



**TOWN OF COVENTRY
PENSION PLANS**

2011 EXPERIENCE STUDY



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March 21, 2012

milliman.com

PERSONAL & CONFIDENTIAL

Mr. Theodore Przybyla
Finance Director
Town of Coventry
1670 Flat River Road
Coventry, RI 02816

Re: 2011 Experience Study – Town of Coventry Pension Plans

Dear Ted:

We are pleased to present the results of the 2011 Experience Study for the Town of Coventry pension plans:

Police Officers
Municipal Employees

The enclosed study reviews experience through June 30, 2011 and summarizes the results of the following economic and demographic experience: Consumer Price Inflation, Salary Scale, Payroll Growth Rate, Cost of Living Adjustment, Investment Return, Turnover, Retirement, Mortality, Disability, and Percent Married. The following actuarial methods are also reviewed: Asset Valuation Method (Actuarial Value), and the Actuarial Cost Method. Section II contains a discussion of the economic assumptions used in the actuarial valuation. Details regarding demographic assumptions are found in Section III. Section IV reviews the actuarial methods.

Our proposals for new assumptions are included in this report. We have also determined the estimated impact of the proposed assumptions on the funded ratio and the Annual Required Contribution for each plan.

In preparing this study, we relied without audit on employee census data and financial information from January 1, 2006 through June 30, 2011, furnished by the Town of Coventry. This information includes, but is not limited to, plan provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised. If there are material defects in the data, it is possible that they would be

uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

The calculations reported herein have been made on a basis consistent with our understanding of the plan provisions for the Town of Coventry pension plans. Furthermore, the calculations were determined in conformance with generally recognized and accepted actuarial principles and practices, which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions, and supporting Recommendations of the American Academy of Actuaries.

Milliman's work is prepared solely for the internal business use of the Town of Coventry. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s): (a) the Town of Coventry may provide a copy of Milliman's work, in its entirety, to the Town of Coventry's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Town of Coventry; and (b) the Town of Coventry may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law. No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs. If these results are distributed to other parties, we request that it be copied in its entirety and distributed along with a copy of the July 1, 2011 actuarial valuation reports in their entirety as well, because those documents provide background information that is important in understanding the basis for these results.

The calculations reported herein have been made on a basis consistent with our understanding of ERISA and the related sections of the tax code. Additional determinations may be needed for other purposes, such as judging benefit security at plan termination or meeting employer accounting requirements. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices. We further certify that, in our opinion, each actuarial assumption, method and technique used is reasonable taking into account the experience of the Plan and reasonable expectations or would, in the aggregate, result in a total contribution equivalent to that which would be determined if each such assumption, method, or technique were reasonable. Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions

March 21, 2012
Mr. Ted Przybyla
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made for this analysis. Actual experience will not conform exactly to the assumptions made for this analysis. Actual amounts will differ from projected amounts to the extent that actual experience deviates from expected experience.

I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

I look forward to discussing this report with you. In the meantime, please call if I can be of assistance.

Respectfully submitted,



Steve A. Lemanski, FSA, FCA
Consulting Actuary

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**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

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**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**SECTION I
EXECUTIVE SUMMARY**

The following is a discussion of the key findings of the 2011 Experience Study for the Town of Coventry pension plans.

Consumer Price Inflation

Current Basis	2.75% per year.
Recommendation	Based on the history over the last 75 years and future expectations, we recommend no change in this assumption. This rate will be used to build the net investment return, pension escalation, and salary scale assumptions.

Salary Scale

Current Basis	An age graded salary scale assumption, as follows: <ul style="list-style-type: none">• For Police, Table S-5 from the Actuary's Handbook plus 3.50%. Employees hired before January 1, 1994 are assumed to receive an additional 20% increase the year before retirement.• For Municipal, Table S-5 from the Actuary's Handbook plus 2.00%.
Comment	For Police, average annual salary increases from 2006 - 2011 were generally lower than the current basis. However, final year earnings increases were greater than the 20% assumption. Municipal average salary increases were generally slightly lower than the current basis at younger ages.
Recommendation	We recommend changing from an age based to a duration based salary scale assumption, but with generally lower rates. <ul style="list-style-type: none">• For Police, the proposed assumption grades down from 9.75% to 3.75% per year with higher increases at certain years of service to reflect step and longevity increases (Note: includes 2.75% per year for inflation). Employees hired before January 1, 1994 are assumed to receive an additional 60% increase the year before retirement.

**TOWN OF COVENTRY PENSION PLANS
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**SECTION I
EXECUTIVE SUMMARY**

- For Municipal, the proposed assumption grades down from 6.80% to 3.55% per year, with higher increases at certain years of service to reflect longevity increases. (Note: includes 2.75% per year for inflation).

Payroll Growth Rate

Current Basis 4.00% per year

Recommendation Police: 3.75% per year

Municipal: 3.55% per year

The proposed assumption is consistent with the “ultimate” proposed rate of salary increase for each plan.

Cost of Living Adjustment

Current Basis Police: 1.50% (compounded) per year for members who retired prior to July 1, 1986.

2.50% (compounded) per year for members who retired on or after July 1, 1986 and were hired before January 1, 1994.

2.75% (non-compounded) per year for members who were hired on or after January 1, 1994.

Municipal: N/A

Comments Police are entitled to post-retirement benefit adjustments based on their date of hire and retirement. The 2.75% assumption for post-January 1, 1994 hires is consistent with the 2.75% price inflation rate. For other members, the current assumption matches the applicable fixed rate cost of living adjustment.

Recommendation Police: No change.

Municipal: N/A

**TOWN OF COVENTRY PENSION PLANS
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**SECTION I
EXECUTIVE SUMMARY**

Investment Return

Current Basis	7.50% per year, net of investment expenses.
Comment	Based on updated capital market assumptions (Milliman, December 2011) and your asset mix, we propose that the investment return assumption be reduced for both plans.
Recommendation	7.00% per year, net of investment expenses.

Turnover

Current Basis	No turnover assumed for Police. Moderate turnover scale assumed for Municipal.
Comment	Experience for Police has been relatively on target. Turnover has been slightly lighter than the current basis for Municipal.
Recommendation	No change.

Retirement

Current Basis	Police:	<u>Employees hired prior to January 1, 1994:</u>
		50% assumed to retire when first eligible
		10% assumed to retire in the years thereafter
		100% assumed to retire at 30 years of service
		<u>Employees hired on or after January 1, 1994:</u>
		75% assumed to retire when first eligible
		20% assumed to retire in the years thereafter
		100% assumed to retire at 30 years of service
	Municipal:	Age based retirement assumption:

<u>Age</u>	<u>Rate</u>
55-58	2%
59	7
60-61	10
62	35
63-64	20
65	50
66-69	40
70	100

**TOWN OF COVENTRY PENSION PLANS
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**SECTION I
EXECUTIVE SUMMARY**

Comments For both plans, experience indicates that members are retiring at generally earlier ages than assumed under the current basis.

Recommendation

Police: For employees hired prior to January 1, 1994, change the retirement rates to 50% when first eligible, 30% for the next 3 years, 15% for the next 6 years and 100% at 30 years of service. Maintain the current assumption for employees hired on or after January 1, 1994 as experience does not exist that would suggest a change in this assumption.

Municipal: Continue to use a retirement assumption that explicitly reflects assumed retirements throughout a range of ages, from age 55 to age 70 (minimum 10 years of service), but with slightly different assumed rates at certain ages.

Mortality

Current Basis RP-2000 Combined Healthy Mortality Table projected to 2005 with Scale AA, with separate male and female tables.

Comments Experience indicates that mortality has been generally consistent with the current assumption for both plans.

Recommendation The mortality table should be updated and should provide a margin for future mortality improvement. We recommend that the mortality assumption continue to be the RP-2000 Combined Healthy Mortality Table, but with generational projection per Scale AA. The RP-2000 mortality table is the table recommended by the Society of Actuaries Retirement Plan Experience Committee (RPEC), and generational projection is consistent with the RPEC's recommendation that "pension valuations should take trends in long-term mortality improvement into account."

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**SECTION I
EXECUTIVE SUMMARY**

Disability

Current Basis	Police:	1987 Commissioner's Group D Disability Table, six month elimination period, separately for males and females.
	Municipal:	1987 Commissioner's Group D Disability Table, six month elimination period, separately for males and females.
Recommendation		We recommend continuation of the current assumption as credible experience does not exist that would suggest a change in this assumption.

Percent Married

Current Basis	Police:	75% of active and terminated vested members are assumed to be married at retirement, with husbands 3 years older than their spouses.
	Municipal:	75% of active and terminated vested members are assumed to be married at retirement, with husbands 3 years older than their spouses.
Comment		For both plans, experience has been generally consistent with the current assumptions.
Recommendation		No change.

