**Employee Pension Board of Trustees**
**Pension Board Meeting Agenda**
**April 17, 2018**
**5:30 PM**
**Administrative Conference Room**
**City of Creve Coeur**
**300 N. New Ballas Road**

**Call to Order**

**Approve Agenda**

**Approve Minutes**

**Approval of January 25, 2018 Employee Pension Board of Trustees Pension Board Meeting Minutes**

**Reports**

**New Business**

***Assumptions***

**Actuarial Assumptions**

**FY18 Creve Coeur Assumptions**

**Old Business**

**LAGERS Update**

**Retirements Since Last Meeting**

**Information-Invoices Paid**

**Invoices paid since last meeting**

**Adjournment**

# Employee Pension Board of Trustees
# Pension Board Meeting Minutes
# January 25, 2018
# 5:30 PM
# Administrative Conference Room
# City of Creve Coeur
# 300 N. New Ballas Road

## Call Meeting to Order

Chairman Sullivan called the meeting to order at 5:30 p.m.

Members Present: Kelly Sullivan, David Caldwell, Larry Potashnick, Mike Karasick (arrived 5:45), Steve Unser, John McIntosh (arrived 5:55), Ellen Lawrence, Council Liaison

Also Present: John Bascio, Commerce Bank, Doug Koester, Commerce Bank, John Hefle, Fiduciary Advisors, Todd Grizzle, Fiduciary Advisors, Debbie Loso, Finance Manager

## Commerce Bank Presentation

Mr. Koester presented to the Board. The portfolio is 2.23% in Cash Equivalents and 97.77% is in Fixed Income Investments. There was a short discussion.

## Fiduciary Advisors Presentation

Mr. Grizzle presented to the Board. Asset allocation is 66% in Equities, 29% in Money Market/Fixed Income and 5% in Alternatives.Mr. Karasick commented when you have an advisor there should be a meeting annually in which asset allocation is discussed. The advisor would bring the current portfolio and a target portfolio which shows were the advisor thinks the board should be. The board would not have to accept the proposal but a review on an annual basis is a good idea.

## Meeting Minutes

Kelly Sullivan asked if there were any comments or changes to the meeting minutes of October 17, 2017. With no changes, Ms Lawrence motioned to approve the minutes of October 17, 2017 seconded by Mr. Potashnick, all in favor, motion passed.

## Lagers Update

The finance director was not present to discuss and the Board had no new discussion items. It was requested that LAGERS be on the agenda for the next meeting

## Proposed Meeting Schedule

No discussion.

## Retirements

Informational only - The Board was provided information regarding retirement since the last meeting on October 17, 2017.

## Invoices Paid

Informational only - The Board was provided copies of invoices paid since the last meeting on October 17, 2017.

# Employee Pension Board of Trustees
# Pension Board Meeting Minutes
# January 25, 2018
# 5:30 PM
# Administrative Conference Room
# City of Creve Coeur
# 300 N. New Ballas Road

## Comments

It was requested that actuarial assumptions be on the agenda for the next meeting.

Mr. Karasick inquired if he needed to give his training certificate to anyone. Mr. McIntosh told him it should be turned into Sherry in the finance department as she tracks that information.

## Adjournment

Ms. Lawrence motioned to adjourn the meeting. Mr. Potashnick seconded the motion, all present voted aye. Meeting adjourned at 7:00 p.m.

Lori Obermoeller <lobermoeller@crevecoeurmo.gov>

# RE: Pension Questions

1 message

**Ludbrook, Wendy** <Wendy.Ludbrook@conduent.com> Thu, Feb 8, 2018 at 10:28 AM
To: Lori Obermoeller <lobermoeller@crevecoeurmo.gov>

Hi Lori,

In regard to your questions below:

*Interest rate:* I have attached the most recent NASRA brief on the trend in interest rate assumptions for public plans. Figures 4 and 5 give a good picture of the rates being used across a range of plans with the median rate being 7.5%. Note that the Creve Coeur plan is a closed plan (not open to new entrants). A valuation rate for a closed plan is likely to be lower than one for an open plan for several reasons including the fact that the portfolio structure of a closed plan may differ from that of an open plan as more liquid assets may be desired to ensure the availability of cash. As we discussed at the November board meeting, the plan's current 7% rate is below the median rate in the NASRA brief and reasonable, but lowering the rate to 6.75% or 6.50% would not be out of bounds given the plan's closed status.

*Asset smoothing:* the main purpose of asset smoothing is to dampen the effect of short term market volatility and help produce a more stable stream of contributions. All market experience, good or bad, will ultimately be fully recognized in the assets. Varying the length of the smoothing period and/or putting a corridor around how much the smoothed value can differ from the market value should be set to meet the plan's goals as to how quickly and smoothly to recognize market experience that differs from expectations. In general, a 5 year (or shorter) smoothing period is seen as acceptable practice. Your current method is consistent with all of the guidance in the various published "white papers", actuarial standards of practice, etc. and fully recognizes the actual investment results in the assets over a short timeframe. If you would like us to study a few different alternatives to your current method and their impact on the plan there would be a charge involved.

Please let me know if you would like to discuss.

**Thanks,**

**Wendy Ludbrook FSA, EA, MAAA**

Sr. Consultant, Wealth Consulting

Conduent Human Resource Services

**CONDUENT**

231 S. Bemiston, Suite 400

St. Louis, MO 63105

p 314.719.2509

Communication: Actuarial Assumptions (Assumptions)

e wendy.ludbrook@conduent.com

*Please note my new email:* ***wendy.ludbrook@conduent.com***.

*Conduent is the world's largest provider of diversified business process services with leading capabilities in transaction processing, automation, analytics and constituent experience. We work with both government and commercial customers in assisting them to deliver quality services to the people they serve.*

**From:** Lori Obermoeller [mailto:lobermoeller@crevecoeurmo.gov]
**Sent:** Tuesday, February 06, 2018 8:25 AM
**To:** Ludbrook, Wendy
**Subject:** Pension Questions

Wendy,

The Pension Committee was wondering if they could get answers to the following:

I would like the actuary to present alternative smoothing methods that are commonly used.

