

**CITY OF EL PASO, TEXAS
REQUEST FOR COUNCIL ACTION (RCA)**

DEPARTMENT: City Manager
AGENDA DATE: October 28, 2008
CONTACT PERSONS/PHONE: William F. Studer, Deputy City Manager, 541-4252
DISTRICT(S) AFFECTED: ALL DISTRICTS

SUBJECT:

APPROVE a resolution / ordinance / lease to do what? OR AUTHORIZE the City Manager to do what? Be descriptive of what we want Council to approve. Include \$ amount if applicable.

Discussion and action on a resolution to accept the audit of actuarial valuations of the City Employee's Pension Fund and the Firemen and Policemen Pension Fund of El Paso, pursuant to Chapter 802, Texas Government Code.

BACKGROUND / DISCUSSION:

Discussion of the what, why, where, when, and how to enable Council to have reasonably complete description of the contemplated action. This should include attachment of bid tabulation, or ordinance or resolution if appropriate. What are the benefits to the City of this action? What are the citizen concerns?

This was a new requirement imposed by the Legislature in the 2007 Legislative Session. The statute requires that the City audit the actuarial valuations of both pension funds every 5 years. The audit report is being presented to the Council for review and discussion, pursuant to the statute, and will be filed with the State.

PRIOR COUNCIL ACTION:

Has the Council previously considered this item or a closely related one?

No

AMOUNT AND SOURCE OF FUNDING:

How will this item be funded? Has the item been budgeted? If so, identify funding source by account numbers and description of account. Does it require a budget transfer?

The study was funded in the 2007-2008 General Fund Budget

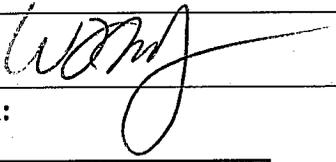
BOARD / COMMISSION ACTION:

N/A

*****REQUIRED AUTHORIZATION*****

LEGAL: (if required) _____

FINANCE: _____

DEPARTMENT HEAD:  _____

APPROVED FOR AGENDA: _____

CITY MANAGER: _____

DATE: _____

RESOLUTION

WHEREAS, the City retained the Stanton Group, an independent actuary to audit the actuarial valuations, studies and reports of the City Employee's Pension Fund and the Firemen and Policemen Pension Fund of El Paso, as required by Chapter 802, Texas Government Code, which requires such an audit every five years; and

WHEREAS, the Stanton Group timely conducted the audit, followed by the additional, statutorily required discussions and the opportunity for the inclusion of responses from the pension funds prior to the presentation of the audit to the City on October 20, 2008; and

WHEREAS, the City, pursuant to Section 802.1012 (h), Texas Government Code, posted an item on the Council agenda for the meeting of October 28, 2008 for the presentation of the audit results.

NOW, THEREAFTER, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EL PASO, TEXAS THAT:

1. That the City Council accepts the presentation of the audit results at its regular City Council meeting on October 28, 2008;
2. That a copy of the final audit report be maintained in accordance with the City's records retention requirements at the Office of the City Clerk to be available for public inspection; and
3. That the City Manager submit a copy of the final audit report to the public requirement system and the State Pension Review Board no later than November 19, 2008.

PASSED AND APPROVED this 28th day of October 2008.

CITY OF EL PASO

John F. Cook, Mayor

ATTEST:

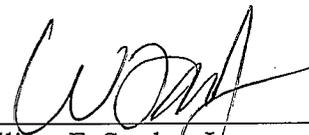
Richarda Duffy Momsen
City Clerk

APPROVED AS TO FORM

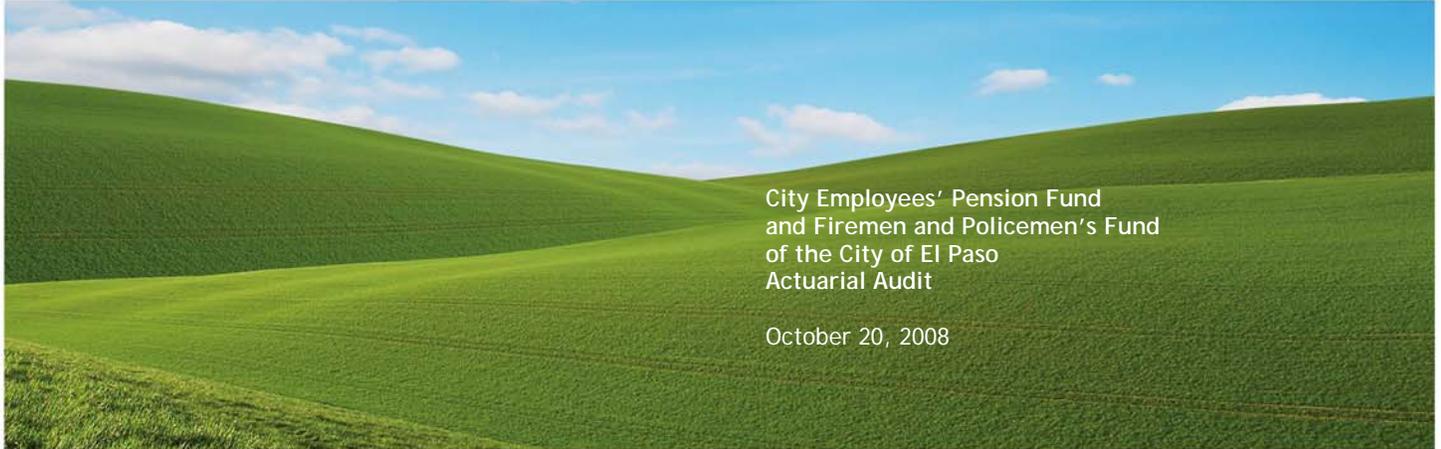


Elaine S. Hengen
Senior Assistant City Attorney

APPROVED AS TO CONTENT



William F. Studer, Jr.
Deputy City Manager



City Employees' Pension Fund
and Firemen and Policemen's Fund
of the City of El Paso
Actuarial Audit

October 20, 2008

**STANTON
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Corporate Headquarters
3405 Annapolis Ln N, Suite 100, Minneapolis, MN 55447
763 278 4028 | 763 278 4029 (fax) | www.stanton-group.com

October 20, 2008

Mr. William F. Studer, Jr.
Deputy City Manager
City of El Paso
2 Civic Center Plaza
El Paso, Texas 79901

**Re: Actuarial Audit of the City Employees' Pension Fund and Firemen and
Policemen's Pension Fund Of The City of El Paso**

Dear Mr. Studer:

Stanton Group is pleased to provide the enclosed documents which collectively represent the final Actuarial Audit Report of the City Employees' Pension Fund and the Firemen and Policemen's Pension Funds. The information enclosed in this document includes the following:

- The *Preliminary Draft Actuarial Audit Report*. The enclosed reports are unchanged from the reports that were provided to each Fund on September 4, 2008. The reports include (1) a *Plan Liability Audit* to verify the accuracy of the Fund's actuarial valuations, (2) an *Actuarial Assumption & Cost Method Review* to provide a thorough analysis of the economic and demographic assumptions and the actuarial cost methods used to determine the results presented by the Fund's actuary, and (3) a *Summary of Findings & Recommendations* to restate the significant findings.
- The City Employees' Pension Fund September 22, 2008 response to the Preliminary Draft Actuarial Audit Report.
- The Firemen & Policemen's Pension Fund September 25, 2008 response to the Preliminary Draft Actuarial Audit Report.

After presenting our report and receiving a written response from the Funds, we do not believe that we need to make any corrections or restatements to the preliminary draft reports. We also believe that the responses from the Fund as well as from Buck Consultants are reasonable and indicate acceptance of our recommendations.

Purpose of the Report

This report is in response to the actuarial audit requirements of Government Code Chapter 802.1012 (House Bill 2664). The law requires an actuarial audit of the actuarial valuations, studies, and reports for the five year period from September 1, 2003 through September 1, 2008. This report attempts to meet the requirements of the law as well as provide the City with other information that we believe is important to fully understand the current status and future of the Funds.

Summary of Findings and Concerns

The *Plan Liability Audit* indicated that there are no significant concerns about the reliability of the actuarial valuation results for each of the Funds. The calculations appear reasonably accurate and are based on assumptions that do not appear unreasonable. Stanton Group could resolve the small differences in results with additional effort. However, we do not believe that action is necessary. Buck Consultants agreed with our recommendation for this finding.

The *Actuarial Assumption & Cost Method Review* resulted in the conclusion that we do not believe that any of the assumptions can be considered unreasonable. However, the experience study report was, at times, lacking in documentation of sources of information as well as short on detail regarding how study results were translated into conclusions. We believe that for many assumptions Buck could have included greater detail to support their recommendations.

Both Buck Consultants and the Funds agreed with our recommendation that future experience reports be expanded to include more information about the source of the information and more discussion regarding their rationale for determining the proposed assumptions.

Stanton Group raised one specific finding regarding the development of Withdrawal Rates in the experience study for the City Employees' Pension Fund and suggested that it may be appropriate to modify this assumption prior to the next experience study. While Buck Consultants did not directly address our question regarding the methodology of the recommended assumption, they did provide a reasonable answer to justify no modification to this assumption prior to the next experience study. We accept their approach and agree with deferment of any assumption change until the completion of the next experience study.

Conclusion

Stanton Group believes that the City can consider the results of the most recent actuarial valuations as reasonable and accurate. The Fund's have accepted our recommendation that future experience studies provide more thorough detail and documentation. We encourage that the City be involved with the next experience study process and be given the opportunity to provide comments prior to the acceptance of any recommendations resulting from the experience study.

Stanton Group appreciates the opportunity to provide services to The City of El Paso. If you have any questions regarding our report, or if you would like additional information, please contact me.

Sincerely



Douglas A. Anderson, M.A.A.A., E.A., A.S.A.
Director of Actuarial Services
Stanton Group
(763) 278-4010



Pension Funds Response to Preliminary
Draft Actuarial Audit Report

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El Paso
City Employees' Pension Fund

PENSION ADMINISTRATION

ROBERT B. ASH, M.B.A., J.D.
Pension Administrator and Legal Advisor

PATRICIA HICKMAN
Deputy Pension Administrator

TERRY RAMIREZ
Benefit/Budget Specialist

ALMA R. DUEÑAS
Benefit/Budget Specialist

September 22, 2008

Mr. William Studer
Deputy City Manager
#2 Civic Center Plaza
El Paso, Texas 79901

Dear Mr. Studer,

Thank you for allowing us to review the "Draft Actuarial Audit Report" prepared by the City's independent actuary. We were pleased to see that the work performed by our actuary regarding our valuations was accurate. This report verifies that the reporting of the El Paso City Employees' Pension Fund fairly presented the funded position of the City Employees' Pension Fund.

Our Board requested that our actuary, Buck Consultants, review the report of the Stanton Group. The response from Buck Consultants is attached for your review. In summary, our actuary appears to agree with the conclusions reached in the Stanton report. After reviewing the response from our actuary we agree to further elaborate in future experience studies the basis for the actuarial assumptions the fund selects for the study.

Once again thank you for allowing us to participate in this review. If you have any questions or comments regarding this response from our fund please do not hesitate to contact me at your convenience.