Asset Valuation Method (Actuarial Value)

Current Basis		You are using a smoothing method which phases in recognition of the difference between the actual return on market value and the expected return on market value over a five-year period at 20% per year.
Recommendation		We recommend the continued use of this asset valuation method.

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**SECTION I
EXECUTIVE SUMMARY**

Actuarial Cost Method

Current Basis

The current method is the Entry Age Normal Cost Method. It is used for determining the future rates of contributions needed for funding service retirements. This method is designed to provide "percentage of payroll" Normal Actuarial Costs which will remain stable as long as the average entry age of the group remains stable. It recognizes experience gains and losses immediately.

Recommendation

We recommend the continued use of this funding method.

**TOWN OF COVENTRY PENSION PLANS
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**SECTION I
EXHIBIT A - CURRENT AND PROPOSED ACTUARIAL ASSUMPTIONS**

The current actuarial assumptions used in the 2011 Town of Coventry pension plans' valuations plus the proposed changes in actuarial assumptions are compared as follows:

	Current Assumption	Proposed Assumption																																																																																										
Consumer Price Inflation	2.75% per year.	2.75% per year.																																																																																										
Salary Scale	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"><u>Age</u></th> <th style="width: 20%;"><u>Police*</u></th> <th style="width: 20%;"><u>Municipal</u></th> <th style="width: 20%;"><u>Service</u></th> <th style="width: 25%;"><u>Police**</u></th> <th style="width: 20%;"><u>Municipal</u></th> </tr> </thead> <tbody> <tr><td>20</td><td>8.60%</td><td>7.10%</td><td>1</td><td>9.75%</td><td>6.80%</td></tr> <tr><td>25</td><td>7.68%</td><td>6.18%</td><td>2</td><td>6.15%</td><td>6.80%</td></tr> <tr><td>30</td><td>7.07%</td><td>5.57%</td><td>3</td><td>13.55%</td><td>3.55%</td></tr> <tr><td>35</td><td>6.61%</td><td>5.11%</td><td>4</td><td>2.75%</td><td>3.55%</td></tr> <tr><td>40</td><td>6.22%</td><td>4.72%</td><td>5</td><td>7.75%</td><td>6.35%</td></tr> <tr><td>45</td><td>5.89%</td><td>4.39%</td><td>6-9</td><td>3.75%</td><td>3.55%</td></tr> <tr><td>50</td><td>5.62%</td><td>4.12%</td><td>10</td><td>7.15%</td><td>6.10%</td></tr> <tr><td>55</td><td>5.38%</td><td>3.88%</td><td>11-14</td><td>3.75%</td><td>3.55%</td></tr> <tr><td></td><td></td><td></td><td>15</td><td>5.15%</td><td>5.85%</td></tr> <tr><td></td><td></td><td></td><td>16-19</td><td>3.75%</td><td>3.55%</td></tr> <tr><td></td><td></td><td></td><td>20</td><td>3.75%</td><td>5.60%</td></tr> <tr><td></td><td></td><td></td><td>21-24</td><td>3.75%</td><td>3.55%</td></tr> <tr><td></td><td></td><td></td><td>25</td><td>3.75%</td><td>5.35%</td></tr> <tr><td></td><td></td><td></td><td>26-on</td><td>3.75%</td><td>3.55%</td></tr> </tbody> </table>	<u>Age</u>	<u>Police*</u>	<u>Municipal</u>	<u>Service</u>	<u>Police**</u>	<u>Municipal</u>	20	8.60%	7.10%	1	9.75%	6.80%	25	7.68%	6.18%	2	6.15%	6.80%	30	7.07%	5.57%	3	13.55%	3.55%	35	6.61%	5.11%	4	2.75%	3.55%	40	6.22%	4.72%	5	7.75%	6.35%	45	5.89%	4.39%	6-9	3.75%	3.55%	50	5.62%	4.12%	10	7.15%	6.10%	55	5.38%	3.88%	11-14	3.75%	3.55%				15	5.15%	5.85%				16-19	3.75%	3.55%				20	3.75%	5.60%				21-24	3.75%	3.55%				25	3.75%	5.35%				26-on	3.75%	3.55%	
<u>Age</u>	<u>Police*</u>	<u>Municipal</u>	<u>Service</u>	<u>Police**</u>	<u>Municipal</u>																																																																																							
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	<p>* Employees hired prior to January 1, 1994 receive an additional 20% salary increase in the year before retirement.</p>	<p>** Employees hired prior to January 1, 1994 receive an additional 60% salary increase in the year before retirement. Includes 2.75% for inflation.</p>																																																																																										
Cost of Living Adjustment																																																																																												
Police	<p>Pre July 1, 1986 retirees: 1.50% per year (compounded).</p> <p>Retirees on and after July 1, 1986 (and hired prior to January 1, 1994): 2.50% per year (compounded).</p> <p>For officers hired on and after January 1, 1994: 2.75% per year (non-compounded).</p>	<p>No change.</p> <p>No change.</p> <p>No change.</p>																																																																																										
Municipal	<p>None is assumed.</p>	<p>None is assumed.</p>																																																																																										
Investment Return	7.50% per year, net of investment expenses.	7.00% per year, net of investment expenses.																																																																																										

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**SECTION I
EXHIBIT A - CURRENT AND PROPOSED ACTUARIAL ASSUMPTIONS**

	Current Assumption			Proposed Assumption	
Turnover	<u>Age</u>	<u>Police</u>	<u>Municipal</u>	No change.	
	20	0.00%	10.94%		
	25	0.00%	8.78%		
	30	0.00%	6.98%		
	35	0.00%	5.45%		
	40	0.00%	4.23%		
	45	0.00%	3.29%		
	50	0.00%	2.52%		
	55	0.00%	1.89%		
Retirement					
Police	Employees hired prior to January 1, 1994: 50% assumed to retire when first eligible 10% assumed to retire in the years thereafter 100% assumed to retire at 30 years of service			Employees hired prior to January 1, 1994: 50% assumed to retire when first eligible 30% assumed to retire in the three years thereafter 15% assumed to retired in the six years thereafter 100% assumed to retire at 30 years of service	
	Employees hired on or after January 1, 1994: 75% assumed to retire when first eligible 20% assumed to retire in the years thereafter 100% assumed to retire at 30 years of service			No change.	
Municipal	<u>Age</u>	<u>Rate</u>		<u>Age</u>	<u>Rate</u>
	55-58	2%		55-58	3%
	59	7		59	7
	60-61	10		60-61	10
	62	35		62	35
	63-64	20		63-64	20
	65	50		65	40
	66-69	40		66-69	30
	70	100		70	100
Mortality	RP-2000 Combined Healthy Mortality Table projected to 2005 with Scale AA, with separate male and female tables.			RP-2000 Combined Healthy Mortality Table with generational projection per Scale AA with separate male and female tables.	

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2011 EXPERIENCE STUDY**

**SECTION I
EXHIBIT A - CURRENT AND PROPOSED ACTUARIAL ASSUMPTIONS**

	Current Assumption	Proposed Assumption
Disability		
Police	1987 Commissioner's Group Disability Table, six month elimination period, separately for males and females.	No change.
Municipal	1987 Commissioner's Group Disability Table, six month elimination period, separately for males and females.	No change.
Percent Married		
Police	75% of active members are assumed to be married, with husbands 3 years older than their spouses.	No change.
Municipal	75% of active members are assumed to be married, with husbands 3 years older than their spouses.	No change.
Asset Valuation Method (Actuarial Value)	The total value of the plan assets is adjusted by phasing in recognition of the difference between the expected return on market value and the actual return on market value over a five-year period at 20% per year.	No change.
Actuarial Cost Method	Entry Age Normal actuarial cost method.	No change.

**TOWN OF COVENTRY PENSION PLANS
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**SECTION I
EXHIBIT B - ESTIMATED IMPACT OF PROPOSED ASSUMPTIONS
B-1: POLICE
(\$ millions)**

	<u>Current Assumptions</u>	<u>Proposed Assumption Changes</u>
	<u>July 1, 2011 Valuation</u>	<u>July 1, 2011 Valuation</u>
Funded Ratio*		
1. Actuarial Value of Assets at July 1, 2011	\$7.598	\$7.598
2. Actuarial Liability as of July 1, 2011	58.545	67.351
3. Unfunded Accrued Liability (UAL) as of July 1, 2011	50.947	59.753
4. Funded Ratio at July 1, 2011: (1) / (2)	13.0%	11.3%
Annual Town Cost for 2012-2013*		
1. Net Normal Cost	0.737	0.788
2. Past Service Cost (22 year amortization of UAL)	3.207	3.684
3. Interest on (1) + (2) to the end of the fiscal year	0.296	0.313
4. Total Town Cost for 2012-2013: (1) + (2) + (3)	4.240	4.785
5. Total Town Cost for 2012-2013 as a Percentage of Payroll	130.6%	147.4%
Annual Required Contribution for 2012-2013	4.240	4.785

* Note: The estimated impact on the July 1, 2011 funded ratio and Annual Required Contribution for 2012-2013 is for illustrative purposes only. We understand that any adopted changes in the actuarial assumptions would first be required to be included in the July 1, 2012 actuarial valuation (which develops the Annual Required Contribution for 2013-2014).