Thoughts on the interest rate used? Is it too high or too low, what is the average other entities or governments are using? Because the plan is closed, should the rate be different than what it is?

As you can see, the committee is trying to evaluate the current assumptions that are being used and wanting some guidance on the best way to move forward. Are these questions that can be answered easily or would there be a charge to answer the questions? Please let me know and I will pass on to the Committee. Thanks.

Lori Obermoeller

Director of Finance

City of Creve Coeur

300 N. New Ballas Road

Creve Coeur, MO 63141

314-872-2519 (office)

Communication: Actuarial Assumptions (Assumptions)

# NASRA Issue Brief:
# Public Pension Plan Investment Return Assumptions

**Updated February 2017**

**As of September 30, 2016, state and local government retirement systems held assets of $3.82 trillion.[1] These assets are held in trust and invested to pre-fund the cost of pension benefits. The investment return on these assets matters, as investment earnings account for a majority of public pension financing. A shortfall in long-term expected investment earnings must be made up by higher contributions or reduced benefits.**

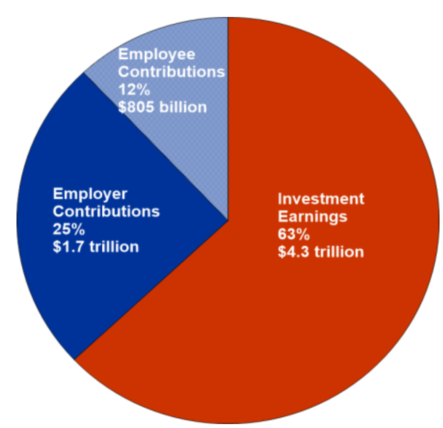
**Funding a pension benefit requires the use of projections, known as actuarial assumptions, about future events. Actuarial assumptions fall into one of two broad categories: demographic and economic. Demographic assumptions are those pertaining to a pension plan's membership, such as changes in the number of working and retired plan participants; when participants will retire, and how long they'll live after they retire. Economic assumptions pertain to such factors as the rate of wage growth and the future expected investment return on the fund's assets.**

**As with other actuarial assumptions, projecting public pension fund investment returns requires a focus on the long-term. This brief discusses how investment return assumptions are established and evaluated, compares these assumptions with public funds' actual investment experience, and the challenging investment environment public retirement systems currently face.**

Because investment earnings account for a majority of revenue for a typical public pension fund, the accuracy of the return assumption has a major effect on a plan's finances and actuarial funding level. An investment return assumption that is set too low will overstate liabilities and costs, causing current taxpayers to be overcharged and future taxpayers to be undercharged. A rate set too high will understate liabilities, undercharging current taxpayers, at the expense of future taxpayers. An assumption that is significantly wrong in either direction will cause a misallocation of resources and unfairly distribute costs among generations of taxpayers.

As shown in Figure 1, since 1986, public pension funds have accrued approximately $6.8 trillion in revenue, of which $4.3 trillion, or 63 percent, is from investment earnings. Employer contributions account for $1.7 trillion, or one-fourth of the total, and employee contributions total $805 billion, or 12 percent.[2]

Figure 1: Public Pension Sources of Revenue, 1986-2015




*Source:* Compiled by NASRA based on U.S. Census Bureau

Communication: Actuarial Assumptions (Assumptions)

[1] Federal Reserve, *Flow of Funds Accounts of the United States: Flows and Outstandings, Third Quarter 2016*, Table L.120
[2] US Census Bureau, Annual Survey of Public Pensions, State & Local Data

Most public retirement systems review their actuarial assumptions regularly, pursuant to state or local statute or system policy. The entity responsible for setting the return assumption, as identified in Appendix B, typically works with one or more professional actuaries, who follow guidelines set forth by the Actuarial Standards Board in Actuarial Standards of Practice No. 27 (Selection of Economic Assumptions for Measuring Pension Obligations) (ASOP 27), which prescribes the factors actuaries should consider in setting economic actuarial assumptions. ASOP 27 recommends that actuaries consider the context of the measurement they are making, as defined by such factors as the purpose of the measurement, the length of time the measurement period is intended to cover, and the projected pattern of the plan's cash flows.

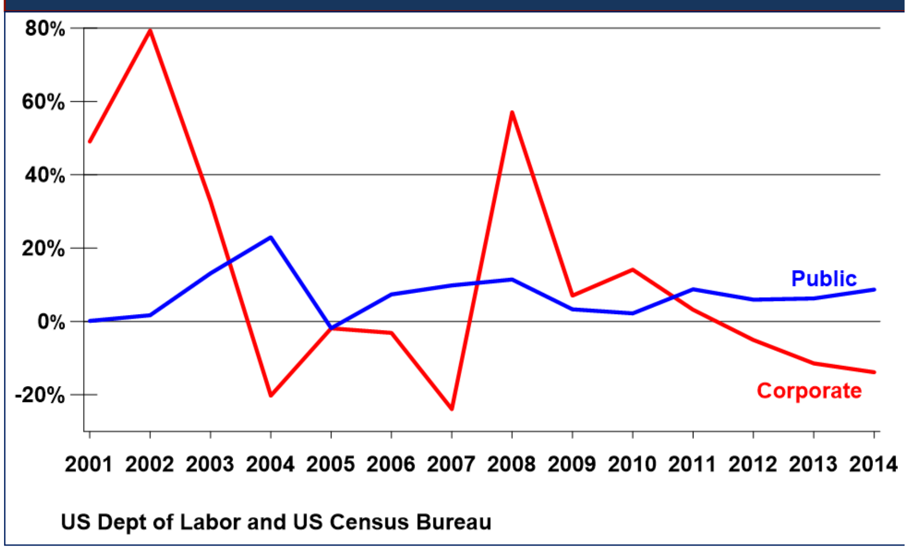
ASOP 27 also advises that actuarial assumptions be reasonable, defined in subsection 3.6 as being consistent with five specified characteristics; and requires that actuaries consider relevant data, such as current and projected interest rates and rates of inflation; historic and projected returns for individual asset classes; and historic returns of the fund itself. For plans that remain open to new members, actuaries focus chiefly on a long investment horizon, i.e., 20 to 30 years, as this is the length of a typical public pension plan's funding period. One key purpose for relying on a long timeframe is to promote the key policy objectives of cost stability and predictability, and intergenerational equity among taxpayers.

