221) | 1,375,127 | (1,411,162) |
| New members | (1,461,549) | (1,671,178) | (2,204,660) | (1,417,682) | (570,624) | (380,672) |
| Contribution differences | 3,620,538 | 5,303,016 | N/A | N/A | N/A | N/A |
| Leaves, transfers, etc. | (3,055,745) | 702,493 | 3,124,006 | 0 | (2,869,596) | (4,766,070) |
| Gain or (loss) from Experience | (11,360,858) | (34,010,186) | (15,939,416) | 6,233,356 | (7,320,591) | (43,922,378) |
| Non recurring elements: | | | | | | |
| Plan amendment | -- | -- | -- | -- | -- | 248,311 |
| Assumption change | -- | -- | -- | -- | (47,540,972) | -- |
| Actuarial method change | | | | | | |
| Data (optional forms) | -- | -- | -- | (12,509,006) | -- | -- |
| Valuation software | -- | -- | 5,306,905 | 13,556,351 | -- | -- |
| Composite gain/(loss) During year | $(11,360,858) | $(34,010,186) | $(10,632,511) | $7,280,701 | $(54,861,563) | $(43,674,067) |

**Entry Age Accrued Liability (Detail)**

| | January 1, 2016 |
|---|---|
| **Funding liabilities** | |
| Active members | |
| Retirement | $405,647,236 |
| Disability | 17,333,755 |
| Death | 5,325,545 |
| Termination | 9,051,131 |
| Total active | $437,357,667 |
| Inactive members | |
| Retired members | $683,109,330 |
| DROP (future benefits) | 184,285,311 |
| DROP (accounts) | 203,241,944 |
| Leave balances | 6,277,801 |
| Beneficiaries | 58,968,737 |
| RBA benefits | 10,446,000 |
| Disableds | 29,285,979 |
| Terminated vested members | 2,005,865 |
| Total inactive | $1,177,620,967 |
| **Total** | $1,614,978,634 |



nyhart

**Summary of Actuarial Accrued Liabilities and Percentage Covered by Net Assets Available for Benefits**

| Valuation date | (1) Active members contributions* | (2) Retirees and survivors** | (3) Terminated vested members | (4) Active members employer provided | Net assets available for benefits | Percentage of actuarial liabilities covered by assets (1) | (2) | (3) | (4) |
|---|---|---|---|---|---|---|---|---|---|
| | -$- | -$- | -$- | -$- | -$- | -%- | -%- | -%- | -%- |
| 01/01/06 | 185,590,714 | 592,961,470 | 2,777,542 | 329,752,003 | 926,869,870 | 100.0 | 100.0 | 100.0 | 44.1 |
| 01/01/07 | 196,143,559 | 629,048,416 | 3,398,410 | 334,584,762 | 1,031,031,076 | 100.0 | 100.0 | 100.0 | 60.5 |
| 01/01/08 | 212,407,644 | 660,297,629 | 3,229,816 | 330,713,124 | 1,035,391,227 | 100.0 | 100.0 | 100.0 | 48.2 |
| 01/01/09 | 235,554,734 | 689,274,354 | 3,719,456 | 341,556,008 | 711,989,579 | 100.0 | 69.1 | 0.0 | 0.0 |
| 01/01/10 | 256,663,672 | 720,761,899 | 4,156,485 | 368,492,011 | 848,628,273 | 100.0 | 82.1 | 0.0 | 0.0 |
| 01/01/11 | 267,075,592 | 742,436,557 | 4,396,791 | 371,813,179 | 941,863,350 | 100.0 | 90.9 | 0.0 | 0.0 |
| 01/01/12 | 270,043,946 | 762,106,926 | 4,255,920 | 386,811,384 | 887,029,701 | 100.0 | 81.0 | 0.0 | 0.0 |
| 01/01/13 | 270,204,544 | 788,868,802 | 3,909,968 | 383,826,148 | 960,010,682 | 100.0 | 87.4 | 0.0 | 0.0 |
| 01/01/14 | 271,758,390 | 831,113,713 | 2,267,254 | 366,837,917 | 1,060,092,202 | 100.0 | 94.9 | 0.0 | 0.0 |
| 01/01/15 | 284,306,327 | 932,088,088 | 2,236,906 | 340,643,742 | 1,072,492,947 | 100.0 | 84.6 | 0.0 | 0.0 |
| 01/01/16 | 306,319,701 | 966,095,357 | 2,005,865 | 340,557,711 | 1,021,631,460 | 100.0 | 74.0 | 0.0 | 0.0 |

* Including DROP accounts.
** Including DROP participants' future benefits.

# City of XYZ Retirement System

September 30, 2017

GASB Nos. 67 & 68 Report

This report is prepared in accordance with our understanding of GASB Nos. 67 & 68 for the purpose of disclosing pension plans in financial statements. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report.

The information presented in this report is based on:

- the actuarial assumptions included in this report;
- the plan provisions;
- participant information furnished to us by the Plan Administrator;
- asset information furnished to us by the Plan Trustee.

We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we may have made assumptions we believe are reasonable for the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report.

The interest rate, other economic assumptions, and demographic assumptions have been selected by the plan sponsor with our recommendations. The assumptions used, in our opinion, are reasonable and represent a reasonable expectation of future experience under the plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

A summary of any assumptions not included in this report, the plan provisions and the participant information is included in the Actuarial Valuation Report for funding purposes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States.

To our knowledge there have been no significant events prior to the current year's measurement date or as of the date of this report which could materially affect the results contained herein.

Neither Nyhart nor any of its employees have any relationships with the plan or plan sponsor which could impair or appear to impair the objectivity of this report.

Nyhart

| David D. Harris, ASA, EA, MAAA | Heath W. Merlak, FSA, EA, MAAA | 01/5/2018 |
|---|---|---|

**Net Pension Liability**

| The components of the net pension liability at September 30 | 09/30/2017 | 09/30/2016 |
|---|---|---|
| Total pension liability | $ 2,363,545,975 | $ 2,222,547,481 |
| Plan fiduciary net position | (1,732,531,766) | (1,700,098,500) |
| Net pension liability | $ 631,014,209 | $ 522,448,981 |
| Plan fiduciary net position as a percent of the total pension liability | 73.30% | 76.49% |
| Pension Expense for the Fiscal Year Ended September 30 | $ 190,253,533 | $ 65,213,734 |

**Actuarial Assumptions**

The total pension liability was determined using the following actuarial assumptions

| | | |
|---|---|---|
| Inflation | 3.25% | 3.25% |
| Salary increases, including inflation | 3.25% - 9.75% | 3.25%-9.75% |
| Investment rate of return, including inflation, and net of investment expense | 7.50% | 7.50% |

**Plan Membership**

| The total pension liability was determined based on the plan membership as of October 1 | 2016 | 2015 |
|---|---|---|
| Inactive plan members and beneficiaries currently receiving benefits | 2,205 | 2,230 |
| Inactive plan members entitled to but not yet receiving benefits | 15 | 15 |
| Active plan members | 1,869 | 1,650 |
| Total members | 4,089 | 3,895 |

| **Assets** | **09/30/2017** | **09/30/2016** |
|---|---|---|
| Cash and deposits | $ 43,119,707 | $ 61,321,445 |
| Securities lending cash collateral | 0 | 0 |
| Total cash | $ 43,119,707 | $ 61,321,445 |
| Receivables: | | |
| Contributions | $ 0 | $ 0 |
| Due from broker for investments sold | 620,106 | 12,299,282 |
| Investment income | 3,220,395 | 3,304,949 |
| Other | 0 | 0 |
| Total receivables | $ 3,840,501 | $ 15,604,231 |
| Investments: | | |
| Domestic fixed income | $ 454,746,081 | $ 442,916,111 |
| Foreign fixed income | 29,967,974 | 24,879,199 |
| Domestic equities | 352,425,748 | 366,888,111 |
| International equities | 259,622,074 | 204,203,058 |
| Real estate | 271,271,606 | 261,478,204 |
| Private equity | 139,235,059 | 138,484,218 |
| Lending Cash Collateral | 129,908,550 | 146,627,092 |
| Mutual Funds - DROP | 181,181,304 | 198,092,739 |
| Total investments | $ 1,818,358,396 | $ 1,783,568,732 |
| Total assets | $ 1,865,318,604 | $ 1,860,494,408 |
| | | |
| **Liabilities** | | |
| Payables: | | |
| Investment management fees | $ 0 | $ 0 |
| Due to broker for investments purchased | 2,132,305 | 13,329,386 |
| Collateral payable for securities lending | 129,908,550 | 146,627,092 |
| Other | 745,983 | 439,430 |
| Total liabilities | $ 132,786,838 | $ 160,395,908 |
| **Net position restricted for pensions** | **$ 1,732,531,766** | **$ 1,700,098,500** |

| | 09/30/2017 | 09/30/2016 |
|---|---|---|
| **Additions** | | |
| Contributions: | | |
| Employer | $ 53,264,009 | $ 48,672,615 |
| Member | 13,206,378 | 12,082,805 |
| Nonemployer contributing entity | 0 | 0 |
| Total contributions | $ 66,470,387 | $ 60,755,420 |
| Investment income: | | |
| Net increase in fair value of investments | $ 127,248,340 | $ 111,458,267 |
| Interest and dividends | 27,697,541 | 26,363,540 |
| Less investment expense, other than from securities lending | (5,052,640) | (5,697,087) |
| Net income other than from securities lending | $ 149,893,241 | $ 132,124,720 |
| Securities lending income | 704,392 | 655,152 |
| Less securities lending expense | (175,979) | (163,656) |
| Net income from securities lending | $ 528,413 | $ 491,496 |
| Net investment income | $ 150,421,654 | $ 132,616,216 |
| Other | 335,109 | 330,611 |
| Total additions | $ 217,227,150 | $ 193,702,247 |
| **Deductions** | | |
| Benefit payments, including refunds of member contributions | $ 182,692,360 | $ 166,203,470 |
| Administrative expense | 2,058,798 | 2,029,168 |
| Other | 42,726 | 42,726 |
| Total deductions | $ 184,793,884 | $ 168,275,364 |
| **Net increase in net position** | $ 32,433,266 | $ 25,426,883 |
| **Net position restricted for pensions** | | |
| Beginning of year | 1,700,098,500 | 1,674,671,617 |
| End of year | $ 1,732,531,766 | $ 1,700,098,500 |

| | 09/30/2017 | 09/30/2016 | 09/30/2015 | 09/30/2014 |
|---|---|---|---|---|
| **Total pension liability** | | | | |
| Service cost | $ 26,279,333 | $ 21,625,163 | $ 19,203,823 | $ 17,233,272 |
| Interest | 160,085,065 | 156,265,650 | 156,479,438 | 155,338,970 |
| Changes of benefit terms | 120,903,581 | 0 | 9,453,429 | 0 |
| Differences between expected and actual experience | 16,422,875 | 12,725,721 | (16,970,540) | (6,638,755) |
| Changes of assumptions | 0 | 30,651,781 | 14,895,466 | 0 |
| Benefit payments, including refunds of member contributions | (182,692,360) | (166,203,470) | (165,535,327) | (139,860,276) |
| Net change in total pension liability | 140,998,494 | 55,064,845 | 17,526,289 | 26,073,211 |
| Total pension liability - beginning | 2,222,547,481 | 2,167,482,636 | 2,149,956,347 | 2,123,883,136 |
| **Total pension liability - ending (a)** | **$ 2,363,545,975** | **$ 2,222,547,481** | **$ 2,167,482,636** | **$ 2,149,956,347** |
| **Plan fiduciary net position** | | | | |
| Contributions - employer | $ 53,264,009 | $ 48,672,615 | $ 48,616,677 | $ 47,535,499 |
| Contributions - member | 13,206,378 | 12,082,805 | 9,317,231 | 9,462,569 |
| Contributions - nonemployer contributing member | 0 | 0 | 0 | 0 |
| Net investment income | 150,421,654 | 132,616,216 | 35,529,492 | 132,696,604 |
| Benefit payments, including refunds of member contributions | (182,692,360) | (166,203,470) | (165,535,327) | (139,860,276) |
| Administrative expenses | (2,058,798) | (2,029,168) | (2,222,561) | (2,086,240) |
| Other | 292,383 | 287,885 | 269,771 | 989,372 |
| Net change in plan fiduciary net position | $ 32,433,266 | $ 25,426,883 | $ (74,024,717) | $ 48,737,528 |
| Plan fiduciary net position - beginning | 1,700,098,500 | 1,674,671,617 | 1,748,696,334 | 1,699,958,806 |
| **Plan fiduciary net position - ending (b)** | **$ 1,732,531,766** | **$ 1,700,098,500** | **$ 1,674,671,617** | **$ 1,748,696,334** |
| **Net pension liability - ending (a) - (b)** | **$ 631,014,209** | **$ 522,448,981** | **$ 492,811,019** | **$ 401,260,013** |
| Plan fiduciary net position as a percentage of the total pension liability | 73.30% | 76.49% | 77.26% | 81.34% |
| Covered-employee payroll | $ 133,083,231 | $ 106,278,378 | $ 93,705,765 | $ 85,222,842 |
| Net pension liability as percentage of covered-employee payroll | 474.15% | 491.59% | 525.91% | 470.84% |

| Fiscal year ending | 09/30/2017 | 09/30/2016 |
|---|---|---|
| Service cost | $ 26,279,333 | $ 21,625,163 |
| Interest on total pension liability | 160,085,065 | 156,265,650 |
| Projected earnings on pension plan investments | (121,759,093) | (121,969,078) |
| Changes of benefit terms | 120,903,581 | 0 |
| Employee contributions | (13,206,378) | (12,082,805) |
| Pension plan administrative expense | 2,058,798 | 2,029,168 |
| Other changes | 0 | 0 |
| Current period recognition of deferred outflows/(inflows) of resources | | |
| Differences between Expected & Actual Experience in measurement of the Total Pension Liability | $ 229,203 | $ (2,116,922) |
| Changes of assumptions | 6,861,404 | 6,861,404 |
| Differences between Projected & Actual Earnings on Pension Plan Investments | 8,801,620 | 14,601,154 |
| Total | $ 190,253,533 | $ 65,213,734 |

| Differences between expected and actuarial experience in measurement of the total pension liability for fiscal year ending: | Initial Balance | Initial Amortization Period | Annual Recognition | 09/30/2017 Balance |
|---|---|---|---|---|
| September 30, 2017 | $ 16,422,875 | 7.0 | $ 2,346,125 | $ 14,076,750 |
| September 30, 2016 | $ 12,725,721 | 7.0 | $ 1,817,960 | $ 9,089,801 |
| September 30, 2015 | $ (16,970,540) | 6.0 | $ (2,828,423) | $ (8,485,271) |
| September 30, 2014 | $ (6,638,755) | 6.0 | $ (1,106,459) | $ (2,212,919) |
| | | | $ 229,203 | $ 12,468,361 |

| Changes in assumptions for fiscal year ending: | Initial Balance | Initial Amortization Period | Annual Recognition | 09/30/2017 Balance |
|---|---|---|---|---|
| September 30, 2017 | $ 0 | 7.0 | $ 0 | $ 0 |
| September 30, 2016 | $ 30,651,781 | 7.0 | $ 4,378,826 | $ 21,894,129 |
| September 30, 2015 | $ 14,895,466 | 6.0 | $ 2,482,578 | $ 7,447,732 |
| | | | $ 6,861,404 | $ 29,341,861 |

| Differences between projected and actual earnings on pension plan investments for fiscal year ending: | Initial Balance | Initial Amortization Period | Annual Recognition | 09/30/2017 Balance |
|---|---|---|---|---|
| September 30, 2017 | $ (28,997,670) | 5.0 | $ (5,799,534) | $ (23,198,136) |
| September 30, 2016 | $ (10,977,749) | 5.0 | $ (2,195,550) | $ (6,586,649) |
| September 30, 2015 | $ 91,799,093 | 5.0 | $ 18,359,819 | $ 36,719,636 |
| September 30, 2014 | $ (7,815,573) | 5.0 | $ (1,563,115) | $ (1,563,113) |
| | | | $ 8,801,620 | $ 5,371,738 |

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ 23,166,551 | $ (10,698,190) |
| Changes of Assumptions | $ 29,341,861 | $ 0 |
| Net difference between projected and actual earnings on pension plan investments | $ 36,719,636 | $ (31,347,898) |
| | $ 89,228,048 | $ (42,046,088) |

The balances as of September 30, 2017 of the deferred outflows/(inflows) of resources will be recognized in pension expense for the fiscal year ending September 30.

| | |
|---|---|
| 2018 | $ 15,892,229 |
| 2019 | $ 17,455,339 |
| 2020 | $ 201,979 |
| 2021 | $ 2,743,377 |
| 2022 | $ 8,542,911 |
| Thereafter | $ 0 |

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These expected future real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2017 are summarized in the following table:

| **Asset class** | Target allocation | Long-term expected real rate of return |
|---|---|---|
| Domestic fixed income | 41.0% | *3.03%* |
| Domestic equities | 30.0% | *3.13%* |
| International equities | 18.0% | *3.62%* |
| Real estate | 8.0% | *3.13%* |
| Private equity | 3.0% | *5.08%* |
| Cash | 0.0% | *0.18%* |
| Total | 100.0% | |

Long-term expected rate of return is 7.50%.

**Discount rate**

The discount rate used to measure the total pension liability was 7.50%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Professional judgment on future contributions has been applied in those cases where contribution patterns deviate from the actuarially determined rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

**Sensitivity of the net pension liability to changes in the discount rate**

The following presents the net pension liability, calculated using the discount rate of 7.50%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

| | 1% Decrease (6.50%) | Current Discount Rate (7.50%) | 1% Increase (8.50%) |
|---|---|---|---|
| Net pension liability | $ 859,222,591 | $ 631,014,209 | $ 422,899,964 |

| | 2017 | 2016 | 2015 | 2014 | 2013 |
|---|---|---|---|---|---|
| Actuarially determined contribution | $ 53,264,009 | $ 48,672,615 | $ 48,616,677 | $ 47,305,679 | $ 45,412,248 |
| Contributions in relation to the actuarially determined contribution | 53,264,009 | 48,672,615 | 48,616,677 | 47,305,679 | 45,412,248 |
| **Contribution deficiency (excess)** | **$ 0** | **$ 0** | **$ 0** | **$ 0** | **$ 0** |
| Covered-employee payroll | $ 141,497,840 | $ 133,083,231 | $ 106,278,378 | $ 93,705,765 | $ 85,222,842 |
| Contributions as a percentage of covered-employee payroll | 37.64% | 36.57% | 45.74% | 50.48% | 53.29% |

| | 2012 | 2011 | 2010 | 2009 | 2008 |
|---|---|---|---|---|---|
| Actuarially determined contribution | $ 47,418,316 | $ 47,156,797 | $ 59,025,379 | $ 36,993,395 | $ 36,040,251 |
| Contributions in relation to the actuarially determined contribution | 47,418,316 | 47,156,797 | 59,025,379 | 36,993,395 | 36,040,251 |
| **Contribution deficiency (excess)** | **$ 0** | **$ 0** | **$ 0** | **$ 0** | **$ 0** |
| Covered-employee payroll | $ 82,205,838 | $ 82,164,617 | $ 80,152,355 | $ 122,212,346 | $ 129,369,531 |
| Contributions as a percentage of covered-employee payroll | 57.68% | 57.39% | 73.64% | 30.27% | 27.86% |

**The total pension liability as of September 30, 2016 was determined using the following actuarial assumptions:**

**Actuarial Cost Method** — Entry Age Method

**Asset Method** — Market Value of Assets.

**Interest Rates**

| | |
|---|---|
| Discount Rate | 7.50% |
| Expected Long Term Rate of Return | 7.50% |
| Municipal Bond Rate | 3.60% |

**Inflation** — 3.25%

**Annual Pay Increases** — 1.5% for promotions plus salary merit scale below.

| Service | Police | Fire |
|---|---|---|
| 0-6 | 5.0% | 5.0% |
| 7 | 2.5% | 5.0% |
| 8-9 | 5.0% | 5.0% |
| 10-14 | 1.0% | 0.0% |
| 15-16 | 1.25% | 2.5% |
| 17-21 | 1.0% | 1.0% |
| 22+ | 0.0% | 0.0% |

**Measurement Date** — September 30, 2016

**Ad-hoc Cost-of-living Increases** — Amount varies annually with the adjustment on January 1

**Mortality Rates**

| | |
|---|---|
| Healthy | Florida Retirement System special risk mortality projected with scale BB generationally |
| Disabled | Florida Retirement System disabled mortality (no projection scale) |

**Retirement Rates**

If eligible for Retirement, the following decrements apply, based on service.

| Years of Service | Police % | Fire % |
|---|---|---|
| <20 | 0 | 0 |
| 20 | 10 | 10 |
| 21-24 | 3 | 3 |
| 25-29 | 40 | 5 |
| 30-34 | 50 | 25 |
| 35 | 100 | 25 |
| 36 | | 25 |
| 37 | | 100 |

**All other assumptions**

As described in the assumptions section of the actuarial determined contribution

**Experience Study**

Last performed for the period October 1, 2011 – September 30, 2014

**Changes since prior report**

None.

**Cost Method**

Aggregate Cost Method

**Asset Valuation Method**

20% Write-Up Method: Expected actuarial value of assets, adjusted by 20% of the difference between expected actuarial value and actual market value (net of pending transfers to the COLA Fund).

The result cannot be greater than 120% of market value or less than 80% of market value (net of pending COLA transfers).

**Interest Rates**

7.50% net of investment expenses

**Annual Pay Increases**

3.25% inflation and 1.5% for promotions and other increases plus salary merit scale below.

| Service | Police | Fire |
|---|---|---|
| 0-6 | 5.0% | 5.0% |
| 7 | 2.5% | 5.0% |
| 8-9 | 5.0% | 5.0% |
| 10-14 | 1.0% | 0.0% |
| 15-16 | 1.25% | 2.5% |
| 17-21 | 1.0% | 1.0% |
| 22+ | 0.0% | 0.0% |

There is no additional increase at retirement.