Juan F. Sandoval
Board Chairman

Attachment



September 15, 2008

Mr. Robert B. Ash
Pension Administrator
El Paso City Employees' Pension Fund
Two Civic Center Plaza, 3rd Floor
El Paso, TX 79901-1196

Re: Response to Draft Actuarial Audit Report

Dear Mr. Ash:

As you requested, we have reviewed the draft Actuarial Audit Report dated September 4, 2008 and prepared by the Stanton Group for the El Paso City Employees' Pension Fund (Fund). The draft report contains Findings and Recommendations in three areas. A summary of the Findings and Recommendations is shown below along with our response to each issue.

1. Plan Liability Differences

The Stanton Group prepared estimates of the Actuarial Accrued Liability and Normal Cost and both are within 3% of the amounts that we calculated. Based on this difference and the fact that a plan liability audit was not a required component of the actuarial audit, the draft report indicates that we are accurately determining liability and contribution estimates. The report also states that any remaining small differences could be resolved with additional effort that they do not believe is necessary.

We agree with the recommendation of the Stanton Group for this finding.

2. Experience Study Report and Results

The Stanton Group expressed the opinion that the experience study report that we prepare was lacking in documentation and sources of information as well as detail regarding how study results were translated into conclusions. They do not believe that any of the assumptions that were used are unreasonable but that increased documentation and discussion should be included in future experience study reports related to the following assumptions:

- Investment Return
- Inflation Rate
- Salary Increase Rate
- Overtime Pay
- Total Payroll Growth

- Mortality Rates
- Retirement Rates
- Accumulated Sick Leave Credits
- Marriage and Spouse Age

We agree with the recommendation of the Stanton Group regarding this finding. Future experience study reports will be expanded to include more information about the source of the information and more discussion regarding our rationale for determining the proposed new assumptions.

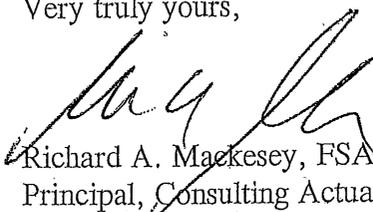
3. Withdrawal Rates

The Stanton Group believes that the probability of withdrawals in the first two years under the new assumptions that were used in the 2006 valuation may be overstated. In addition, they recommend that the next experience study include more discussion about the setting of this assumption, consistent with their recommendation in item number 2. They also suggest that it may be appropriate to modify this assumption prior to the next experience study.

As noted in our response to item 2, we agree with the recommendation to provide more discussion regarding the setting of assumptions in the next experience study. However, the actual termination experience over the two year period from September 1, 2004 to August 31, 2006 shows that the number of participants who terminated during this period is higher than the expected number of terminations in total and at virtually all age and service combinations. While two years is not enough time to make a proper determination of the appropriateness of the new assumptions, the recent termination experience does not indicate that the assumed termination rates are overstated as contemplated in the recommendations of the Stanton Group. Therefore, we do not feel that it is necessary to modify the termination assumption before the next experience study.

If you have any questions or would like additional information, please let us know.

Very truly yours,


Richard A. Mackesey, FSA, EA, MAAA
Principal, Consulting Actuary



El Paso Firemen & Policemen's Pension Fund



September 25, 2008

Mr. William F. Studer, Jr.
Deputy City Manager
2 Civic Center Plaza
El Paso, Texas 79901

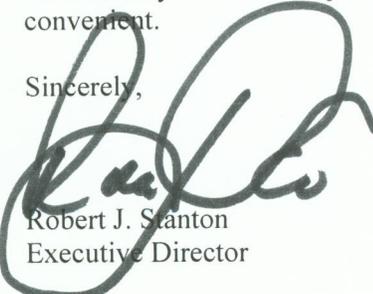
Re: *Response to Draft Actuarial Audit Report*

Dear Mr. Studer:

Pursuant to the receipt of the Actuarial Audit Report performed by the Stanton Group, dated September 4, 2008, enclosed please find the above referenced response letter as approved by the Board of Trustees at their September 17, 2008 meeting.

Should City Council require the attendance of the Fund's actuary, please let me know as soon as convenient.

Sincerely,



Robert J. Stanton
Executive Director

Enclosure

Cc: File



September 15, 2008

Mr. Robert J. Stanton
Executive Director
El Paso Firemen & Policemen's Pension Fund
201 E. Main, Suite 1616
El Paso, TX 79901-1340-5623

Re: Response to Draft Actuarial Audit Report

Dear Mr. Stanton:

As you requested, we have reviewed the draft Actuarial Audit Report dated September 4, 2008 and prepared by the Stanton Group for the El Paso Firemen and Policemen's Pension Fund (Fund). The draft report contains Findings and Recommendations in two areas. A summary of the Findings and Recommendations is shown below along with our response to each issue.

1. Plan Liability Differences

The Stanton Group prepared estimates of the Actuarial Accrued Liability and Normal Cost and both are within 2% of the amounts that we calculated. Based on this difference and the fact that a plan liability audit was not a required component of the actuarial audit, the draft report indicates that we are accurately determining liability and contribution estimates. The report also states that any remaining small differences could be resolved with additional effort that they do not believe is necessary.

We agree with the recommendation of the Stanton Group for this finding.

2. Experience Study Report and Results

The Stanton Group expressed the opinion that the experience study report that we prepare was lacking in documentation and sources of information as well as detail regarding how study results were translated into conclusions. They do not believe that any of the assumptions that were used are unreasonable but that increased documentation and discussion should be included in future experience study reports related to the following assumptions:

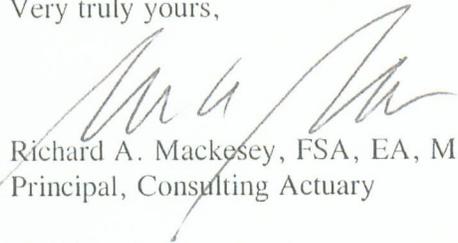
- Investment Return
- Inflation Rate
- Salary Increase Rate
- Overtime Pay
- Total Payroll Growth

- Back DROP Election and Back DROP Period
- Marriage and Spouse Age
- Mortality Rates
- Retirement Rates

We agree with the recommendation of the Stanton Group regarding this finding. Future experience study reports will be expanded to include more information about the source of the information and more discussion regarding our rationale for determining the proposed new assumptions.

If you have any questions or would like additional information, please let us know.

Very truly yours,



Richard A. Mackesey, FSA, EA, MAAA
Principal, Consulting Actuary

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Stanton Group Preliminary Draft
Actuarial Audit Report

**STANTON
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Together, we're better.

September 4, 2008

Mr. William F. Studer, Jr.
Deputy City Manager
City of El Paso
2 Civic Center Plaza
El Paso, Texas 79901

**Re: City Employees' Pension Fund and Firemen and Policemen's Pension Fund
Of The City of El Paso**

Dear Mr. Studer:

Stanton Group is pleased to provide the enclosed analysis summarizing the results of our Actuarial Audit of both the City Employees' Pension Fund and the Firemen and Policemen's Pension Funds. The two reports consist of the following three components:

- ***A Plan Liability Audit*** to verify the accuracy of the Fund's actuarial valuations. The participant data, assumptions and methods utilized by the Fund's actuary, Buck Consultants, are programmed in Stanton Group's actuarial software, resulting in either verification of the liability and contribution rate estimate or identification of poor estimates. Neither the participant data nor the assumptions and methods are audited during the Plan Liability Audit.
- ***An Actuarial Assumption & Cost Method Review*** to provide a thorough analysis of the economic and demographic assumptions and the actuarial cost methods used to determine the results presented by the Fund's actuary. The assumptions and methods are evaluated for reasonableness on an individual and aggregate basis. The review includes an analysis of the Actuarial Experience Studies used as a basis for justifying the current assumptions used by the Funds.
- ***A Summary of Findings & Recommendations*** to restate the significant findings as well as to discuss potential consequences or action steps available to the City.

Purpose of the Report

This report is in response to the actuarial audit requirements of Government Code Chapter 802.1012 (House Bill 2664). The law requires an actuarial audit of the actuarial valuations, studies, and reports for the five year period from September 1, 2003 through September 1, 2008. This report attempts to meet the requirements of the law as well as provide the City with other information that we believe is important to fully understand the current status and future of the Funds.

Summary of Findings and Concerns

The following is a brief summary of our most significant findings and concerns:

- Stanton Group's estimates of the total Actuarial Accrued Liability and Normal Cost are within 3% of the amounts determined by the Fund's actuary, for all three Funds. The plan liability audit was not a required component of the actuarial audit. However, it is an efficient and effective way to ensure that the liability and contribution rates are accurate. Our results indicate that Buck Consultants are accurately determining liability and contribution estimates based on the participant data, assumptions, methods, and benefit provisions described in their valuation reports and experience studies. While we already have obtained a close match of results, we believe that any remaining small differences that exist could be resolved with more effort between Stanton Group and the Fund's actuary. We do not believe that this step is necessary.

Although we closely match certain calculations, small differences can result in large differences after converting liabilities to annual contribution rates. When comparing the contribution rates against the statutory City contribution, the difference in results is even more magnified. For example, in the City Fund our estimate of the Actuarial Accrued Liability is only 2.2% less than Buck's. However, after subtracting assets, amortizing the Unfunded Actuarial Accrued Liability over 30 years, and then comparing the contribution rate to the City's statutory rate, the net difference is a 32% drop in the amortization period from 75 years to 51 years.

This emphasizes that while we find the liability results to be accurately determined, small differences in liability can have a big impact on the apparent funding status of the Plan.

- Buck's experience study report was, at times, lacking in documentation of sources of information as well as short on detail regarding how study results were translated into conclusions. We believe that for many assumptions Buck could have included greater detail to support their recommendations. Overall, we do not believe that any of the assumptions used by Buck are unreasonable. However, we do believe that the next experience study report should include more documentation of sources of information as well as more detail regarding how numerical results were translated into conclusions.

We have noted some additional specific questions and recommendations that Buck may choose to consider during their next experience study. Specific assumptions worth additional consideration are the withdrawal rates for the City Fund and the mortality and retirement rates for the Firemen's and Policemen's Fund.

There was no clear indication that the current selected assumptions are either aggressive or conservative. However, given the room for significant adjustments to the assumptions, and the sensitivity of results as described above, it is possible that assumption changes could significantly impact the valuation results.

In addition to the above key findings, several other less significant findings are included in our report.

Conclusion

Overall there is no significant concern about the reliability of the actuarial valuation results for each of the Funds. The calculations appear reasonably accurate and are based on assumptions that do not appear unreasonable. However, actuarial valuation results are very sensitive to the assumptions used to determine liabilities and we believe that greater emphasis should be placed on the development of the assumptions in the next experience study. The City may want to seek an opportunity to provide input regarding how those assumptions are evaluated and determined in the future.

Stanton Group appreciates the opportunity to provide services to The City of El Paso. If you have any questions regarding our report, or if you would like additional information, please contact me.

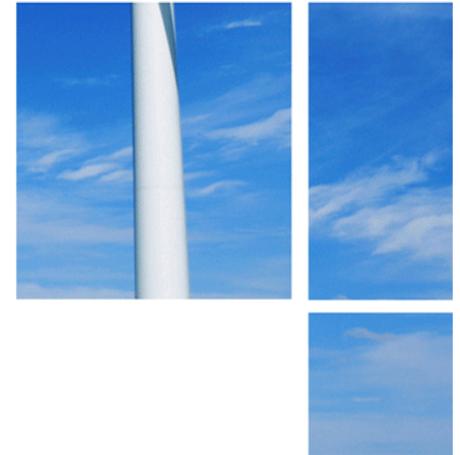
Sincerely,

A handwritten signature in black ink, appearing to read "Douglas Anderson".