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**SECTION I
EXHIBIT B - ESTIMATED IMPACT OF PROPOSED ASSUMPTIONS
B-2: MUNICIPAL
(\$ millions)**

	<u>Current Assumptions</u>	<u>Proposed Assumption Changes</u>
	July 1, 2011 Valuation	July 1, 2011 Valuation
Funded Ratio*		
1. Actuarial Value of Assets at July 1, 2011	\$4.385	\$4.385
2. Actuarial Liability as of July 1, 2011	15.716	17.352
3. Unfunded Accrued Liability (UAL) as of July 1, 2011	11.331	12.967
4. Funded Ratio at July 1, 2011: (1) / (2)	27.9%	25.3%
Annual Town Cost for 2012-2013*		
1. Net Normal Cost	0.125	0.184
2. Estimated Past Service Cost (22 year amortization of UAL)	0.713	0.814
3. Interest on (1) + (2) to the end of the fiscal year	0.063	0.070
4. Total Town Cost for 2012-2013: (1) + (2) + (3)	0.901	1.068
5. Total Town Cost for 2012-2013 as a Percentage of Payroll	17.0%	20.2%
Annual Required Contribution for 2012-2013	0.901	1.068

* Note: The estimated impact on the July 1, 2011 funded ratio and Annual Required Contribution for 2012-2013 is for illustrative purposes only. We understand that any adopted changes in the actuarial assumptions would first be required to be included in the July 1, 2012 actuarial valuation (which develops the Annual Required Contribution for 2013-2014).

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**SECTION II
ECONOMIC ASSUMPTIONS**

A. OVERVIEW OF ECONOMIC ASSUMPTIONS

Actuarial Standard of Practice (ASOP) No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*, provides guidance to actuaries on selecting economic assumptions for measuring obligations under defined benefit plans. Because no one knows what the future holds, the best an actuary can do is to use professional judgment to estimate possible future economic outcomes. These estimates are based on a mixture of past experience, future expectations, and professional judgment. The actuary should consider a number of factors, including the purpose and nature of the measurement, and appropriate recent and long-term historical economic data. However, the Standard explicitly advises the actuary not to give undue weight to recent experience.

Recognizing that there is not one “right answer”, the Standard calls for the actuary to develop a best estimate range for each economic assumption, and then recommend a specific point within that range. Each economic assumption should individually satisfy the Standard. Furthermore, with respect to any particular valuation, each economic assumption should be consistent with every other economic assumption over the measurement period.

In our opinion, the economic assumptions set forth in this report have been developed in accordance with ASOP No. 27.

The remainder of this section contains the study results for the following economic assumptions:

- Consumer Price Inflation (CPI)
- Salary Scale and Payroll Growth Rate
- Cost of Living Adjustment
- Investment Return

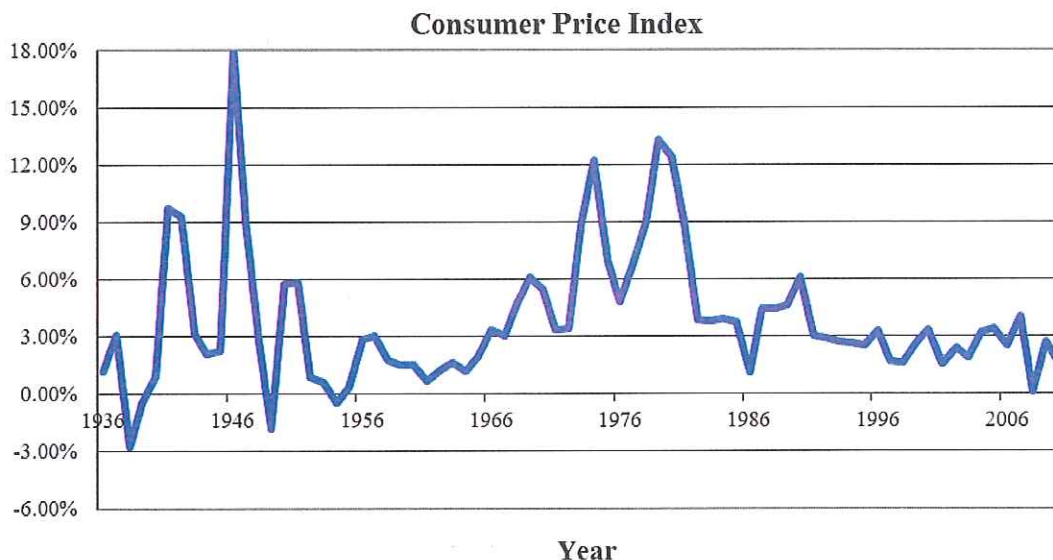
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**SECTION II
ECONOMIC ASSUMPTIONS**

B. CONSUMER PRICE INFLATION (CPI)

Use in the Valuation: Future price inflation has an indirect impact on the results of the actuarial valuation through the development of the assumptions for investment return, cost of living adjustment, and salary scale.

The current assumption for price inflation is 2.75% per year.



Historical Perspective: We have used certain published economic statistics that have been accumulated on a monthly basis over the last 75 years. The data for price inflation is based on the Consumer Price Index, US City Average, All Urban Consumers (CPI). The data for periods ending in December of each year is shown graphically below.

There are numerous ways to review this data. The table below shows the compounded annual price inflation rate for various 10 year periods and for longer periods ended in December 2011. Standard Deviation is a measure of the extent to which inflation varied from the Mean, or average, for the period.

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**SECTION II
ECONOMIC ASSUMPTIONS**

B. CONSUMER PRICE INFLATION (CPI)

Period	Mean	Standard Deviation
2001-2011	2.48%	1.07%
1991-2001	2.51%	0.64%
1981-1991	3.91%	1.20%
1971-1981	8.62%	3.11%
1961-1971	3.19%	1.68%
2001-2011	2.48%	1.07%
1991-2011	2.49%	0.88%
1981-2011	2.96%	1.20%
1971-2011	4.35%	3.10%
1961-2011	4.12%	2.91%
75 years	3.78%	3.50%
25 years	2.90%	1.21%

Many economists forecast that future price inflation will be lower than the current assumption of 2.75%, but they may be looking at shorter periods than are appropriate for a pension valuation. To find an economic forecast with a long enough time frame to suit our purpose, we looked at the expected increase in the CPI by the Office of the Chief Actuary for the Social Security Administration. In the 2011 Trustees Report, the projected average annual increase in the CPI over the next 30 years under the intermediate cost assumptions was 2.8%. The reasonable range was stated as 1.8% to 3.8%.

Reasonable Range and Recommendation: Based on the history over the last 75 years, and future expectations, we recommend no change in the current long-term assumed price inflation rate of 2.75%. This rate will be used to build the net investment return, pension escalation, and salary scale assumptions.

Consumer Price Inflation	
Current Assumption	2.75%
Reasonable Range	1.8% - 3.8%
Recommended Assumption	2.75%

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C. SALARY SCALE AND PAYROLL GROWTH RATE

Current Assumption: Overall pay increases (that is, both real wage growth and pay increases related to merit, longevity, promotions, etc.) are assumed to vary by age per the following table:

Age	Rate	
	Police*	Municipal
20	8.60%	7.10%
25	7.68%	6.18%
30	7.07%	5.57%
35	6.61%	5.11%
40	6.22%	4.72%
45	5.89%	4.39%
50	5.62%	4.12%
55	5.38%	3.88%

* Employees hired prior to January 1, 1994 receive an additional 20% salary increase in the year before retirement.

The current payroll growth rate assumption is 4.00% per year for both plans.

Study Design: We looked at the impact on annual salary increases for each individual in our study by analyzing a service based table rather than an age based table. The results indicate the combined impact of general wage growth, step increases, step longevity increases, as well as promotions.

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Results: For both groups, the salary schedules incorporated into Collective Bargaining Agreements have step and longevity increases that reflect years of service. The current assumption of an age based salary scale table does not explicitly reflect the timing of step and longevity increases.