**Expense and/or Contingency Loading**

$2,029,168

**Mortality Rates**

Healthy

RP2000 Mortality Table projected to 2020 using scale AA

Disabled

RP 2000 Disabled Mortality Table projected to 2020 using scale AA

100% of the assumed deaths are expected to be ordinary deaths

**Retirement Rates**

If eligible for Retirement, the following decrements apply, based on service.

| Years of Service | Police % | Fire % |
|---|---|---|
| <20 | 0 | 0 |
| 20 | 10 | 10 |
| 21-24 | 3 | 3 |
| 25-29 | 40 | 5 |
| 30-34 | 50 | 25 |
| 35 | 100 | 25 |
| 36 | | 25 |
| 37 | | 100 |

All Members are assumed to elect a 5-year BackDROP when they reach five years following first retirement eligibility.

**Disability Rates**

100% of the disabilities are expected to be accidental with the following probabilities. No recovery is assumed.

| Age | Rates |
|---|---|
| 35 | 0.285% |
| 40 | 0.390% |
| 45 | 0.800% |
| 50 | 1.210% |

**Withdrawal Rates**

Based on Years of Creditable Service using the rates below

| Age | <5 | 5+ |
|---|---|---|
| 30 | 2.40% | 1.92% |
| 35 | 2.40% | 1.92% |
| 40 | 1.80% | 1.44% |
| 45 | 1.20% | 0.96% |
| 50 | 0.00% | 0.00% |

**Marital Status and Ages**

100% of Members are assumed to be married. Female spouses assumed to be 3 years younger than male spouses.

| | |
|---|---|
| **Compensated Absence Balance Transfers** | No liabilities or costs are included for the provision to transfer compensated absence balances into FIPO to purchase additional creditable service, based on our understanding that assets will be transferred immediately prior to retirement to cover 100% of the liability for the additional service. |
| **Withdrawal of Employee Contributions** | It is assumed that employees do not withdraw their contribution balances upon employment termination or retirement. |
| **Changes since prior report** | None. |

# Employees' Retirement System
# of the
# ABC City, Town, County

## Board Summary of
## January 1, 2016 Actuarial Valuation

*May 12, 2016*

# *Table of Contents*

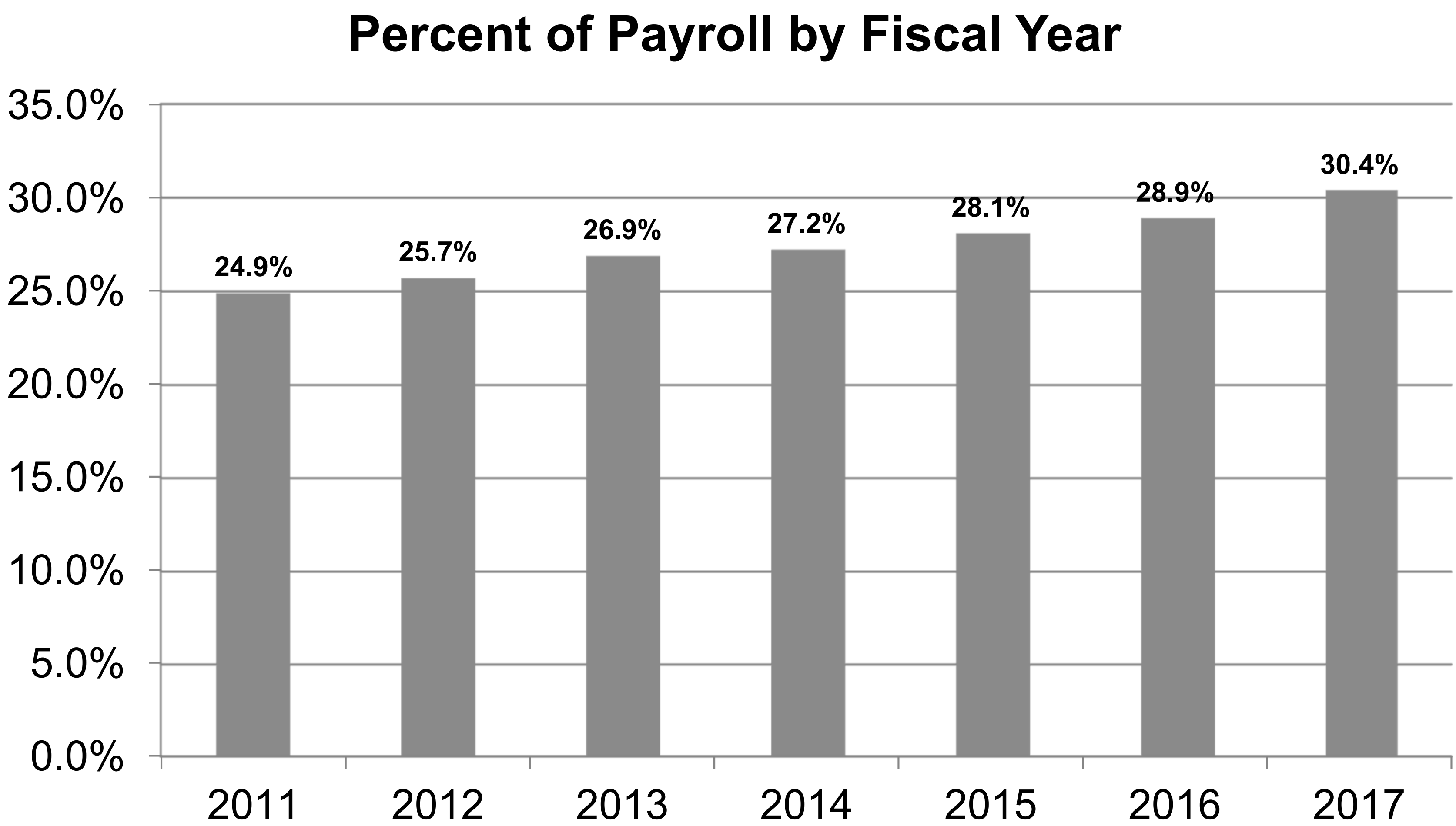
# Summary of Results ($ in Millions)

nyhart

| Valuation Date | 01/01/2016 | 01/01/2015 |
|---|---|---|
| Entry Age Accrued Liability | $ 1,615.0 | $ 1,559.3 |
| Actuarial Value of Assets | 1,119.7 | 1,106.6 |
| Unfunded Accrued Liability | $ 495.3 | $ 452.7 |
| Funded Ratio | 69% | 71% |
| | | |
| Market Value of Assets | $1,021.6 | $1,072.5 |
| Actuarial / Market Value | 110% | 103% |
| | | |
| **Plan Sponsor Contribution** | | |
| Normal Cost with Expenses | $23.2 | $23.0 |
| Amortization of UAAL | 30.0 | 27.0 |
| Interest | 1.4 | 1.7 |
| Expected Member Contributions | (12.7) | (12.5) |
| Total City, Town, County, Contribution | $41.9 | $39.2 |
| City, Town, County Contribution Rate | 30.4% | 28.9% |

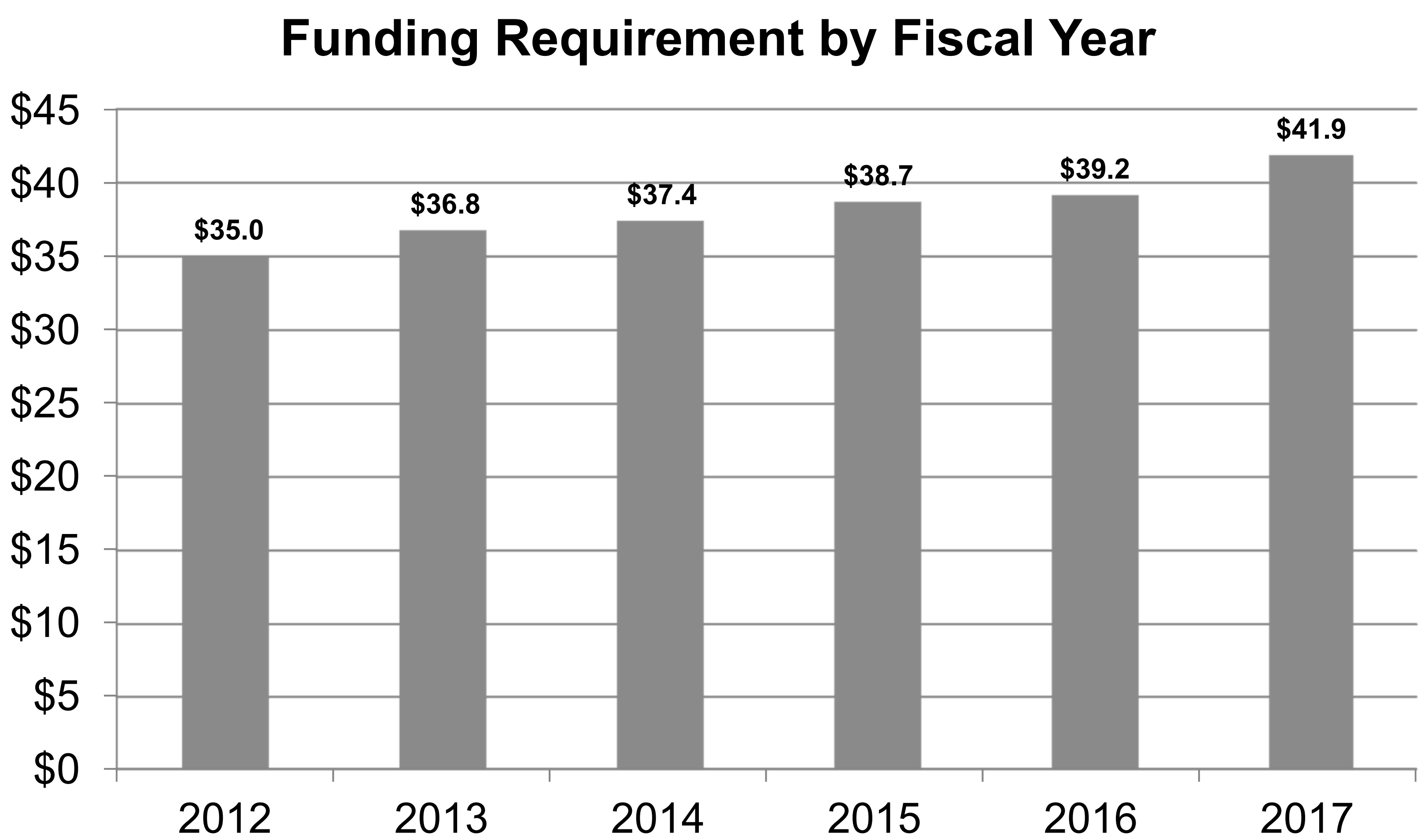
# City, Town, County Funding Requirement

nyhart



# *City, Town, County Funding Requirement ($ millions)*

nyhart



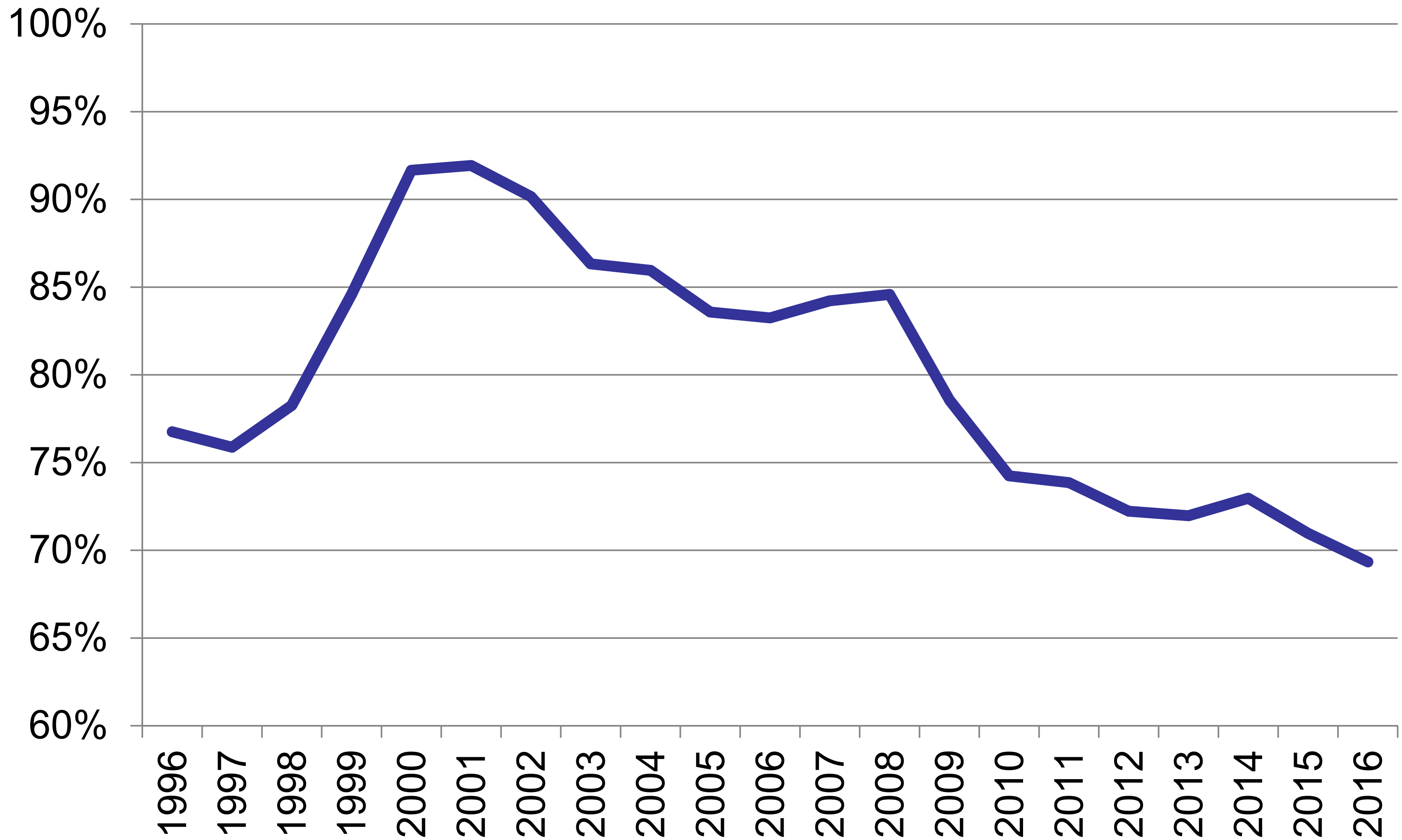
# Plan Experience and Impact on Funding ($ millions)

nyhart

| | Effect on UAAL | Effect on ER Cont | | |
|---|---|---|---|---|
| **Source** | **( - $ - )** | **( - $ -)** | **(% of pay)** | **Reason** |
| Expected change | (1.1) | (0.81) | 2.06 | Yearly growth |
| Retirement & DROP | 10.5 | 0.65 | 0.53 | 135 actual vs. 122 expected, DROP account balance |
| Mortality | (3.2) | (0.20) | (0.16) | 116 actual vs. 91 expected |
| Disability | 0.3 | 0.02 | 0.01 | 4 actual vs. 17 expected |
| Turnover | 1.4 | 0.09 | 0.07 | 267 actual vs. 250 expected |
| Salaries | 5.3 | 0.57 | (0.19) | 6.1% increase vs. 4.1% expected |
| Assets | 24.5 | 1.54 | 1.12 | 5.00% on actuarial value vs. 7.25% expected (Market Value return of -0.9%) |
| New Members | 0.4 | 0.87 | (1.92) | 365 new members |
| Other | 4.7 | 0.22 | 0.19 | Data changes, Admin. Expenses, etc. |
| Plan Changes | (0.2) | (0.24) | (0.17) | |
| Total | 42.6 | 2.71 | 1.54 | |

# *Funded Ratio **

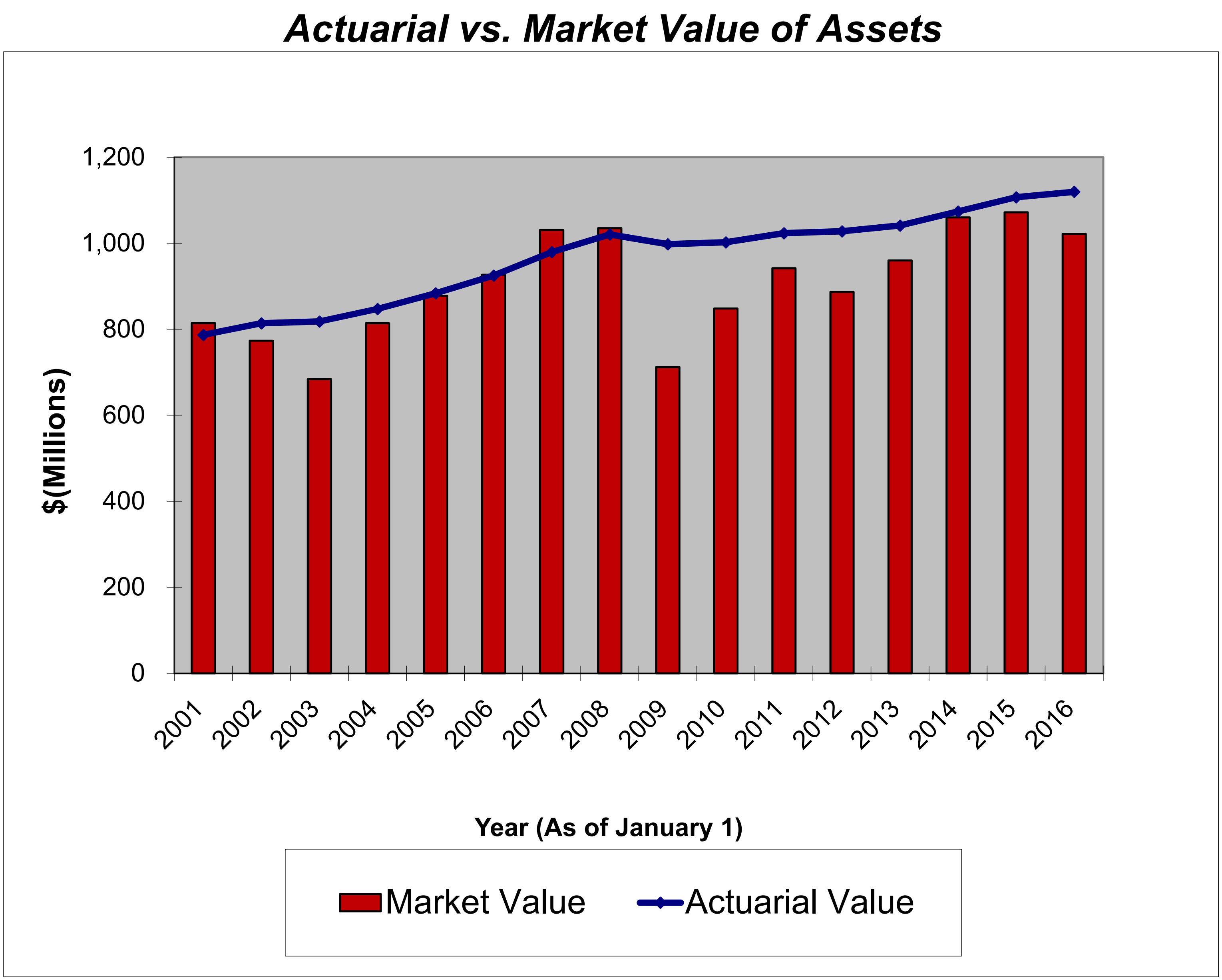
nyhart




* Actuarial Value of Assets divided by Entry Age Accrued Liability

# Asset Information

nyhart



# *Asset Information*

nyhart

## Market and Actuarial Value of Assets ($ in millions)

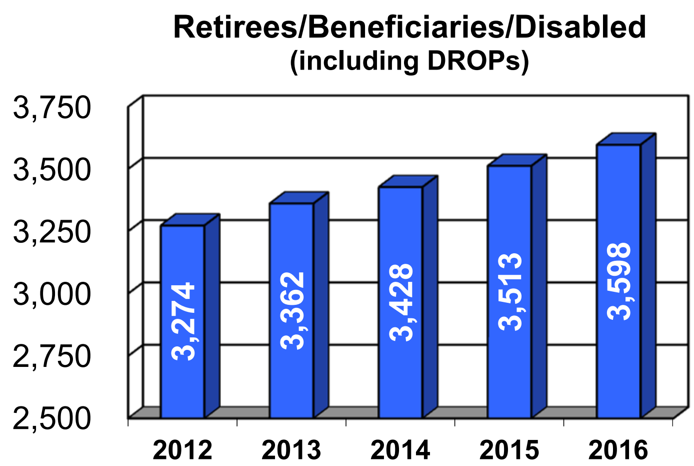
| | 1/1/2012 | 1/1/2013 | 1/1/2014 | 1/1/2015 | 1/1/2016 |
|---|---|---|---|---|---|
| Market Value | $887.0 | $960.0 | $1,060.1 | $1,072.5 | $1,021.6 |
| Actuarial Value | $1,028.0 | $1,041.2 | $1,074.0 | $1,106.6 | $1,119.7 |
| Actuarial Value/ Market Value | 116% | 108% | 101% | 103% | 110% |
| | | | | | |
| Rate of Return | | | | | |
| Market Value | (2.1)% | 13.3% | 14.9% | 4.8% | (0.9)% |
| Actuarial Value | 4.0% | 5.5% | 7.2% | 6.7% | 5.0% |

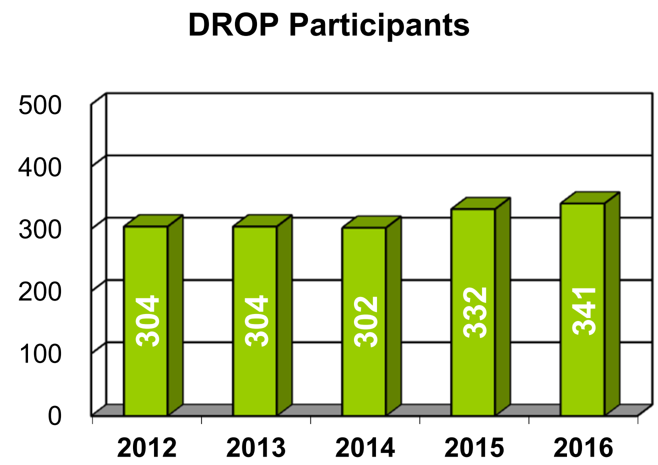
## Historical Rates of Return

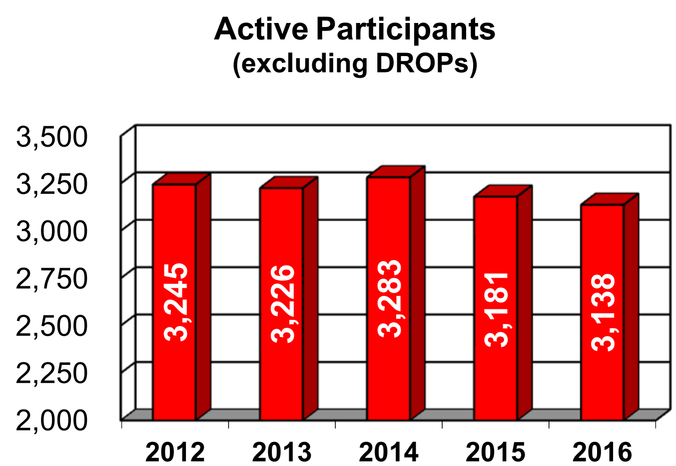
| Average Returns | 3 Years | 5 Years | 15 Years | 27 Years |
|---|---|---|---|---|
| Market Value | 6.1% | 5.8% | 5.3% | 7.6% |
| Actuarial Value | 6.3% | 5.7% | 5.9% | N.A. |

