

To: City of Burlington Pension Board
From: Barry Bryant
RE: Actuarial Assumption

To All:

You have asked us to provide a 20-year actuarial assumption for the Board to consider in reviewing the current 8.0% rate. We have done extensive modeling and have reached the conclusion that 7.5% is a reasonable 20-year assumption. We have broken down this assumption into 5-year periods, as requested, but believe it is impossible to accurately predict returns over such a short period of time.

Return Scenarios

Before we lay out the logic of this recommendation, we need to review the scenarios we used to model return.

- 20-Year Scenario: actual results for the 20 years ended Dec. 2015.
- 10-Year Scenario: actual results for the 10 years ended Dec. 2015.
- 20-Year and 10-Year Special Scenarios: actual results, with a 2% bond return.
- Projection Scenario: the current Wall Street consensus projection for 7-10 years.

Using these five scenarios and the City's asset allocation, we arrived at the following 20-year returns:

- 20-Year 9.1%
- 20-Year Special 8.2%
- 10-Year 8.0%
- 10-Year Special 7.5%
- Projection 6.5%

Selecting Return Scenarios

The question becomes, which scenario should we assume? Here are some facts to consider in making this determination.

- 1) Interest rates are at historic lows and should rise over the intermediate term (3-5 years). Bond values fall as interest rates rise. Bond returns are likely to be below long-term norms while interest rates normalize.
- 2) Valuation of the US equity market now is at the high end of its historical range, making multiple contraction over the intermediate term likely.
- 3) Equity returns have in the past been fairly stable over long periods of time.

Combining these three pieces we construct the following as the most reasonable expectation.

- 1) The next 10 years are likely to be come combination of the Projection and 10-Year Special scenarios due to low interest rates and multiple contraction.
- 2) The 10 years following that are likely to be close to the 10-year scenario, assuming normal interest rates and flat multiples.

Result

This leads us to return expectations broken down into five-year periods as follows:

Years 1-5	6.5%
Years 6-10	7.5%
Years 11-15	8.0%
Years 16-20	8.0%
Overall:	7.5%

Having said that, to repeat, we do not believe returns can be forecast accurately over periods of less than 20 years. The timing of changes in interest rates and equity valuation levels is influenced by factors that are unknown and unpredictable. A more accurate expression of our belief is: we think we will have a five-year period of relatively weak returns within the next 10 years, but we do not know when that 5-year period will occur.

Conclusion

The actuarial assumption should be thought of as a budgeting tool; raise it, and the city will be asked to put in less money now and more money later. Lower it, and the city will be asked to put in more money now and less money later. This is true regardless of whether the assumption is met by actual performance.

From the standpoint of funding the Plan, a lower actuarial assumption is always better, if the City meets its funding requirement. However, the City has other needs and a limited budget; tradeoffs must be made. Setting the actuarial assumption is a matter of making these tradeoffs.

We believe 8% was the most common assumption for plans such as Burlington as recently as five years ago. Assumptions have come down since then; the most common now is probably 7.5% or 7.75%. Using a 7.5% assumption would put the City within this broad consensus.