Douglas A. Anderson, M.A.A.A., E.A., A.S.A.
Director of Actuarial Services
Stanton Group
(763) 278-4010

Actuarial Audit of the El Paso City Employees' Pension Fund

September 4, 2008



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Section One - Plan Liability Audit

This section provides a comparison of the liabilities calculated by Stanton Group and those presented by the Fund's actuary, Buck Consultants, in the September 1, 2006 Actuarial Valuation for the El Paso City Employees' Pension Fund.

Comparison of Participant Data

Member data from the September 1, 2006 Actuarial Valuation was obtained from the Fund's actuary. The September 1, 2006 Member data was not specifically audited, rather the data was checked only for reasonableness compared to the data sections of the September 1, 2006 Actuarial Valuation. A summary of the demographic information presented in the September 1, 2006 Actuarial Valuation and the participant data provided to Stanton Group are shown below:

	Actuarial Valuation	Stanton Group	Difference	Comments	
<i>Active Members</i>					
▪ Number of vested	1,715	1,715	0.00%	In addition to the Members identified in this section, the Fund provides Cost of Living Adjustments (COLAs) for 383 retirees for whom annuities were purchased from Prudential. Although no demographic data is shown here, we did confirm that we received data for these individuals and we did include the liability for their COLAs in our liability estimates.	
▪ Number of nonvested	<u>2,188</u>	<u>2,188</u>	0.00%		
▪ Total	3,903	3,903	0.00%		
▪ Covered payroll	\$ 123,981,701	\$ 123,981,701	0.00%		
▪ Average annual pay	\$ 31,766	\$ 31,766	0.00%		
▪ Average age	46.0	46.0	0.00%		
▪ Average service	10.3	10.3	0.00%		
<i>Retired Members</i>					
▪ Number currently being paid from fund	1,743	1,743	0.00%		There were no significant issues obtaining the Fund participant data from the Fund's actuary or loading that data into Stanton Group's software system. The data was reviewed for reasonableness and there were no unusual data entries found. The match results indicate that participant data is not a source of any difference in liability results.
▪ Total current annual benefit	\$ 26,086,939	\$ 26,086,939	0.00%		
▪ Average current annual benefit	\$ 14,967	\$ 14,967	0.00%		
▪ Average age	67.0	67.0	0.00%		
<i>Deferred Vested Members</i>					
▪ Number entitled to deferred benefits	106	106	0.00%		
▪ Total deferred annual benefit	1,618,799	1,618,799	0.00%		
▪ Average deferred annual benefit	15,272	15,272	0.00%		
▪ Average age	47.5	47.5	0.00%		

Comparison of Liabilities and Contribution Rates

Liabilities were calculated using Stanton Group's actuarial software system. Stanton Group uses the ProVal software system sponsored by Winklevoss Technologies, LLC. The software system was programmed primarily based on the Summary of Benefit Provisions section of the September 1, 2006 Actuarial Valuation. The valuation results in this report reflect the results summarized by Buck Consultants.

An attempt to match the plan liability is not explicitly required as part of the actuarial audit process required by law. However, we have taken the step to complete a plan audit because we believe, based on work we have done for the City in the past, that it is the most efficient and reliable method to determine the reasonableness of liabilities.

The following briefly describes the Entry Age Normal Accrued Liability and Normal Cost. These are the two most significant components used to determine the annual required contribution developed by Buck Consultants. These are the most important values that we have attempted to match.

Entry Age Normal Accrued Liability: An actuarial funding method is a method of developing the costs of a pension plan so that the payment of the costs will accumulate to the reserve required at normal retirement age. Under the Entry Age Normal funding method a part of this accumulation is assigned to service prior to the valuation date and the remaining part to service after the valuation date. The part assigned to service prior to the valuation date is called the Actuarial Accrued Liability (AAL) and the part assigned to service after the valuation date is called the Present Value of Future Normal Costs (PVFNC).

The unfunded portion of AAL is referred to as the Unfunded Actuarial Accrued Liability (UAAL). The UAAL is amortized over a period of years. The PVFNC is expressed as a percentage of future salaries to be paid each year. The amount of the PVFNC to be paid for the year following the valuation date is called the Normal Cost. Under the Entry Age Normal funding method, expected benefit increases and expected pay increases after the valuation date are reflected in the past service liability (the AAL). For this reason, this method is often considered a more conservative approach for funding purposes and the AAL determined under this method usually determines whether the plan is over-funded or under-funded.

Entry Age Normal Cost: This amount is the estimated value of benefits earned by active employees during the plan year. It depends on the member's service, salary, and age at retirement. Actuarial assumptions such as rates of salary increases or other benefit increases are used to determine the benefit amount at retirement. Other assumptions such as rates of termination, disability, retirement, and mortality are used to estimate when the benefit payments commence and how long they are expected to be paid.

The Entry Age Normal Cost is determined in a manner such that for an individual employee, the amount when expressed as a percentage of pay will be constant from their entry date into the plan until their assumed retirement date(s). As a result, the normal cost is usually considered the true cost of providing benefits under the plan. It represents the cost that would occur if all assumptions in the past and in the future are met.

A goal of an actuarial cost method is to fund a retiree's benefit during their active working lifetime. Ideally, all future benefits are anticipated so that the cost of those benefits correlates to the period in which the benefits are earned. In order to meet this goal, all future benefits, including COLAs, would need to be reflected in the cost. If COLAs are not reflected in the normal cost, they will, in effect, not be recognized during the period in which the benefit is earned and the cost will be shifted to the future.

ACTUARIAL AUDIT OF THE EL PASO CITY EMPLOYEES' PENSION FUND

A summary of the liabilities presented in the September 1, 2006 Actuarial Valuation and those calculated by Stanton Group are shown below:

	Actuarial Valuation	Stanton Group	Difference	Comments
1. Covered payroll	\$ 123,981,701	\$ 123,981,701	0.0%	<p>The Plan Liability Audit indicates that the liability and contribution estimates by Stanton Group are, in the aggregate, reasonably close to estimates by the Fund's actuary. Differences less than 5% are generally considered to be a reasonable match. Stanton Group's AAL estimate (-2.2%) and total normal cost (1.6%) are both less than 3% different than the amounts determined by the Fund's actuary.</p> <p>Larger percentage differences appear in the UAAL and Funding Period due to the leveraging affect of taking differences to calculate these values.</p> <p>This demonstrates how sensitive the funding period is to small changes in the liability estimate. Despite our more significant differences in the UAAL, funding margin, and funding period, we believe that the development of the liabilities used to determine these results is reasonable.</p>
2. Actuarial present value of future pay	\$ 952,105,800	\$ 950,805,153	-0.1%	
3. Current contribution rates				
a. City	10.25%	10.25%	0.0%	
b. Member	<u>6.75%</u>	<u>6.75%</u>	0.0%	
c. Total	17.00%	17.00%	0.0%	
4. Normal cost rate				
a. Total (before adjustment for overtime)	14.01%	14.23%	1.6%	
b. Total (after adjustment for overtime)	13.87%	14.09%	1.6%	
c. Member contribution rate	<u>6.75%</u>	<u>6.75%</u>	0.0%	
d. Employer normal cost rate (4b - 4c)	7.12%	7.34%	3.1%	
5. Actuarial present value of future benefits	\$ 701,992,522	\$ 691,298,721	-1.5%	
6. Actuarial present value of future normal	\$ 133,390,023	\$ 135,340,517	1.5%	
7. Actuarial accrued liability (5 - 6)	\$ 568,602,499	\$ 555,958,204	-2.2%	
8. Actuarial value of assets	\$ 471,232,491	\$ 471,232,491	0.0%	
9. Unfunded actuarial accrued liability (UAAL) (7 - 8)	\$ 97,370,008	\$ 84,725,713	-13.0%	
10. 30-year funding cost				
a. Employer normal cost	7.12%	7.34%	3.1%	
b. Amortization rate	<u>4.34%</u>	<u>3.78%</u>	-12.9%	
c. Total	11.46%	11.12%	-3.0%	
11. Margin over/(under) 30-year cost (3a - 10c)	(1.21%)	(0.87%)	-28.1%	
12. Funding period to amortize UAAL	75 years	51 years	-32.0%	

Section Two - Actuarial Assumption & Cost Method Review

In the Plan Liability Audit section of this report, the assumptions and methods used by the Fund's actuary to calculate liabilities were applied without being challenged to determine the accuracy of the liabilities. In the Actuarial Assumption & Cost Method Review section, the assumptions and methods are examined for reasonableness, and the impact of changes to the assumptions and methods is also explored. The key assumptions and methods consist of *economic assumptions* regarding investment returns, salary increases, and inflation adjustments and *demographic assumptions* related to individual participant expectations for turnover, disability, retirement, and death.

From time to time, assumption changes are warranted. The most effective way to study and update assumptions is to perform an experience study to evaluate actual plan experience versus expectations. Experience studies are common for public sector plans and are typically done in five-year intervals. The results of the most recent The El Paso City Employees' Pension Fund Retirement Plan Experience Study prepared by Buck Consultants were provided to us. The study covered the period from September 1, 1998 through August 31, 2004. The study resulted in the following assumption changes adopted for the September 1, 2006 Actuarial Valuation:

- The inflation assumption was decreased from 4.25% to 4.00%.
- The salary increase assumption was decreased for recent hires and employees with greater than 26 years of service and increased for those between 2 and 20 years of service.
- The total payroll growth assumption was changed from 4.25% to 4.00%.
- The mortality assumption was updated to the UP94 (projected to 2009 with Scale A) mortality table.
- The retirement rates were modified for most ages.
- The withdrawal rates were modified for most ages.

Our comments regarding the assumptions in this section include our analysis of Buck's experience study conclusions.

The Fund's actuary determines the value of liabilities and assets using *actuarial cost methods*. An actuarial cost method is used to separate the total liability into past service and future service components and convert current liability estimates into recommended funding requirements. An actuarial asset cost method is used to determine how asset values should be determined each year. Other cost methods are used to determine how assumptions should be applied to value liabilities.

The key assumptions and cost methods used by the Fund's actuary, along with our analysis regarding the reasonableness of each assumption and method and the impact of potential changes are shown on the following pages.