# Participant Information

nyhart



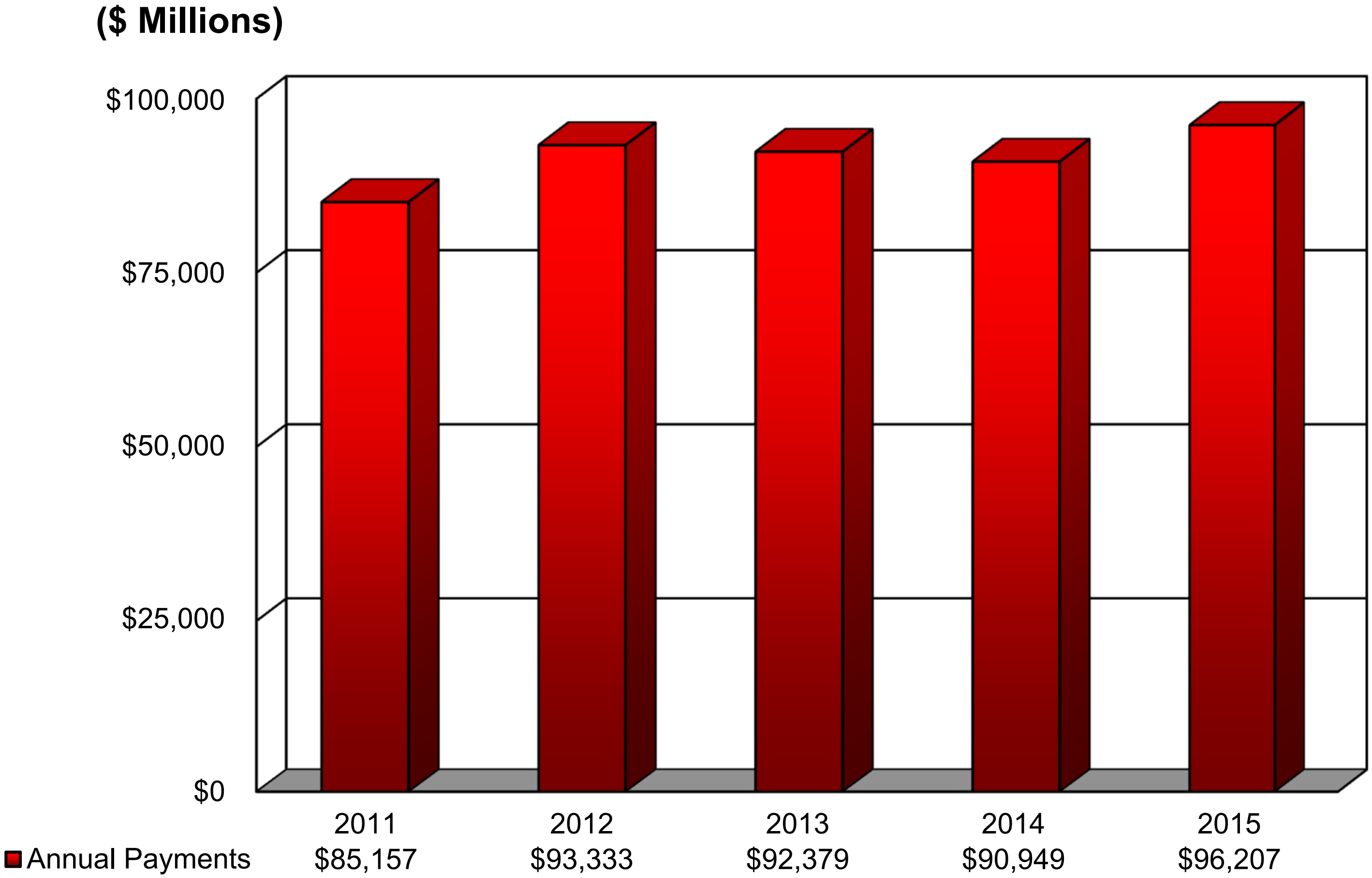




**Active Demographics**

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Average Age | 43.8 | 43.6 | 43.3 | 43.5 | 43.4 |
| Average Service | 10.6 | 10.5 | 9.0 | 8.9 | 8.8 |
| Average Plan Compensation | $42,151 | $42,600 | $41,971 | $42,615 | $43,847 |

# *Annual Benefit Payments*




* Including amounts from COLA accounts.

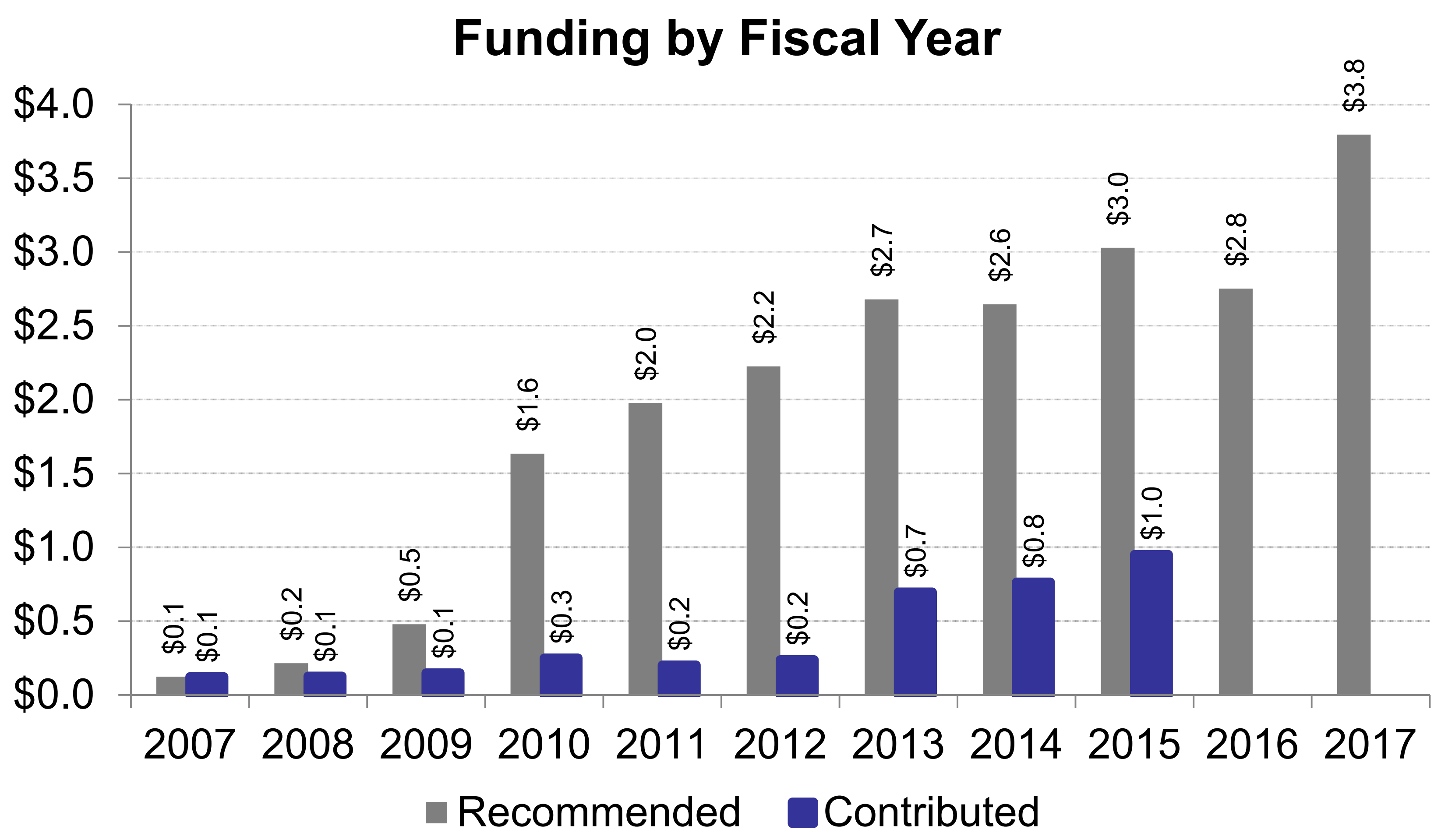
| Distributions as % of Assets | | | | |
|---|---|---|---|---|
| 2011 | 2012 | 2013 | 2014 | 2015 |
| 9.0% | 10.5% | 9.6% | 8.6% | 9.0% |

# Summary of Results – CTCGT ($ in Millions)

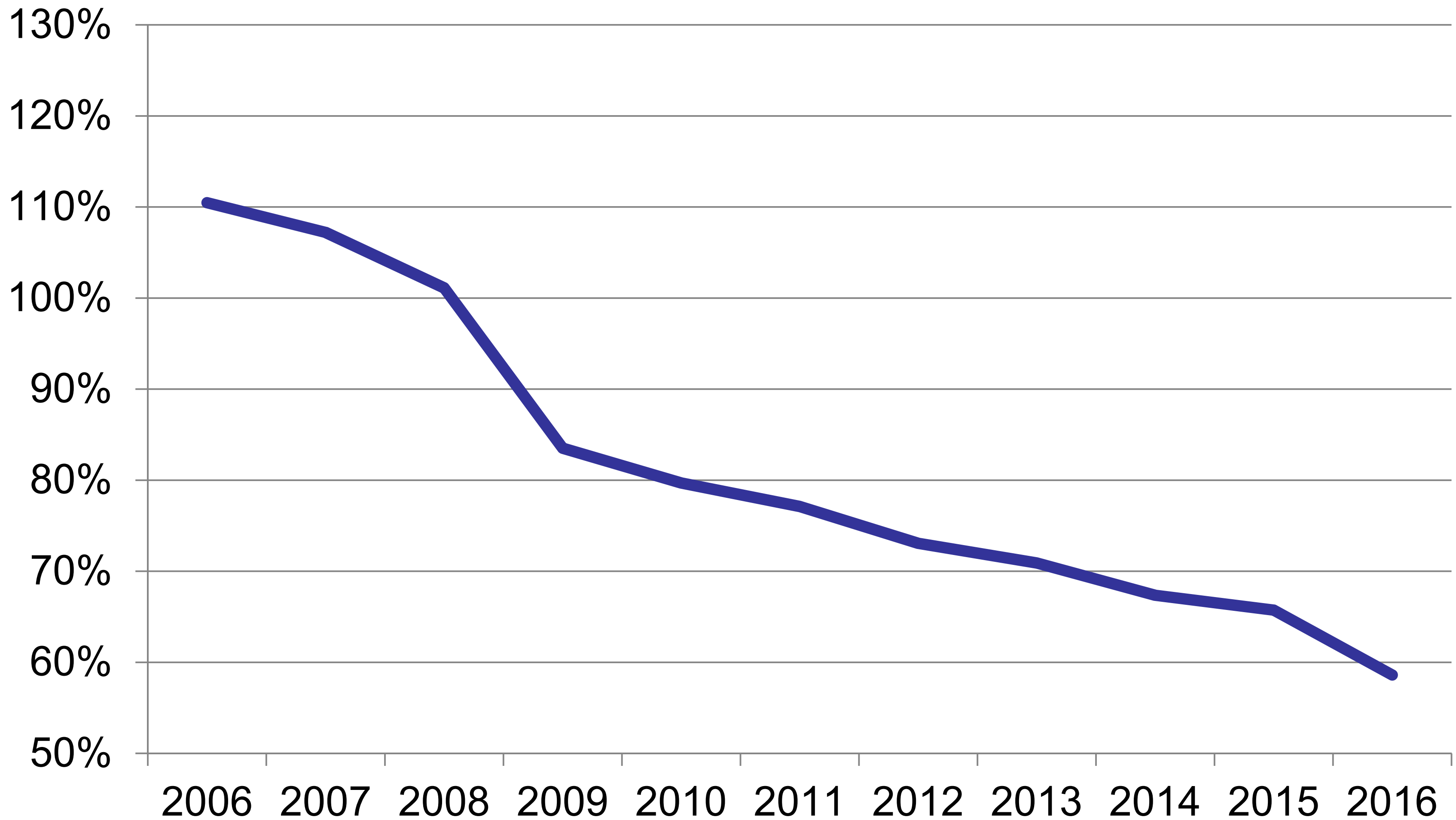
nyhart

| Valuation Date | 01/01/2016 | 01/01/2015 |
|---|---|---|
| Entry Age Accrued Liability | $ 38.99 | $ 35.57 |
| Actuarial Value of Assets | 22.85 | 23.38 |
| Unfunded Accrued Liability | $ 16.14 | $ 12.19 |
| Funded Ratio | 58.6% | 65.7% |
| | | |
| Market Value of Assets | $ 18.57 | $ 20.09 |
| Actuarial / Market Value | 123% | 116% |
| | | |
| **Expected Contribution ($000s)** | | |
| Plan Sponsor | $3,795.01 | $2,752.65 |
| - rate | 26.77% | 19.57% |
| Member | $84.63 | $78.95 |
| - rate | 0.60% | 0.56% |

# City, Town, County
# Funding Requirement – CTCGT ($ millions)



# *Funded Ratio – CTCGT **




* Actuarial Value of Assets divided by Entry Age Accrued Liability

# GASB 67 Summary (CTCPERS)

nyhart

- A separate report displays all necessary disclosures for the plan year ending December 31, 2015

| December 31, 2015 GASB 67 Summary | | | |
|---|---|---|---|
| Discount Rate [1] | 6.25% | 7.25% | 8.25% |
| Total Pension Liability | $1,780,760,701 | $1,599,966,548 | $1,448,823,145 |
| Fiduciary Net Position | (1,023,186,927) | (1,023,186,927) | (1,023,186,927) |
| Net pension liability | $ 757,573,774 | $ 576,779,621 | $ 425,636,218 |
| Funded Ratio [2] | 57.5% | 64.0% | 70.6% |

(1) + 1%, -1% required, using RP-2000 Healthy Combined Blue Collar or RP-2000 Disabled Mortality Projected with Scale BB to 2019 (valuation assumption)

(2) Based on Market Value

# GASB 68 Disclosures (CTCPERS)

nyhart

- **GASB 68 Cost Sharing Multi-Employer Reporting**
  - **12/31/2015 reporting based on 12/31/2014 measurement date**
  - **A separate report dated displays all necessary GASB 68 disclosures by employer for the plan year ending December 31,2015**
  - **Expenses, Deferred Inflows/Outflows, and Remaining balances are proportionally allocated to each employer based on the 1/1/2017 Recommended Contribution as a percentage of payroll.**
    - **Each employer's payroll during the period 1/1/2015 – 12/31/2015 is the basis for proportional allocation**

| December 31, 2014 GASB 68 Summary – for December 31, 2015 Reporting Purposes | |
|---|---|
| Differences between Expected and Actual Experience | $170,162 |
| Changes of Assumptions | $0 |
| Differences between Projected and Actual Earnings on Pension Plan Investments | $5,529,495 |
| Pension Expense for the 12/31/2015 Reporting | $45,908,298 |

# GASB 67 Summary (CTCGT)

nyhart

- **A separate report displays all necessary disclosures for the plan year ending December 31, 2015**

| December 31, 2015 GASB 67 Summary | | | |
|---|---|---|---|
| Discount Rate [1] | 5.53% | 6.53% | 7.53% |
| Total Pension Liability | $38,796,497 | $37,961,347 | $37,144,175 |
| Fiduciary Net Position | (18,565,604) | (18,565,604) | (18,565,604) |
| Net pension liability | $20,230,893 | $19,395,743 | $18,578,571 |
| Funded Ratio [2] | 47.9% | 48.9% | 50.0% |

(1) + 1%, -1% required, using RP2000 Healthy Combined Blue Collar Projected to 2019 with Scale BB (valuation assumption)

(2) Based on Market Value

# GASB 68 Disclosures (CTCGT)

nyhart

- 12/31/2015 reporting based on 12/31/2014 measurement date
- A separate report dated displays all necessary GASB 68 disclosures by employer for the plan year ending December 31, 2015

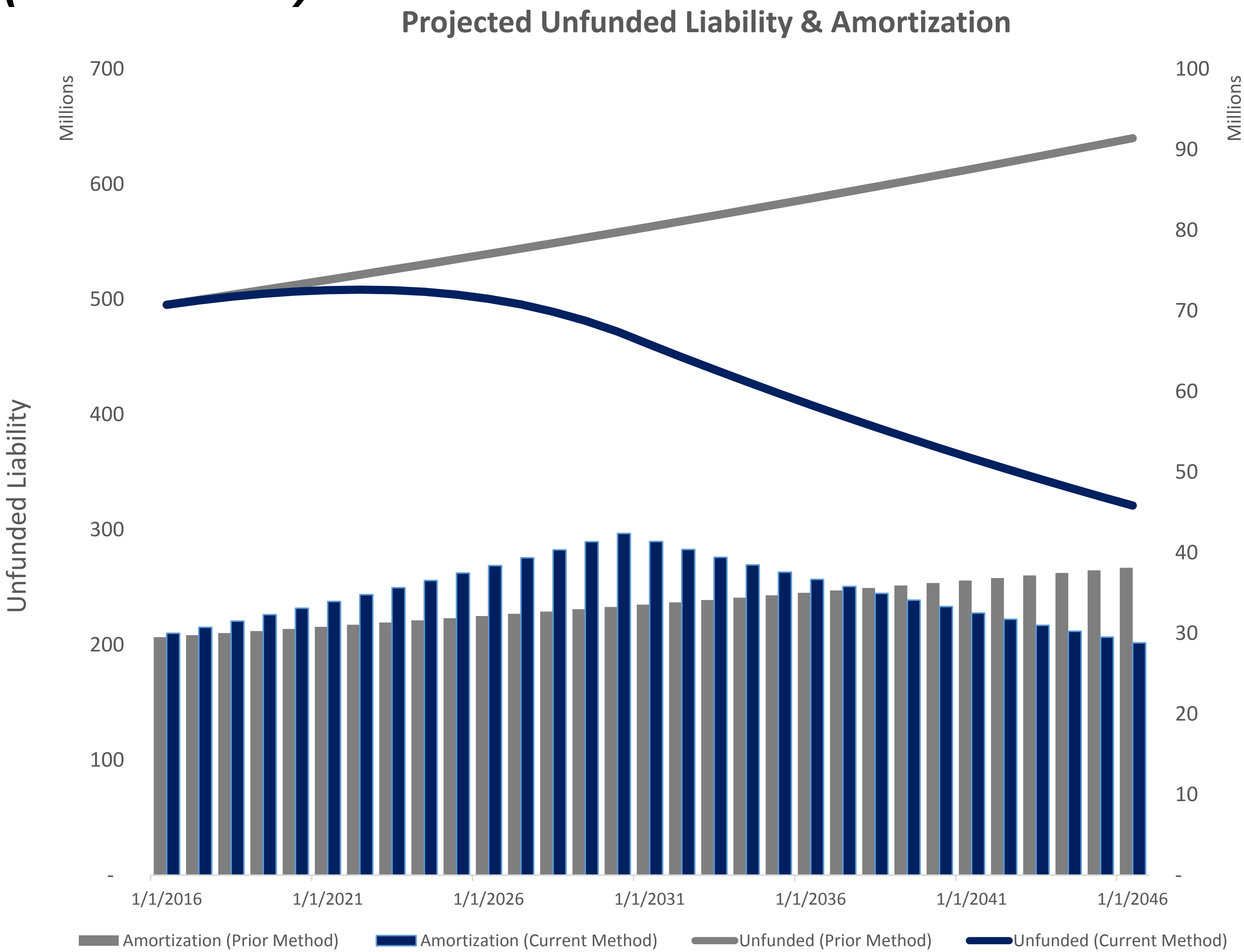
| December 31, 2014 GASB 68 Summary – for December 31, 2015 Reporting Purposes | |
|---|---|
| Differences between Expected and Actual Experience | $0 |
| Changes of Assumptions | $85,186 |
| Differences between Projected and Actual Earnings on Pension Plan Investments | $138,738 |
| Pension Expense for the 12/31/2015 Reporting | $1,979,978 |

# *Final Thoughts*

***We realize that costs have increased from the prior year, which impacts your annual budget. As we look to the future, here are some items worth noting:***

- **Recent assumption study**
  - **Decrements based on more recent experience**
  - **Return assumption lowered so improved likelihood of reaching expectation**
  - **Amortization period reducing yearly to improve financial position of the plan**
- **Plan changes will reduce future costs but it will take some time to see significant impact**
- **A lot of the cost pressure is coming from asset performance being less than assumed**
  - **Actuarial value is 10% higher than market value**
  - **18% market return needed to avoid having an actuarial asset loss next year**
  - **If the market return is 7.25%, the Actuarial Value of Assets loss will be about $21 million for 2016, resulting in an additional $1.3 million in contributions**
- **CTCGT funded ratio decreased further from 2015 and we recommend reviewing the funding policy and/or other strategies**

# City, Town, County Unfunded Liability (CTCPERS)



# High Level Summary of Plan Provisions CTCPERS

| Benefit Component | Description |
|---|---|
| Formula | Full Retirement: 3% of Final Average Compensation times Creditable Service<br><br>Minimum Eligibility: 2.5% of Final Average Compensation times Creditable Service<br><br>Maximum of 90% of Final Average Compensation |
| Member Contributions | 9.5% of compensation (floating) |
| Final Average Compensation | Hire date prior to 9/1/2015: Average compensation during the highest 36 consecutive months of Creditable Service<br><br>Hire date on or after 9/1/2015: Average compensation during the highest 60 consecutive months of Creditable Service |
| Normal Form | Hire date prior to 9/1/2015: Joint & 50% Contingent Survivor<br><br>Hire date on or after 9/1/2015: Life Annuity |