The investment return assumption used by public pension plans typically contains two components: inflation and the real rate of return. The sum of these components is the nominal return rate, which is the rate that is most often used and cited. The system's inflation assumption typically is applied also to other actuarial assumptions, such as the level of wage growth and, where relevant, assumed rates of cost-of-living adjustments (COLAs). Achieving an investment return approximately commensurate with the inflation rate normally is attainable by investing in securities, such as US Treasury bonds, that are considered to be risk-free, i.e., that pay a guaranteed rate of return.

The second component of the investment return assumption is the real rate of return, which is the return on investment after adjusting for inflation. The real rate of return is intended to reflect the return produced as a result of the risk taken by investing the assets. Achieving a return higher than the risk-free rate requires taking some investment risk; for public pension funds, this risk takes the form of investments in assets such as public and private equities and real estate, which contain more risk than Treasury bonds.

Unlike public pension plans, corporate plans are required by federal regulations to make contributions on the basis of current interest rates. As Figure 2 shows, this funding method results in plan costs that can be volatile and uncertain, often changing dramatically from one year to the next. This volatility is due partly to fluctuations in interest rates and has been identified as a leading factor in the decision among corporations to abandon their pension plans. By contrast, by focusing on the long-term and relying on a stable investment return assumption, public plans experience less contribution volatility.

Figure 2: Annual change in contributions from prior year, corporate vs. public pensions




Communication: Actuarial Assumptions (Assumptions)

Figure 3: Median public pension annualized investment returns for period ended 12/31/2016

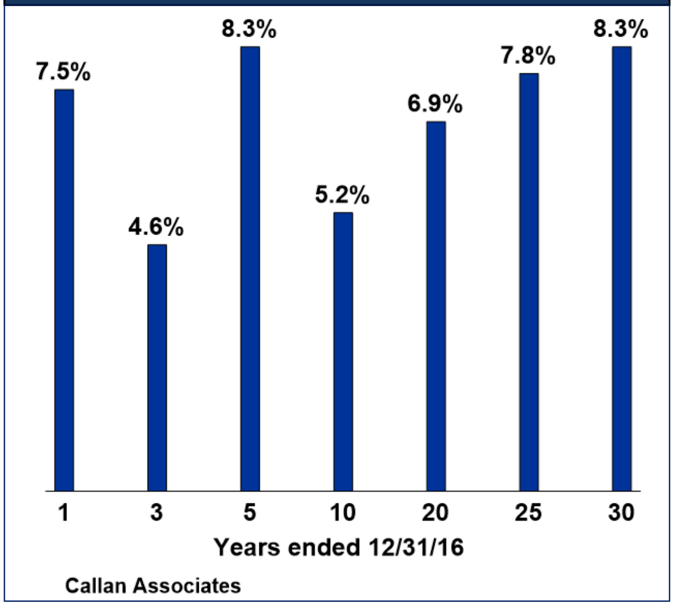
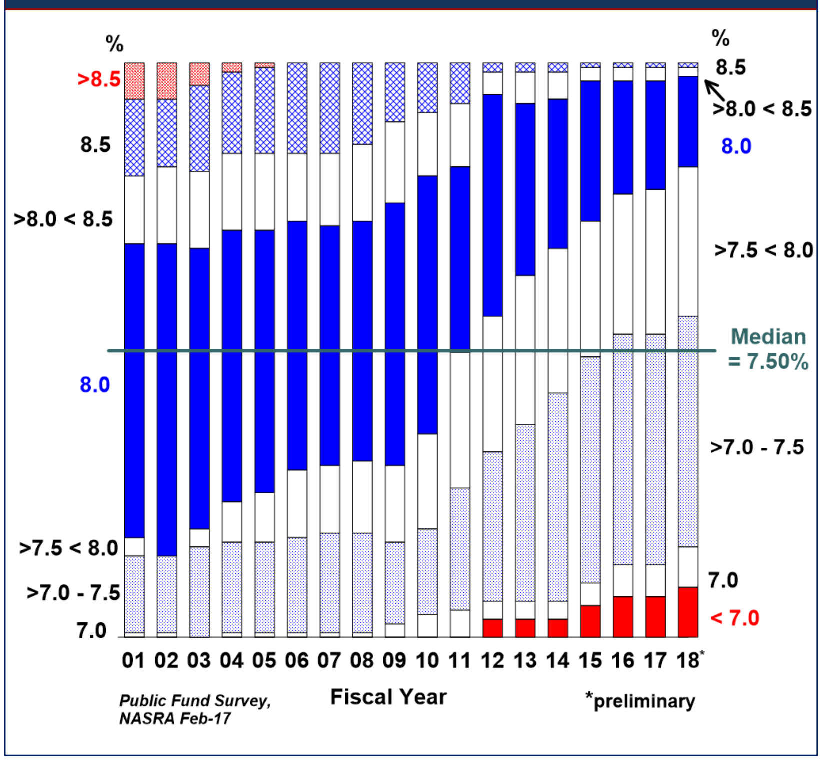



Figure 3 plots median public pension fund annualized investment returns for a range of periods ended December 31, 2016. As the higher investment returns achieved in the 1980s and the 1990s are replaced by lower returns in more recent years, average annualized returns for longer periods, such as 20 and 25 years, have begun to decline gradually. The steep market declines of 2000-02 and 2008-09 have imposed a particularly negative effect for measurement periods that incorporate those events.