I. Economic Assumptions	
Actuarial Valuation Assumption	Stanton Group Analysis
<p>Investment Return:</p> <p>8.00% per annum, compounded annually, net of expenses.</p> <p>This rate reflects an underlying inflation rate of 4.0% and a real rate of return of 4.0%.</p>	<p>Investment Return:</p> <p>The investment return assumption should reflect long-term future expected investment returns based on the Fund's investment policy.</p> <p>Buck has based their assumption on future expectations. Their experience study shows a development of an assumed total rate of return by placing an assumed real rate of return on each asset class and calculating a weighted average real rate of return based on the asset allocation. The study discloses the Fund's target asset allocation as 65% equities and 35% domestic fixed income. Unlike the Firemen & Policemen's study, the asset classes are not further broken down into types of equity investments (i.e. Large Cap, Small Cap, etc.). Based on Buck's assumptions for real rates of return for these two asset classes, they develop a weighted average real rate of return of 4.775%. The net expected total return, after reflecting a 4.000% inflation assumption and 0.500% assumed expenses, was determined to be 8.275% (4.775% + 4.000% - 0.500%).</p> <p>Buck's asset allocation is comparable to most public sector plans. According to a January 2008 Report on the Asset Allocation and Investment Performance of Texas Public Employee Retirement Systems (TEXPERS), the average allocation for the 43 responding TEXPERS member local systems was 55.7% equities, 26.6% fixed income, 8.0% real estate, and 9.7% other investments. According to this study 63% of the systems surveyed use an 8.0% assumption. Eight of the 43 plans (19% of the plans) use either 8.25% or 8.5%. Based on Buck's study and the TEXPERS data, an argument for a higher rate such as 8.25% could be made. Presumably, 8.0% was retained to maintain a degree of conservatism.</p> <p>Buck's methodology is acceptable. However, there is no documentation in the report of their source for assumed real rates of return. This approach is highly dependent on this assumption and the source should be included in the study. It may be valuable in the next study to include assumed real rates of return from multiple sources to demonstrate the impact of different forecasts on this assumption.</p> <p>We believe that use of an 8.0% assumption is reasonable for the Fund's current asset allocation. It is consistent with the assumption used by the majority of retirement systems in Texas and is slightly more conservative than the assumption based on Buck's economic forecast. We recommend inclusion of sources for assumptions in the next experience study as well as increased discussion of the logic behind the selection of the assumed rate.</p>

I. Economic Assumptions (continued)	
Actuarial Valuation Assumption	Stanton Group Analysis
<p><i>Inflation Rate:</i> 4.00% assumed rate of inflation</p>	<p><i>Inflation Rate:</i></p> <p>The liability calculations are not directly impacted by the inflation rate. However, it is a component of the development of the investment return and salary increase assumptions. A change in those assumptions due to the inflation component would affect the liability. Similar to the development of the investment return assumption, this assumption should reflect long-term future expectations.</p> <p>The experience study notes the Consumer Price Index (CPI) when measured over ten year periods ending every 10 years from 1943 to 2003, with a 70-year average of 3.9%. The report does not include commentary to justify the 4.0% assumption. As a result, the 70-year average appears to be the basis to change from a 4.25% to a 4.00% assumption.</p> <p>The use of historical rates to justify an assumption about future expectations is tenuous. Over the 20 years ending in 2003, the rate averaged 3.0%; over 30 years it was 4.6%; and over 40 years it was 4.7%. These results reflect differences in the rates reported by Buck in their two studies. It could be argued that a 20, 30, or 40 year period could be relied upon to support any assumption from 3% to 5%.</p> <p>Forecasting inflation is highly subjective. The Public Fund Survey prepared October 2007 by the National Association of State Retirement Administrators indicated that the median rate was 3.5%. About 30% of respondents used 4.0% or higher. However, this study predates recent inflation increases and it is possible some respondents may be forecasting higher rates now.</p> <p>Buck's study appears to rely strictly on past data for justification of their assumption. It is also unclear whether this approach is consistent with the assumed real rates of return used to develop the investment return assumption. One approach appears to be retrospective, while the other is prospective. If the inflation assumption were reduced from 4.0% to 3.0%, would this reduce the expected rate of return to 7.275% (from 8.275%)?</p> <p>We believe that the next experience study should include more discussion regarding the role of inflation in the forecast of assumed real rates of return. We are concerned that Buck's approach does not adequately justify their assumption. Nevertheless, this assumption on its own has no impact on the liabilities in the plan. Therefore, we are less concerned with the inflation rate itself than with how it is coordinated with the investment return assumption. Since we are comfortable with the 8.0% investment return assumption, we are not concerned with the 4.0% inflation rate.</p>

I. Economic Assumptions (continued)

Actuarial Valuation Assumption	Stanton Group Analysis																																								
<p>Salary Increase Rate:</p> <p>Assumed annual rates of future salary increase attributable to longevity and promotion are as follows:</p> <table border="1" data-bbox="352 537 600 1157"> <thead> <tr> <th>Years of Service</th> <th>Annual Rate of Salary Increase</th> </tr> </thead> <tbody> <tr><td>0</td><td>7.75%</td></tr> <tr><td>1</td><td>7.50%</td></tr> <tr><td>2</td><td>7.25%</td></tr> <tr><td>3</td><td>7.00%</td></tr> <tr><td>4</td><td>6.75%</td></tr> <tr><td>5</td><td>6.50%</td></tr> <tr><td>6</td><td>6.25%</td></tr> <tr><td>7</td><td>6.00%</td></tr> <tr><td>8</td><td>5.75%</td></tr> <tr><td>9</td><td>5.75%</td></tr> <tr><td>10</td><td>5.50%</td></tr> <tr><td>11</td><td>5.50%</td></tr> <tr><td>12</td><td>5.50%</td></tr> <tr><td>13</td><td>5.25%</td></tr> <tr><td>14</td><td>5.25%</td></tr> <tr><td>15</td><td>5.25%</td></tr> <tr><td>16-20</td><td>5.00%</td></tr> <tr><td>21-25</td><td>4.75%</td></tr> <tr><td>26 or more</td><td>4.50%</td></tr> </tbody> </table>	Years of Service	Annual Rate of Salary Increase	0	7.75%	1	7.50%	2	7.25%	3	7.00%	4	6.75%	5	6.50%	6	6.25%	7	6.00%	8	5.75%	9	5.75%	10	5.50%	11	5.50%	12	5.50%	13	5.25%	14	5.25%	15	5.25%	16-20	5.00%	21-25	4.75%	26 or more	4.50%	<p>Salary Increase Rate:</p> <p>The salary increase assumption based on service was updated for the September 1, 2006 Actuarial Valuation. This assumption change was based on the results of the experience study for the period from September 1, 1998 through August 31, 2004. The change reduced the rates for the first two years of service and after 25 years of service. The rates between years two and 20 were increased. There was no change for years 21 through 25. According to Buck's experience study, this assumption change increased the UAAL by about \$3.6 million.</p> <p>The experience study includes some data indicating that salary increases over the past 5 and 10 years were evaluated. However, there is no description of methodology or discussion regarding the reasoning for the recommended rates. The report provides no data at all to indicate that rates should be reduced so significantly during the first two years of service.</p> <p>Some caution should be used when relying on past results from a relatively short period of time. Simply relying on data from the past five years to predict salary increases for periods as long as the next 30 years would not be prudent. If the past five years do not seem representative of long term past history or future expectations, a subjective element to forecasting future salary increases should be considered. It appears that some subjective consideration factored into Buck's decision to update the salary increase rates. However, there is no documentation in their report.</p> <p>Buck's assumption does not appear unreasonable. However, there is little evidence to support the recommendation. We believe that the next experience study should show greater detail by each year of service and the report should better explain the results and basis for the recommendation.</p>
Years of Service	Annual Rate of Salary Increase																																								
0	7.75%																																								
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I. Economic Assumptions (continued)	
Actuarial Valuation Assumption	Stanton Group Analysis
<p><i>Overtime Pay:</i></p> <p>Overtime is assumed to be 1% of base and longevity pay.</p>	<p><i>Overtime Pay:</i></p> <p>Buck informed us that the Normal Cost Rate is adjusted by 1% and the Amortization Rate is based on Covered Payroll which is adjusted by 1%.</p> <p>The experience study does not include any data to support this assumption. An evaluation of overtime should be focused primarily on recent retirees or employees eligible for retirement. We do not believe this assumption is unreasonable, but the next experience study should attempt to support the assumption that is selected.</p>
<p><i>Total Payroll Growth Rate:</i></p> <p>Total payroll is assumed to increase 4.00% per year. This increase rate is solely due to the effect inflation on salaries, with no allowance for future membership growth.</p>	<p><i>Total Payroll Growth Rate:</i></p> <p>A total payroll growth assumption of 4.0% does not seem unreasonable. However, since the individual salary increase assumption increased for years of service from 2 to 20, it seems somewhat surprising that this assumption would be lowered from its previous level of 4.25%. Another reason to question a lowering of the assumption is the increase in delayed retirement rates. The Fund's actuary should be asked whether the impact of these assumption changes on the total payroll growth assumption was considered. An increase in the total payroll growth assumption would reduce the UAAL amortization payment.</p> <p>The Fund's actuary could analyze the validity of this assumption by applying the demographic assumptions and individual salary increase assumptions and performing an open group valuation. This information would likely be obtainable from Buck without a significant amount of effort. We believe that this assumption should be further evaluated to ensure that it is consistent with the other assumptions.</p>

II. Demographic Assumptions

Actuarial Valuation Assumption	Stanton Group Analysis
<p>Mortality Rates:</p> <p>Non-Disabled Lives: The Uninsured Pensioner Mortality Table (UP94) projected to 2009 with Scale AA</p> <p>Disabled Lives: 1979 PBGC Mortality Table for Disabled Employees Receiving Social Security</p>	<p>Mortality Rates:</p> <p>The mortality assumption for Non-Disabled Lives was updated to the UP94 mortality table projected to 2009 with Scale AA for males and females effective September 1, 2006 as a result of the experience study. The previous assumption was the UP94 mortality table projected to 2004 with Scale AA. Buck indicates that this change increased the UAAL by \$2.6 million. The updating of this table reflects a common practice in recent years for pension plans as mortality rates tend to decrease over time and assumptions are changed to better reflect expectations for the current population.</p> <p>Use of a table such as UP94 is fairly common for pension plans that don't have credible data for an experience study. Plans that do have credible data for an experience study, such as this one, may rely heavily on actual results to determine an appropriate mortality table.</p> <p>The conclusion to change to the UP94 mortality table Projected to 2004 with Scale AA (the prior table) seems to be extremely well supported by the experience study data. Based on that table, 359 deaths were expected. There were 357 actual deaths during the five year study period. In the aggregate, this assumption was accurate for that period. The ratio of actual to expected deaths was 100%. The results by gender were equally close.</p> <p>Ideally, it is desirable to have a slightly conservative mortality table that would result in the actual number of deaths being slightly higher than the expected number. A margin of actual to expected deaths of about 100% to 110% may be considered desirable. To obtain this margin, it makes sense that Buck recommended updating their table. Another desirable feature would be for this margin to be somewhat consistent for each age. We recommend that the next experience study include a demonstration of results by age. This will ensure that the recommended table is reasonably accurate for both younger and older retirees. Despite our comments, we believe Buck's analysis of this assumption is acceptable and the current assumption is reasonable.</p> <p>The low number of Members on disability retirement makes analysis of the disability mortality table relatively insignificant. Use of the current table for post-disablement mortality seems reasonable.</p>

II. Demographic Assumptions (continued)

Actuarial Valuation Assumption

Stanton Group Analysis

Retirement Rates:

The percentage of population assumed to retire at various ages is as follows:

Age	Male Members	Female Members
45-55	10.0%	9.0%
56-60	10.0%	9.0%
61-64	20.0%	20.0%
65-69	50.0%	50.0%
70+	100.0%	100.0%

These rates will be increased by 10% and 5% for the first and second years after attainment of 30 years of service, respectively.