# High Level Summary of Plan Provisions CTCPERS

nyhart

| Benefit Component | Description |
|---|---|
| Service Retirement Eligibility | Hire date prior to 9/1/2015:<br>Full Retirement: 25 years of service, regardless of age<br><br>Minimum Eligibility: Age 55 with 10 years of service, or 20 years of service regardless of age<br><br>Non-Public Safety hire date on or after 9/1/2015:<br>Full Retirement: 25 years of service and age 55<br><br>Minimum Eligibility: Age 60 with 10 years of service, or 20 years of service regardless of age<br><br>Public Safety hire date on or after 9/1/2015:<br>Full Retirement: 25 years of service and age 50<br><br>Minimum Eligibility: Age 55 with 10 years of service, or 20 years of service regardless of age |
| Early Service Retirement | Hire date prior to 9/1/2015: If not eligible for full retirement, benefits are reduced prior to age 55<br><br>Hire date on or after 9/1/2015: If not eligible for full retirement, benefits are reduced to an actuarial equivalent benefit |

# High Level Summary of Plan Provisions CTCPERS

nyhart

| Benefit Component | Description |
|---|---|
| Disability<br>- Service Connected | 50% of Final Average Compensation plus 1.5% of Final Average Compensation times Creditable Service in excess of 10 years (maximum 90% of Final Average Compensation) |
| - Non-Service | After 10 years of Creditable Service, 2.5% of Final Average Compensation times Creditable Service with a minimum of 50% of Final Average Compensation |
| Survivor Benefits | If eligible for retirement or at least 20 years of Creditable Service, surviving spouse may elect Option 2 benefits or a refund of the Member's contributions<br><br>If not eligible for retirement, surviving spouse may elect a monthly benefit of $600 payable until remarriage or a refund of the Member's contributions<br><br>If eligible children under age 18, monthly benefit of $150 per child (maximum $300) payable until age 18.<br><br>If no benefits are payable based on above, $150 monthly benefit to unmarried dependent parent until death or remarriage. |
| Termination | After 10 years of Creditable Service, based on Creditable Service and Final Average Compensation at termination date with benefits deferred to age 55 (benefit is forfeited if Member withdraws contributions) |

# High Level Summary of Plan Provisions CTCPERS

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| Benefit Component | Description |
|---|---|
| DROP | |
| - Eligibility | Hire date prior to 9/1/2015:<br>Eligible to retire with immediate service retirement allowance and between 25 and 30 years of Creditable Service<br><br>Non-public safety hire date on or after 9/1/2015:<br>Eligible to retire at age 55 with immediate service retirement allowance and between 25 and 33 years of Creditable Service<br><br>Public safety hire date on or after 9/1/2015:<br>Eligible to retire at age 50 with immediate service retirement allowance and between 25 and 33 years of Creditable Service |
| - Duration | Hire date prior to 9/1/2015:<br>The lesser of 5 years or 32 minus Creditable Service at DROP entry<br><br>Hire date on or after 9/1/2015:<br>The lesser of 5 years; or 35 years minus Creditable Service at DROP entry; or difference between (a) & (b) provided difference is at least 2 years:<br>(a) Earliest eligibility plus 5 years and<br>(b) Election for DROP |
| - Benefit | DROP account can be paid as lump sum or monthly payments |

# High Level Summary of Plan Provisions CTCGT

nyhart

| Benefit Component | Description |
|---|---|
| Formula | Excess of benefits that would have been payable under CTCPERS, based on February 26, 2000 provisions, over the benefits payable under MPERS |
| Eligibility | Police officers who were active members (or in DROP) with CTCPERS on February 26, 2000 and who elected to transfer in MPERS. |
| Transferred Assets | Initial funding of $24.6 million from CTCPERS as of January 1, 2000 |
| Contributions | Based on current member contribution rate under CTCPERS (“picked up” by the City, Town, County) |

# Summary of Assumptions and Methods CTCPERS

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| Assumption/Method | Description |
|---|---|
| Funding Interest Rate | 7.25% (net of investment expenses) |
| Annual Pay Increases | 2.75% plus merit & promotion totaling 2.75%-6.75% based on age |
| Mortality Rates | RP-2000 Healthy Combined Blue Collar Projected with Scale BB to 2019<br>Disabled: RP-2000 Disabled Mortality Projected with Scale BB to 2019 |
| Retirement Rates | Varies by Age prior to 25 years of service; varies by Service on and after 25 years of service. |
| Withdrawal Rates | Varies by age, service, and employee group |
| Disability | Varies by age |
| Valuation Method | Entry age normal cost method and starting January 1, 2015, the UAAL is amortized over a 30-year period using an annual total payroll growth assumption (2.5% annually). The period will be reduced in successive years until reaching a 15-year open period. |
| Asset Method | 20% Write-Up Method |
| Accrued Leave | Members hired on or after April 4, 2015 are assumed not to exchange any accrued leave for retirement benefits |

*Assumptions were last updated based on the assumption study completed for 2009-2013.*

# Summary of Assumptions and Methods
# CTCGT

| Assumption/Method | Description |
|---|---|
| Funding Interest Rate | 7.25% (net of investment expenses) |
| Annual Pay Increases | 2.75% plus merit & promotion totaling 2.75%-6.75% based on age |
| Mortality Rates | RP-2000 Healthy Combined Blue Collar Projected with Scale BB to 2019<br><br>Disabled: RP-2000 Disabled Mortality Projected with Scale BB to 2019 |
| Retirement Rates | Varies by Age prior to 25 years of service; varies by Service on and after 25 years of service. |
| Withdrawal Rates | Varies by age and service |
| Disability | Varies by age |
| Valuation Method | Aggregate cost method |
| Asset Method | 20% Write-Up Method |

*Assumptions were last updated based on the assumption study completed for 2009-2013.*

# Certification

nyhart

*This report has been prepared for the primary purpose of summarizing the actuarial valuation for the Employees' Retirement System of the City, Town, County and the Employees' Retirement System of the City, Town, County Guarantee Trust of the City, Town, County as of January 1, 2016. To the best of our knowledge, the reports summarized herein present fair positions of the funded status of the plan in accordance with the Actuarial Standards of Practice as described by the American Academy of Actuaries, and are based on the plan provisions and assumptions summarized within each report.*

*Future actuarial measurements may differ significantly from the current measurements presented in this report due to such facts as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or other additional cost or contribution requirement based on the plan's funded status); and changes in plan provisions of applicable law. The scope of our assignment did not include an analysis of the potential range of future measurements.*

*Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law.*

*The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States.*

*To our knowledge there have been no significant events prior to the current year's measurement date or as of the date of this report which could materially affect the results contained herein.*

*Nyhart*

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*618-307-5523*

*May 12, 2016*
*Date*

Experience Study for

# XYZ Retirement System

# Table of Contents

# Objectives and Process

The primary objectives of this study are to measure the recent experience of the  XYZ Retirement System, recommend, as appropriate, a new set of actuarial assumptions to be used starting with the 10/1/2017 valuation, and measure the impact on the plan's liabilities of changing to this new set of assumptions.

We gathered data from valuations spanning 10/1/2011 through 9/30/2016.  After utilizing our past valuation data as the six necessary census files, we measured the experience for each of the five years individually.  For instance, we determined the withdrawal rates during the period 10/1/2011 – 9/30/2012 by checking to see which members on the 10/1/2011 active file did not appear on the 10/1/2012 active file.

Each of the demographic assumptions analyzed could potentially vary by age or service.  We initially looked to see if the structure of the current tables made sense.  Did termination rates really differ by age?  Did pay increases follow a more predictable pattern when broken down by age or by service?  We ultimately concluded that the structures of the current tables were appropriate.

Once satisfied with the structure of the tables, we charted both the current assumption and the recent actual experience.  Our recommended assumption set was our attempt to blend the recent experience with both the current assumption and consideration for how things might change in the future, i.e. future expectations of pay increases.  Then, we "smoothed" our rates in order to iron out data anomalies.

Finally, we measured the impact on the plan's liabilities of reflecting the recommended assumptions.

There are a few key points to note:

- **Plan provisions remained unchanged.**  None of the results of this study have any impact on the actual benefits that will be paid out to participants.  This study deals only with the underlying actuarial assumptions and thus only affects the levels and timing of the contributions to the plan.

# Objectives and Process

- **Only a small number of exposures were present in this study.** Since the plan did not experience large amounts of exposures or lives for some of the assumptions (mortality, disability, e.g.), recommendations were developed based on the combination of observable results, past studies, and expectations of the Pension Fund, and not just solely on the results of this study.

- **Past experience doesn't necessarily predict future outcomes.** This is most often seen or heard in the investment arena. Just because employees behaved a certain way in the past doesn't mean their behavior will continue unchanged. Outside factors, such as economic conditions, often have a significant impact on behavior.

The actual assumptions that were reviewed are in the following list:

- **Economic**
  - Investment return
  - Investment & non-investment expenses
  - Annual rate of inflation
  - Annual pay increases

- **Demographic**
  - Rates of retirement
  - Rates of withdrawal
  - Rates of disability
  - Rates of mortality
  - Marital status
  - Age difference of spouses

- **Methodology**
  - Amortization of unfunded liability
  - Asset valuation methodology

Please note that not every assumption in this list was examined historically. There are a variety of reasons for not doing so, including materiality in the valuation, lack of historical data, and/or lack of exposures for analysis.

# Certification

This report is prepared for the primary purposes of measuring the recent experience of the XYZ Retirement System and recommending reasonable actuarial assumptions to be used in determining the annual funding requirements.

The information presented in this report is based on the information furnished to us by the prior actuary and the Plan Administrator and used in our annual valuations. In our opinion, the assumptions recommended are reasonable and represent a reasonable expectation of future experience under the Pension Fund. All calculations have been made in accordance with generally accepted actuarial principles and practice.

To our knowledge there have been no significant events prior to the current year's measurement date or as of the date of this report which could materially affect the results contained herein.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report.

**Nyhart**

Prepared by:

David D. Harris, ASA, FCA, EA, MAAA

Heath W. Merlak, FSA, EA, MAAA

**August 10, 2017**
Date

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# Cost Impact of Recommendations

Actuarial assumptions are intended to be reasonable in the aggregate and to provide for reasonable estimates of the future annual costs of the Pension Fund. Periodic experience studies and annual gain/loss analyses are necessary to ensure such reasonableness, and refinements are suggested when the experience of the plan diverges from those assumptions. Upon review of the experience for the XYZ Retirement System, we have provided the following recommended refinements to the current actuarial assumptions being used for the Board's consideration. Detail of each recommendation can be found later in this report.

| Actuarial Assumption | Refinement | Estimated Change in Liability | Estimated Change to Funded Ratio | Estimated Change in Contribution | Estimated Change to Percent of Pay Contr. |
|---|---|---|---|---|---|
| **Inflation Rate** | Lower inflation rate to 2.75% (along with Option 1) or 2.50% (along with Option 2) | Impacts Interest Rate and Salary Scale below | | | |
| **Interest Rate** | Option 1: Lower interest rate to 7.75% | $12,271,000 | (2.6%) | $1,251,000 | 3.6% |
| | Option 2: Lower interest rate to 7.50% | $25,154,000 | (5.1%) | $2,526,000 | 7.2% |
| **Expenses** | No change recommended | | | | |
| **Salary Scale** | No change recommended | | | | |
| **Retirement Rates** | Change to rates | $93,000 | 0.0% | $12,000 | 0.0% |
| **Withdrawal Rates** | Changes to rates | $1,633,000 | (0.3%) | $543,000 | 1.5% |
| **Disability Rates** | No change recommended | | | | |
| **Amortization** | Lower amortization period from 30 years to 25 years (10/1/2016) | | | $89,000 | 0.3% |
| **Asset Method** | No change recommended | | | | |
| **Total** | Option 1: All recommended changes at 7.75% interest rate | $14,027,000 | (2.9%) | $1,990,000 | 5.7% |
| | Option 2: All recommended changes at 7.50% interest rate | $26,922,000 | (5.4%) | $3,364,000 | 9.6% |

# Economic Assumptions

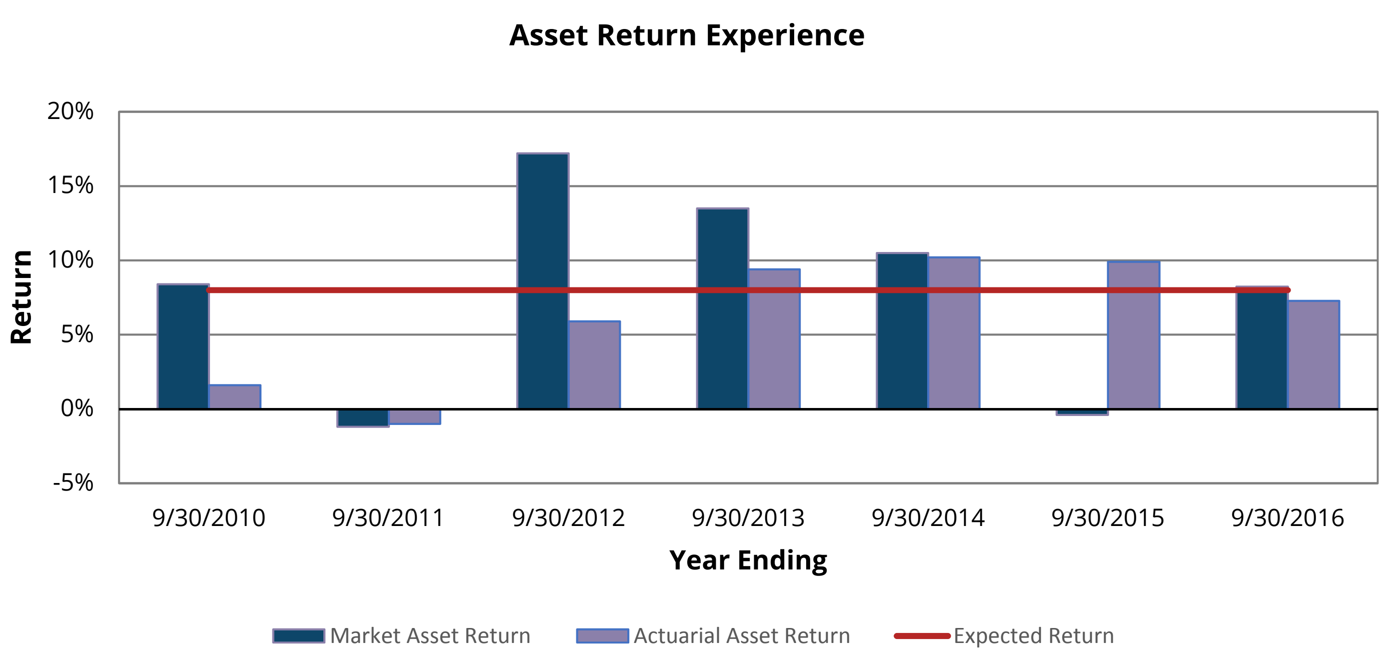
## A. Investment Return

The assumption that has the largest impact on pension liabilities is the interest rate used to discount benefit liabilities. The interest rate should be set at the expected long-term (30+ years) rate of return of the pension assets. Our review of this assumption consists of the following:

**<u>Historical review</u>**

The graph and table below shows historical rates of return of the Pension Fund trust fund since 2010. While historical performance doesn't guarantee future returns, it is useful for seeing overall trends. The 7-year average based on the actuarial value rate of return for the period ending September 30, 2016 is below the expected return used for the valuation.

The market value rate of return is based on annual market values with adjustments for cash inflows and outflows. The actuarial value rate of return is based on the annual smoothed actuarial values of assets adjusted for cash inflows and outflows.

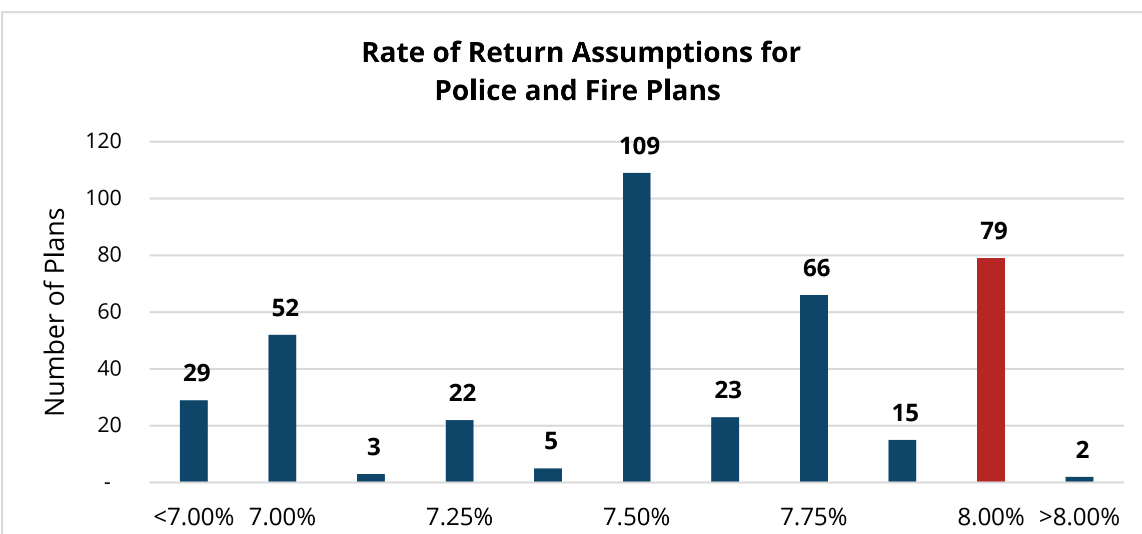


# Economic Assumptions

| Fiscal Year Ending September 30 | Actuarial Asset Basis | Market Value Basis |
|---|---|---|
| 2010 | 1.60% | 8.40% |
| 2011 | (1.00%) | (1.20)% |
| 2012 | 5.90% | 17.20% |
| 2013 | 9.40% | 13.50% |
| 2014 | 10.20% | 10.50% |
| 2015 | 9.90% | (0.40)% |
| 2016 | 7.28% | 8.23% |
| Averages | | |
| 5 Years | 8.52% | 9.64% |
| 7 Years | 6.10% | 7.85% |

**Peer Comparison**

The National Association of State Retirement Administrators (NASRA) published its "Issue Brief: Public Pension Fund Plan Investment Return Assumptions" (February, 2017). Based on its survey of 127 State Pension Fund plans, the average return assumption as of December 31, 2016 was 7.52% with nearly 82% of survey respondents falling below 8.00%. Nearly three-fourths have reduced their return assumption since 2010. In XYZ, the Department of Management Services reported the return rates for police and fire plans with valuation dates of 9/30/2015 to 1/1/2016. The following chart shows the average return assumptions for the police and fire plans.



# Economic Assumptions

Although the NASRA study does not provide any indication of projected changes to investment returns, the results provide evidence that the current rate used for the Pension Fund falls near the top of a reasonable range.

**Future expectations**

Pension Fund plans are long-term obligations; as such, the investment horizon should be 30 to 50 years, a much longer time period than most people care to make predictions. Regardless, shorter-term predictions do provide guidance in terms of future expectations in comparison to past results.

# Economic Assumptions

The following asset allocation information from the 2017 Morgan Stanley Forecast shows the basis of the total expected return. Based on the Fund's targeted asset mix, the expected annual return after taking into account inflation is 5.10% over the next 7 years and 7.82% over the next 20 years.

| Asset Mix | Target | Expected 7 year Real Return | Expected 20 year Real Return |
|---|---|---|---|
| **Traditional Asset Classes** | | | |
| **Equity Managers** | | | |
| Large capitalization value manager | 21.50% | 2.55% | 6.15% |
| Large capitalization growth manager | 21.50% | 1.85% | 6.15% |
| Small/mid capitalization value manager | 5.00% | 3.20% | 7.00% |
| Mid capitalization growth manager | 5.00% | 2.15% | 6.75% |
| International value manager | 6.00% | 3.55% | 5.95% |
| International growth manager | 6.00% | 3.55% | 5.95% |
| **Total Equity** | **65.00%** | **2.52%** | **6.23%** |
| **Fixed Income Managers** | **20.00%** | **0.25%** | **2.15%** |
| **Total Traditional Asset Classes** | **85.00%** | **1.97%** | **5.25%** |
| **Alternative Asset Classes** | | | |
| Private Real Estate | 7.00% | 4.05% | 3.75% |
| Hedge fund of funds | 3.00% | 1.35% | 2.75% |
| Master Limited Partnerships | 5.00% | 7.05% | 5.25% |
| **Total Alternative Asset Classes** | **15.00%** | **4.51%** | **4.05%** |
| **Total Traditional & Alternative** | **100.00%** | **2.35%** | **5.07%** |
| **Expected Inflation** | | **2.75%** | **2.75%** |
| **Total Expected Return** | | **5.10%** | **7.82%** |

# Economic Assumptions

**Recommendation**

The current interest rate assumption at October 1, 2016, is 8.00%. Based on the past experience of the pension plan and future expectations of market returns and long-term inflation, we recommend an interest rate in the range of 7.25% - 7.75%. Therefore, we are recommending lowering the interest rate assumption to at most 7.75%.

Since changing the interest rate assumption can be impactful to costs, there are two common approaches to spread the cost increase over a few years to allow for better planning and preparation. The direct-rate smoothing technique phases in the increased contribution requirements over several years. Under a direct-rate smoothing technique, the fund immediately recognizes the impact on liabilities of the interest rate change; however, the resulting impact on contribution requirements is phased-in over a period of years (generally 3-5), allowing for better planning and preparation for the increase in costs.

The second method is the step-rate methodology where you lower the interest rate each year in a step-rate fashion until the ultimate rate is reached. Under the step-rate approach, you gradually recognize both the liability impact and the contribution impact. Under direct rate smoothing, you immediately recognize the liability impact of your "best guess" regarding the ultimate rate but phase-in recognition of increased contribution requirements.

### B. Investment & Non-Investment Expenses

The current assumptions use an expected rate of return that is net of investment expenses. Consequently, there is no assumption for investment expenses. Based on this current policy, there is no need for a historical analysis of the investment expenses. The plan will continue to operate using a net of expenses investment return assumption.