Salary Scale Recommendation: Based on our judgment, we believe that the salary scale rates should be service based and should generally be reduced relative to the current assumption, with an “ultimate” rate of salary increases of 3.55% for Municipal and 3.75% for Police (an estimate of general wage growth for each plan). Our recommended assumption is shown below:

<u>Service</u>	<u>Police*</u>	<u>Municipal</u>
1	9.75%	6.80%
2	6.15%	6.80%
3	13.55%	3.55%
4	2.75%	3.55%
5	7.75%	6.35%
6-9	3.75%	3.55%
10	7.15%	6.10%
11-14	3.75%	3.55%
15	5.15%	5.85%
16-19	3.75%	3.55%
20	3.75%	5.60%
21-24	3.75%	3.55%
25	3.75%	5.35%
26+	3.75%	3.55%

Note: The rates shown above for both plans include 2.75% for inflation.

* For the Police plan, final average earnings for members hired prior to January 1, 1994 includes the impact of any applicable additional pensionable compensation received upon retirement. For such members, we also analyzed data provided to us by the Town with respect to the members who retired between March 1, 2005 and June 30, 2011. For each retiree, we calculated the percentage increase in final average earnings due to the impact of additional pensionable compensation paid in the final year. We then analyzed the results, calculating the mean and median percentage increase.

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**Impact of Additional Final Year Salary
Increase on Retirement Benefits**

Number of Retirees	22
Mean % Increase	57%
Median % Increase	61%

Final Year Additional Salary Increase Recommendation: We recommend that the final year additional salary increase assumption be changed to 60% to better reflect plan experience.

Payroll Growth Rate Recommendation: We recommend that the payroll growth rate be reduced to 3.55% for Municipal and 3.75% for Police. These rates are consistent with the “ultimate” rates of salary increase for the two plans.

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ECONOMIC ASSUMPTIONS**

D. COST OF LIVING ADJUSTMENT (COLA)

Use in the Valuation: Retired Police members receive annual benefit adjustments based on their dates of hire and retirement:

Retirements	Current COLA Assumption
Prior to July 1, 1986	1.50% (compounded)
On or after July 1, 1986 (and hired before January 1, 1994)	2.50% (compounded)
Officers hired on or after January 1, 1994	2.75% (non-compounded)

Recommendation: No change. For officers hired on or after January 1, 1994, the 2.75% COLA assumption is consistent with the 2.75% price inflation assumption. For the other groups, the COLA is a fixed percentage increase and the current assumptions are equal to the fixed percentages.

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E. INVESTMENT RETURN

Current Assumption: 7.50% (net of investment-related administrative expenses).

Recommendation: Lower the assumption to 7.00% (net of investment-related administrative expenses).

Basis for Recommendation

Based on the following analysis, we have developed the best estimate range for the assumption regarding the long-term annualized rate of return on Plan assets, net of investment-related fees.

Investment Return	
Current Assumption	7.50%
Best-Estimate Range	5.37% to 8.71%
Best-Estimate	7.05%
Recommended Assumption	7.00%

The investment return assumption is one of the primary determinants in the allocation of the expected cost of the Fund's benefits, providing a discount of the estimated future benefit payments to reflect the time value of money. The valuation investment return assumption should represent the expected long-term rate of return on the actuarial value of assets, considering the Fund's asset allocation policy, expected long-term real rates of return on specific asset classes, the underlying inflation rate and investment-related expenses.

ASOP No. 27 provides guidance to actuaries on selecting assumptions for measuring obligations under defined benefit pension plans. Because the future cannot be accurately predicted, the best an actuary can do is to use professional judgment to estimate possible future economic outcomes. These estimates are based on a combination of past experience, future expectations, and professional judgment. The actuary should consider a number of factors including the purpose and nature of the measurement and appropriate recent and long-term historical economic data. However, ASOP No. 27 explicitly advises the actuary not to give undue weight to recent experience.

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Recognizing that there is not one “right answer”, ASOP No. 27 calls for the actuary to develop a best estimate range for each economic assumption and then recommend a specific point within that range. Each economic assumption should individually satisfy this standard. Furthermore, with respect to any particular valuation, each economic assumption should be consistent with every other economic assumption over the measurement period.

The Fund’s Investment Policy

The Fund’s long-term rate of return on its investments will be mostly determined by its allocation to various asset classes. According to the plans’ Investment Policy Statement, the target asset allocation is composed of 35% domestic large cap equity, 7.5% domestic small cap equity, 7.5% mid cap equity, 10% international equity, 5% emerging markets equity, 20% investment grade fixed income, 5% high yield fixed income and 10% alternative investments such as hedge funds, private equity, commodities and real estate.

Domestic Large Cap Equity

We use the Dividend Discount Model to forecast the long-term return on large cap equity. According to this model, the expected annualized return on the equity market is the sum of long-term inflation, the current dividend yield (based on next year’s expected dividend), and the expected long-term real growth rate in dividends.

Our long-term assumption for the annualized rate of inflation is 2.75%. This is based on the difference between current yields on long maturity treasury bonds and inflation-indexed treasury bonds at the end of December 2011.

The trailing dividend yield on the S&P 500 Index was 2.19% at the end of December 2011. We expect the real growth rate in dividends to match the real growth in corporate earnings which, in turn, should closely track, but not exceed, the real growth rate in GDP. The December 2011 issue of Blue Chip Financial Forecasts reports a consensus forecast for average U.S. real GDP growth of about 2.70% over the next 10 years. We use 2.40% as our forecast for the growth in real earnings and dividends. Therefore, the current dividend yield based on next year’s expected dividend is 2.24% ($2.19\% \times 1.024 = 2.24\%$). Adding the dividend growth rate to the yield gives us an expected real return of 4.64% ($2.24\% + 2.40\% = 4.64\%$). Finally, we add (using geometric addition) expected inflation of 2.75% per year to adjust the real return to a nominal return. This leads to the expected annualized return for large cap equity of 7.52%.

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$$(1 + 4.64\%) \times (1 + 2.75\%) - 1 = 7.52\%$$

We round this result to 7.50%.

Core Fixed Income

We assume that the yield to maturity of the Barclays Capital Aggregate Bond Index will move over the next five years from its current level to an expected level. The expected level is equal to the forecasted yield of long Treasury bonds in five years based on consensus forecasts (5.60%) plus the Aggregate's average historical yield spread to long Treasury bonds. Expected 30-year returns reflect the impact of this yield movement. The yield to maturity of the Barclays Capital Aggregate Bond Index was 2.24% at the end of December 2011. Its yield spread over long Treasury bonds has averaged -0.08% since 1990. Applying this process leads to an expected annualized yield of 5.52% in 5 years and an annualized return of 4.65% over the 30-year period.

Other Asset Classes

We use capital asset pricing theory to develop expected returns for other asset classes. The theory holds that the expected return for an asset class is based on its contribution to the risk of the total market portfolio containing all assets. Assets that bring high risk to the market portfolio have higher expected returns than assets that bring low risk. Risk is measured by covariance. The level of expected return associated with the amount of risk is calibrated by the expected returns developed above for large cap equity and core fixed income.

The expected returns for the portfolio's asset classes are shown in the table below. We show both the expected annualized rate of return and the expected arithmetic average return for each asset class and the total portfolio. The expected arithmetic average return for each asset class is a necessary input to determine the expected annualized return on the total portfolio. The expected arithmetic average return is the best estimate of the return in any single year, and is always higher than the expected annualized return. The annualized return over a multiple-year period is less than the arithmetic average return due to volatility and the process of compounding. The expected annualized rate of return is based on a 30-year horizon. We also show the expected standard deviation of annual returns for each asset class. The standard deviations and the correlations between each pair of assets (not shown) are estimated based on actual returns over the last 42 years (or longest time period available).

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<u>Asset Class</u>	<u>Policy Target Weight</u>	<u>Expected 30-Year Annualized Return</u>	<u>Expected Arithmetic Average Annual Return</u>	<u>Expected Annual Standard Deviation</u>
Domestic Large Cap Equity	35.0%	7.50%	8.90%	17.92%
Domestic Small Cap Equity	7.5	7.50	10.45	26.49
Domestic Mid Cap Equity	7.5	7.50	9.59	22.05
International Equity	10.0	7.50	9.34	20.65
Emerging Markets Equity	5.0	7.50	11.70	32.09
Alternative Investments	10.0	6.00	6.45	10.00
Intermediate Fixed Income	20.0	4.25	4.46	6.68
High Yield Bonds	5.0	6.75	7.31	11.15
Total Portfolio	100.0%	7.20%*	8.04%*	13.74%*

* The derivation of the portfolio's annualized rate of return and standard deviation are complicated and cannot be calculated by what is provided in the above table.