In the wake of the 2008-09 decline in capital markets, and Great Recession, global interest rates and inflation have remained low by historic standards, due partly to so-called quantitative easing of central banks in many industrialized economies, including the U.S. Now in their eighth year, these low interest rates, along with low rates of projected global economic growth, have led to reductions in projected returns for most asset classes, which, in turn, have resulted in an unprecedented number of reductions in the investment return assumption used by public pension plans. This trend is illustrated by Figure 4, which plots the distribution of investment return assumptions among a representative group of plans since 2001. Among the 127 plans measured, nearly three-fourths have reduced their investment return assumption since fiscal year 2010, resulting in a decline in the average return assumption from 7.91 percent to 7.52 percent. If projected returns continue to decline, investment return assumptions are likely to also to continue their downward trend. Appendix A lists the assumptions in use or adopted for future use by the 127 plans in this dataset.

Figure 4: Change in Distribution of Public Pension Investment Return Assumptions, FY 01 to FY 18




One challenging facet of setting the investment return assumption that has emerged more recently is a divergence between expected returns over the near term, i.e., the next five to 10 years, and over the longer term, i.e., 20 to 30 years[3]. A growing number of investment return projections are concluding that near-term returns will be materially lower than both historic norms as well as projected returns over longer timeframes. Because many near-term projections calculated recently are well below the long-term assumption most plans are using, some plans face the difficult choice of either maintaining a return assumption that is higher than near-term expectations, or lowering their return assumption to reflect near-term expectations.

[3] Horizon Actuarial Services, "Survey of Capital Market Assumptions, 2016 Edition (July 2016) p4

If near-term rates indeed prove to be lower than historic norms, plans that maintain their long-term return assumption are likely to experience a steady increase in unfunded pension liabilities and corresponding costs. Alternatively, plans that reduce their assumption in the face of diminished near-term projections will experience an immediate increase unfunded liabilities and required costs. As a rule of thumb, a 25 basis point reduction in the return assumption, such as from 8.0 percent to 7.75 percent, will increase the cost of a plan that has a COLA, by three percent of pay (such as from 10 percent to 13 percent), and a plan that does not have a COLA, by two percent of pay.

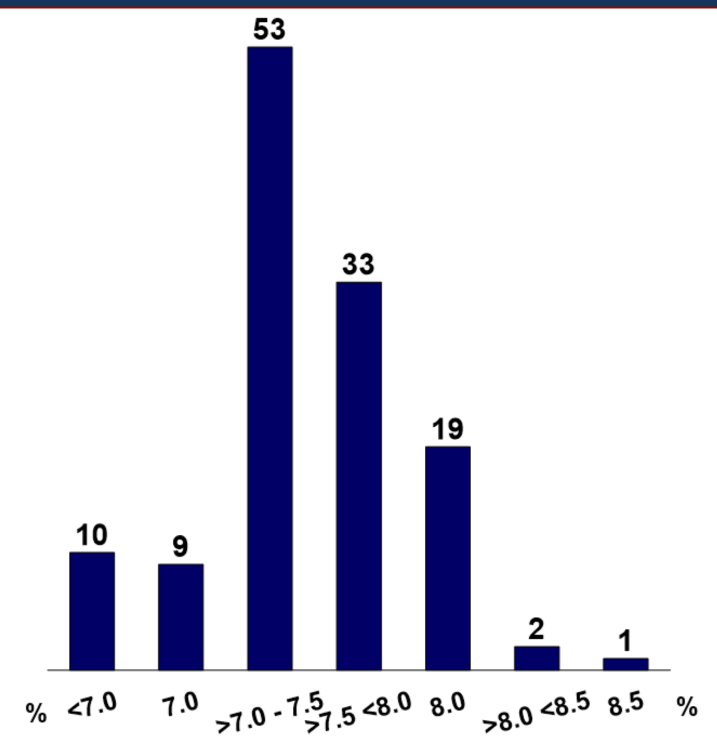
## Conclusion

The investment return assumption is the single most consequential of all actuarial assumptions in terms of its effect on a pension plan's finances. The sustained period of low interest rates since 2009 has caused many public pension plans to re-evaluate their long-term expected investment returns, leading to an uprecedented number of reductions in plan investment return assumptions. Absent other changes, a lower investment return assumption increases both the plan's unfunded liabilities and cost. The process for evaluating a pension plan's investment return assumption should include abundant input and feedback from professional experts and actuaries, and should reflect consideration of the factors prescribed in actuarial standards of practice.

### See Also:

- Actuarial Standards of Practice No. 27, Actuarial Standards Board
- The Liability Side of the Equation Revisited, Missouri SERS, September 2006

Figure 5: Distribution of investment return assumptions




### Contact:

Keith Brainard, Research Director, keith@nasra.org

Alex Brown, Research Manager, alex@nasra.org

National Association of State Retirement Administrators

# Appendix A: Investment Return Assumption by Plan

(Figures reflect the nominal assumption in use, or announced for use, as of February 2017)