The contribution is increased by anticipated administrative expenses, equal to the average of the prior four years of administrative expenses. The 7-year history is provided below with an average of $177,643. We do not recommend any changes to this assumption.

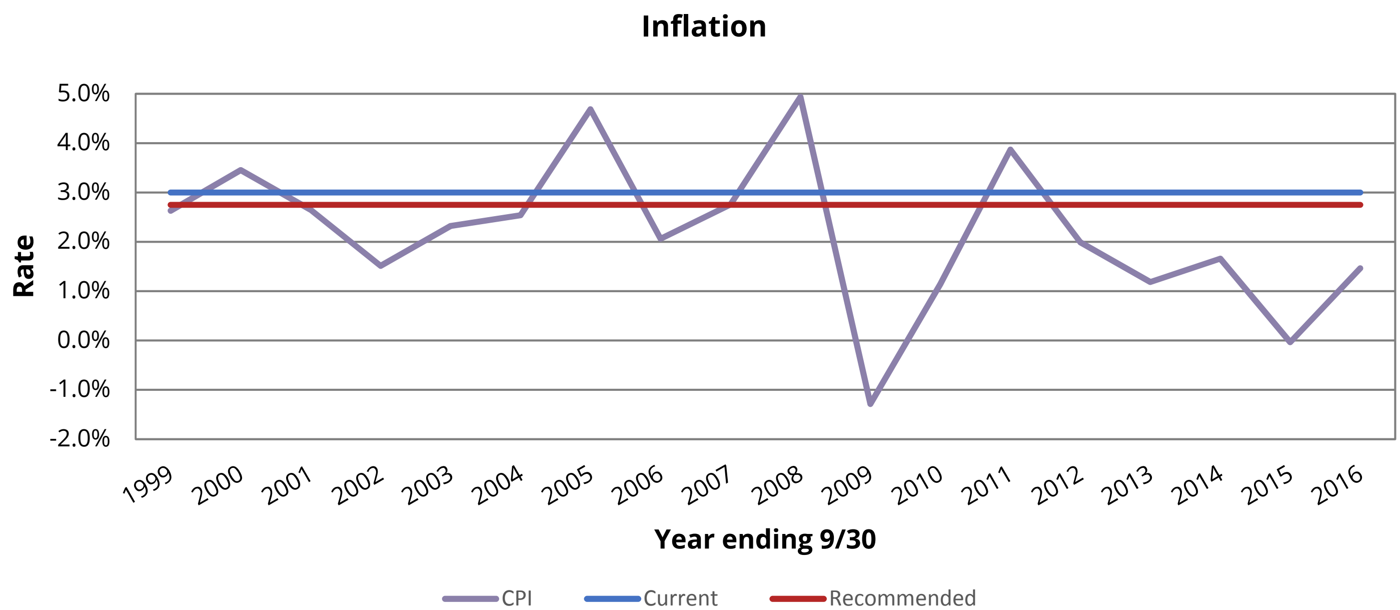
| FYE 9/30 | Administrative Expenses | FYE 9/30 | Administrative Expenses |
|---|---|---|---|
| 2010 | $64,100 | 2014 | $105,400 |
| 2011 | $548,800 | 2015 | $132,000 |
| 2012 | $219,000 | 2016 | $62,700 |
| 2013 | $111,500 | | |

### C. Annual Rate of Inflation (CPI)

The annual rate of inflation assumption is not used directly in any of the actuarial valuation procedures. There is, however, an implicit rate of inflation in the assumed wage growth and expected return on assets. It is important to ensure that these assumptions all fit together and achieve the same implicit inflation rate.

Inflation, as measured by the CPI, has increased by an average of 1.96% during the five-year period of the experience study. The Federal Reserve of Cleveland prepared a news release on June 14, 2017 estimating an average inflation rate of 1.73% over the next 10 years. We recommend lowering the long-term inflation assumption in the plan to 2.50% or 2.75% from 3.00%. This revised assumption for inflation of would be in conjunction with lowering the interest rate used to value plan liabilities.

# Economic Assumptions




## D. Annual Pay Increases

To examine the historical experience of pay increases, data from 2011 to 2016 was studied. Salaries during this time were consistent year-over-year and also were slightly above expectations. The current salary assumption consists of increases due to a 3.00% inflation assumption and a seniority/merit table based on age. Even with a decreasing inflationary environment, we feel the rates can remain at their current levels.

The following table displays the experienced salary increases, as well as the current and recommended assumption incorporating the current (3.00%) and recommended (2.75%) inflation assumption.

| Age | 2011-2016 Actual Experience | 2014-2016 Actual Experience | Current Assumption | Recommended Assumption |
|---|---|---|---|---|
| 20 | 10.1% | 11.6% | 8.0% | **8.0%** |
| 25 | 8.2% | 9.2% | 8.0% | **8.0%** |
| 30 | 8.2% | 9.4% | 7.5% | **7.5%** |
| 35 | 7.2% | 7.3% | 6.5% | **6.5%** |
| 40 | 5.8% | 7.1% | 5.5% | **5.5%** |
| 45 | 5.6% | 6.7% | 5.0% | **5.0%** |
| 50 | 6.1% | 5.6% | 4.5% | **4.5%** |
| 55+ | 5.4% | 5.4% | 4.5% | **4.5%** |

# Demographic Assumptions

### A. Rates of Retirement

Retirements over the period 2011-2016 were examined based on eligibility. The number of exposures for this period were 58 participants. The current rates are split for participants by age and service as shown in the table below. Prior to 55, retirement is assumed to be service based with 66% retirement at 25 years and 25% after 25 years of service. At age 55 with less than 25 years of service, 75% of participants are expected to retire. After age 55 and 25 years of service, participants are assumed to retire immediately.

The current assumption does not account for those who elect early retirement. We propose adding a 25% retirement assumption for those between ages 50 and 55 with 10 years of service. We also recommend increasing the retirement assumption at 25 years of service to 75%. These change more closely aligns the expected retirements to actual in total.

**Retirement**

| Age | Service | Actual Experience | Current Rates | Recommended Assumption |
|---|---|---|---|---|
| **Ages 50 to 54** | **Under 25 Years** | **33%** | **0%** | **25%** |
| **Under 55** | **25 Years** | **86%** | **66%** | **75%** |
| Under 55 | Over 25 Years | 29% | 25% | 25% |
| Age 55 | Under 25 Years | 0% | 75% | 75% |
| Over Age 55 | Under 25 Years | 19% | 25% | 25% |
| Age 55 and Over | 25 Years and Over | 45% | 100% | 100% |

The impact on the number of assumed retirements is reflected in the table and graph below:

| Actual Experience | Expected (Current Assumptions) | Expected (Recommended Assumptions) |
|---|---|---|
| **107** | **73.15** | **99.25** |

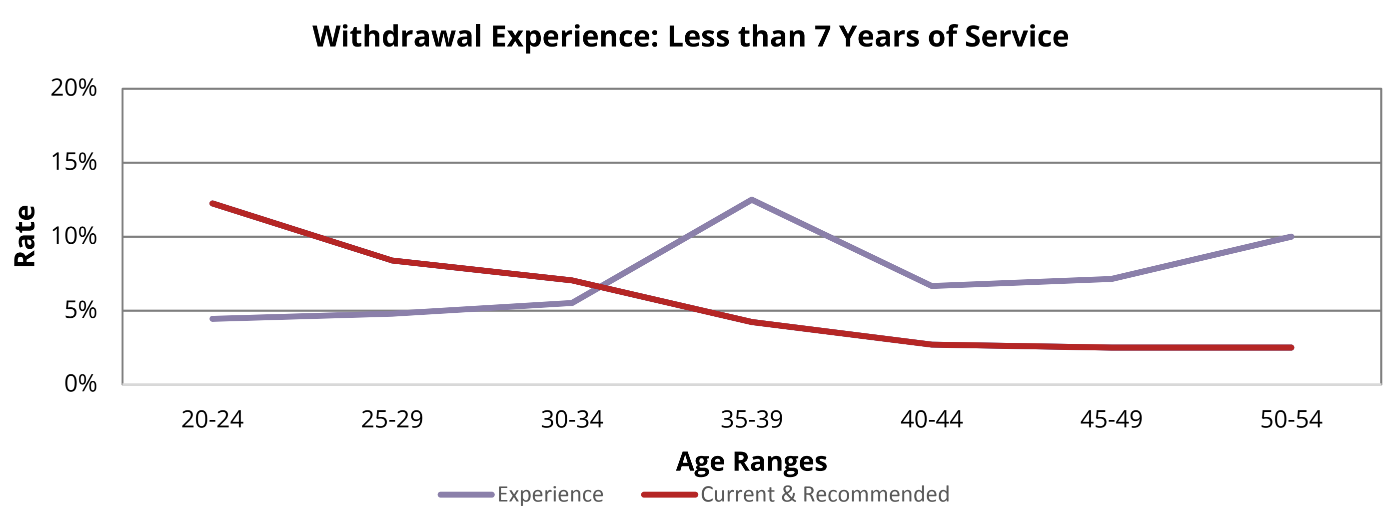
The impact on annual cost of proposed changes to retirement rates is an increase of approximately $12,000.

## B. Rates of Withdrawal

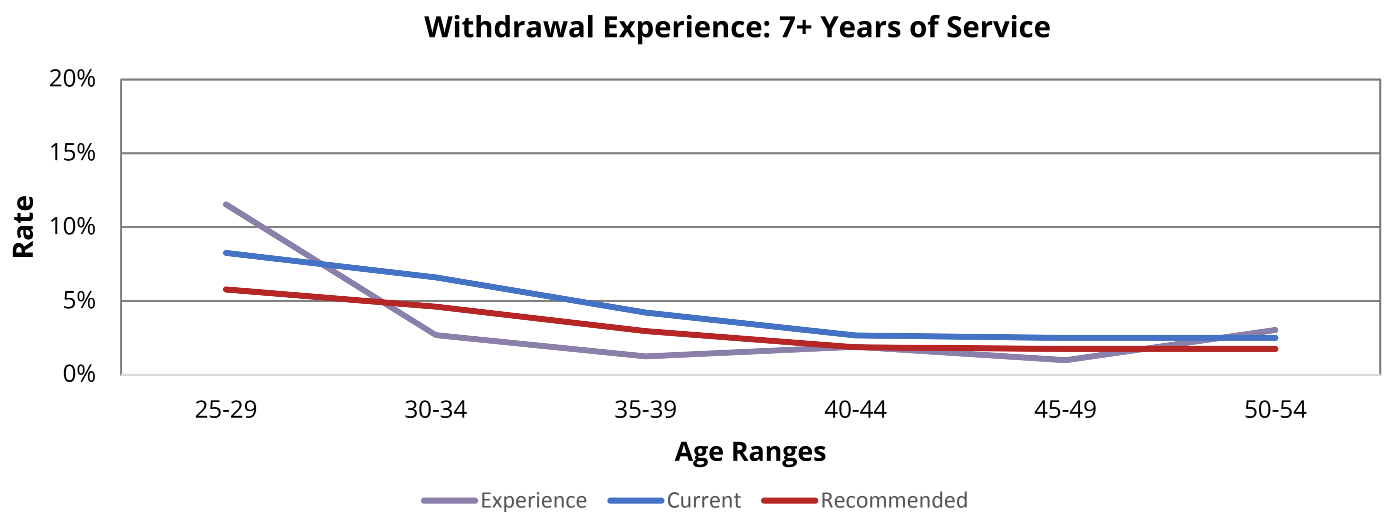
Withdrawal or termination rates were also studied. This assumption is applicable to people that are not yet eligible to retire. The assumption forecasts the rates at which people will leave prior to becoming eligible for normal retirement. The current termination rates are based on age.

The current experience from 2011 to 2016 differed enough from the expectation to warrant a slight change to the assumption with 73 actual terminations to the expected 102.2. We recommend adding a service component to the termination rates instead of only varying the termination rates by age. We then recommend lowering the termination rates by 30% for participants with 7 or more years of service, who have become partially vested.

| Service | Actual Experience | Expected (Current Assumptions) | Expected (Recommended Assumptions) |
|---|---|---|---|
| **Less than 7 Years** | **50** | **54.8** | **54.8** |
| **7 Years or More** | **23** | **47.4** | **33.2** |



# Demographic Assumptions



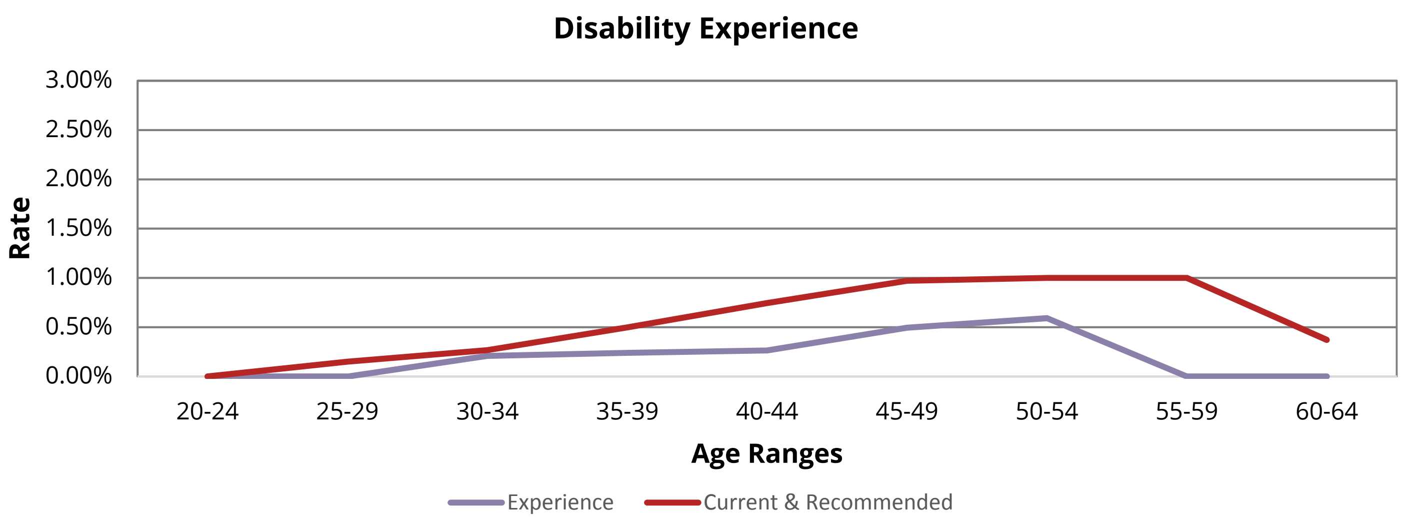

**Withdrawal**

| Age | Actual Experience < 7 Years of Service | Actual Experience 7+ Years of Service | Current Rates | Recommended Assumption < 7 Years of Service | Recommended Assumption 7+ Years of Service |
|---|---|---|---|---|---|
| 20-24 | 4.4% | 0.0% | 15.0% | **15.0%** | **10.50%** |
| 25-29 | 4.8% | 11.5% | 8.5% | **8.5%** | **5.95%** |
| 30-34 | 5.5% | 2.7% | 7.0% | **7.0%** | **4.90%** |
| 35-39 | 12.5% | 1.2% | 4.0% | **4.0%** | **2.80%** |
| 40-44 | 6.7% | 1.9% | 2.5% | **2.5%** | **1.75%** |
| 45-49 | 7.1% | 1.0% | 2.5% | **2.5%** | **1.75%** |
| 50-54 | 10.0% | 3.0% | 2.5% | **2.5%** | **1.75%** |

The impact on annual cost of proposed changes to termination rates is an increase of approximately $543,000.

## C. Rates of Disability

Based on the 2011-2016 experience, 6 individuals were designated as becoming disabled versus the expectation of 15.9. Due to the rare case of disability and since disability makes up less than 1.5% of the overall liability, we do not recommend any change to the current disability rate assumption. Changing these rates would have little significance on the Plan's annual cost.



### D. Rates of Mortality

In order to perform an actual experience study on mortality, an extremely large number of exposures is required. Since the amount of data is not available for the Pension Fund, it is standard actuarial practice to rely on national tables created by organizations like the Society of Actuaries. The key to the mortality assumption is to continually update this assumption as new studies are released. We believe reflecting future mortality improvements is prudent and should help avoid large impacts to plan costs as new studies are released.

Recent State of XYZ legislation (HB XXXX) requires that plans use the same mortality tables as used by the XYZ Retirement Pension Fund (XYZRS). The legislation has an effective date of January 1, 2016. The mortality tables used by the FRS were adopted for the October 1, 2016 valuation. The current assumption is the RP-2000 Generational, 100% Annuitant White Collar, Scale BB for Females, and the RP-2000 Generational, 50% Annuitant White Collar/50% Annuitant Blue Collar, Scale BB for Males.

If FRS adopts a new mortality table in future years, the Division of Retirement will mandate the XYZ Retirement System adopt the new table within two years. We will monitor any regulations or changes to the FRS assumption going forward.

The impact of moving to the FRS mortality tables[1] was an increase in annual costs of approximately $1,065,000.

[1] FRS uses separate mortality tables for "Special Risk" and "other than Special Risk." For purposes of our analysis, we have used the "Special Risk" tables.

## E. Marital Status and Assumed Ages of Spouses

Currently, 85% of active members are assumed to be married, and female spouses are assumed to be three years younger. We do not recommend any changes to these assumptions.

# Amortization Method

The current amortization method is a level payroll 30-year closed amortization with a 1.6% payroll assumption, as limited by the ten-year average historical growth in payroll.

In recent years, the trend has been to lower amortization periods. The Conference of Consulting Actuaries (CCA) released a White Paper in October 2014[2] indicating the "best practice" approach is to use a shorter amortization period (e.g. no more than 25 years) as a level percent of pay. The Conference of Consulting Actuaries Best Practices "White Paper" found the ideal amortization period to be between 15 and 20 years. Amortization periods less than 15 years gave Plans too little volatility control and consistency in contributions amounts. Periods longer than 20 years are typically longer than either average future service for actives or average life expectancy for retirees. As of October 31, 2016 the average future service for actives was 9.73 years, the average life expectancy for inactives was 22.09 years, and the average life expectancy for the total population was 29.02 years. Below is a table of what the CCA consider to be "Model Practice".

**CCA Model Practice**

| Source | Period |
|---|---|
| Plan Amendments | Lesser of expected future service or 15 years |
| Experience Gain/Loss | 15 to 20 years |
| Assumption or Method Changes | 15 to 25 years |

Based on the recommendations of the CCA and the plan demographics we recommend moving to a shorter amortization period. Lowering the amortization period would allow the Plan to recognize the Unfunded Actuarial Accrued Liability more quickly, resulting in a better funded plan.

Under XYZ Statute 11.264(5)(b), the payroll growth assumption cannot exceed the annual average growth rate for the 10-year period preceding the valuation date. Due to this Statute, the payroll growth assumption is set at 1.6%. The following is a history of the payroll growths for the past 10 years.

[2] *"Actuarial Funding Policies and Practices for Public Pension Fund Plans"*, Conference of Consulting Actuaries Public Plans Community, October 2014.

# Amortization Method

| Year Ending | Actual Payroll Growth | Assumed | Year Ending | Actual Payroll Growth | Assumed |
|---|---|---|---|---|---|
| 2007 | 1.7% | 5.7% | 2012 | (3.4)% | 2.0% |
| 2008 | 3.9% | 6.0% | 2013 | 5.1% | 1.9% |
| 2009 | 5.9% | 5.9% | 2014 | (0.9)% | 4.0% |
| 2010 | (6.3)% | 6.0% | 2015 | 0.5% | 4.0% |
| 2011 | (3.1)% | 2.0% | 2016 | 13.0% | 6.0% |

We recommend lowering the current amortization method to a level payroll 25-year closed amortization with a 1.6% payroll assumption, as limited by the ten-year average historical growth in payroll. The impact on annual cost of lowering the amortization period is an increase of approximately $89,000.

# Asset Valuation Method

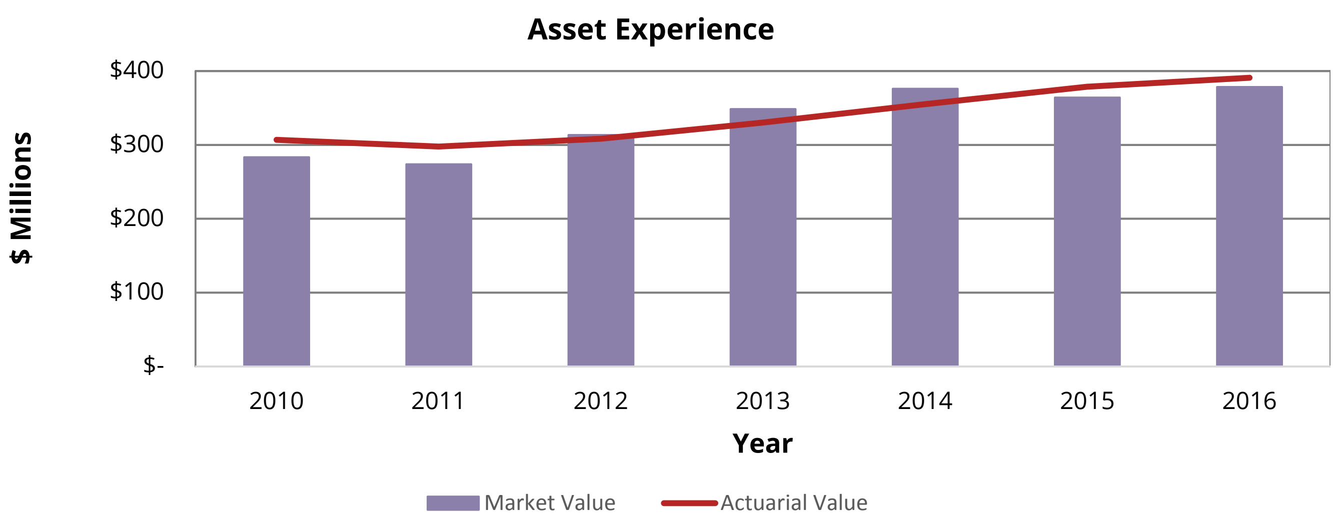
The Actuarial Value of Assets is determined using a method that spreads over a period of four years the difference between the actual investment income and the expected income (based on the valuation interest rate applied to the prior year's market value of assets). The actuarial value of assets is required to be at least 80%, but no more than 120%, of the market value.