Our best estimate assumption for the long-term annualized rate of return on the Funds' policy portfolio is 7.20% before investment management fees. Our best estimate for the long-term arithmetic average return is 8.04% before investment management fees.

Since a plan's assets accumulate at the long-term annualized rate of return, this is the expected rate of return that should be used as the basis for selecting the investment return assumption.

Investment Management Fees

Most funds pay considerable fees to active investment managers. If active management fails to outperform an index fund by at least the amount of the difference between active management fees and index fund fees, the Fund always has the option to use index funds. So, over the long run, we would expect the Fund's long-term rate of return, net of fees, to be the same or higher than that which could be earned using index funds. For plans this size, index fees are estimated to be about 15 basis points, or 0.15%.

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Our best estimate assumption for the long-term annualized rate of return on the plan's policy portfolio is 7.05% after reflecting investment management fees. Our best estimate assumption for the long-term arithmetic average return on the Fund's policy portfolio is 7.89% after reflecting investment fees.

Reasonable Range and Recommendation: Based on the ASOP No. 27 guidelines, we conclude that the reasonable range should be based on the expected nominal rates of return between the 25th and the 75th percentile projected out 30 years, less investment-related administrative expenses.

Investment Return	
Current Assumption	7.50%
Reasonable Range	5.37% - 8.71%
Recommended Assumption	7.00%

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**SECTION III
DEMOGRAPHIC ASSUMPTIONS**

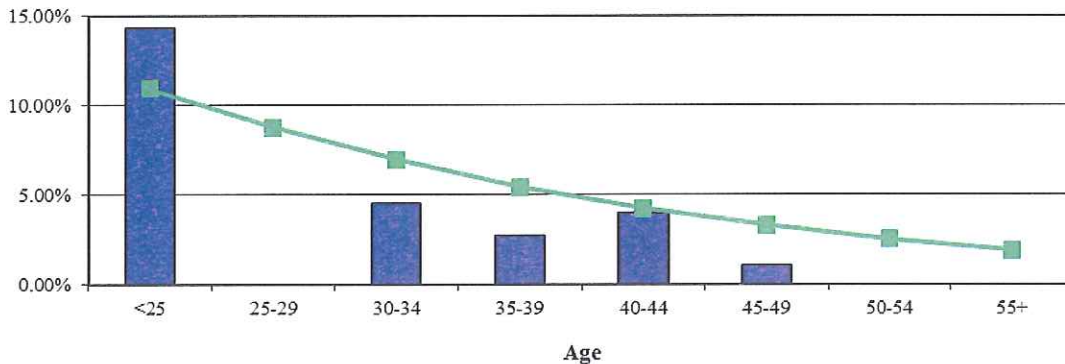
A. TURNOVER

Current Assumption: Age-graded rates for Municipal members per the following table; no turnover is assumed for Police members:

Rates of Turnover		
Age	Police	Municipal
20	0%	10.94%
25	0%	8.78%
30	0%	6.98%
35	0%	5.45%
40	0%	4.23%
45	0%	3.29%
50	0%	2.52%
55+	0%	1.89%

Results: We analyzed the data for 2007 through 2011 by age for each individual in our study. We combined the experience into 5-year age groups (i.e. ages 25-29, 30-34, etc.) and then smoothed the raw experience data to develop the proposed turnover assumption. Any turnover experience occurring at central ages of 55 and above was considered to be an “outlier” and was not used for purposes of developing the proposed turnover assumption. Actual experience is shown in blue and the results predicted by the current assumptions are shown in green.

Municipal



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For the Police plan, there was only one participant who terminated during the period, which is reasonably consistent with our assumption of no turnover.

Recommended Assumption: Based on our judgement, the current Municipal age-graded rates are reasonable. During economic downturns, turnover experience tends to be lighter than expected. We recommend the continued use of the current assumptions for both plans.

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B. RETIREMENT

Current Assumption: Rates per the following tables vary by service for Police and age for Municipal;

Rates of Retirement - Police

For participants hired before January 1, 1994

<u>Service</u>	<u>Rate</u>
20	50%
21-29	10
30	100

For participants hired on and after January 1, 1994

<u>Service</u>	<u>Rate</u>
23	75%
24-29	20
30	100

Rates of Retirement – Municipal

<u>Age</u>	<u>Rate</u>
55-58	2%
59	7
60-61	10
62	35
63-64	20
65	50
66-69	40
70	100

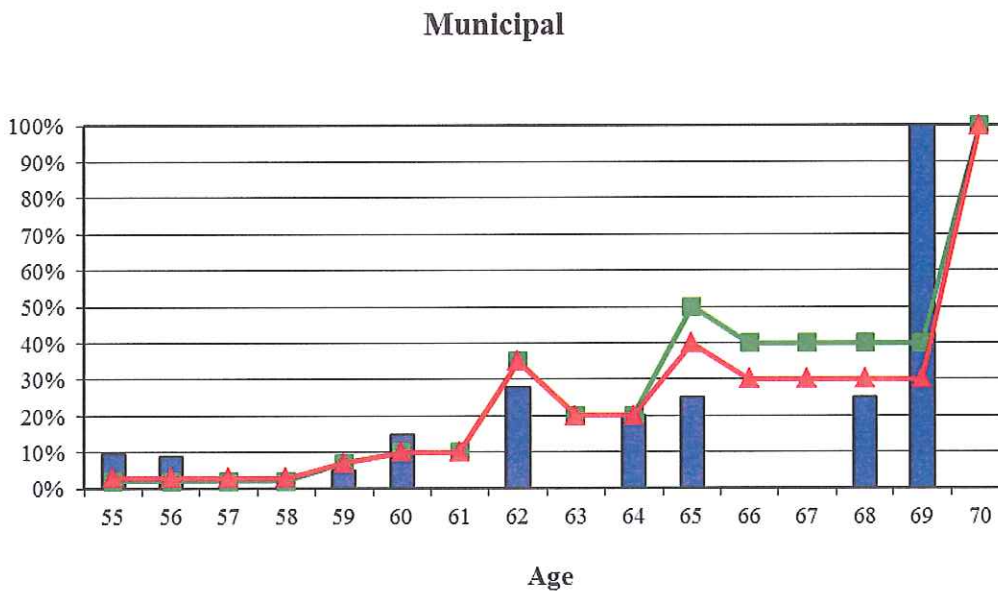
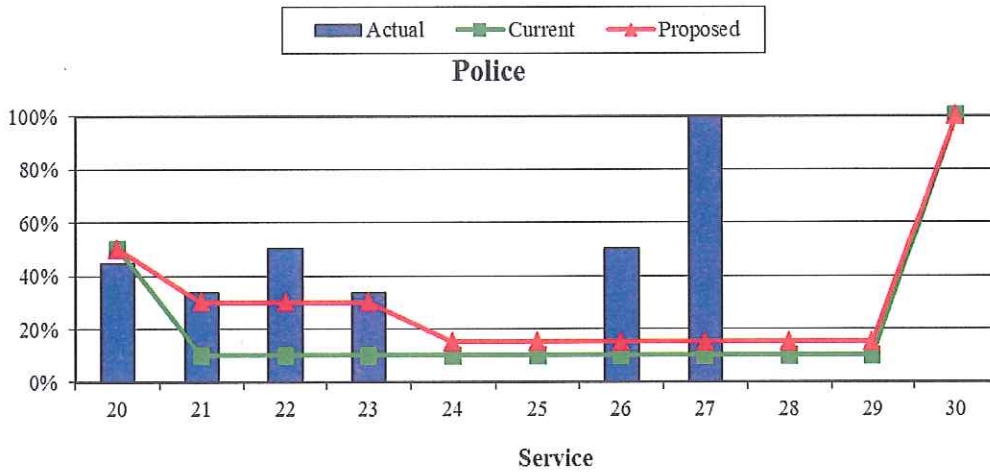
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Study Design: We analyzed the data for 2007 through 2011 by age for each individual in our study. We smoothed the raw experience data to develop the proposed retirement assumption for each plan. Each graph below shows the results by age group. Actual experience is shown in blue. The results predicted by the current assumptions are shown in green, and the results predicted by the proposed assumptions are shown in red. Please note that the Police plan only shows participants hired before January 1, 1994 as there have not been any retirements for participants hired on or after January 1, 1994.

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Note: For Police, 100% of members eligible for retirement are assumed to retire at 30 years of service. For Municipal, 100% of members eligible for retirement are assumed to retire at age 70.