| Plan | Rate (%) |
|---|---|
| Alabama ERS[1] | 7.875 |
| Alabama Teachers[1] | 7.875 |
| Alaska PERS | 8.0 |
| Alaska Teachers | 8.0 |
| Arizona Public Safety Personnel | 7.40 |
| Arizona SRS | 8.0 |
| Arkansas PERS | 7.5 |
| Arkansas Teachers | 8.0 |
| California PERF[2] | 7.375 |
| California Teachers[3] | 7.250 |
| Chicago Teachers | 7.750 |
| City of Austin ERS | 7.50 |
| Colorado Affiliated Local | 7.50 |
| Colorado Fire & Police Statewide | 7.50 |
| Colorado Municipal | 7.25 |
| Colorado School | 7.25 |
| Colorado State | 7.25 |
| Connecticut SERS | 6.9 |
| Connecticut Teachers | 8.0 |
| Contra Costa County | 7.25 |
| DC Police & Fire | 6.5 |
| DC Teachers | 6.5 |
| Delaware State Employees | 7.2 |
| Denver Employees | 7.75 |
| Denver Public Schools | 7.25 |
| Duluth Teachers | 8.0 |
| Fairfax County Schools | 7.5 |
| Florida RS | 7.6 |
| Georgia ERS | 7.5 |
| Georgia Teachers | 7.5 |
| Hawaii ERS | 7.0 |
| Houston Firefighters[4] | 8.5 |
| Idaho PERS | 7.0 |
| Illinois Municipal | 7.50 |
| Illinois SERS | 7.25 |
| Illinois Teachers | 7.0 |
| Illinois Universities | 7.25 |
| Indiana PERF | 6.75 |
| Indiana Teachers | 6.75 |
| Iowa PERS | 7.50 |
| Kansas PERS | 7.75 |
| Kentucky County | 7.50 |
| Kentucky ERS[5] | 6.75 |
| Kentucky Teachers | 7.50 |
| LA County ERS | 7.50 |
| Louisiana Parochial Employees | 7.0 |
| Louisiana SERS[5] | 7.70 |
| Louisiana Teachers[6] | 7.70 |
| Maine Local | 6.875 |
| Maine State and Teacher | 6.875 |
| Maryland PERS | 7.55 |
| Maryland Teachers | 7.55 |
| Massachusetts SERS | 7.50 |
| Massachusetts Teachers | 7.50 |
| Michigan Municipal | 7.75 |
| Michigan Public Schools | 8.0 |
| Michigan SERS | 8.0 |
| Minnesota PERF | 8.0 |
| Minnesota State Employees | 8.0 |
| Minnesota Teachers[7] | 8.40 |
| Mississippi PERS | 7.75 |
| Missouri DOT and Highway Patrol | 7.75 |
| Missouri Local | 7.25 |
| Missouri PEERS | 7.75 |
| Missouri State Employees | 7.65 |
| Missouri Teachers | 7.75 |
| Montana PERS | 7.75 |
| Montana Teachers | 7.75 |
| Nebraska Schools | 7.5 |
| Nevada Police Officer and Firefighter | 8.0 |
| Nevada Regular Employees | 8.0 |
| New Hampshire Retirement System | 7.25 |
| New Jersey PERS | 7.90 |
| New Jersey Police & Fire | 7.90 |
| New Jersey Teachers | 7.90 |
| New Mexico PERA | 7.25 |
| New Mexico Teachers | 7.75 |
| New York City ERS | 7.0 |
| New York City Teachers | 7.0 |
| New York State Teachers | 7.50 |
| North Carolina Local Government | 7.25 |
| North Carolina Teachers and State Employees | 7.25 |
| North Dakota PERS | 8.0 |
| North Dakota Teachers | 7.75 |
| NY State & Local ERS | 7.0 |
| NY State & Local Police & Fire | 7.0 |

Communication: Actuarial Assumptions (Assumptions)

| | |
|---|---|
| Ohio PERS | 7.50 |
| Ohio Police & Fire | 8.25 |
| Ohio School Employees | 7.50 |
| Ohio Teachers | 7.75 |
| Oklahoma PERS | 7.25 |
| Oklahoma Teachers | 7.50 |
| Oregon PERS | 7.50 |
| Pennsylvania School Employees | 7.25 |
| Pennsylvania State ERS | 7.50 |
| Phoenix ERS | 7.50 |
| Rhode Island ERS | 7.50 |
| Rhode Island Municipal | 7.50 |
| San Diego County | 7.50 |
| San Francisco City & County | 7.46 |
| South Carolina Police | 7.50 |
| South Carolina RS | 7.50 |
| South Dakota PERS | 6.50 |
| St. Louis School Employees | 8.0 |
| St. Paul Teachers | 8.0 |
| Texas County & District | 8.0 |
| Texas ERS | 8.0 |
| Texas LECOS | 8.0 |
| Texas Municipal | 6.75 |
| Texas Teachers | 8.0 |
| TN Political Subdivisions | 7.50 |
| TN State and Teachers | 7.50 |
| Utah Noncontributory | 7.20 |
| Vermont State Employees | 7.95 |
| Vermont Teachers | 7.90 |
| Virginia Retirement System | 7.00 |
| Washington LEOFF Plan 1[8] | 7.70 |
| Washington LEOFF Plan 2 | 7.50 |
| Washington PERS 1[8] | 7.70 |
| Washington PERS 2/3[8] | 7.70 |
| Washington School Employees Plan 2/3[8] | 7.70 |
| Washington Teachers Plan 1[8] | 7.70 |
| Washington Teachers Plan 2/3[8] | 7.70 |
| West Virginia PERS | 7.50 |
| West Virginia Teachers | 7.50 |
| Wisconsin Retirement System | 7.20 |
| Wyoming Public Employees | 7.75 |

1. The Retirement Systems of Alabama is reducing its plans' return assumptions from 8.0 percent to 7.75 percent over a two-year period.

2. CalPERS is reducing its investment return assumption from 7.50 percent to 7.0 percent over three years. In February 2017 the CalPERS Board adopted a risk mitigation policy, effective beginning FY 2021, that calls for a reduction in the system's investment return assumption commensurate with the pension fund achieving a specified level of investment return. Details are available online: https://www.calpers.ca.gov/docs/board-agendas/201702/financeadmin/item-9a-02.pdf.

3. CalSTRS is reducing its investment return assumption from 7.50 percent to 7.0 percent over two years.

4. A proposal to reform pension plans sponsored by the City of Houston includes a reduction to the investment return assumption of the Houston Firefighters plan from its current level of 8.5 percent to 7.0 percent. This lower rate is pending approval of other elements of this proposal by the Texas Legislature during its 2017 Regular Session.