Retirement Rates:

Retirement assumptions are highly dependent on the unique participants and specific provisions for each pension plan. The best method for developing the retirement assumption is to rely on experience study results. The recent experience study resulted in a recommendation that included both increases and decreases in retirement rates depending on the age and service of participants. The prior assumption was strictly age based whereas the new assumption includes an additional probability of retirement for the first two years after reaching 30 years of service. According to Buck's study, the effect of this assumption change, along with the changes in the withdrawal rate assumption decreased the UAAL by \$1.7 million.

The analysis by Buck in their experience study shows actual rates of retirement by gender at each age. Results can vary significantly from age to age. However, there is some indication of trends during some age periods.

Unclear from the experience study is how Buck justified their selection of rates. The recommended assumption appears to be a slightly better fit than the previous assumption. It would have been interesting to see the ratio of actual to expected retirements if determined under the recommended table. The previous assumption resulted in a ratio of actual to expected retirements of 69%. It would be desirable to have a ratio that is closer to 100%. It is unclear whether the recommended table would reach that objective.

The next experience study will answer the question regarding how accurate this assumption will be. We believe the assumption appears reasonable, but recommend that the next experience study include data showing the impact of the next recommended change.

II. Demographic Assumptions (continued)

Actuarial Valuation Assumption	Stanton Group Analysis																
<p>Withdrawal Rates:</p> <p>The percentage of population assumed to withdrawal at various ages is as follows:</p> <table border="1" data-bbox="243 505 527 816"> <thead> <tr> <th>Age</th> <th>Withdrawal Rate</th> </tr> </thead> <tbody> <tr> <td>19-22</td> <td>20.0%</td> </tr> <tr> <td>23-27</td> <td>15.0%</td> </tr> <tr> <td>28-32</td> <td>11.0%</td> </tr> <tr> <td>33-37</td> <td>8.0%</td> </tr> <tr> <td>38-42</td> <td>7.0%</td> </tr> <tr> <td>43-47</td> <td>5.0%</td> </tr> <tr> <td>48+</td> <td>4.0%</td> </tr> </tbody> </table> <p>During the first and second years of employment, these rates are increased an additional 8% and 4%, respectively.</p>	Age	Withdrawal Rate	19-22	20.0%	23-27	15.0%	28-32	11.0%	33-37	8.0%	38-42	7.0%	43-47	5.0%	48+	4.0%	<p>Withdrawal Rates:</p> <p>The experience study results appear to indicate that this has been an accurate assumption over the five year period ending August 31, 2004. Actual terminations were 1,347 vs. an expected number of 1,293. The ratio of actual to expected withdrawals was 104% overall, with a ratio of 101% for males and 111% for females.</p> <p>Buck broke down the actual termination rates by age and years of service. No distinction was made for males and females. Despite the apparent good fit, in the aggregate, of the previous assumption, Buck relied on the data to recommend a new assumption. The data supports rates that decrease with age. It also supports the use of additional rates for the first and second years of service. However, the information as shown in their report appears to imply that the higher rates of withdrawal in the first two years of employment are influencing both the age related withdrawal rate and the service related 8% and 4% rates.</p> <p>Buck reports that the total actual rates for each of the six age bands (age bands are 23-27,28-32,33-37,38-42,43-47,48-52) are 15.8%, 11.7%, 8.7%, 7.1%, 5.6%, and 5.5% respectively. These rates support their recommended age related rates of 15%, 11%, 8%, 7%, 5%, and 4%. Use of slightly lower rates than observed actual rates is considered a conservative approach.</p> <p>The data indicates that for 0, 1, 2, 3, and 4+ years of service, the mathematical average of the data shown results in rates of 19%, 13%, 10%, 9%, and 10%. This supports that the difference between a first year termination rate and a 2+ year termination should be about 9% (19% - 10%), and the difference between a second year termination rate and a 2+ year termination rate should be about 3% or 4% (13% - 10%). This is consistent with their selection of 8% and 4% for service based additional rates.</p> <p>However, if you consider what their assumption becomes for a first year member aged 23-27, they would apply 15% for the age rate plus 8% for the first year for a total of 23%. This rate is higher than the observed first year overall average of 19% shown in the study. It appears that the development of the age related rates shown in the chart should only have been based on the rates for 2 or more years of service.</p> <p>Because the report does not provide detail regarding the selection of the assumed rate, it is possible that the above interpretation is incorrect. We recommend that Buck clarify their</p>
Age	Withdrawal Rate																
19-22	20.0%																
23-27	15.0%																
28-32	11.0%																
33-37	8.0%																
38-42	7.0%																
43-47	5.0%																
48+	4.0%																

approach and confirm whether the age related rates are based on all data or only those beyond the second year of service.

In addition to the above, there is no commentary that indicates whether the past five years are reasonable for determining an assumption about future expectations. We recommend that the experience study include more discussion reflecting the subjective nature of this assumption. For example, Buck may consider a discussion with the City whether there have been any unusual occurrences over the past five years that may not be expected in the future.

Finally, there is no evidence provided in the experience study that the recommended assumption provides overall results in line with expectations. In other words, had the recommended assumption been in place over the past five years, would the ratio of actual to expected results still been close to 100%? Presumably Buck considered the recommended table a better fit than the old table, but there is no evidence within the report to help justify this assumption.

There is not enough evidence to consider this assumption unreasonable. However, in our opinion, the question regarding the methodology to develop the assumption is worth asking. Perhaps a modification to the assumption may be appropriate prior to completion of the next experience study. At a minimum, this assumption should be carefully considered during the next study.

Disability Rates:

Sample Rates:

Age	Male Members	Female Members
25	0.01%	0.01%
30	0.02%	0.05%
35	0.03%	0.07%
40	0.16%	0.11%
45	0.35%	0.24%
50	1.00%	0.69%
55	2.14%	1.80%
60	2.54%	2.21%

Disability Rates:

The low number of occurrences of disability (5 out of 2126 retirees are disabled retirees) make it difficult to draw a definite conclusion about disability assumptions. The disability assumption has relatively little effect on the overall liability estimate. Future experience studies should monitor actual disability rates, and at that time a better evaluation of assumptions can be made.

II. Demographic Assumptions (continued)

Actuarial Valuation Assumption	Stanton Group Analysis
<p><i>Accumulated Sick Leave Credits:</i></p> <p>There is currently no assumption relative to sick leave in the plan.</p>	<p><i>Accumulated Sick Leave Credits:</i></p> <p>At retirement, an unlimited amount of sick leave may be converted to benefit service. Alternatively, up to six months of sick leave may be applied to meet a benefit eligibility requirement.</p> <p>No specific data was provided in the experience study. The impact of accumulated sick leave should be measurable. The next experience study should include an analysis of the actual impact of this provision. Recent retiree calculations should be evaluated to determine an appropriate adjustment factor.</p>
<p><i>Marriage and Spouse Age:</i></p> <p>100% of active Members are assumed to be married. Male members are assumed to be 3 years older than their spouse. Female members are assumed to be 3 years younger than their spouse.</p>	<p><i>Marriage and Spouse Age:</i></p> <p>The experience study results state that these assumptions “appear sufficiently reasonable and conservative”. There is no indication that there was any actual analysis of the assumptions completed. Our experience has indicated that the most common family related assumptions are 80% married with children and a 3-year age difference.</p> <p>The 100% marriage assumption seems conservative and reasonable for valuing the death benefits provided by this plan. Nevertheless, there should be data available to support or refine both of these assumptions. We recommend that the next experience study include some analysis of this assumption.</p>

III. Cost Methods	
Actuarial Valuation Assumption	Stanton Group Analysis
<i>Actuarial Cost Method:</i>	<i>Actuarial Cost Method:</i>
Entry Age Normal - Level Percent of Pay	This cost method is one of the cost methods permitted by GASB and is the most commonly used in large public sector pension valuations. We support continued use of this cost method.
<i>Actuarial Asset Method:</i>	<i>Actuarial Asset Method:</i>
$MV - (8/10) \times G/(L)_1 - (6/10) \times G/(L)_2 - (4/10) \times G/(L)_3 - (2/10) \times G/(L)_4$ <p>MV = market value of assets as of the valuation date G/(L)_i = asset gain or (loss) for the i-th year preceding the valuation date</p>	This assumption smoothes potential volatility in future funding requirements. It does not affect long-term funding of the plan. Any smoothing method is reasonable provided that it is consistently used and is not created with the intent to bias results. This method is reasonable.

Section Three - Summary of Findings & Recommendations

The following summarizes our significant findings and recommendations that the City may consider:

Finding	Recommendations
<p><i>Plan Liability Differences:</i></p> <p>Stanton Group's estimates of the total Actuarial Accrued Liability and Normal Cost are both within 3% of the amounts determined by the Fund's actuary.</p>	<p><i>Plan Liability Differences:</i></p> <p>The plan liability audit was not a required component of the actuarial audit. However, it is an efficient and effective way to ensure that the liability and contribution rates are accurate. Our results indicate that Buck Consultants are accurately determining liability and contribution estimates based on the participant data, assumptions, methods, and benefit provisions described in their valuation report and experience study. While we already have obtained a close match of results, we believe that any remaining small differences that exist could be resolved with more effort between Stanton Group and the Fund's actuary. We do not believe that this step is necessary.</p>
<p><i>Experience Study Report & Results:</i></p> <p>Buck's experience study report at times was lacking in documentation of sources of information as well as detail regarding how study results were translated into conclusions. We believe that for many assumptions Buck could have included greater detail to support their recommendations.</p>	<p><i>Experience Study Report & Results:</i></p> <p>Overall, we do not believe that any of the assumptions used by Buck are unreasonable. However, we do believe that the next experience study report should include more documentation of sources of information as well as more detail regarding how numerical results were translated into conclusions. Assumptions that should include increased documentation and discussion include:</p> <ol style="list-style-type: none"> 1. Investment Return 2. Inflation Rate 3. Salary Increase Rate 4. Overtime Pay 5. Total Payroll Growth 6. Mortality Rates 7. Retirement Rates 8. Accumulated Sick Leave Credits 9. Marriage and Spouse Age <p>Specific discussion of each of assumption is included earlier in this report. There was no clear indication that the current selected assumptions are either aggressive or conservative. However, given the room for significant adjustments to the assumptions, it is possible that assumption changes could significantly impact the valuation results.</p>

Finding	Recommendations
<p><i>Withdrawal Rates:</i></p> <p>The withdrawal table was updated. However, the recommended rates appear to overstate the probability of withdrawals in the first two years of employment.</p>	<p><i>Withdrawal Rates:</i></p> <p>We recommend that Buck clarify their approach and confirm whether the age related rates are based on all data or only those beyond the second year of service. We also recommend that the next experience study include some discussion reflecting the subjective nature of this assumption. For example, Buck may consider discussing with the City whether there have been any unusual occurrences over the past five years that may not be expected in the future.</p> <p>There is not enough evidence to consider this assumption unreasonable. However, in our opinion, the question regarding the methodology to develop the assumption is worth asking. Perhaps a modification to the assumption may be appropriate prior to completion of the next experience study. At a minimum, this assumption should be carefully considered during the next study.</p>

Actuarial Audit of the El Paso Firemen's Pension Fund and the El Paso Policemen's Pension Fund

September 4, 2008



**STANTON
GROUP**

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Section One - Plan Liability Audit

This section provides a comparison of the liabilities calculated by Stanton Group and those presented by the Fund's actuary, Buck Consultants, in the January 1, 2008 Actuarial Valuations for the El Paso Firemen's Pension Fund and the El Paso Policemen's Pension Fund.