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Results and Recommended Assumption:

The current service-related (Police) and age-related (Municipal) rate structures are still appropriate, but the assumed rates should be increased for Police participants hired before January 1, 1994. For Municipal, the assumed rates at certain ages should be modified to better reflect anticipated experience. The recommended rates are shown below:

Rates of Retirement - Police

For participants hired before January 1, 1994

<u>Service</u>	<u>Rate</u>
20	50%
21-23	30
24-29	15
30	100

For participants hired on and after January 1, 1994

<u>Service</u>	<u>Rate</u>
23	75%
24-29	20
30	100

Rates of Retirement - Municipal

<u>Age</u>	<u>Rate</u>
55-58	3%
59	7
60-61	10
62	35
63-64	20
65	40
66-69	30
70	100

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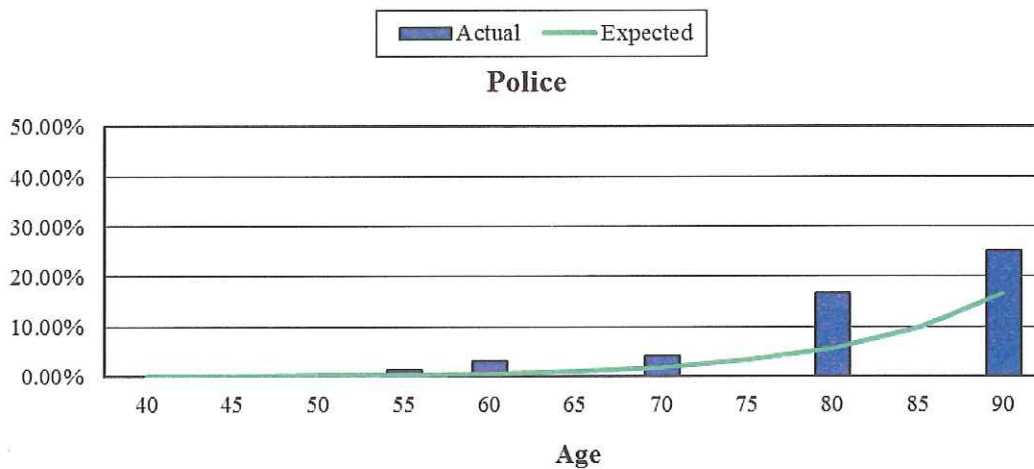
**SECTION III
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C. MORTALITY

Current Assumption: The RP-2000 Combined Healthy Mortality Table projected to 2005 with Scale AA, with separate male and female tables.

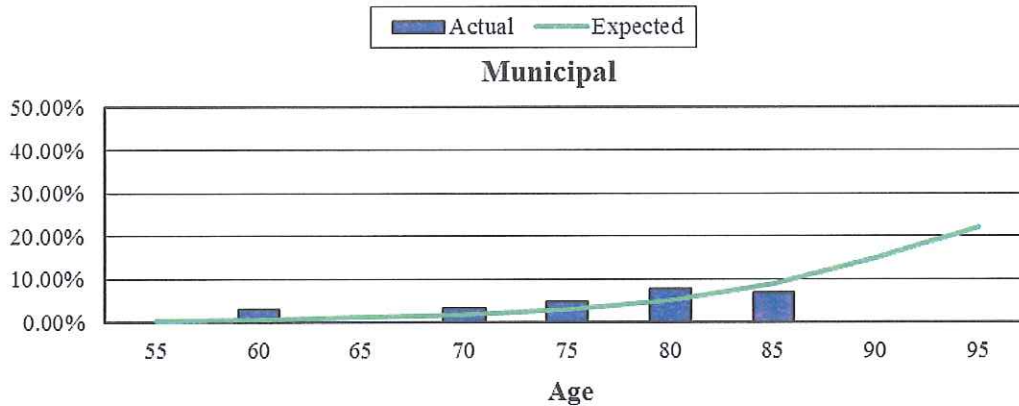
Study Design: We looked at the rates of mortality among retirees and beneficiaries.

Results: The graphs below show the actual rate of deaths during the study period along with the rate of deaths predicted by the current mortality table. Please note that all graphs show the rates of actual and expected deaths, not the number of deaths. Actual experience is shown in blue; the results predicted by the current assumptions are shown in green. The results show that the current Police and Municipal assumptions are generally reasonable.



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Recommended Assumption: The mortality table should be updated and should provide a margin for future mortality improvement. The plan’s population is not large enough to generate full credible mortality experience. Therefore, the mortality assumption should reflect a standard published table. We recommend that the mortality assumption be updated to the RP-2000 Combined Healthy Mortality Table with generational projection per Scale AA. The RP-2000 mortality table is the table recommended by the Society of Actuaries Retirement Plan Experience Committee (RPEC), and generational projection is consistent with the RPEC’s recommendation that “pension valuations should take trends in long-term mortality improvement into account.” We recommend continuing to use separate male and female tables.

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D. DISABILITY

Current Assumption: 1987 Commissioner's Group D Disability Table with a six month elimination period for both plans. Separate tables for males and females.

Recommendation: We recommend continuation of the current assumption for both plans as credible experience does not exist that would suggest a change in this assumption.

E. PERCENT MARRIED

Current Assumption: It is assumed that 75% of active members are married at retirement for both the Police and Municipal plans. Husbands are assumed to be 3 years older than their spouses.

Recommendation: We recommend no change in the current assumption, as experience has been generally consistent with the current basis.

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**SECTION IV
ACTUARIAL COST METHODS**

A. ASSET VALUATION METHOD (ACTUARIAL VALUE)

Current Method: You are using a smoothing method which phases in recognition of the difference between the actual return on market value and the expected return on market value over a five-year period at 20% per year.

Recommendation: We recommend the continued use of this asset valuation method. It is a widely-used method for public sector pension plans and provides an excellent degree of smoothing of investment gains and losses.

B. ACTUARIAL COST METHOD

Current Method: The current method is the Entry Age Normal Method. It is used for determining the future rates of contributions needed for funding benefits. This method is designed to provide “percentage of payroll” Normal Actuarial Costs which will remain stable as long as the average entry age of the group remains stable. It recognizes experience gains and losses immediately.

Recommendation: We recommend the continued use of this actuarial cost method. It is the most commonly used method for public sector pension plans and is one of the acceptable methods under GASB 25/27.

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**APPENDIX A
SUMMARY OF PLAN PROVISIONS**

POLICE

This exhibit summarizes the major provisions of the Coventry Municipal Police Officers Retirement Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Eligibility	Full-time police officers that have received his/her appointment.
Member Contributions	Members hired on or after January 1, 1994 contribute 9% of compensation. Members hired before January 1, 1994 contribute 8% of compensation. Interest is credited at 5% per year.
Normal Form of Benefit	100% Joint & Survivor Annuity with Modified Cash Refund. Optional forms of benefit are available on an actuarially equivalent basis.
Vesting	25% after 4 years of service, increasing 5% for each of the next 5 years, then increasing 10% for each of the next 5 years to 100% after 15 years. Members are 100% vested at their Early Retirement Date, Normal Retirement Date, or Disability Retirement Date.
Normal Retirement	Officers who received their appointments prior to January 1, 1994: 20 years of service. Officers who received their appointments after January 1, 1994: 23 years of service. Amount: 50% of Compensation.
Late Retirement	Officers who received their appointments prior to January 1, 1994: 25 years of service. Officers who received their appointments after January 1, 1994: 28 years of service.

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**APPENDIX A
SUMMARY OF PLAN PROVISIONS**

POLICE

Late Retirement (cont.)	Benefit: 50% of Compensation plus 2% of Compensation for each year worked beyond the officer's Normal Retirement Date.
Disability Retirement	Eligibility: Injured in the line of duty and unable to return to work within 2 years. Immediate benefit equal to 66 2/3% of accrued benefit, payable until the member's Normal Retirement Date.
Pre-Retirement Survivor	If the member has reached Normal Retirement Date – 100% of the benefit that would have been payable as if he/she had retired on the date of death.
Pre-Retirement Death Benefit	Return of member contributions with interest.
Cost of Living	1 ½% (compounded) for officers retired prior to July 1, 1986. 2 ½% (compounded) for officers retired after July 1, 1986 (and hired prior to January 1, 1994). 2 ¾% (non-compounded) for officers hired on or after January 1, 1994.

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**APPENDIX A
SUMMARY OF PLAN PROVISIONS**

MUNICIPAL

This exhibit summarizes the major provisions of the Coventry Municipal Employees Retirement Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Eligibility	Municipal employees working in nonuniform classifications. Eligible members participate on the first day of the month following date of hire.
Average Compensation	The average of total pay received for the five consecutive years out of the ten latest years which gives the highest average.
Member Contributions	All active participants contribute 7% of compensation. Interest is credited at 5% per year.
Normal Form of Benefit	Life Annuity with Modified Cash Refund. Optional forms of benefit are available on an actuarially equivalent basis.
Vesting	40% after 4 years of service, increasing 5% for each of the next 2 years, then increasing 10% for each of the next 5 years to 100% after 11 years. Members are 100% vested at their Early Retirement Date, Normal Retirement Date, or Disability Retirement Date.
Normal Retirement	Eligibility: Age 62. Amount: 2% of Average Compensation per year of service.
Early Retirement	Eligibility: Age 55 with 10 years of vesting service.