Under the Actuarial Standards of Practice (ASOP) No. 44, an asset method other than market value should have the following qualities:

- Likely to produce actuarial value of assets sometimes greater and sometimes less than market value
- Fall within a reasonable range around the market value
- Differences recognized within a reasonable period of time
- No significant bias

The method used for the fund meets all of these objectives. We do not recommend any changes to the asset valuation method.

The following chart compares the historical market value of assets to the actuarial value of assets.



nyhart

# GASB 75 ACTUARIAL VALUATION

## Fiscal Year Ending June 30, 2017

# PLAN SPONSOR NAME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nyhart

**January 12, 2018**

**Contact Person**
**Plan Sponsor Name**
**123 N. Main St.**
**Anywhere, IN 00000**

This report summarizes the GASB actuarial valuation for the Plan Sponsor 2016/17 fiscal year. To the best of our knowledge, the report presents a fair position of the funded status of the plan in accordance with GASB Statement No. 75 (Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions).

The information presented herein is based on the actuarial assumptions and substantive plan provisions summarized in this report and participant information furnished to us by the Plan Sponsor. We have reviewed the employee census provided by the Plan Sponsor for reasonableness when compared to the prior information provided but have not audited the information at the source, and therefore do not accept responsibility for the accuracy or the completeness of the data on which the information is based. When relevant data may be missing, we may have made assumptions we feel are neutral or conservative to the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided.

The discount rate, other economic assumptions, and demographic assumptions have been selected by the Plan Sponsor with the concurrence of Nyhart. In our opinion, the actuarial assumptions are individually reasonable and in combination represent our estimate of anticipated experience of the Plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

To our knowledge, there have been no significant events prior to the current year's measurement date or as of the date of this report that could materially affect the results contained herein.

Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict of interest. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Should you have any questions please do not hesitate to contact us.

Randy Gomez, FSA, MAAA
Consulting Actuary

Suraj Datta, ASA, MAAA
Valuation Actuary

# Executive Summary

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## Summary of Results

Presented below is the summary of GASB 75 results for the fiscal year ending June 30, 2016 compared to the prior fiscal years as shown in the Plan Sponsor's Notes to Financial Statement.

| | | As of June 30, 2016 | | As of June 30, 2017 |
|---|---|---|---|---|
| **Total OPEB Liability** | $ | 1,004,194 | $ | 737,647 |
| **Actuarial Value of Assets** | $ | 0 | $ | 0 |
| **Net OPEB Liability** | $ | 1,004,194 | $ | 737,647 |
| **Funded Ratio** | | 0.0% | | 0.0% |

| | | FY 2015/16 | | FY 2016/17 |
|---|---|---|---|---|
| **OPEB Expense** | $ | 103,435 | $ | (82,230) |
| **Annual Employer Contribution** | $ | 97,280 | $ | 69,679 |

| | As of June 30, 2016 | As of June 30, 2017 |
|---|---|---|
| **Discount Rate** | 2.92% | 3.56% |
| **Expected Return on Assets** | N/A | N/A |

| | As of June 30, 2016 | As of June 30, 2017 |
|---|---|---|
| **Total Active Participants** | 377 | 377 |
| **Total Retiree Participants** | 9 | 9 |

The active participants' number above may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

# Executive Summary

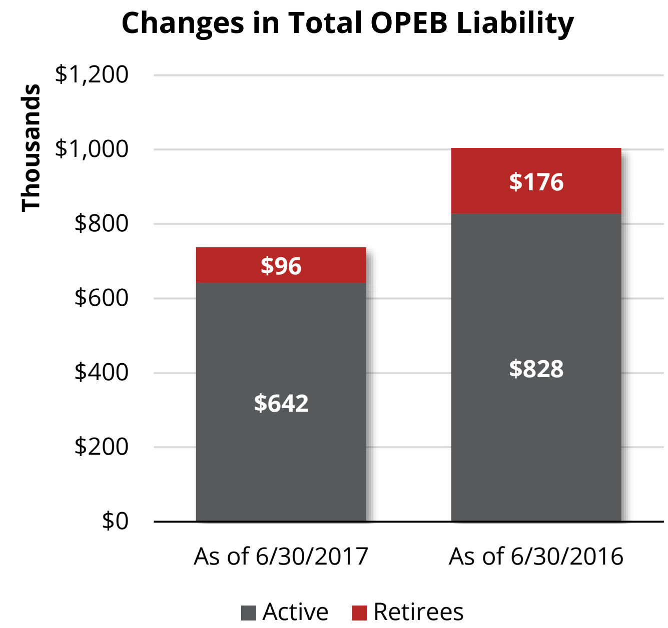
**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

Below is a breakdown of total GASB 75 liabilities allocated to past and current service compared to the prior year. The table below also provides a breakdown of the Total OPEB Liability allocated to pre and post Medicare eligibility. The liability shown below includes explicit (if any) and implicit subsidies. Refer to the Substantive Plan Provisions section for complete information on the Plan Sponsor's GASB subsidies.

| Present Value of Future Benefits | | As of June 30, 2016 | | As of June 30, 2017 |
|---|---|---|---|---|
| Active Employees | $ | 2,049,971 | $ | 1,520,188 |
| Retired Employees | | 176,468 | | 95,930 |
| **Total Present Value of Future Benefits** | **$** | **2,226,439** | **$** | **1,616,118** |

| Total OPEB Liability | | As of June 30, 2016 | | As of June 30, 2017 |
|---|---|---|---|---|
| Active Pre-Medicare | $ | 827,726 | $ | 641,717 |
| Active Post-Medicare | | 0 | | 0 |
| Active Liability | $ | 827,726 | $ | 641,717 |
| | | | | |
| Retiree Pre-Medicare | $ | 176,468 | $ | 95,930 |
| Retiree Post-Medicare | | 0 | | 0 |
| Retiree Liability | $ | 176,468 | $ | 95,930 |
| | | | | |
| **Total OPEB Liability** | **$** | **1,004,194** | **$** | **737,647** |

| | As of June 30, 2016 | As of June 30, 2017 |
|---|---|---|
| Discount Rate | 2.92% | 3.56% |




**Present Value of Future Benefits (PVFB)** is the amount needed as of June 30, 2016 and 2017, to fully fund the Plan Sponsor's retiree health care subsidies for existing and future retirees and their dependents assuming all actuarial assumptions are met.

**Total OPEB Liability** is the portion of PVFB considered to be accrued or earned as of June 30, 2016 and 2017. This amount is a required disclosure in the Required Supplementary Information section.

# GASB Disclosures

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## Schedule of Changes in Net OPEB Liability and Related Ratios

| OPEB Liability | | FY 2016/17 | | FY 2015/16 |
|---|---|---|---|---|
| **Total OPEB Liability** | | | | |
| Total OPEB liability – beginning of year | $ | 1,004,194 | $ | 999,244 |
| Service cost | | 91,986 | | 65,526 |
| Interest | | 28,312 | | 38,043 |
| Changes of benefit terms | | (189,790) | | 0 |
| Changes in assumptions | | (37,819) | | 283,416 |
| Differences between expected and actual experience | | (89,557) | | (284,755) |
| Benefit payments | | (69,679) | | (97,280) |
| Net change in total OPEB liability | $ | (266,547) | $ | 4,950 |
| Total OPEB liability – end of year | $ | 737,647 | $ | 1,004,194 |
| | | | | |
| **Plan Fiduciary Net Position** | | | | |
| Plan fiduciary net position – beginning of year | $ | 0 | $ | 0 |
| Contributions – employer | | 69,679 | | 97,280 |
| Contributions – active employees | | 0 | | 0 |
| Net investment income | | 0 | | 0 |
| Benefit payments | | (69,679) | | (97,280) |
| Trust administrative expenses | | 0 | | 0 |
| Net change in plan fiduciary net position | $ | 0 | $ | 0 |
| Plan fiduciary net position – end of year | $ | 0 | $ | 0 |
| | | | | |
| **Net OPEB Liability – end of year** | **$** | **737,647** | **$** | **1,004,194** |
| | | | | |
| Plan fiduciary net position as % of total OPEB liability | | 0.0% | | 0.0% |
| Covered employee payroll | $ | 19,585,779 | $ | 19,015,319 |
| Net OPEB liability as % of covered payroll | | 3.8% | | 5.3% |

# GASB Disclosures

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## OPEB Expense

| OPEB Expense | | FY 2016/17 | | FY 2015/16 |
|---|---|---|---|---|
| Discount rate as of beginning of fiscal year | | 2.92% | | 4.00% |
| Discount rate as of end of fiscal year | | 3.56% | | 2.92% |
| | | | | |
| Service cost | $ | 91,986 | $ | 65,526 |
| Interest | | 28,312 | | 38,043 |
| Changes of benefit terms | | (189,790) | | 0 |
| Projected earnings on OPEB plan investments | | 0 | | 0 |
| Reduction for contributions from active employees | | 0 | | 0 |
| OPEB plan administrative expenses | | 0 | | 0 |
| | | | | |
| Current period recognition of deferred outflows / (inflows) of resources | | | | |
| Differences between expected and actual experience | $ | (8,956) | $ | (28,476) |
| Changes in assumptions | | (3,782) | | 28,342 |
| Net difference between projected and actual earnings on OPEB plan investments | | 0 | | 0 |
| Total current period recognition | $ | (12,738) | $ | (134) |
| | | | | |
| Total OPEB expense | $ | (82,230) | $ | 103,435 |

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## Deferred Outflows / (Inflows) of Resources

Deferred Outflows / (Inflows) of Resources represents the following items that have not been recognized in the OPEB Expense:

1. Differences between expected and actual experience of the OPEB plan
2. Changes of assumptions
3. Difference between projected an actual earnings in OPEB plan investments

The initial amortization period for the first two items noted above is based on the average future service to retirement while the difference between projected and actual earnings in OPEB plan investment is amortized over five years. All balances are amortized linearly on a principal only basis and new bases will be created annually for each of the item above.

| Differences between expected and actual experience for FYE | Initial Balance | Initial Amortization Period | Annual Recognition | Unamortized Balance as of June 30, 2017 |
|---|---|---|---|---|
| June 30, 2016 | $ (284,755) | 10 | $ (28,476) | $ (227,803) |
| June 30, 2017 | $ (89,557) | 10 | $ (8,956) | $ (80,601) |

| Changes in assumptions for FYE | Initial Balance | Initial Amortization Period | Annual Recognition | Unamortized Balance as of June 30, 2017 |
|---|---|---|---|---|
| June 30, 2016 | $ 283,416 | 10 | $ 28,342 | $ 226,732 |
| June 30, 2017 | $ (37,819) | 10 | $ (3,782) | $ (34,037) |

| As of fiscal year ending June 30, 2017 | Deferred Outflows | Deferred Inflows |
|---|---|---|
| Differences between expected and actual experience | $ 0 | $ (308,404) |
| Changes in assumptions | 192,695 | 0 |
| Net difference between projected and actual earnings in OPEB plan investments | N/A | N/A |
| **Total** | **$ 192,695** | **$ (308,404)** |

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## Deferred Outflows / (Inflows) of Resources – Continued

### Annual Amortization of Deferred Outflows / (Inflows)

The balances of June 30, 2017 of the deferred outflows / (inflows) of resources will be recognized in OPEB expense in the future fiscal years as noted below.

| FYE | Balance | |
|---|---|---|
| 2018 | $ | (12,872) |
| 2019 | $ | (12,872) |
| 2020 | $ | (12,872) |
| 2021 | $ | (12,872) |
| 2022 | $ | (12,872) |
| Thereafter | $ | (51,349) |

### Sensitivity Results

The following presents the net OPEB liability as of June 30, 2017, calculated using the discount rate assumed and what it would be using a 1% higher and 1% lower discount rate.

- The current discount rate is 3.56%.
- The 1% decrease in discount rate would be 2.56%.
- The 1% increase in discount rate would be 4.56%.

| As of June 30, 2017 | Net OPEB Liability | |
|---|---|---|
| 1% Decrease | $ | 797,450 |
| Current Discount Rate | $ | 737,647 |
| 1% Increase | $ | 681,940 |

The following presents the net OPEB liability as of June 30, 2017, using the health care trend rates assumed and what it would be using 1% higher and 1% lower health care trend rates.

- The current health care trend rate starts at an initial rate of 9.0% decreasing by 0.5% annually to an ultimate rate of 5.0%.
- The 1% decrease in health care trend rates would assume an initial rate of 8.0% decreasing by 0.5% annually to an ultimate rate of 4.0%.
- The 1% increase in health care trend rates would assume an initial rate of 10.0% decreasing by 0.5% annually to an ultimate rate of 6.0%.

| As of June 30, 2017 | Net OPEB Liability | |
|---|---|---|
| 1% Decrease | $ | 645,226 |
| Current Health Care Trend Rates | $ | 737,647 |
| 1% Increase | $ | 848,090 |

# Projection of GASB Disclosures

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

The Total OPEB Liability (TOL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the total OPEB liability and whether they increase or decrease the liability.

<u>Expected Events</u>

- Increases in TOL due to additional benefit accruals as employees continue to earn service each year
- Increases in TOL due to interest as the employees and retirees age
- Decreases in TOL due to benefit payments

<u>Unexpected Events</u>

- Increases in TOL when actual premium rates increase more than expected. A liability decrease occurs of the reverse happens.
- Increases in TOL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in TOL depending on whether benefits are improved or reduced.

| Projection of Total OPEB Liability (TOL) | | FY 2016/17 | | FY 2017/18 |
|---|---|---|---|---|
| TOL as of beginning of year | $ | 1,004,194 | $ | 737,647 |
| Normal cost as of beginning of year | | 89,376 | | 66,898 |
| Exp. benefit payments during the year | | (97,280) | | (42,281) |
| Interest adjustment to end of year | | 30,522 | | 27,896 |
| Exp. TOL as of end of year | $ | 1,026,812 | $ | 790,160 |
| Actuarial Loss/(Gain) | | (289,165) | | TBD |
| **Actual TOL as of end of year** | **$** | **737,647** | **$** | **TBD** |
| | | | | |
| Discount rate as of beginning of year | | 4.00% | | 2.92% |
| Discount rate as of end of year | | 2.92% | | 3.56% |

# Cash Flow Projections

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

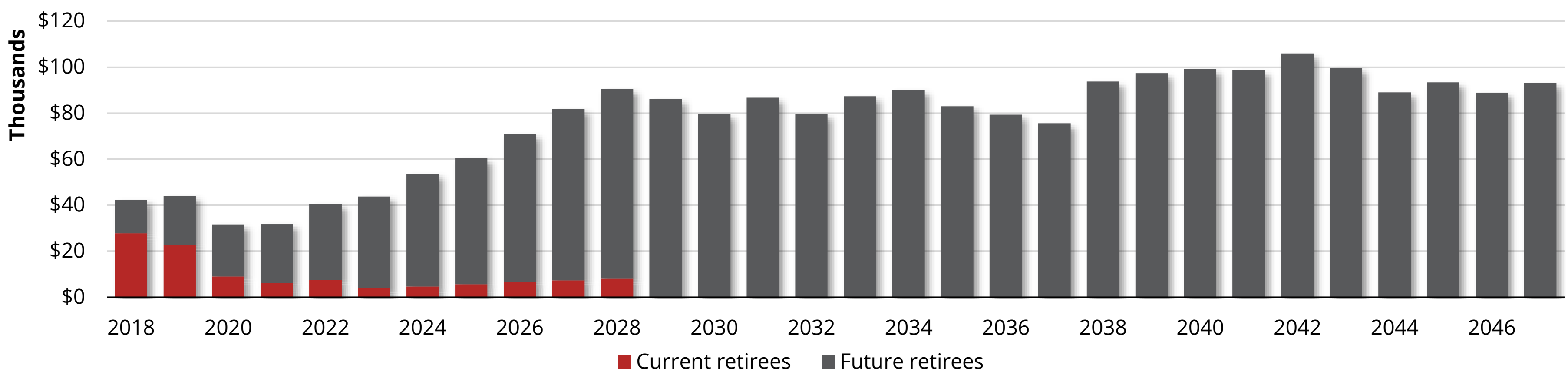
The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next thirty years. Results are shown separately for a closed group of current / future retirees. These projections include explicit and implicit subsidies.

| FYE | Current Retirees | Future Retirees[1] | Total |
|---|---|---|---|
| 2018 | $ 27,739 | $ 14,542 | $ 42,281 |
| 2019 | $ 22,849 | $ 21,157 | $ 44,006 |
| 2020 | $ 8,990 | $ 22,695 | $ 31,685 |
| 2021 | $ 6,186 | $ 25,617 | $ 31,803 |
| 2022 | $ 7,462 | $ 33,170 | $ 40,632 |
| 2023 | $ 3,774 | $ 39,980 | $ 43,754 |
| 2024 | $ 4,651 | $ 49,000 | $ 53,651 |
| 2025 | $ 5,589 | $ 54,777 | $ 60,366 |
| 2026 | $ 6,621 | $ 64,392 | $ 71,013 |
| 2027 | $ 7,333 | $ 74,605 | $ 81,938 |

| FYE | Current Retirees | Future Retirees[3] | Total |
|---|---|---|---|
| 2028 | $ 8,100 | $ 82,542 | $ 90,642 |
| 2029 | $ 0 | $ 86,301 | $ 86,301 |
| 2030 | $ 0 | $ 79,502 | $ 79,502 |
| 2031 | $ 0 | $ 86,737 | $ 86,737 |
| 2032 | $ 0 | $ 79,490 | $ 79,490 |
| 2033 | $ 0 | $ 87,368 | $ 87,368 |
| 2034 | $ 0 | $ 90,164 | $ 90,164 |
| 2035 | $ 0 | $ 83,016 | $ 83,016 |
| 2036 | $ 0 | $ 79,404 | $ 79,404 |
| 2037 | $ 0 | $ 75,624 | $ 75,624 |

| FYE | Current Retirees | Future Retirees[3] | Total |
|---|---|---|---|
| 2038 | $ 0 | $ 93,753 | $ 93,753 |
| 2039 | $ 0 | $ 97,368 | $ 97,368 |
| 2040 | $ 0 | $ 99,273 | $ 99,273 |
| 2041 | $ 0 | $ 98,669 | $ 98,669 |
| 2042 | $ 0 | $ 105,941 | $ 105,941 |
| 2043 | $ 0 | $ 99,749 | $ 99,749 |
| 2044 | $ 0 | $ 89,110 | $ 89,110 |
| 2045 | $ 0 | $ 93,408 | $ 93,408 |
| 2046 | $ 0 | $ 88,880 | $ 88,880 |
| 2047 | $ 0 | $ 93,218 | $ 93,218 |

**Projected Employer Pay-go Cost**




[1] Projections for future retirees do not take into account future new hires.

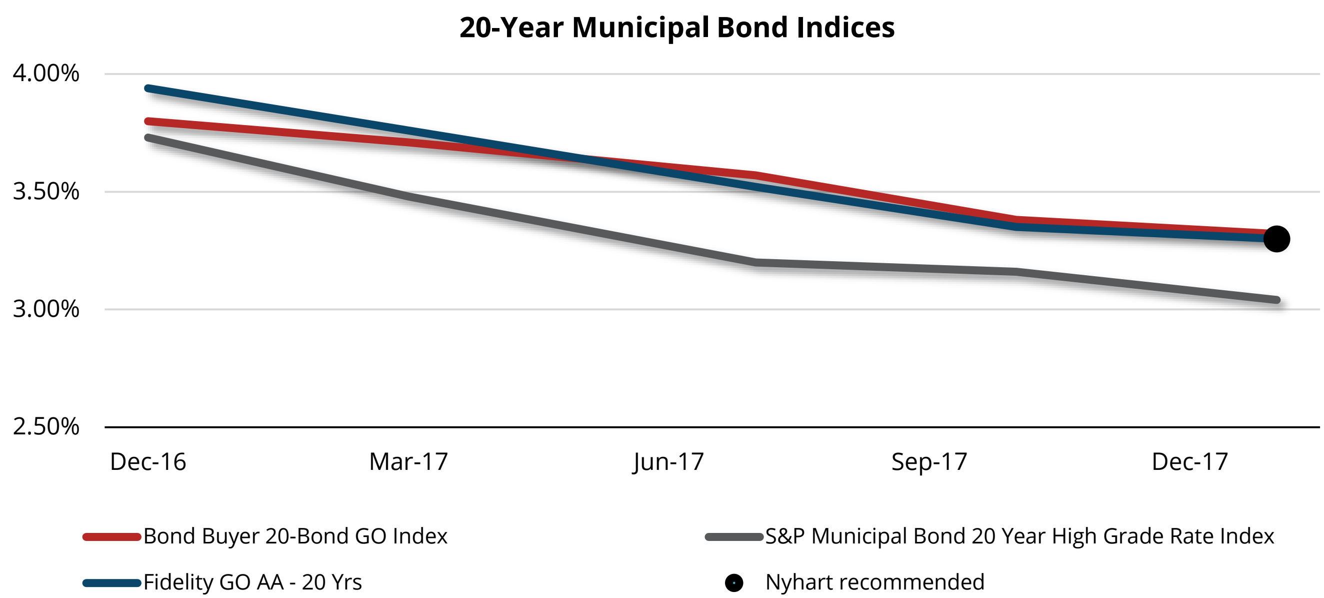
# Discussion of Discount Rates

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

Under GASB 75, the discount rate used in valuing OPEB liabilities for unfunded plans as of the Measurement Date must be based on a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA /Aa or higher (or equivalent quality on another rating scale).

For the current valuation, the discount rate was selected from the range of indices as shown in the table below, where the range is given as the spread between the lowest and highest rate shown.

| | Bond Buyer Go 20-Bond Municipal Bond Index | S&P Municipal Bond 20-Year High Grade Rate Index | Fidelity 20-Year Go Municipal Bond Index | Nyhart Recommendation | Actual Discount Rate Used |
|---|---|---|---|---|---|
| Yield as of July 1, 2016 | 2.85% | 2.71% | 2.92% | 2.71% - 2.92% | **2.92%** |
| Yield as of June 30, 2017 | 3.53% | 3.13% | 3.56% | 3.13% - 3.56% | **3.56%** |



# Summary of Plan Participants

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## Active Employees

| Actives with coverage | Single | Non-Single | Total | Avg. Age | Avg. Svc | | Salary |
|---|---|---|---|---|---|---|---|
| Plan 1 | 11 | 32 | 43 | 55.1 | 18.3 | $ | 3,027,815 |
| Plan 2 | 113 | 202 | 315 | 45.4 | 9.6 | $ | 15,071,493 |
| Plan 3 | 6 | 13 | 19 | 40.0 | 7.1 | $ | 916,011 |
| **Total actives with coverage** | **130** | **247** | **377** | **46.2** | **10.5** | **$** | **19,015,319** |

| Actives without coverage | Total | Avg. Age | Avg. Svc | | Salary |
|---|---|---|---|---|---|
| **Total actives without coverage** | **5** | **45.0** | **3.0** | **$** | **250,000** |

Enrollment information above is for full-time employees who are eligible for retiree health care benefits only.