Comparison of Participant Data

Member data from the January 1, 2008 Actuarial Valuations were obtained from the Fund's actuary. The January 1, 2008 Member data was not specifically audited, rather the data was checked only for reasonableness compared to the data sections of the January 1, 2008 Actuarial Valuations. A summary of the demographic information presented in the January 1, 2008 Actuarial Valuation and the participant data provided to Stanton Group are shown below:

	Firemen's Pension Fund			Policemen's Pension Fund			Comments	
	Actuarial Valuation	Stanton Group	Difference	Actuarial Valuation	Stanton Group	Difference		
<i>Members</i>								
▪ Actives	784	784	0.00%	1,098	1,098	0.00%	There were no significant issues obtaining the Fund participant data from the Fund's actuary or loading that data into Stanton Group's software system. The data was reviewed for reasonableness and there were no unusual data entries found. The match results indicate that participant data is not a source of any difference in liability results.	
▪ Retirees & Beneficiaries	562	562	0.00%	734	734	0.00%		
▪ Vested - terminated	1	1	0.00%	13	13	0.00%		
▪ Total Participants	1,347	1,347	0.00%	1,845	1,845	0.00%		
<i>Active Demographics</i>								
▪ Average Age	37.6	37.6	0.00%	37.8	37.8	0.00%		
▪ Average Service	10.9	10.9	0.00%	10.4	10.4	0.00%		
▪ Average Pay	\$ 52,507	\$ 52,507	0.00%	\$ 51,767	\$ 51,767	0.00%		
▪ Covered Payroll	\$ 41,165,230	\$ 41,165,230	0.00%	\$ 56,840,063	\$ 56,840,063	0.00%		
<i>Inactive Demographics</i>								
▪ Average Monthly Benefit	\$ 2,819	\$ 2,819	0.00%	\$ 2,822	\$ 2,822	0.00%		
<i>Active Plan Participation</i>								
▪ Base Plan	N.A.	764	N.A.	N.A.	1,071	N.A.		
▪ 2 nd Tier Plan	N.A.	20	N.A.	N.A.	27	N.A.		

Comparison of Liabilities and Contribution Rates

Liabilities were calculated using Stanton Group's actuarial software system. Stanton Group uses the ProVal software system sponsored by Winklevoss Technologies, LLC. The software system was programmed primarily based on the Summary of Benefit Provisions section of the January 1, 2008 Actuarial Valuations. The valuation results in this report reflect the results summarized by Buck Consultants.

An attempt to match the plan liability is not explicitly required as part of the actuarial audit process required by law. However, we have taken the step to complete a plan audit because we believe, based on work we have done for the City in the past, that it is the most efficient and reliable method to determine the reasonableness of liabilities.

The following briefly describes the Entry Age Normal Accrued Liability and Normal Cost. These are the two most significant components used to determine the annual required contribution developed by Buck Consultants. These are the most important values that we have attempted to match.

Entry Age Normal Accrued Liability: An actuarial funding method is a method of developing the costs of a pension plan so that the payment of the costs will accumulate to the reserve required at normal retirement age. Under the Entry Age Normal funding method a part of this accumulation is assigned to service prior to the valuation date and the remaining part to service after the valuation date. The part assigned to service prior to the valuation date is called the Actuarial Accrued Liability (AAL) and the part assigned to service after the valuation date is called the Present Value of Future Normal Costs (PVFNC).

The unfunded portion of AAL is referred to as the Unfunded Actuarial Accrued Liability (UAAL). The UAAL is amortized over a period of years. The PVFNC is expressed as a percentage of future salaries to be paid each year. The amount of the PVFNC to be paid for the year following the valuation date is called the Normal Cost. Under the Entry Age Normal funding method, expected benefit increases and expected pay increases after the valuation date are reflected in the past service liability (the AAL). For this reason, this method is often considered a more conservative approach for funding purposes and the AAL determined under this method usually determines whether the plan is over-funded or under-funded.

Entry Age Normal Cost: This amount is the estimated value of benefits earned by active employees during the plan year. It depends on the member's service, salary, and age at retirement. Actuarial assumptions such as rates of salary increases or other benefit increases are used to determine the benefit amount at retirement. Other assumptions such as rates of termination, disability, retirement, and mortality are used to estimate when the benefit payments commence and how long they are expected to be paid.

The Entry Age Normal Cost is determined in a manner such that for an individual employee, the amount when expressed as a percentage of pay will be constant from their entry date into the plan until their assumed retirement date(s). As a result, the normal cost is usually considered the true cost of providing benefits under the plan. It represents the cost that would occur if all assumptions in the past and in the future are met.

A goal of an actuarial cost method is to fund a retiree's benefit during their active working lifetime. Ideally, all future benefits are anticipated so that the cost of those benefits correlates to the period in which the benefits are earned. In order to meet this goal, all future benefits, including COLAs, would need to be reflected in the cost. If COLAs are not reflected in the normal cost, they will, in effect, not be recognized during the period in which the benefit is earned and the cost will be shifted to the future.

ACTUARIAL AUDIT OF THE EL PASO FIREMEN'S PENSION FUND AND THE EL PASO POLICEMEN'S PENSION FUND

A summary of the liabilities presented in the January 1, 2008 Actuarial Valuation and those calculated by Stanton Group are shown below:

	Firemen's Pension Fund			Policemen's Pension Fund			Comments
	Actuarial Valuation	Stanton Group	Difference	Actuarial Valuation	Stanton Group	Difference	
<i>Covered Payroll</i>	\$ 41,165,230	\$ 41,165,230	0.0%	\$ 56,840,063	\$ 56,840,063	0.0%	<p>The Plan Liability Audit indicates that the liability and contribution estimates by Stanton Group are in the aggregate reasonably close to estimates by the Fund's actuary. Differences less than 5% are generally considered to be a reasonable match. Stanton Group's AAL estimate and normal cost are both within 1% of the amounts determined by the Fund's Actuary.</p> <p>Larger percentage differences also appear in the UAAL due to the leveraging affect of taking differences to calculate this value.</p>
<i>PV of Future Salaries (PVFS)</i>	\$ 430,163,000	\$ 424,457,935	-1.3%	\$ 588,634,700	\$ 578,729,052	-1.7%	
<i>Current Contribution Rates</i>							
▪ City	18.50%	18.50%	0.0%	18.50%	18.50%	0.0%	
▪ Members	15.28%	15.28%	0.0%	13.89%	13.89%	0.0%	
▪ Total	33.78%	33.78%	0.0%	32.39%	32.39%	0.0%	
<i>PV of Future Benefits (PVFB)</i>							
▪ Active Members	\$290,511,052	\$ 284,604,084	-2.0%	\$419,993,058	\$ 414,163,659	-1.4%	
▪ Inactive Members	\$270,992,655	\$ 274,883,684	1.4%	\$381,488,172	\$ 386,593,173	1.3%	
▪ Total PVFB	\$ 561,503,707	\$ 559,487,768	-0.4%	\$ 801,481,230	\$800,756,832	-0.1%	
<i>PV of Future NC</i>	\$ 129,565,096	\$ 126,651,096	-2.3%	\$ 187,539,015	\$184,608,180	-1.6%	
<i>Actuarial Acc. Liability (AAL)</i>	\$ 431,938,611	\$ 430,181,050	-0.4%	\$ 613,942,215	\$613,318,759	-0.1%	
<i>Actuarial Value of Assets</i>	\$ 317,924,960	\$ 317,924,960	0.0%	\$ 515,354,403	\$ 515,354,403	0.0%	
<i>Unfunded AAL (UAAL)</i>	\$ 114,013,651	\$ 112,256,090	-1.5%	\$ 98,587,812	\$97,964,356	-0.6%	
<i>UAAL Amortization Rate</i>	15.33%	15.10%	-1.5%	9.24%	9.18%	-0.6%	
<i>City NC Rate</i>	14.62%	14.34%	-1.9%	16.53%	16.56%	0.2%	
<i>30-year Funding Cost for City</i>	29.95%	29.44%	-1.7%	25.77%	25.74%	-0.1%	
<i>Margin (Over)/Under 18.5%</i>	(11.45%)	(10.94%)	-4.5%	(7.27%)	(7.24%)	-0.4%	
<i>Funding Period</i>	Infinite	Infinite	N.A.	Infinite	Infinite	N.A.	

Section Two - Actuarial Assumption & Cost Method Review

In the Plan Liability Audit section of this report, the assumptions and methods used by the Fund's actuary to calculate liabilities were applied without being challenged to determine the accuracy of the liabilities. In the Actuarial Assumption & Cost Method Review section, the assumptions and methods are examined for reasonableness, and the impact of changes to the assumptions and methods is also explored. The key assumptions and methods consist of *economic assumptions* regarding investment returns, salary increases, and inflation adjustments and *demographic assumptions* related to individual participant expectations for turnover, disability, retirement, and death.

From time to time, assumption changes are warranted. The most effective way to study and update assumptions is to perform an experience study to evaluate actual plan experience versus expectations. Experience studies are common for public sector plans and are typically done in five-year intervals. The results of the most recent retirement plan experience study for the El Paso Firemen and Policemen's Pension Funds, prepared by Buck Consultants was provided to us. The study covered the period from September 1, 1998 through December 31, 2003. The study resulted in the following assumption changes adopted for the January 1, 2004 (and remaining in effect for the January 1, 2008) Actuarial Valuations:

- Increased the salary increase assumption by 0.5% at each age
- Decreased retirement rates after age 49 by 10%
- Updated mortality assumption to the 1994 Group Annuity Mortality table.

In addition to the above changes, Buck Consultants changed the retirement rate assumptions for Members in the 2nd tier plan to reflect the change in eligibility requirements for normal retirement. These assumption changes resulted in an increase in the Fund's contribution rate. Our comments regarding the assumptions in this section include our analysis of Buck's experience study conclusions.

The Fund's actuary determines the value of liabilities and assets using *actuarial cost methods*. An actuarial cost method is used to separate the total liability into past service and future service components and convert current liability estimates into recommended funding requirements. An actuarial asset cost method is used to determine how asset values should be determined each year. Other cost methods are used to determine how assumptions should be applied to value liabilities.

The key assumptions and cost methods used by the Fund's actuary, along with our analysis regarding the reasonableness of each assumption and method and the impact of potential changes are shown on the following pages.