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**APPENDIX A
SUMMARY OF PLAN PROVISIONS**

MUNICIPAL

Early Retirement (cont.)	Benefit: Accrued benefit reduced by 6 2/3% for each of the first 5 years and 3 1/3% for each of the next 2 years by which the member's Early Retirement Date precedes their Normal Retirement Date.
Late Retirement	Eligibility: any age beyond 62. Benefit: The greater of (a) the accrued benefit as of the member's Late Retirement Date or (b) the accrued benefit as of the member's Normal Retirement Date increased actuarially.
Disability Retirement	Eligibility: 10 years of service. Immediate benefit equal to 25% of Average Compensation, payable until the member's Normal Retirement Date. Deferred benefit equal to the accrued benefit, starting on the member's Normal Retirement Date.
Pre-Retirement Survivor	If the member is vested and is married at the time of death, the surviving spouse will receive a benefit equal to 50% of the benefit that would have been payable had the member terminated immediately before death, elected to retire at their earliest retirement eligibility or date of death if later, and elected a 50% joint and survivor annuity. The surviving spouse's benefit is payable starting on the date that would have been the member's earliest retirement date.
Pre-Retirement Death Benefit	Return of member contributions with interest.

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**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

POLICE & MUNICIPAL

The actuarial funding method used in the cost calculations is the *Entry Age Normal Cost Method*. Recommended annual contributions, until the Accrued Liability is completely funded, consist of two pieces: Normal Cost plus a payment towards the Unfunded Accrued Liability.

The *Normal Cost* is determined by calculating the present value of future benefits for the present active members that will become payable as the result of death, disability, retirement or termination. This cost is then spread as a level percentage of earnings from entry age to termination as an active member.

If Normal Costs had been paid at this level for all prior years, a fund would have been accumulated. Because this fund represents the portion of benefits that would have been funded to date, it is termed the *Accrued Liability*. In fact, it is calculated by adding the present value of benefits for Retired Members and Terminated Vested Members to the present value of benefits for Active Members and subtracting the present value of future Normal Cost contributions.

The *Actuarial Value of Assets* is determined by recognizing market gains or losses over a five year period.

The *Unfunded Accrued Liability* is equal to the Accrued Liability less the Actuarial Value of Assets. The Unfunded Accrued Liability is amortized over a 25 year period starting on July 1, 2008. The amortization period will decrease each year until this amortization period is 10 years and then it will remain at 10 years. The amortization payment is calculated such that it remains a level percentage of payroll.

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

POLICE

Investment Return	7.50% (prior valuation: 8.00%)
Expenses	Prior year's actual administrative expenses increased by 3% and rounded to the nearest \$100.
Payroll Growth Rate	4.00%
Salary Increases	Table S-5 from the Actuary's Pension Handbook plus 3.50%:

<u>Age</u>	<u>Rate</u>
20	8.60%
25	7.68
30	7.07
35	6.61
40	6.22
45	5.89
50	5.62
55	5.38

Employees hired prior to 1994 receive an additional 20% salary increase the year before retirement.

Mortality	RP-2000 Combined Healthy Mortality Table projected to 2005 with Scale AA, separately for males and females.
Percent Married	75% of active and terminated vested members are assumed to be married, with husbands assumed to be 3 years older than their wives.
Withdrawal	None.

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

POLICE

Disability

1987 Commissioner's Group Disability Table, six month elimination period, separately for males and females:

<i>Age</i>	<i>Male</i>	<i>Female</i>
22	0.0800%	0.1000%
27	0.0890	0.1157
32	0.1050	0.1554
37	0.1370	0.2315
42	0.2020	0.3050
47	0.3560	0.4628
52	0.6620	0.7282
57	1.1870	1.0683
62	1.6710	1.2532

Retirement

Active members are assumed to retire based on the following rates:

50% of employees hired prior to 1994 are assumed to retire when first eligible. 10% are assumed to retire in the years thereafter. 100% of employees are assumed to retire at 30 years of service.

75% of employees hired after 1994 are assumed to retire when first eligible. 20% are assumed to retire in the years thereafter. 100% of employees are assumed to retire at 30 years of service.

Cost of Living

1 ½% (compounded) for officers retired prior to July 1, 1986.

2 ½% (compounded) for officers retired after July 1, 1986 (and hired prior to January 1, 1994).

2 ¾% (non-compounded) for officers hired on or after January 1, 1994.

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

MUNICIPAL

Investment Return	7.50% (prior valuation: 8.00%)
Expenses	Prior year's actual administrative expenses increased by 3% and rounded to the nearest \$100.
Payroll Growth Rate	4.00%
Salary Increases	Table S-5 from the Actuary's Pension Handbook plus 2.00%:

<u>Age</u>	<u>Rate</u>
20	7.10%
25	6.18
30	5.57
35	5.11
40	4.72
45	4.39
50	4.12
55	3.88

Mortality RP-2000 Combined Healthy Mortality Table projected to 2005 with Scale AA, separately for males and females.

Percent Married 75% of active and terminated vested members are assumed to be married, with husbands assumed to be 3 years older than their wives.

Withdrawal 2003 SOA Small Plan Age Table multiplied by .45:

<u>Age</u>	<u>Rate</u>
20	10.94%
25	8.78
30	6.98
35	5.45
40	4.23
45	3.29
50	2.52
55	1.89

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

MUNICIPAL

Disability

1987 Commissioner's Group Disability Table, six month elimination period, separately for males and females:

<u>Age</u>	<u>Male</u>	<u>Female</u>
22	0.0800%	0.1000%
27	0.0890	0.1157
32	0.1050	0.1554
37	0.1370	0.2315
42	0.2020	0.3050
47	0.3560	0.4628
52	0.6620	0.7282
57	1.1870	1.0683
62	1.6710	1.2532

Retirement

Active members are assumed to retire based on the following rates:

<u>Age</u>	<u>Rate</u>
55-58	2%
59	7
60-61	10
62	35
63-64	20
65	50
66-69	40
70	100

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**APPENDIX C
MEMBERSHIP DATA**

POLICE

	<i>Active</i>	<i>Vested</i>	<i>Retired</i>	<i>Total</i>
<i>Count as of July 1, 2009</i>	60	2	66	128
Terminated, paid refund	-	(1)	-	(1)
Terminated, benefits due	(1)	-	-	(1)
Retired	(5)	(1)	6	-
Died, beneficiary due benefits	-	-	(2)	(2)
Died, no further benefits due	-	-	(1)	(1)
Correction	-	-	-	-
New member	-	-	5	5
Correction	-	-	-	-
<i>Count as of July 1, 2011</i>	54	0	74	128

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**APPENDIX C
MEMBERSHIP DATA**

POLICE

	Years of Service										All Years
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+			
<=25	0	0	0	0	0	0	0	0	0	0	0
25-29	13	2	0	0	0	0	0	0	0	0	15
30-34	2	5	1	0	0	0	0	0	0	0	8
35-39	1	3	3	0	0	0	0	0	0	0	7
40-44	2	3	3	5	0	0	0	0	0	0	13
45-49	0	0	0	4	1	0	0	0	0	0	□□
50-54	1	0	1	0	1	0	0	0	0	0	3
55-59	0	0	0	0	1	0	1	0	0	0	2
60-64	0	0	0	0	0	0	0	0	0	1	1
65+	0	0	0	0	0	0	0	0	0	0	0
All Ages	19	13	8	9	3	0	0	1	1	1	54

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**APPENDIX C
MEMBERSHIP DATA**

MUNICIPAL

	<i>Active</i>	<i>Term. Vested</i>	<i>Retired</i>	<i>Total</i>
<i>Count as of July 1, 2009</i>	110	42	59	211
Terminated, paid refund	-	(2)	-	(2)
Terminated, vested	(1)	1	-	-
Retired	(7)	(3)	10	-
Died, beneficiary due benefits	-	-	(2)	(2)
Died, no further benefits due	(1)	-	(5)	(6)
Transferred to Police Plan	-	-	-	-
Correction	-	-	-	-
New member	3	-	3	6
Rehired	-	-	-	-
Correction	-	-	-	-
<i>Count as of July 1, 2011</i>	104	38	65	207

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**APPENDIX C
MEMBERSHIP DATA**