# Summary of Plan Participants

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## Active Age-Service Distribution

| Age | Years of Service | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | < 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 & up | |
| Under 25 | | 2 | | | | | | | | | 2 |
| 25 to 29 | | 34 | 4 | | | | | | | | 38 |
| 30 to 34 | | 29 | 15 | 2 | | | | | | | 46 |
| 35 to 39 | | 14 | 15 | 18 | 3 | | | | | | 50 |
| 40 to 44 | 3 | 15 | 4 | 7 | 9 | | | | | | 38 |
| 45 to 49 | 2 | 18 | 7 | 18 | 5 | 2 | 2 | | | | 54 |
| 50 to 54 | | 25 | 7 | 7 | 8 | 4 | | 1 | | | 52 |
| 55 to 59 | | 10 | 6 | 12 | 5 | 3 | 2 | 1 | 2 | | 41 |
| 60 to 64 | | 8 | 7 | 3 | 6 | 6 | 5 | 4 | 4 | | 43 |
| 65 to 69 | | 4 | 1 | 3 | 1 | 3 | | 1 | 1 | 1 | 15 |
| 70 & up | | 1 | | | | | 1 | 1 | | | 3 |
| **Total** | **5** | **160** | **66** | **70** | **37** | **18** | **10** | **8** | **7** | **1** | **382** |

# Summary of Plan Participants

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

### Retirees

| Retirees with coverage | Single | Non-Single | Total | Avg. Age |
|---|---|---|---|---|
| Plan 1 | 2 | | 2 | 63.9 |
| Plan 2 | 5 | 2 | 7 | 63.0 |
| **Total retirees with coverage** | **7** | **2** | **9** | **63.2** |

### Retiree Age Distribution

| Age | Retirees |
|---|---|
| < 45 | |
| 45 to 49 | |
| 50 to 54 | |
| 55 to 59 | |
| 60 to 64 | 9 |
| 65 to 69 | |
| 70 to 74 | |
| 75 to 79 | |
| 80 to 84 | |
| 85 to 89 | |
| 90 & up | |
| **Total** | **9** |

# Substantive Plan Provisions

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

| | |
|---|---|
| **Eligibility** | All employees meeting ERS pension eligibility requirements below and have ten years of service with Plan Sponsor are eligible for retiree health benefits (bundled medical and vision) until they are eligible for Medicare.<br><br>Eligibility for Tier 1 members (hired before July 1, 2009) is the earlier of:<br>1. Age 55 with 10 years of service<br>2. Rule of 85<br>3. Age 65 with 1 year of service<br>4. Age 62 with 10 years of service<br><br>Eligibility for Tiers 2 & 3 members (hired on/after July 1, 2009) is the earlier of:<br>1. Age 55 with 10 years of service<br>2. Age 60 with 30 years of service<br>3. Age 65 with 5 years of service |
| **Spouse Benefit** | Spousal coverage continues until the earlier of (1) the date the retiree becomes Medicare eligible and (2) the date the spouse becomes Medicare eligible. Surviving spouses are eligible for COBRA coverage. |
| **Dental** | This report does not reflect any liabilities for dental coverage. Plan Sponsor does not have any explicit or implicit subsidies for dental benefits that would generate an actuarial liability as retirees pay the full cost of this benefit. |
| **Early Retirement Incentive** | The Plan Sponsor offered Voluntary Retirement Incentive Program (VRIP) to employees who are eligible for retiree health benefits. Refer to Appendix A for VRIP liabilities and description of benefits. |

# Substantive Plan Provisions

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

**Medical Benefits**

Same benefits are available to retirees as active employees. All health plans are fully-insured and partially experience-rated. The monthly funding rates by plan effective on January 1, 2017 are as shown below.

| Plans | EE | EE + Sp |
|---|---|---|
| PPO | $ 572.40 | $ 1,259.28 |
| HDHP | $ 427.08 | $ 939.58 |
| Vision | $ 12.29 | $ 12.29 |

Refer to Appendix D for a brief summary of benefit descriptions for all health plans effective on January 1, 2016.

**Retiree Cost Sharing**

Retirees contribute the funding rate plus 2% COBRA load. Rates effective on January 1, 2017 are as shown below.

| Plans | EE | EE + Sp |
|---|---|---|
| PPO | $ 583.85 | $ 1,284.47 |
| HDHP | $ 435.62 | $ 958.37 |
| Vision | $ 12.54 | $ 12.54 |

**Explicit Subsidy**

None

# Actuarial Methods and Assumptions

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

The actuarial assumptions used in this report represent a reasonable long-term expectation of future OPEB outcomes. As national economic and Plan Sponsor experience change over time, the assumptions will be tested for ongoing reasonableness and, if necessary, updated.

There are changes to the actuarial methods and assumptions since the last GASB valuation, which was for the fiscal year ending June 30, 2015. Refer to Actuary's Notes section for complete information on these changes. For the current year GASB valuation, we have also updated the per capita costs. We expect to update discount rate, health care trend rates, and per capita costs again in the next full GASB valuation, which will be for the fiscal year ending June 30, 2019.

**Measurement Date**

For fiscal year ending June 30, 2017, June 30, 2017 measurement date was used.

**Actuarial Valuation Date**

June 30, 2017 with no adjustments to get to the June 30, 2017 measurement date. Liabilities as of July 1, 2016 are based on an actuarial valuation date of June 30, 2015 projected to June 30, 2016 on a "no loss / no gain" basis.

**Discount Rate**

2.92% as of July 1, 2016 and 3.56% as of June 30, 2017 for accounting disclosure purposes.
Refer to the Discussion of Discount Rates section for more information on selection of the discount rate.

**Payroll Growth**

3.0% per year

**Inflation Rate**

3.0% per year

**Cost Method**

Allocation of Actuarial Present Value of Future Benefits for services prior and after the Measurement Date was determined using Entry Age Normal Level % of Salary method where:

- service Cost for each individual participant, payable from date of employment to date of retirement, is sufficient to pay for the participant's benefit at retirement; and
- annual Service Cost is a constant percentage of the participant's salary that is assumed to increase according to the Payroll Growth.

**Employer Funding Policy**

Pay-as-you-go cash basis

**Census Data**

Census information was provided by the Plan Sponsor and it was provided in August 2017. We have reviewed it for reasonableness and no material modifications were made to the census data.

# Actuarial Methods and Assumptions

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

| | |
|---|---|
| **Experience Study** | Best actuarial practices call for a periodic assumption review and Nyhart recommends the Plan Sponsor to complete an actuarial assumption review (also referred to as an experience study) before transitioning to the new GASB 75 standard for fiscal year ending June 30, 2018. The actuarial assumptions have not been updated since at least the 2011 valuation. |
| **Health Care Coverage Election Rate** | Active employees with current coverage: 100%<br>Active employees with no coverage: 0%<br><br>Inactive employees with current coverage: 100%<br>Inactive employees with no coverage: 0% |
| **Spousal Coverage** | Spousal coverage for current retirees is based on actual data.<br><br>50% of employees are assumed to be married at retirement. 100% of spouses are assumed to elect coverage under the retiree group health plan. Husbands are assumed to be three years older than wives. |
| **Mortality** | RPH-2015 Total Dataset Mortality Table fully generational using Scale MP-2015 (RPH-2015 table is created based on RPH-2014 Total Dataset Mortality Table with 8 years of MP-2014 mortality improvement backed out, projected to 2015 using MP-2015 improvement.) |

**Disability**

None

**Turnover Rate**

Assumption used to project terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health coverage. The rates represent the probability of termination in the next 12 months.

The termination rates are based on ERS pension actuarial valuation for FYE December 31, 2014. Sample annual turnover rates are shown below:

| YOS | Male | Female |
|---|---|---|
| 0 | 20.0% | 23.0% |
| 5 | 8.3% | 9.0% |
| 10 | 4.1% | 5.0% |
| 15 | 3.1% | 3.3% |
| 20 | 2.4% | 2.2% |
| 25 | 1.4% | 1.2% |
| 30 | 0.8% | 1.0% |

# Actuarial Methods and Assumptions

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

**Retirement Rate**

Annual rates of retirement are based on ERS Local (with 100% retirement at age 65).

| | Rule 85 Met | | Rule 85 Not Met |
|---|---|---|---|
| **Age** | **1st Year** | **After 1st Year** | **All Years** |
| 55 – 58 | 13% | 10% | 5% |
| 59 | 15% | 12% | 7% |
| 60 | 15% | 12% | 7% |
| 61 | 25% | 25% | 20% |
| 62 | 25% | 25% | 25% |
| 63 | 20% | 20% | 20% |
| 64 | 30% | 30% | 30% |
| 65 | 100% | 100% | 100% |

**Health Care Trend Rates**

| FYE | Medical/Rx | FYE | Medical/Rx |
|---|---|---|---|
| 2016 | 9.0% | 2021 | 6.5% |
| 2017 | 8.5% | 2022 | 6.0% |
| 2018 | 8.0% | 2023 | 5.5% |
| 2019 | 7.5% | 2024+ | 5.0% |
| 2020 | 7.0% | | |

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment.

The ultimate trend rate was selected based on historical medical CPI information.

**Retiree Contributions**

Retiree contributions are assumed to increase according to health care trend rates.

# Actuarial Methods and Assumptions

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

**Per Capita Costs**

Annual per capita costs were calculated based on the 2017 funding rates, actuarially increased using health index factors and current enrollment. All employees are assumed to elect the PPO plan at retirement. The costs are assumed to increase with health care trend rates.

Annual per capita costs are as shown below:

| Age | PPO |
|---|---|
| <55 | $ 8,600 |
| 55 – 59 | $ 10,400 |
| 60 – 64 | $ 12,900 |

The per capita costs represent the cost of coverage for a retiree-only population.

Actuarial standards require the recognition of higher inherent costs for a retired population versus an active population.

Annual vision per capita cost is assumed to be $147, increasing by 3% annually.

**Explicit Subsidy**

The difference between (a) the premium rate and (b) the retiree contribution. Below is an example of the monthly explicit subsidies for a future retiree who is enrolled in the PPO plan with vision coverage.

| | Premium Rate | Retiree Contribution[2] | Explicit Subsidy |
|---|---|---|---|
| | A | B | C = A – B |
| Retiree | $ 584.69 | $ 584.69 | $ 0.00 |
| Spouse | $ 686.88 | $ 686.88 | $ 0.00 |

**Implicit Subsidy**

The difference between (a) the per capita cost and (b) the premium rate. Below is an example of the monthly implicit subsidies for a retiree age 60 with spouse of the same age enrolled in the PPO plan with vision coverage.

| | Per Capita Cost | Premium Rate | Implicit Subsidy |
|---|---|---|---|
| | A | B | C = A – B |
| Retiree | $ 1,087.29 | $ 584.69 | $ 502.60 |
| Spouse | $ 1,087.29 | $ 686.88 | $ 400.41 |

All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

[2] Limited to premium rates for illustration purposes.

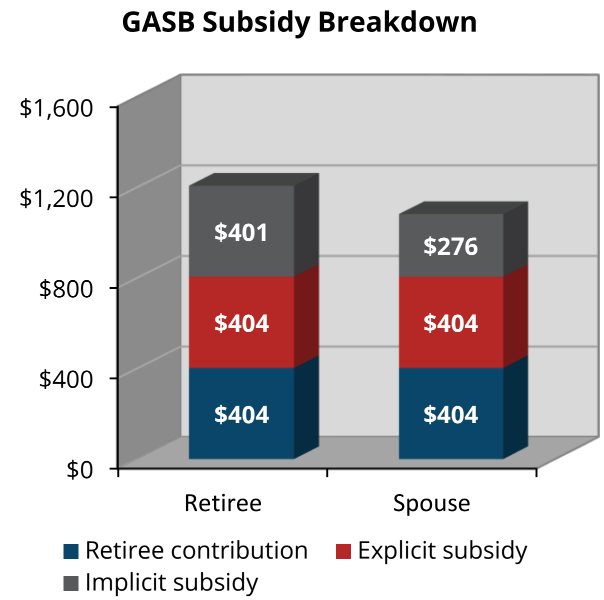
# Actuarial Methods and Assumptions

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

**GASB Subsidy Breakdown**

Below is a breakdown of the GASB 45 monthly total cost for a retiree age 60 with spouse of the same age enrolled in the PPO plan with vision coverage.

| | Retiree | Spouse |
|---|---|---|
| Retiree contribution | $ 584.69 | $ 686.88 |
| Explicit subsidy | $ 0.00 | $ 0.00 |
| Implicit subsidy | $ 502.60 | $ 400.41 |
| Total monthly cost | $ 1,087.29 | $ 1,087.29 |



# APPENDIX

# Appendix

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## GASB Results by Group

Below is the summary of the GASB results for fiscal year ending June 30, 2017 based on the Entry Age Normal Level % of Pay cost method with a discount rate of 3.56%.

| Union Groups | | Total OPEB Liability As of June 30, 2017 | | Actuarial Value of Assets As of June 30, 2017 | | Net OPEB Liability As of June 30, 2017 |
|---|---|---|---|---|---|---|
| Group 1 | $ | 111,301 | $ | 0 | $ | 111,301 |
| Group 2 | $ | 29,356 | $ | 0 | $ | 29,356 |
| Group 3 | $ | 266,880 | $ | 0 | $ | 266,880 |
| Group 4 | $ | 212,358 | $ | 0 | $ | 212,358 |
| Group 5 | $ | 590,801 | $ | 0 | $ | 590,801 |
| **Total** | **$** | **1,210,696** | **$** | **0** | **$** | **1,210,696** |

| Union Groups | | Unamortized Balance of Deferred Outflows As of June 30, 2017 | | Unamortized Balance of Deferred Inflows As of June 30, 2017 | | OPEB Expense FY 2016/17 |
|---|---|---|---|---|---|---|
| Group 1 | $ | 10,101 | $ | 0 | $ | 2,721 |
| Group 2 | $ | 0 | $ | (2,681) | $ | 3,715 |
| Group 3 | $ | 0 | $ | (14,545) | $ | -2,277 |
| Group 4 | $ | 0 | $ | (60,092) | $ | (1,659) |
| Group 5 | $ | 69,672 | $ | 0 | $ | 26,261 |
| **Total** | **$** | **79,773** | **$** | **(77,318)** | **$** | **28,761** |

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## Comparison of Participant Demographic Information

The active participants' number below may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

| | As of July 1, 2015 | As of July 1, 2017 |
|---|---|---|
| Active Participants | 340 | 382 |
| | | |
| Retired Participants | 27 | 9 |
| | | |
| Averages for Active | | |
| Age | 44.7 | 46.8 |
| Service | 12.9 | 10.4 |
| | | |
| Averages for Inactive | | |
| Age | 61.9 | 63.2 |

# Appendix

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## Detailed Actuary's Notes

There have been no substantive plan provision changes since the last full valuation, which was for the fiscal year ending June 30, 2015.

The Plan Sponsor have opted to disclose OPEB liabilities under GASB 75 for the current valuation. The prior valuation was disclosed under GASB 45. The following assumptions have been updated in accordance with GASB 75.

1. The actuarial cost method has been updated from Projected Unit Credit with linear proration to decrement to Entry Age Normal Level % of Salary. This change has caused an increase in liabilities for both the County and the District.

2. Discount rate as of the Measurement Date has been updated to be based on a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale) tax-exempt, high quality 20-year municipal bonds. The prior full valuation used a discount rate of 4.0%. The current full valuation uses a discount rate of 2.92% as of July 1, 2016 and 3.56% as of June 30, 2017. This change has caused an increase in liabilities.

   The discount rate will be updated annually to reflect market conditions as of the Measurement Date.

Additionally, the following assumptions have also been updated:

1. Mortality table has been updated from RP-2000 Combined Mortality Table fully generational using Scale AA to SOA RPH-2015 Total Dataset Mortality Table fully generational using Scale MP-2015. The impact of this change is a decrease in liabilities for the Plan Sponsor.

2. Health care trend rates have been reset to an initial rate of 9.0% decreasing by 0.5% annually to an ultimate rate of 5.0% as shown below. This change caused an increase in liabilities for the Plan Sponsor.

| Year | Prior | Current |
|---|---|---|
| 2016 | 8.0% | 9.0% |
| 2017 | 7.5% | 8.5% |
| 2018 | 7.0% | 8.0% |
| 2019 | 6.5% | 7.5% |
| 2020 | 6.0% | 7.0% |

| Year | Prior | Current |
|---|---|---|
| 2021 | 5.5% | 6.5% |
| 2022 | 5.0% | 6.0% |
| 2023 | 5.0% | 5.5% |
| 2024+ | 5.0% | 5.0% |

# Appendix

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

## Summary of Medical Benefits

A brief summary of all health plans offered by the Plan Sponsor effective on July 1, 2016 is as shown below. The out-of-pocket maximum includes the deductible, coinsurance, and copayments.

| SAU Pre-65 Plans (In-Network[3]) | Green Plan | Blue Plan | Red Plan | Yellow Plan |
|---|---|---|---|---|
| Deductible (EE / Family) | $0 / $0 | $0 / $0 | $250 / $500 | $1,250 / $2,500 |
| Coinsurance | 100% | 100% | 80% | 80% |
| Out-of-Pocket Maximum (EE / Family) | $1,000 / $ 2,000 | $1,000 / $ 2,000 | $1,000 / $ 2,000 | $2,000 / $4,000 |
| Copay / co-insurances for: | | | | |
| Office Visit | $10 | $10 | Subject to ded / coins | Subject to ded / coins |
| Urgent Care | $25 | $25 | $25 | Subject to ded / coins |
| Emergency Room | $50 | $50 | $50 | Subject to ded / coins |
| Prescription drugs | | | | |
| Out-of-Pocket Maximum (EE / Family) | $2,000 / $4,000 | $2,000 / $4,000 | $2,000 / $4,000 | N/A |
| Retail (Generic / Pref / Non-Pref) | $5 / $15/ $35 | $5 / $15/ $35 | $5 / $15/ $35 | 90% coins / max $75 |
| Mail Order (Generic / Pref / Non-Pref) | $5 / $15/ $35 | $5 / $15/ $35 | $0 / $15/ $35 | 90% coins / max $75 |

[3] There is no coverage for all services except for Emergency Room and Urgent Care out of network for Green, Red, and Yellow plans. For Blue plan, there is out of network coverage with different provisions than what's shown above.

# GLOSSARY

# Glossary – Decrements Exhibit

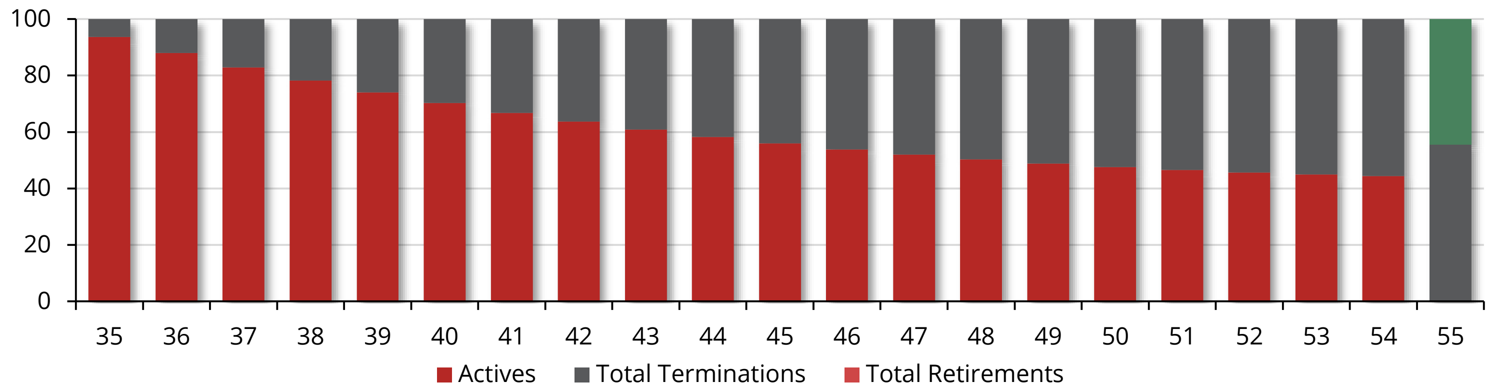
**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. Starting with 100 employees at age 35, the illustrated actuarial assumptions show that 44.43 employees out of the original 100 are expected to retire and could elect retiree health benefits at age 55.

| Age | # Remaining Employees | # of Terminations per Year[4] | # of Retirements per Year | Total Decrements |
|---|---|---|---|---|
| 35 | 100.000 | 6.276 | 0.000 | 6.276 |
| 36 | 93.724 | 5.677 | 0.000 | 5.677 |
| 37 | 88.047 | 5.136 | 0.000 | 5.136 |
| 38 | 82.911 | 4.648 | 0.000 | 4.648 |
| 39 | 78.262 | 4.209 | 0.000 | 4.209 |
| 40 | 74.053 | 3.814 | 0.000 | 3.814 |
| 41 | 70.239 | 3.456 | 0.000 | 3.456 |
| 42 | 66.783 | 3.131 | 0.000 | 3.131 |
| 43 | 63.652 | 2.835 | 0.000 | 2.835 |
| 44 | 60.817 | 2.564 | 0.000 | 2.564 |
| 45 | 58.253 | 2.316 | 0.000 | 2.316 |

| Age | # Remaining Employees | # of Terminations per Year | # of Retirements per Year | Total Decrements |
|---|---|---|---|---|
| 46 | 55.938 | 2.085 | 0.000 | 2.085 |
| 47 | 53.853 | 1.866 | 0.000 | 1.866 |
| 48 | 51.987 | 1.656 | 0.000 | 1.656 |
| 49 | 50.331 | 1.452 | 0.000 | 1.452 |
| 50 | 48.880 | 1.253 | 0.000 | 1.253 |
| 51 | 47.627 | 1.060 | 0.000 | 1.060 |
| 52 | 46.567 | 0.877 | 0.000 | 0.877 |
| 53 | 45.690 | 0.707 | 0.000 | 0.707 |
| 54 | 44.983 | 0.553 | 0.000 | 0.553 |
| 55 | 44.430 | 0.000 | 44.430 | 44.430 |

**Decrements Exhibit**




[4] The above rates are illustrative rates and are not used in our GASB calculations.