5. The Kentucky ERS is composed of two plans: Hazardous and Non-Hazardous. The rate shown applies to the plan's Non-Hazardous plan, which accounts for more than 90 percent of the Kentucky ERS plan liabilities. The investment return assumption used for the Hazardous plan is 7.50 percent.

6. The Louisiana State Employees' Retirement System and Teachers' Retirement System are reducing their investment return assumption from 7.75 percent to 7.50 percent by 2021 in annual increments of 0.05 percent.

7. Legislation approved by the Minnesota Legislature in 2016 would have reduced the return assumption of the Teachers' Retirement Association to 8.0 percent, but was vetoed by the governor for reasons extraneous to the assumption.

8. For all Washington State plans except LEOFF Plan 2, the assumed rate of return is being reduced gradually, from 8.0 percent to 7.50 percent, over a 10-year period.

# Appendix B: Entity Responsible for Setting Investment Return Assumption for Selected State Plans

| State | System | Investment Return Assumption Set By |
|---|---|---|
| AK | Alaska Public Employees Retirement System | Alaska Retirement Management Board |
| AK | Alaska Teachers Retirement System | Alaska Retirement Management Board |
| AL | Retirement Systems of Alabama | Retirement board |
| AR | Arkansas Public Employees Retirement System | Retirement board |
| AR | Arkansas Teachers Retirement System | Retirement board |
| AZ | Arizona Public Safety Personnel Retirement System | Retirement board |
| AZ | Arizona State Retirement System | Retirement board |
| CA | California Public Employees Retirement System | Retirement board |
| CA | California State Teachers Retirement System | Retirement board |
| CO | Colorado Public Employees Retirement Association | Retirement board |
| CO | Fire & Police Pension Association of Colorado | Retirement board |
| CT | Connecticut State Employees Retirement System | State Employees Retirement Commission |
| CT | Connecticut Teachers Retirement Board | Retirement board |
| DC | District of Columbia Retirement Board | Retirement board |
| DE | Delaware Public Employees Retirement System | Retirement board |
| FL | Florida Retirement System | FRS Actuarial Assumption Estimating Conference[1] |
| GA | Georgia Employees Retirement System | Retirement board |
| GA | Georgia Teachers Retirement System | Retirement board |
| HI | Hawaii Employees Retirement System | Retirement board |
| IA | Iowa Public Employees Retirement System | IPERS Investment Board |
| ID | Idaho Public Employees Retirement System | Retirement board |
| IL | Illinois State Universities Retirement System | Retirement board |
| IL | Illinois State Employees Retirement System | Retirement board |
| IL | Illinois Municipal Retirement Fund | Retirement board |
| IL | Illinois Teachers Retirement System | Retirement board |
| IN | Indiana Public Retirement System | Retirement board |
| KS | Kansas Public Employees Retirement System | Retirement board |
| KY | Kentucky Retirement Systems | Retirement board |
| KY | Kentucky Teachers Retirement System | Retirement board |
| LA | Louisiana State Employees Retirement System | Retirement board |
| LA | Louisiana Parochial Employees’ Retirement System | Retirement board |
| LA | Louisiana Teachers Retirement System | Retirement board |
| MA | Massachusetts State Employees Retirement System | Collaborative between the legislature, state treasurer, governor, and the Massachusetts Public Employee Retirement Administration Commission |
| MA | Massachusetts Teachers Retirement Board | Collaborative between the legislature, state treasurer, governor, and the Massachusetts Public Employee Retirement Administration Commission |
| MD | Maryland State Retirement and Pension System | Retirement board |
| ME | Maine Public Employees Retirement System | Retirement board |
| MI | Michigan Public School Employees Retirement System | Retirement board |
| MI | Michigan State Employees Retirement System | Retirement board |
| MI | Municipal Employees' Retirement System of Michigan | Retirement board |
| MN | Minnesota Public Employees Retirement Association | Legislature |
| MN | Minnesota State Retirement System | Legislature |
| MN | Minnesota Teachers Retirement Association | Legislature |
| MO | Missouri Local Government Employees Retirement System | Retirement board |

| | | |
|---|---|---|
| MO | Missouri Public Schools Retirement System | Retirement board |
| MO | Missouri State Employees Retirement System | Retirement board |
| MO | MoDOT & Patrol Employees' Retirement System | Retirement board |
| MS | Mississippi Public Employees Retirement System | Retirement board |
| MT | Montana Public Employees Retirement Board | Retirement board |
| MT | Montana Teachers Retirement System | Retirement board |
| NC | North Carolina Retirement Systems | Retirement board |
| ND | North Dakota Public Employees Retirement System | Retirement board |
| ND | North Dakota Teachers Fund for Retirement | Retirement board |
| NE | Nebraska Public Employees Retirement System | Retirement board |
| NH | New Hampshire Retirement System | Retirement board |
| NJ | New Jersey Division of Pension and Benefits | Retirement board and state treasurer |
| NM | New Mexico Educational Retirement Board | Retirement board |
| NM | New Mexico Public Employees Retirement Association | Retirement board |
| NV | Nevada Public Employees Retirement System | Retirement board |
| NY | New York State & Local Retirement Systems | State comptroller |
| NY | New York State Teachers Retirement System | Retirement board |
| OH | Ohio Police and Fire Pension Fund | Retirement board |
| OH | Ohio Public Employees Retirement System | Retirement board |
| OH | Ohio School Employees Retirement System | Retirement board |
| OH | Ohio State Teachers Retirement System | Retirement board |
| OK | Oklahoma Public Employees Retirement System | Retirement board |
| OK | Oklahoma Teachers Retirement System | Retirement board |
| OR | Oregon Public Employees Retirement System | Retirement board |
| PA | Pennsylvania Public School Employees Retirement System | Retirement board |
| PA | Pennsylvania State Employees Retirement System | Retirement board |
| RI | Rhode Island Employees Retirement System | Retirement board |
| SC | South Carolina Retirement Systems | Legislature |
| SD | South Dakota Retirement System | Retirement board |
| TN | Tennessee Consolidated Retirement System | Retirement board |
| TX | Teacher Retirement System of Texas | Retirement board |
| TX | Texas County & District Retirement System | Retirement board |
| TX | Texas Employees Retirement System | Retirement board |
| TX | Texas Municipal Retirement System | Retirement board |
| UT | Utah Retirement Systems | Retirement board |
| VA | Virginia Retirement System | Retirement board |
| VT | Vermont State Employees Retirement System | Retirement board |
| VT | Vermont Teachers Retirement System | Retirement board |
| WA | Washington Department of Retirement Systems | Legislature |
| WI | Wisconsin Retirement System | Retirement board |
| WV | West Virginia Consolidated Public Retirement Board | Retirement board |
| WY | Wyoming Retirement System | Retirement board |