MUNICIPAL

	<i>Years of Service</i>										<i>All Years</i>
	<i>0-4</i>	<i>5-9</i>	<i>10-14</i>	<i>15-19</i>	<i>20-24</i>	<i>25-29</i>	<i>30-34</i>	<i>35+</i>			
<i><=25</i>	0	1	0	0	0	0	0	0	0	0	1
<i>25-29</i>	4	2	0	0	0	0	0	0	0	0	6
<i>30-34</i>	0	3	2	0	0	0	0	0	0	0	5
<i>35-39</i>	3	4	1	0	0	0	0	0	0	0	8
<i>40-44</i>	4	3	5	2	1	0	0	0	0	0	15
<i>45-49</i>	2	2	7	2	5	0	0	0	0	0	18
<i>50-54</i>	2	7	3	7	8	3	0	0	0	0	30
<i>55-59</i>	2	2	3	0	3	2	2	1	1	1	15
<i>60-64</i>	1	1	0	0	0	1	1	0	0	0	4
<i>65+</i>	0	1	0	0	1	0	0	0	0	0	2
<i>All Ages</i>	18	26	21	11	18	6	3	1	1	1	104

**TOWN OF COVENTRY PENSION PLANS
2011 EXPERIENCE STUDY**

**APPENDIX D
SELECTED ECONOMIC ASSUMPTIONS FROM THE
2011 OASDI TRUST FUNDS ANNUAL REPORT**

THE 2011 ANNUAL REPORT OF THE BOARD OF
TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS
INSURANCE AND FEDERAL DISABILITY INSURANCE
TRUST FUNDS

COMMUNICATION

FROM

THE BOARD OF TRUSTEES, FEDERAL OLD-AGE AND
SURVIVORS INSURANCE AND FEDERAL DISABILITY
INSURANCE TRUST FUNDS

TRANSMITTING

THE 2011 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE
FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND FEDERAL
DISABILITY INSURANCE TRUST FUNDS



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WASHINGTON: 2011

Assumptions and Methods

1.1 percentage points for 2020 and to average 1.2 percentage points for 2021 through 2085. For the low-cost assumptions, the real-wage differential is projected to average 3.3 percentage points for 2011 through 2013, 2.2 percentage points for 2014 through 2020, and 1.8 percentage points for 2021 through 2085. For the high-cost assumptions, the real-wage differential is projected to average 2.3 percentage points for 2011 through 2013, and then mostly decline to 0.6 percentage point by 2020, and to average 0.6 percentage point for 2021 through 2085.

Table V.B1.—Principal Economic Assumptions

Calendar year	Annual percentage change ^a in—						
	Productivity (Total U.S. economy)	Earnings as a percent of compensation	Average hours worked	GDP price index	Average annual wage in covered employment	Consumer Price Index	Real- wage differ- ential ^b
Historical data:							
1960 to 1965....	3.2	-0.2	0.2	1.4	3.2	1.2	2.0
1965 to 1970....	2.0	-4	-7	4.1	5.8	4.2	1.6
1970 to 1975....	2.1	-7	-9	6.7	6.6	6.8	-2
1975 to 1980....	.9	-6	-2	7.3	8.9	8.9	-1
1980 to 1985....	1.7	-3	.0	5.2	6.5	5.2	1.3
1985 to 1990....	1.3	.1	-.1	3.2	4.7	3.8	.9
1990 to 1995....	1.2	-2	.4	2.5	3.6	3.0	.6
1995 to 2000....	2.3	.5	.1	1.7	5.3	2.4	2.9
2000 to 2005....	2.5	-.5	-.8	2.4	2.7	2.5	.2
2005 to 2010....	1.8	-2	-.4	2.1	2.5	2.3	.2
2000	2.7	.1	-1.1	2.2	6.1	3.5	2.6
2001	2.4	-.5	-1.3	2.3	2.0	2.7	-.7
2002	3.2	-1.1	-1.0	1.6	.7	1.4	-.7
2003	3.0	-1.3	-1.5	2.2	2.6	2.2	.3
2004	2.4	.7	.0	2.8	4.7	2.6	2.1
2005	1.5	-.4	-.2	3.3	3.7	3.5	.2
20068	.5	.0	3.3	4.6	3.2	1.4
2007	1.2	.4	-.4	2.9	4.7	2.9	1.8
2008	1.1	-.4	-.7	2.2	2.3	4.1	-1.8
2009	2.9	-1.2	-1.8	.9	-1.8	-.7	-1.2
2010 ^c	2.7	-.1	.7	1.0	2.9	2.1	.8
Intermediate:							
2011	1.7	.2	.2	1.2	4.1	1.2	2.9
2012	2.0	.2	.0	1.3	4.5	1.7	2.9
2013	2.0	.0	.0	1.5	4.6	1.9	2.7
2014	1.9	-.3	.0	1.6	4.2	2.0	2.2
2015	1.7	-.3	.0	1.6	3.9	2.0	1.9
2016	1.5	.0	.0	1.6	4.0	2.0	2.0
2017	1.5	.0	.0	1.8	4.0	2.2	1.8
2018	1.6	.2	.0	2.2	4.4	2.6	1.8
2019	1.6	.0	.0	2.4	4.2	2.8	1.4
2020	1.6	-.1	.0	2.4	3.9	2.8	1.1
2020 to 2025....	1.7	-.1	.0	2.4	3.9	2.8	1.1
2025 to 2085....	1.7	-.1	.0	2.4	4.0	2.8	1.2

Table V.B1.—Principal Economic Assumptions (Cont.)

Calendar year	Annual percentage change ^a in—						
	Productivity (Total U.S. economy)	Earnings as a percent of compensation	Average hours worked	GDP price index	Average annual wage in covered employment	Consumer Price Index	Real- wage differ- ential ^b
Low-cost:							
2011	1.8	0.2	0.3	1.2	4.4	1.1	3.2
2012	2.2	.2	.1	.9	4.5	1.1	3.4
2013	2.2	.0	.1	1.0	4.5	1.3	3.3
2014	1.8	-.2	.1	1.1	3.9	1.4	2.5
2015	1.6	-.3	.1	1.2	3.6	1.5	2.2
2016	1.6	.0	.1	1.3	3.8	1.6	2.2
2017	1.8	.1	.1	1.4	3.9	1.7	2.2
2018	1.9	.2	.1	1.5	4.0	1.8	2.3
2019	1.9	.0	.1	1.5	3.8	1.8	2.0
2020	1.9	.0	.1	1.5	3.5	1.8	1.7
2020 to 2025 . . .	2.0	.0	.1	1.5	3.5	1.8	1.7
2025 to 2085 . . .	2.0	.0	.1	1.5	3.6	1.8	1.8
High-cost:							
2011	1.3	.2	.1	1.5	3.8	1.6	2.2
2012	1.9	.2	-.1	1.9	4.8	2.4	2.5
2013	1.9	.0	-.1	2.3	5.1	2.8	2.3
2014	1.7	-.3	-.1	2.5	4.8	3.0	1.8
2015	1.7	-.4	-.1	2.7	4.9	3.2	1.7
2016	1.6	-.1	-.1	2.7	5.1	3.2	1.9
2017	1.4	-.1	-.1	2.9	4.9	3.4	1.5
2018	1.3	.1	-.1	3.1	4.8	3.6	1.2
2019	1.3	-.1	-.1	3.3	4.7	3.8	.9
2020	1.4	-.2	-.1	3.3	4.4	3.8	.6
2020 to 2025 . . .	1.4	-.2	-.1	3.3	4.3	3.8	.5
2025 to 2085 . . .	1.4	-.2	-.1	3.3	4.4	3.8	.6

^a For rows with a single year listed, the value is the annual percentage change from the prior year. For rows with a range of years listed, the value is the compound average annual percentage change.

^b For rows with a single year listed, the value is the annual percentage change in the average annual wage in covered employment less the annual percentage change in the Consumer Price Index. For rows with a range of years listed, the value is the average of annual values of the differential. Values are rounded after all computations.

^c Historical data are not available for the full year. Estimated values vary slightly by alternative and are shown for the intermediate assumptions.

5. Labor Force and Unemployment Projections

The civilian labor force is projected by age, sex, marital status, and presence of children. Projections of the labor force participation rates for each group take into account disability prevalence, educational attainment, the average level of Social Security retirement benefits, the state of the economy, and the change in life expectancy. The projections also include a “cohort effect” that applies differences in participation rates for a cohort at a specific age, relative to earlier cohorts at the same age, to participation rates for that cohort at older ages.

The annual rate of growth in the labor force decreased from an average of about 2.1 percent during the 1970s and 1980s to about 1.1 percent from 1990