I. Economic Assumptions	
Actuarial Valuation Assumption	Stanton Group Analysis
<p><i>Investment Return:</i></p> <p>8.00% per annum, compounded annually, net all expenses including administrative expenses. This rate reflects an underlying inflation rate of 4.00% and a real rate of return of 4.00%.</p>	<p><i>Investment Return:</i></p> <p>Over the past 10 years, each Fund has averaged over 10% investment return. Over 20 years, it has been over 9.25%, and over 30 years, it has been over 8.5%. However, past performance, even over a long period of time is not a reliable indicator of future performance. Market conditions and investment allocations change over time. The investment return assumption should reflect long-term future expected investment returns based on each Fund's investment policy.</p> <p>Buck has based their assumption on future expectations. Their experience study shows a development of an assumed total rate of return by placing an assumed real rate of return on each asset class and calculating a weighted average real rate of return based on the asset allocation. The study discloses each Fund's target asset allocation as approximately 65% equities, 30% fixed income, and 5% real estate. Based on Buck's assumptions for real rates of return by asset class, they develop a weighted average real rate of return of 4.9%. The net expected total return, after reflecting a 4.0% inflation assumption and 0.6% assumed expenses, was determined to be 8.3% (4.9% + 4.0% - 0.6%).</p> <p>Buck's asset allocation is comparable to most public sector plans. According to a January 2008 Report on the Asset Allocation and Investment Performance of Texas Public Employee Retirement Systems (TEXPERS), the average allocation for the 43 responding TEXPERS member local systems was 55.7% equities, 26.6% fixed income, 8.0% real estate, and 9.7% other investments. According to this study 63% of the systems surveyed use an 8.0% assumption. Eight of the 43 plans (19% of the plans) use either 8.25% or 8.5%. Based on Buck's study and the TEXPERS data, an argument for a higher rate such as 8.25% could be made. Presumably 8.0% was retained to maintain a degree of conservatism.</p> <p>Buck's methodology is acceptable. However, there is no documentation in the report of their source for assumed real rates of return. This approach is highly dependent on this assumption and the source should be included in the study. It may be valuable in the next study to include assumed real rates of return from multiple sources to demonstrate the impact of different forecasts on this assumption.</p> <p>We believe that use of an 8.0% assumption is reasonable for each Fund's current asset allocation. It is consistent with the assumption used by the majority of retirement systems in Texas and is slightly more conservative than the assumption based on Buck's economic forecast. We recommend inclusion of sources for assumptions in the next experience study as well as increased discussion of the logic behind the selection of the assumed rate.</p>

I. Economic Assumptions (continued)	
Actuarial Valuation Assumption	Stanton Group Analysis
<p><i>Inflation Rate:</i> 4.00% assumed rate of inflation</p>	<p><i>Inflation Rate:</i></p> <p>The liability calculations are not directly impacted by the inflation rate. However, it is a component of the development of the investment return and salary increase assumptions. A change in those assumptions due to the inflation component would affect the liability. Similar to the development of the investment return assumption, this assumption should reflect long-term future expectations.</p> <p>The experience study notes the Consumer Price Index (CPI) when measured over ten year periods ending every 10 years from 1943 to 2003, with a 70-year average of 3.9%. The report does not include commentary to justify the 4.0% assumption. As a result, the 70-year average appears to be the basis to retain the 4.0% assumption.</p> <p>The use of historical rates to justify an assumption about future expectations is tenuous. Over the 20 years ending in 2003, the rate averaged 3.1%; over 30 years it was 4.8%; and over 40 years it was 4.6%. It could be argued that a 20, 30, or 40 year period could be relied upon to support any assumption from 3% to 5%.</p> <p>Forecasting inflation is highly subjective. The Public Fund Survey prepared October 2007 by the National Association of State Retirement Administrators indicated that the median rate was 3.5%. About 30% of respondents used 4.0% or higher. However, this study predates recent inflation increases and it is possible some respondents may be forecasting higher rates now.</p> <p>Buck's study appears to rely strictly on past data for justification of their assumption. It is also unclear whether this approach is consistent with the assumed real rates of return used to develop the investment return assumption. One approach appears to be retrospective, while the other is prospective. If the inflation assumption were reduced from 4.0% to 3.0%, would this reduce the expected rate of return to 7.3% (from 8.3%)?</p> <p>We believe that the next experience study should include more discussion regarding the role of inflation in the forecast of assumed real rates of return. We are concerned that Buck's approach does not adequately justify their assumption. Nevertheless, this assumption on its own has no impact on the liabilities in the plan. Therefore, we are less concerned with the inflation rate itself than with how it is coordinated with the investment return assumption. Since we are comfortable with the 8.0% investment return assumption, we are not concerned with the 4.0% inflation rate.</p>

I. Economic Assumptions (continued)

Actuarial Valuation Assumption	Stanton Group Analysis												
<p>Salary Increase Rate:</p> <p>Representative values of the assumed annual rates of future salary increase attributable to longevity and promotion are as follows:</p> <table border="1" data-bbox="142 505 642 808"> <thead> <tr> <th data-bbox="142 505 352 589">Years of Service</th> <th data-bbox="352 505 642 589">Annual Rate of Salary Increase</th> </tr> </thead> <tbody> <tr> <td data-bbox="142 589 352 639">1</td> <td data-bbox="352 589 642 639">10.00%</td> </tr> <tr> <td data-bbox="142 639 352 690">11</td> <td data-bbox="352 639 642 690">7.00%</td> </tr> <tr> <td data-bbox="142 690 352 740">21</td> <td data-bbox="352 690 642 740">5.50%</td> </tr> <tr> <td data-bbox="142 740 352 790">31</td> <td data-bbox="352 740 642 790">5.50%</td> </tr> <tr> <td data-bbox="142 790 352 841">41</td> <td data-bbox="352 790 642 841">5.50%</td> </tr> </tbody> </table>	Years of Service	Annual Rate of Salary Increase	1	10.00%	11	7.00%	21	5.50%	31	5.50%	41	5.50%	<p>Salary Increase Rate:</p> <p>The salary increase rates were increased by 0.50% for all ages effective January 1, 2004 as a result of the experience study for the period ending December 31, 2003. Buck's experience study indicates that the overall Fire real rate of increase was 3.9% versus an expected rate of 2.5% (a 1.4% margin). The overall Police real rate of increase was 3.5% versus an expected rate of 2.7% (a 0.8% margin).</p> <p>While the data for this period may support changes larger than Buck's 0.5% recommendation, some caution should be used when relying on past results from a relatively short period of time. Simply relying on data from the past five years to predict salary increases for periods as long as the next 30 years would not be prudent. If the past five years do not seem representative of long term past history or future expectations, a subjective element to forecasting future salary increases should be considered. It appears that some subjective consideration factored into Buck's decision to recommend 0.5% rather than a 1.4% and 0.8% overall increase. However, there is no documentation in their report.</p> <p>Although the future assumption is somewhat subjective, particularly the inflation component, past data may be very useful to understand how increases vary by age, service, gender, and occupation. In other words, the underlying inflationary component of future salary increases is difficult to forecast, but the pattern of increases as they vary by age or service may be more predictable.</p> <p>Buck's assumption is based on years of service. However, their study classifies results by age bands. The experience study report does not include information by years of service. As a result, in our opinion, it does not directly support the current assumption for each service period.</p> <p>We believe that the information in the experience study report does not fully support the current assumption. This does not mean we disagree with the assumption. Our recommendation is that the next experience study should include average rates of increase by service and that greater consideration be given to each service band. We believe a greater degree of accuracy is possible.</p>
Years of Service	Annual Rate of Salary Increase												
1	10.00%												
11	7.00%												
21	5.50%												
31	5.50%												
41	5.50%												

I. Economic Assumptions (continued)	
Actuarial Valuation Assumption	Stanton Group Analysis
<p><i>Overtime Pay:</i></p> <p>Overtime is assumed to be 0.75% of base, incentive, and longevity pay for Firemen and 4.75% of base, incentive, and longevity pay for Policemen.</p>	<p><i>Overtime Pay:</i></p> <p>The overtime assumption loads are not included in members' final average wages used in determining members' benefits under the plan. Thus, the plans' liabilities are not sensitive to this assumption. Instead, the assumption is used when determining the City's contribution rate as a percent of payroll.</p> <p>The valuation states, "This assumption is consistent with past experience." However, overtime pay is not addressed in the experience study, so we have no way to verify this. The next experience study should attempt to address this assumption.</p>
<p><i>Total Payroll Growth Rate:</i></p> <p>Total payroll is assumed to increase 4.00% per year.</p>	<p><i>Total Payroll Growth Rate:</i></p> <p>A total payroll growth assumption of 4.0% does not seem unreasonable. However, since the individual salary increase assumption increased by 0.5% at each age beginning with the January 1, 2004 valuation, it would seem appropriate that this assumption would also have increased by 0.5%. Another reason for an increase in the assumption would be the increase in delayed retirement rates. The Fund's actuary should be asked whether the impact of these assumption changes on the total payroll growth assumption was considered. An increase in the total payroll growth assumption would reduce the UAAL amortization payment.</p> <p>The Fund's actuary could analyze the validity of this assumption by applying the demographic assumptions and individual salary increase assumptions and performing an open group valuation. This information would likely be obtainable from Buck without a significant amount of effort.</p>
<p><i>Post-Retirement Cost of Living:</i></p> <p>3% of pension annually for Members in the Base Plan, as defined in the Summary of Plan Provisions.</p>	<p><i>Post-Retirement Cost of Living:</i></p> <p>Since the Base plan provides 3% annual increases (after attainment of age 60 or fulfillment of a certain, plan-specific waiting period from commencement date) to all members in the Base Plan, a 3% assumption is the only reasonable assumption for these members.</p> <p>The 2nd Tier Plan provides no Cost of Living Adjustments, so there is no post-retirement increase assumption for members in the 2nd Tier Plan.</p>

II. Demographic Assumptions

Actuarial Valuation Assumption	Stanton Group Analysis
<p>Mortality Rates:</p> <p>Non-Disabled Lives: 1994 Group Annuity Mortality Table (GAM)</p> <p>Disabled Lives: 1979 PBGC Mortality Table for Disabled Employees Receiving Social Security</p>	<p>Mortality Rates:</p> <p>The mortality assumption for Non-Disabled Lives was updated to the 1994 GAM from the 1983 GAM for both Funds effective January 1, 2004 as a result of the experience study. This type of change is fairly common in recent years for pension plans as mortality rates tend to decrease over time and assumptions are changed to better reflect expectations for the current population. The effect of this assumption change on the UAAL was under \$1.0 million for each Fund.</p> <p>These two mortality tables are commonly used for pension plans. The trend of updating from 1983 GAM to 1994 GAM (or an even more current table) has been common for plans that don't have credible data for an experience study. Plans that do have credible data for an experience study, such as these Funds, may rely heavily on that data to determine an appropriate mortality table.</p> <p>The results of the experience study appear to only support a change for the Police Fund. The experience study indicated that the ratio of Police actual deaths to expected deaths was 76% (50 actual vs. 66 expected). This supports a move to a mortality table that expects fewer deaths. The ratio of Fire actual deaths to expected deaths was 98% (52 actual vs. 53 expected). This provides evidence that the 1983 GAM table appears to reasonably estimate the expected number of deaths among Fire Fund members.</p> <p>The conclusion to change specifically to the 1994 GAM for both Funds does not seem to be fully supported by the experience study data. It is also unclear exactly how well this table improves the expected versus actual results. Buck's study does not include a comparison of actual deaths versus what would be expected from the recommended table.</p> <p>Ideally, it is desirable to have a slightly conservative mortality table that would result in the actual number of deaths being slightly higher than the expected number. A margin of actual to expected deaths of about 100% to 110% may be considered desirable. It would also be desirable for this margin to be somewhat consistent for each age. We recommend that the next experience study include this demonstration of results by age and consider refining the mortality tables to obtain a table that better fits the actual experience of each Fund.</p> <p>The low number of Members on disability retirement makes analysis of the disability mortality table relatively insignificant. Use of the current table for post-disablement mortality seems reasonable.</p>

II. Demographic Assumptions (continued)

Actuarial Valuation Assumption

Stanton Group Analysis

Retirement Rates:

Base Plan:

Age	Rate	Age	Rate
42	5.0%	52	20.0%
43	10.0%	53	20.0%
44	10.0%	54	20.0%
45	20.0%	55	30.0%
46	14.5%	56	40.0%
47	14.0%	57	40.0%
48	17.5%	58	40.0%
49	15.0%	59	40.0%
50	25.0%	60	100.0%
51	20.0%		

2nd Tier Plan:

Age	Rate	Age	Rate
50	60.0%	56	40.0%
51	20.0%	57	40.0%
52	20.0%	58	40.0%
53	20.0%	59	40.0%
54	20.0%	60	100.0%
55	30.0%		

Retirement Rates:

Retirement assumptions are highly dependent on the unique participants and specific provisions for each pension plan. The best method for developing the retirement assumption is to rely on experience study results. The experience study resulted in a recommendation that retirement rates in the Base Plan after age 49 be decreased by 10% for each Fund, effective January 1, 2004. The effect of this assumption change decreased the UAAL for these Funds by \$3.0 million for the Firemen's Fund and \$5.1 million for the Policemen's Fund.