1. The Conference consists of staff from the Florida House, Senate, and Governor’s office

CONDUENT

# Schedule G: Actuarial Assumptions

**Mortality:** RP-2000 Combined Healthy Table with a 70% Blue Collar adjustment with a fully generational projection of mortality improvement using Scale BB.

**Interest Rate:** 7.0%, net of expenses.

**Salary Increase:** Current Year: 4.0% per annum.

Prior Year: 4.0% per annum.

**Turnover:** Sample rates are as follows:

| Age | Percent Turnover |
|---|---|
| 25 | 10% |
| 35 | 8% |
| 45 | 4% |
| 55 | 0% |
| 65 | 0% |

**Disability:** None assumed.

**Retirement:** For uniformed police officers, rates are as follows:

| Age | Percent Retired |
|---|---|
| Under 55 | 0% |
| 55 | 60% |
| 56-61 | 5% |
| 62 and over | 100% |

For other participants, 60% retirement is assumed at Normal Retirement Age or Unreduced Early Retirement Age, if the participant is eligible prior to Normal Retirement Age first. A retirement rate of 100% is assumed at age 65 with retirement rates of 5% between the Unreduced Early Retirement Age (if applicable) and age 65.

**Asset Valuation:** A three-year smoothed value, with difference between actual investment return and expected investment return recognized in equal installments over a three-year period.

**Expense Provision:** No explicit loads. The interest rate is net of administrative expenses which are anticipated to be approximately .10% of the market value of assets.

CONDUENT

# Schedule G: Actuarial Assumptions (continued)

**Valuation Method:** Entry Age Normal. Benefits are projected and spread so that the total normal cost will be a level percentage of salaries from date of hire to date of termination. The normal cost assigned to the City reflects the schedule of mandatory employee contributions, so as the employee contributions increase as scheduled, the employer normal cost will decrease. Due to the two-year eligibility requirement, new entrants to the Plan display a positive Actuarial liability for service from date of hire to date of entry.

Summary of Changes from the July 1, 2016 Valuation

None.

City of Creve Coeur
Employee Pension Fund Board of Trustees

**DATE:** March 16, 2018

**TO:** Commerce Trust
c/o John Bascio, Plan Administrator

**FROM:** City of Creve Coeur
Employee Pension Fund Board of Trustees

**SUBJECT:** Pension Plan Disbursements

This is your authorization to make the following disbursements from the City of Creve Coeur Pension account.

| Payee | Reason for Payment | Amount |
|---|---|---|
| Conduent HR Consulting | Rate of Return/Asset Smoothing Inquiry | $ 400.00 |
| | Benefit Calculation | $ 200.00 |
| | Total | $ 600.00 |

Please prepare the check(s) and advise Lori Obermoeller by e-mail at lobermoeller@crevecoeurmo.gov

Thank you for your immediate attention to this matter.

Communication: Invoices paid since last meeting (Information-Invoices Paid)

**CONDUENT**

Conduent HR Consulting, LLC
420 Lexington Ave, Suite 2220
New York, NY 10170

March 16, 2018

Lori Obermoeller
lobermoeller@crevecoeurmo.gov
Retirement Plan Board of Trustees
City of Creve Coeur
300 North New Ballas Road
Creve Coeur, MO 63141

Client #: 00015236
Invoice #: 2368134
Total Due This Invoice: $600.00
Terms: Net Due in 30 Days

**EFT/ACH to:**
Conduent HR Consulting, LLC
Wells Fargo Bank
2975 Regent Blvd.
Irving, TX 75063
Account #: 4121887111
Routing #: 121000248

**Mail To:**
Conduent HR Consulting, LLC
P.O. Box 202617
Dallas, TX 75320-2617

**Direct Inquiries to:**
Veronica Pulbere - Accounting Dept.
Email: Veronica.Pulbere@Conduent.com
Phone: (201) 902-2417

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Actuarial and consulting services during the month of February 2018:

| INCLUDES: | Amount |
|---|---|
| Rate of Return/Asset smoothing inquiry | 400.00 |
| Benefit calculations – Eidman | 200.00 |
| **TOTAL AMOUNT DUE** | **$ 600.00** |

LO 3-16-18

City of Creve Coeur
Employee Pension Fund Board of Trustees

DATE: February 16, 2018

TO: Commerce Trust
c/o John Bascio, Plan Administrator

FROM: City of Creve Coeur
Employee Pension Fund Board of Trustees

SUBJECT: Pension Plan Disbursements

This is your authorization to make the following disbursements from the City of Creve Coeur Pension account.

| Payee | Reason for Payment | Amount |
|---|---|---|
| Missouri Association of Public Retirement Systems (MAPERS) | Dues for 2018 Membership | $ 100.00 |
| | Total | $ 100.00 |

Please prepare the check(s) and advise Sherry Hall by e-mail at shall@crevecoeurmo.gov

Thank you for your immediate attention to this matter.