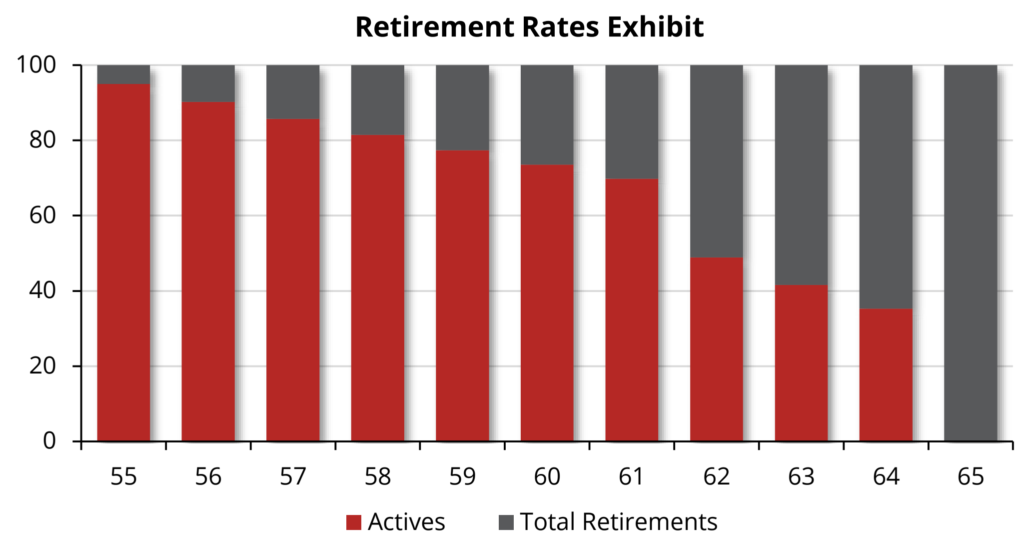
# Glossary – Retirement Rates Exhibit

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. The illustrated retirement rates show the number of employees who are assumed to retire annually based on 100 employees age 55 who are eligible for retiree health care coverage. The average age at retirement is 62.0.

| Age | Active Employees BOY | Annual Retirement Rates* | # Retirements per Year | Active Employees EOY |
|---|---|---|---|---|
| 55 | 100.000 | 5.0% | 5.000 | 95.000 |
| 56 | 95.000 | 5.0% | 4.750 | 90.250 |
| 57 | 90.250 | 5.0% | 4.513 | 85.738 |
| 58 | 85.738 | 5.0% | 4.287 | 81.451 |
| 59 | 81.451 | 5.0% | 4.073 | 77.378 |
| 60 | 77.378 | 5.0% | 3.869 | 73.509 |
| 61 | 73.509 | 5.0% | 3.675 | 69.834 |
| 62 | 69.834 | 30.0% | 20.950 | 48.884 |
| 63 | 48.884 | 15.0% | 7.333 | 41.551 |
| 64 | 41.551 | 15.0% | 6.233 | 35.318 |
| 65 | 35.318 | 100.0% | 35.318 | 0.000 |

* The above rates are illustrative rates and are not used in our GASB calculations.



# Glossary – Definitions

**Plan Sponsor GASB 75 Valuation** for Fiscal Year Ending June 30, 2017

GASB 75 defines several unique terms not commonly employed in the funding of pension and retiree health plans. The definitions of the terms used in the GASB actuarial valuations are noted below.

1. **Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting health care costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided health care benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

2. **Actuarial Cost Method** – A procedure for determining the Actuarial Present Value of Future Benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Service Cost and a Total OPEB Liability.

3. **Actuarially Determined Contribution** - A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined in accordance with the parameters and in conformity with Actuarial Standards of Practice.

4. **Actuarial Present Value** – The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:
    a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.);
    b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned; and
    c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

5. **Deferred Outflow / (Inflow) of Resources** – represents the following items that have not been recognized in the OPEB Expense:
    a. Differences between expected and actual experience of the OPEB plan
    b. Changes in assumptions
    c. Differences between projected and actual earnings in OPEB plan investments (for funded plans only)

6. **Explicit Subsidy** – The difference between (a) the amounts required to be contributed by the retirees based on the premium rates and (b) actual cash contribution made by the employer.

7. **Funded Ratio** – The actuarial value of assets expressed as a percentage of the Total OPEB Liability.

8. **Healthcare Cost Trend Rate** – The rate of change in the per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

9. **Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group (which, because of the effect of age on claim costs, generally will be higher than the blended premium rates for all group members) and (b) the amounts required to be contributed by the retirees.

10. **OPEB** – Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided. OPEB does not include termination benefits or termination payments for sick leave.

11. **OPEB Expense** – Changes in the Net OPEB Liability in the current reporting period, which includes Service Cost, interest cost, changes of benefit terms, expected earnings on OPEB Plan investments, reduction of active employees' contributions, OPEB plan administrative expenses, and current period recognition of Deferred Outflows / (Inflows) of Resources.

12. **Pay-as-you-go** – A method of financing a benefit plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

13. **Per Capita Costs** – The current cost of providing postretirement health care benefits for one year at each age from the youngest age to the oldest age at which plan participants are expected to receive benefits under the plan.

14. **Present Value of Future Benefits** – Total projected benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of total projected benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.

15. **Real Rate of Return** – the rate of return on an investment after adjustment to eliminate inflation.

16. **Select and Ultimate Rates** – Actuarial assumptions that contemplate different rates for successive years. Instead of a single assumed rate with respect to, for example, the investment return assumption, the actuary may apply different rates for the early years of a projection and a single rate for all subsequent years. For example, if an actuary applies an assumed investment return of 8% for year 20W0, then 7.5% for 20W1, and 7% for 20W2 and thereafter, then 8% and 7.5% select rates, and 7% is the ultimate rate.

17. **Service Cost** – The portion of the Actuarial Present Value of projected benefit payments that are attributed to a valuation year by the Actuarial Cost Method.

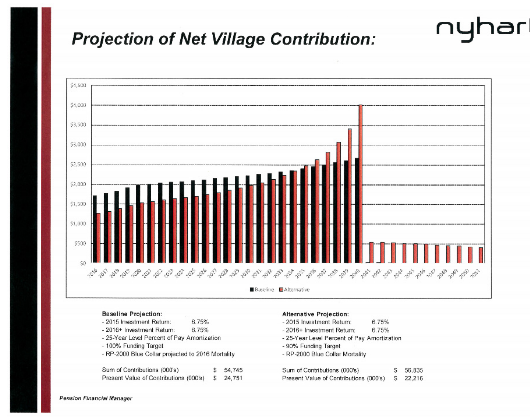
18. **Substantive Plan** – The terms of an OPEB plan as understood by the employer(s) and plan members.

19. **Total OPEB Liability** – That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Benefits which is attributed to past periods of employee service (or not provided for by the future Service Costs).

# Nyhart's Innovations

Nyhart is always looking to "Do Better. Do Different." Our focus on technology and innovation has led to many tools and services to assist plan sponsors in challenging times. Here are a few examples:

Online Data Processing Tool: Online data center for requesting, collecting and preparation of the census information. As census information is submitted, it will be immediately evaluated against a predetermined list of data checks and compared with prior data. Also used to collect other necessary documents needed for the valuation and/or administration processes.




Pension Financial Manager ("PFM"): PFM is our pension cost modeler that provides current and projected important financial information about the plan such as funded ratio, cash requirements, accounting expense and balance sheet, and PBGC premiums. PFM can model different economic variables, funding strategies, and plan termination scenarios on the fly. Knowing how important it is for plan sponsors to be focusing on the future, we've built this extremely important tool so it is a by-product of the valuation and we now include it as part of our annual valuation fee.

Pension Design Manager ("PDM"): PDM is a design-modeling tool that Nyhart created to illustrate the benefit value being delivered to current participants. It can demonstrate benefits from defined benefit, defined contribution and social security. PDM can model different proposed plan provisions on the fly to determine the impact on participants. This tool provides critical benefit information in a cost efficient manner.

Readiness Statements: Many participants are struggling to plan for retirement. To assist in this process, we have developed Readiness Statements that consolidates information in an easy to understand format to allow participants more effectively plan for retirement. The statement can consider retirement income from several sources: defined benefit plans, defined contribution plans, personal savings, and social security. Some clients utilize a dynamic online version of these statements that allows participants to model different assumptions.

Annuity Placement Services: Seeing a need in the marketplace several years for annuity placement services, we developed these services to help plan sponsors buy group annuities. Our services meet the requirements of the Department of Labor safe harbor notice, involves up to 15 insurance companies to ensure competitive bidding, and transparent fees. We do not take any commissions from the insurance companies.

**Pension Risk:** For all defined benefit plan sponsors pension risk is important to understand. By using PFM, we are able to demonstrate the types of risks (interest rates, market returns, and mortality) and their impact to plan sponsors. This is the first step in understanding what pension risk means for each plan sponsor. Nyhart can help you identify advantages of implementing pension risk strategies and long-term implications. We also have the staff and tools to help facilitate the implementation of these strategies. For example, if a plan chooses to utilize a lump sum window to reduce risk we can handle participant calculations, communications, and payment initiation.

**Pension Administration Services:** There are many ways that a pension plan can cover the administrative needs for the plan. It can be covered entirely internally, with some assistance from the actuary, or it can be completely outsourced. We have developed nyPAS, Nyhart's pension administration solution with this in mind. nyPAS can be used internally to process calculations and maintain data or used by Nyhart to provide administration services for the plan.

**Communication:** We know financial equations and charts can be rather daunting. That is one reason why we put forth the extra effort to summarize information in a way that is easier for our clients to follow. Our communication approach is not just to give the minimum necessary information but to educate our clients as we explain actuarial issues. Our communication approach and dynamic tools allow our clients to make effective decisions regarding their pension plans. We consistently hear feedback from our clients that our communication style is a key reason they love to work with us.

One example of the extra effort we put forth is the development of our management summary report. Actuarial reports tend to contain so much detail that the key results get lost in translation. At Nyhart, we avoid this issue by providing a management summary report that brings the most important information to the forefront and allows our clients to more efficiently manage their plans. Management summary reports generally include the key valuation results, cost projections, topics of interest for our clients, and retirement plan trend information.

**Votaire:** Nyhart offers proprietary financial lifecycle software called Votaire.

Financial stress lowers productivity and morale, at the same time can lead to increases in health care utilization.

Because 71% of Americans consider financial matters to be a leading cause of their stress, it is only logical for employers to deploy a life-cycle financial platform like Votaire.

## What can Votaire do for Employers?

- Offer insight about staff retirement readiness and its effect on succession planning.
- Provide an easy-to-use, actuarial-based platform for employees to utilize to help reduce their own financial stress – thus higher engagement and productivity.
- Make available a cost effective benefit to employees that they will consider a highly coveted perquisite for working at your organization.

- Employees who are highly engaged in their financial wellbeing are less likely to be sick, therefore better managing health care costs.

## How does Votaire Benefit Employees?

- Employees receive guidance related to all major financial and healthcare issues from their own virtual actuary.
- Budget tips for major financial decisions like life insurance, retirement, health savings accounts, and emergency savings.
- Stress tests for planned retirement date, including modeling zip-code level ACA/Medicare costs.
- To have a holistic overview of their economic life, including daily monitoring of retirement and non-retirement accounts.

**Votaire is revolutionizing financial wellness.**
**We help plan for your *whole* life - not just part of it.**

# Cyber and Information Security Policy

## POLICY REVIEW AND COMPLIANCE
Nyhart information security policies are reviewed at least annually and refined as necessary to keep current with modern threats and in line with updates to widely accepted security and Privacy standards, such as NIST 800-53 and HIPAA.

## HIRING VALIDATION
Nyhart follows a mandated set of employment verification requirements for all new hires. The requirements, which may be subject to change, include, but may not be limited to, criminal background checks and proof of identity validation.

## PRIVACY AND SECURITY EDUCATION
Nyhart employees are required to complete security and privacy education annually and certify that they will comply with Nyhart's data protection and security requirements, as set out in Nyhart's Internal Company Security Policy and employment agreement.

## PROTECTION OF CLIENT INFORMATION
Nyhart maintains a number of technical and policy controls to ensure that client information is protected securely, strongly adhering to the notion of Defense in Depth. Including, but not limited to: policy of least privilege, Next-generation Firewalls, IDS/IPS, Security Information and Event Monitoring, Full-suite endpoint protection, Extensive DLP capabilities and Full-Disk Encryption for any device that leaves Nyhart's network.

## ADDITIONAL 24/7 MONITORING
Nyhart also enjoys the protection of a state of the art 3rd party external monitoring service that watches Nyhart's network 24x7x365, actively mitigating all malicious activity.

## VULNERABILITY TESTING
Nyhart network and web applications undergo penetration testing and vulnerability scanning on a yearly basis. Any issues or vulnerabilities are then quickly mitigated to ensure the stability and security of our services.

## RESPONSE POLICIES
Security incidents are handled in accordance with the Nyhart incident management and response policies, taking into account data breach notification requirements under applicable law.

## INCIDENT RESPONSE TEAM
The Nyhart Incident Response team coordinates with our 3rd party monitoring service to investigate suspected incidents, and if warranted, define and execute the appropriate response plan. Upon determining that a security incident has occurred, Nyhart will promptly notify affected clients as appropriate.

## DISASTER RECOVERY
Nyhart employs a comprehensive Disaster Recovery scheme. Backups are performed at minimum of every 6 hours, to a fully redundant off-site data center. Long term storage is also maintained for a minimum of 1 year. Full disaster recovery tests are completed once a year and partial tests are completed multiple times throughout the year, to ensure capabilities work as intended.

votaire

Holistic | Financial | Planning

# John's

## Financial Plan

September 20, 2017


# Summary

John,

Welcome to your personalized financial plan.  Votaire has created this plan to help you reach your goals, whatever they may be.

Votaire considers many factors in creating your custom plan, including your *personalized:*

- Retirement Goals
- Longevity
- Healthcare Costs
- Investments, and
- Expenses

Our projections are based on the inputs you provided on the Votaire platform.
Please consult the Actuarial Disclaimer to learn more about our methodology.

*Your inputs:*

| | John |
|---|---|
| Retirement Age | 65 |
| Retirement Year | 2032 |
| Current Income | $75,000 |
| Current Savings | $383,241 |
| Contribution Percentage | 7.5% |

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# To-Do List

Financial planning can be an intimidating process. Many people fail to even get started on their plan. Using Votaire puts you ahead of the crowd. Now that you see the real numbers, the next step is to accomplish the below To-Do's.

- ☐ Save $12,100 more in your Emergency Fund
- ☐ Get a 15 year term policy with a face value of $15,000
- ☐ Get a Will


# Income and Expenses at Retirement

### *Income*

The information below represents your projected income and expenses in year one of retirement. Votaire has created a sustainable annual savings withdrawal based on our projections. This withdrawal amount takes into account all sources of income, including Social Security. See p.5 for more on your sustainable income stream.

| Projected Income at Retirement | Amount |
|---|---|
| Savings Withdrawal | $29,600 |
| Social Security | $41,600 |
| TOTAL | $71,200 |

| Projected Expenses at Retirement | Amount |
|---|---|
| Medicare Part B Premium | $3,900 |
| Medicare Part D Premium | $1,200 |
| Out-of-Pocket Drug Costs | $2,000 |
| Medicare Supplement Plan Premium | $3,400 |
| Dental Premium | $1,300 |
| Long-Term Care Premium | $3,200 |
| Vacation Goal | $2,800 |
| Federal Taxes | $2,600 |
| State Taxes | $900 |
| Personal Expenses | $39,900 |
| TOTAL | $61,200 |

### *Expenses*

Votaire's expense projections are meant to indicate what you will spend in retirement. Healthcare costs vary widely based on geography. For that reason, we project what healthcare will cost in your zip code in the years it will be incurred. Similarly, we consider your non-healthcare expenses only during the time period in which they are due. For example, if you indicated that your mortgage will be paid off in retirement, we will assume zero for mortgage costs in retirement. All of our expense projections include projected inflation. Healthcare inflation is calculated at a higher rate.


# Current Budget

### *Budget*

The table below is your detailed budget. Please review the information and ensure it is accurate and up to date.

| Expense | Payment Amount | Interest Rate | Years Remaining | Months Remaining | Monthly Amount |
|---|---|---|---|---|---|
| Home Mortgage | $1,100 | 4.5 | 12 | 0 | $1,100 |
| Car | $425 | 4.25 | 3 | 0 | $425 |
| Credit | $250 | 4 | 2 | 2 | $250 |

*Debt Total* $1,775

| Expense | Payment Amount | Frequency | Monthly Amount |
|---|---|---|---|
| Essentials | $1,250 | Monthly | $1,250 |
| Insurance | $250 | Monthly | $250 |
| Choices | $750 | Monthly | $750 |
| Other | $600 | Monthly | $600 |

*Other Expense Total* $2,850

### *Debt-to-Income Ratio*

Your monthly debt obligations are $1,775. Your current monthly income is $6,250. This means your current debt to income (DTI) ratio is 28%. Lending institutions look for a DTI ratio below 36% to qualify for most loans. A higher ratio could put you at risk of paying higher interest rates.

*Monthly Income : $6,250*
*Monthly Spending : -$4,625*

*Monthly Savings : $1,625*


# Sustainable Income

You are retiring with a pot of money that must last your lifetime. It is difficult to decide how much you should withdraw when you don't know how long you will live, what your healthcare expenses will be, whether your children will return home or if you will need long-term care. In addition, you may want to go on vacations, leave money behind or achieve other goals.

Votaire's goal is to create a predictable income stream during retirement that accounts for these variables and covers your expense needs and at the same time reduces your chances of outliving your money.

Below are projected numbers for your first 10 years of retirement.

| Year | Beginning of Year Balance | Sustainable Income Withdrawal | End of Year Balance |
|---|---|---|---|
| 2032 | $1,083,600 | $29,600 | $1,085,200 |
| 2033 | $1,085,200 | $30,300 | $1,086,100 |
| 2034 | $1,086,100 | $31,100 | $1,086,200 |
| 2035 | $1,086,200 | $32,100 | $1,085,400 |
| 2036 | $1,085,400 | $33,100 | $1,083,500 |
| 2037 | $1,083,500 | $34,100 | $1,080,400 |
| 2038 | $1,080,400 | $35,300 | $1,076,100 |
| 2039 | $1,076,100 | $36,500 | $1,070,300 |
| 2040 | $1,070,300 | $37,800 | $1,063,100 |
| 2041 | $1,063,100 | $39,200 | $1,054,200 |


# Healthcare Costs

One of the most significant and difficult to predict costs is healthcare. Votaire attempts to show the effect of the changing cost of healthcare during your retirement years.

*Prior to age 65*

If you retire prior to age 65 and you don't have employer-sponsored retiree healthcare you will get insurance from the Affordable Care Act's (ACA) exchanges. Our healthcare projections for this period come from the second cheapest silver plan available in the zip code you provided. The ACA makes subsidies available based on income. Our projections are net of these subsidies. In other words, if your premium is $10,000, but you'll receive a $2,000 subsidy, we show your premium as $8,000.

*After age 65*

Throughout your career, you paid Medicare taxes to fund Medicare. Medicare is composed of Part A, Part B and Part D (which covers prescriptions). There are also what are called Medicare Supplement Plans, meant to cover the coverage gaps left open by Medicare. Usually, your retirement healthcare costs at age 65 are cheaper than before age 65 when you aren't yet eligible for Medicare.

*Long-Term Care Cost*

70% of 65 year olds will need some form of long-term care in their lifetime. This care can be very expensive and is not covered by Medicare, so preparing is vital. You've chosen to model a Long-Term Care policy, and your premium is displayed below.

Your total healthcare cost in the first year of retirement is $15,000. See details below.

| Healthcare Costs at Retirement | John |
|---|---|
| Medicare Part B Premium | $3,900 |
| Medicare Part D Premium | $1,200 |
| Out-of-Pocket Drug Costs | $2,000 |
| Medicare Supplement Plan | $3,400 |
| Dental Premium | $1,300 |
| Long-Term Care Premium | $3,200 |


# Credit Score

Your credit score is an important factor in whether you will be approved for a mortgage, car loan, credit card or any type of loan.  If your credit score indicates you may not pay back your borrowed money, lenders are more likely to deny your applications or charge you high interest rates or fees.

Your Experian credit score is 640.  The average person your age has a credit score of 646.  See below for some tips to raise your score.

Here are some simple and effective ways to improve your credit score:

- Pay your bills on time
- Keep balances low on credit cards
- Only open new credit accounts as needed
- Pay off debt rather than moving it around


# Protect Your Family

Safeguarding your family for times of distress is an important step in creating a sound plan. These are tools and assets we all hope we never need, but can ease the burden in what are already high stress situations.

## *Emergency Fund*

This is money set-aside to cover unexpected emergencies like job losses or major expenses. Based on your current emergency fund information we recommend saving an additional $12,100. This will allow you to cover most emergencies. If you save $275 per month it will take you 44 months.

## *Life Insurance*

Going without life insurance is usually a bad idea. If you were to die without it, your family would struggle to cover your lost income and things like your debt, funeral expenses and estate taxes. Based on your current life insurance coverage you should consider adding a 15 year term policy with a face value of $15,000. This will adequately cover your life insurance needs.

## *Estate Plan*

If you die without a will, you'll have little control over who becomes guardian of your children or who gets your property.

It appears you still need a will. We will make sure that is on your To-Do List.


# Retirement Goals

You indicated you have the goals listed below.

Our income projections account for these goals.  If you'd like to improve your forecast without reducing these goals, consider working longer, cutting your current expenses or increasing your current savings.

| Goal | Year(s) | Cost |
|---|---|---|
| Vacation | Every Year of Retirement | $2,000 |
| Leave Money Behind | End of Retirement | $50,000 |