**City of Creve Coeur**
**Employee Pension Fund Board of Trustees**

**DATE:** February 2, 2018

**TO:** Commerce Trust
c/o John Bascio, Plan Administrator

**FROM:** City of Creve Coeur
Employee Pension Fund Board of Trustees

**SUBJECT:** Pension Plan Disbursements

This is your authorization to make the following disbursements from the City of Creve Coeur Pension account.

| Payee | Reason for Payment | Amount |
|---|---|---|
| Conduent HR Consulting | Actuarial Services 10/17 thru 12/17 | $ 2,100.00 |
| | Total | $ 2,100.00 |

Please prepare the check(s) and advise Sherry Hall by faxing a copy of the check(s) to (314) 872-2539 or e-mail at shall@crevecoeurmo.gov.

Thank you for your immediate attention to this matter.

**CONDUENT**

Conduent HR Consulting, LLC
420 Lexington Ave, Suite 2220
New York, NY 10170

January 23, 2018

Lori Obermoeller
lobermoeller@crevecoeurmo.gov
Retirement Plan Board of Trustees
City of Creve Coeur
300 N. New Ballas Road
Creve Coeur, MO 63141

Client #: 00015236
Invoice #: 2361420
Total Due This Invoice: $2,100.00
Terms: Net Due in 30 Days

**EFT/ACH to:**
Conduent HR Consulting, LLC
Wells Fargo Bank
2975 Regent Blvd.
Irving, TX 75063
Account #: 4121887111
Routing #: 121000248

**Mail To:**
Conduent HR Consulting, LLC
P.O. Box 202617
Dallas, TX 75320-2617

**Direct Inquiries to:**
Veronica Pulbere - Accounting Dept.
Email: Veronica.Pulbere@Conduent.com
Phone: (201) 902-2417

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Actuarial and consulting services during the month of October 2017 – December 2017:

| INCLUDES: | Amount |
|---|---|
| Actuarial Valuation | $1,100.00 |
| Benefit Statements | 700.00 |
| Benefit calculations – DeGhelder QDRO | 300.00 |
| **TOTAL AMOUNT DUE** | $ 2,100.00 |

Approved for Payment

1-30-18

Lori Obermoeller, Fin Dir Date

Communication: Invoices paid since last meeting (Information-Invoices Paid)

# City of Creve Coeur
## Employee Pension Fund Board of Trustees

**DATE:** February 8, 2018

**TO:** Commerce Trust
c/o John Bascio, Plan Administrator

**FROM:** City of Creve Coeur
Employee Pension Fund Board of Trustees

**SUBJECT:** Pension Plan Disbursements

This is your authorization to make the following disbursements from the City of Creve Coeur Pension account.

| Payee | Reason for Payment | Amount |
| --- | --- | --- |
| The Daniel and Henry Co. | Fiduciary Insurance Renewal | $ 5,830.00 |
| | Total | $ 5,830.00 |

Please prepare the check(s) and advise Sherry Hall by faxing a copy of the check(s) to (314) 872-2539 or e-mail at shall@crevecoeurmo.gov.

Thank you for your immediate attention to this matter.

THE DANIEL AND HENRY CO.

INSURANCE AND RISK MANAGEMENT

1001 Highlands Plaza Drive West
Suite 500
Saint Louis, MO 63110
(314) 421-1525

| Invoice # 2661 | Page 1 of 1 |
|---|---|
| Account Number | Date |
| CREVCOE-01 | 11/17/2017 |
| Producer | |
| Howard Stephens | |
| AMOUNT PAID | Amount Due |
| | $5,830.00 |

**City of Creve Coeur**
**300 North New Ballas**
**Creve Coeur, MO 63141**

**Payment due within 20 days of invoice.**

**Travelers Casualty & Surety**
**Fiduciary Liability** **Policy# 106022508** **Effective: 11/24/2017 to 11/24/2018**

| Item # | Trans Eff Date | Trans | Description | Amount |
|---|---|---|---|---|
| 33428 | 11/24/2017 | RENB | Renewal of FLIB Effective 11/24/2017 | $5,830.00 |

**Total Invoice Balance:** **$5,830.00**

Approved for Payment

Lori Obermoeller 2518

Lori Obermoeller, Fin Dir Date

**Remit To: The Daniel & Henry Co., 1001 Highlands Plaza Drive West, Suite 500, St. Louis, MO 63110**

THE DANIEL AND HENRY CO.
INSURANCE AND RISK MANAGEMENT

**REBECCA E. REDFERING**
Account Executive

November 17, 2017

Ms. Lori Obermoeller
Director of Finance
CITY OF CREVE COEUR
300 N. New Ballas Road
Creve Coeur, MO 63141

RE: Fiduciary Renewal
Effective 11/24/17 - 11/24/18
Policy Number: #106022508

Dear Lori,

Enclosed please find the renewal fiduciary policy along with an invoice, in the amount of $5,830. This policy includes a $2,000,000 limit with a $0 deductible. Please review the policy at your convenience. I have enclosed a white remittance envelope for your payment convenience.

Please note, $100 of the premium is for the Waiver of Recourse endorsement included in the policy. The waiver of recourse premium must be paid separately and cannot be paid out of the plan assets.

As always, if you have any questions or concerns, please feel free to contact me at (314) 444-1758 or email me at redferingb@danielandhenry.com.

Sincerely,

Rebecca E. Redfering
Account Executive

LO 2-1-18

Enclosure

/rr

1001 HIGHLANDS PLAZA DRIVE WEST • SUITE 500 • SAINT LOUIS, MISSOURI 63110 • 314-421-1525
150 SOUTH WACKER DRIVE • SUITE 1625 • CHICAGO, ILLINOIS 60606 • 312-332-1904
1435 NORTH MOUNT AUBURN ROAD • SUITE 100 • CAPE GIRARDEAU, MISSOURI 63701 • 573-335-7956
www.danielandhenry.com

Communication: Invoices paid since last meeting (Information-Invoices Paid)