The experience study results for the Police participants indicate that 87% of retirements occur between ages 43 and 52. Buck indicates that between ages 43 and 47, there were 49 retirements expected while 57 occurred. Between ages 48 and 52, there were 89 retirements expected with 70 actually occurring. This data seems to indicate that more Police participants are retiring before age 48 than expected and fewer than expected are retiring after age 48.

The recommended assumption change seems to address the post-48 retirement differential, but not the pre-48 retirement differential. It seems that if the pre-48 retirement assumption were increased, the ratio of expected to actual results for both groups would improve since more assumed early retirements would result in fewer assumed later retirements.

Since the total number of actual retirements is less than expected retirements, there is evidence to support Buck's recommendation to decrease assumed retirement rates after age 49. However, there seems to also be evidence to support an increase in retirement rates for ages prior to age 49.

If the current assumption (reflecting Buck's recommended change) were modified to increase retirement rates from 43 to 48 by 5% per year, the total UAAL would increase about \$3 million for the Policemen's Pension Fund.

The Firemen's Pension Fund experience study results also reflect fewer actual (90) retirements than expected (143). However, in this case, there is little difference in results before and after age 48. In this plan an assumption change to reduce assumption rates after 49 seems reasonable. Extending that assumption to ages prior to 49 also seems like a reasonable consideration.

As the 2nd Tier Plan was established in July 1, 2007, the applicable retirement rate assumptions are

new for the January 1, 2008 valuation. It is unclear how the Fund's actuary developed these retirement rates. Regarding the introduction of this assumption the valuation states, "The retirement rate assumptions for Members in the Second-Tier Plan were changed to reflect the change in eligibility requirements for normal retirement." It appears that the Fund's actuary has kept the Base Plan retirement rate assumptions for ages over 50, and has estimated the rate at which employees will retire at first eligibility, age 50, by some other means.

There may not be enough data available for a number of years to determine retirement rates from experience for the 2nd tier plan. However, we recommend that this assumption be monitored closely in the future, as this assumption is of increasing significance in the future as more members are enrolled in the 2nd Tier Plan.

The previous decrease in retirement rates resulted in fairly significant liability reductions. It is possible that the current assumptions could be further decreased resulting in additional liability reductions.

II. Demographic Assumptions (continued)

Actuarial Valuation Assumption					Stanton Group Analysis	
Withdrawal Rates:					Withdrawal Rates:	
Age	Rate	Age	Rate	<p>The experience study results appear to indicate that this has been an accurate assumption over the five year period ending December 31, 2003. Police Member actual terminations were 133 vs. an expected number of 121. Firemen Member actual terminations were 60 vs. an expected number of 57. Based on this data, Buck recommended continued use of this table for both plans.</p> <p>Buck also broke down this information by age. This approach is consistent with their valuation assumption. The comparison of actual versus expected terminations by age group were fairly close. For Members of most groups, the actual number of terminations at each age was within 20% of the expected result at each age.</p> <p>The assumption used by Buck appears reasonable and the approach used to develop the assumption is sound.</p>		
20	3.0%	40	1.0%			
25	3.0%	45	0.5%			
30	3.0%	50	0.0%			
35	1.0%	60+	0.0%			
<p>During the first three years of employment, these rates are increased an additional 3% for Policemen's Pension Fund Participants.</p>						
Disability Rates:					Disability Rates:	
Age	Rate	Age	Rate	<p>The experience study results indicate significantly fewer disabilities than assumed. Combined results for both groups show only 5 actual disabilities vs. 20 expected disabilities. This indicates that the disability rate assumption may be high. However, the low number of disabilities makes it difficult to draw a definite conclusion from this amount of experience. The disability assumption has relatively little effect on the overall liability estimate. No change in this assumption at this time seems reasonable. If the next experience study shows similar results, a change may be in order at that time.</p>		
20	0.13%	40	0.38%			
25	0.15%	45	0.58%			
30	0.20%	50	0.98%			
35	0.27%	60+	0.00%			

II. Demographic Assumptions (continued)	
Actuarial Valuation Assumption	Stanton Group Analysis
<p><i>Back DROP Election and Back DROP Period:</i></p> <p>Everyone who is eligible and at least age 53 is assumed to elect the Back DROP and the assumed Back Drop period is 36 months.</p>	<p><i>Back DROP Election and Back DROP Period :</i></p> <p>The Back Deferred Retirement Option Program (DROP) benefit is designed to be a cost neutral, or actuarially equivalent, benefit. However, if actual participation in the program is different than assumed it could result in actuarial gains or losses. Assuming various election rates of participation among eligible active members and various lengths of Back DROP service, we estimate the total UAAL may change by as much as -\$10 million to +\$5 million for the Firemen’s Fund and -\$13 million to +\$5 million for the Policemen’s Fund.</p> <p>Buck’s actuarial report does not state this assumption in their Summary of Actuarial Methods and Assumptions. Similarly, the experience study does not address how this assumption was obtained. The next experience study should include an evaluation of actual participation and this assumption could be modified accordingly. However, due to the actuarial equivalent nature of the benefit, it would be unlikely that an assumption change would have a very significant impact.</p>
<p><i>Marriage and Spouse Age:</i></p> <p>Marriage: 100% of active members are assumed to be married.</p> <p>Children: No children’s benefits were valued because of the 100% marriage assumption</p> <p>Spouse Age: Male members are assumed to be 3 years older than their spouse. Female members are assumed to be 3 years younger than their spouse.</p> <p>Remarriage: Surviving spouses are assumed to not remarry.</p>	<p><i>Marriage and Spouse Age:</i></p> <p>The experience study results state that these assumptions “appear sufficiently reasonable and conservative”. There is no indication that there was any actual analysis of the assumptions completed. Our experience has indicated that the most common family related assumptions are 80% married with children and a 3-year age difference.</p> <p>If viewed separately, neither the 100% marriage assumption nor the no children assumption seems reasonable. However, in the aggregate, these assumptions are reasonable for valuing the death benefits provided by these plans. This is particularly true for years that a member may have children under the age of 21.</p> <p>The use of a 100% marriage assumption for older participants is a conservative assumption. This assumption, along with an assumption that surviving spouses would not remarry, results in an assumption that full benefits will continue to the later of the participants or the spouses lifetime.</p>

III. Cost Methods	
Actuarial Valuation Assumption	Stanton Group Analysis
<i>Actuarial Cost Method:</i>	<i>Actuarial Cost Method:</i>
Entry Age Normal - Level Percent of Pay	This cost method is one of the cost methods permitted by GASB and is the most commonly used in large public sector pension valuations. We support continued use of this cost method.
<i>Actuarial Asset Method:</i>	<i>Actuarial Asset Method:</i>
$MV - (8/10) \times G/(L)_1 - (6/10) \times G/(L)_2 - (4/10) \times G/(L)_3 - (2/10) \times G/(L)_4$ <p>MV = market value of assets as of the valuation date G/(L)_i = asset gain or (loss) for the i-th year preceding the valuation date</p>	This assumption smoothes potential volatility in future funding requirements. It does not affect long-term funding of the plan. Any smoothing method is reasonable provided that it is consistently used and is not created with the intent to bias results. This method is reasonable.

Section Three – Summary of Findings & Recommendations

The following summarizes our significant findings and recommendations that the City may consider

Finding	Recommendations
<p><i>Plan Liability Differences:</i></p> <p>Stanton Group’s estimates of the total Actuarial Accrued Liability and Normal Cost are both within 2% of the amounts determined by the Fund’s actuary, for both the Firemen’s Fund and the Policemen’s Fund.</p>	<p><i>Plan Liability Differences:</i></p> <p>The plan liability audit was not a required component of the actuarial audit. However, it is an efficient and effective way to ensure that the liability and contribution rates are accurate. Our results indicate that Buck Consultants are accurately determining liability and contribution estimates based on the participant data, assumptions, methods, and benefit provisions described in their valuation report and experience study. While we already have obtained a close match of results, we believe that any remaining small differences that exist could be resolved with more effort between Stanton Group and the Fund’s actuary. We do not believe that this step is necessary.</p>
<p><i>Experience Study Report & Results:</i></p> <p>Buck’s experience study report, at times, was lacking in documentation of sources of information as well as detail regarding how study results were translated into conclusions. We believe that for many assumptions, Buck could have included greater detail to support their recommendations.</p>	<p><i>Experience Study Report & Results:</i></p> <p>Overall, we do not believe that any of the assumptions used by Buck are unreasonable. However, we do believe that the next experience study report should include more documentation of sources of information as well as more detail regarding how numerical results were translated into conclusions. Assumptions that should include increased documentation and discussion include:</p> <ol style="list-style-type: none"> 1. Investment Return 2. Inflation Rate 3. Salary Increase Rate 4. Overtime Pay 5. Total Payroll Growth 6. Back DROP Election and Back DROP Period 7. Marriage and Spouse Age <p>Specific discussion of each of assumption is included earlier in this report. There was no clear indication that the current selected assumptions are either aggressive or conservative. However, given the room for significant adjustments to the assumptions, it is possible that assumption changes could significantly impact the valuation results.</p>

Finding	Recommendations
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<p><i>Mortality Rates:</i></p>	<p><i>Mortality Rates:</i></p>
<p>The mortality table was updated. However, the experience study appears to only support a change for the Police Fund.</p>	<p>The next experience study should include a demonstration of results by age groups so that further refinements to the mortality tables can be considered. We believe that it may be possible to model a mortality table that can demonstrate a better fit for the actual experience of the each Fund.</p>
<p><i>Retirement Rates:</i></p>	<p><i>Retirement Rates:</i></p>
<p>Buck decreased the retirement rates after age 49 by 10% for each Fund. There is evidence to support this recommendation. However, there seems also to be evidence to support an increase in retirement rates for ages prior to age 49.</p>	<p>The next experience study should include a comparison of how actual retirements compare to the assumed retirements at each age. Consideration should be given to adjustments at all ages as well as how adjustments to assumptions at early ages affect expected results at later ages.</p>

Actuarial Audit
of the
City Employees' Pension Fund
and the
Firemen & Policemen's Pension Fund
of the City of El Paso

October 28, 2008



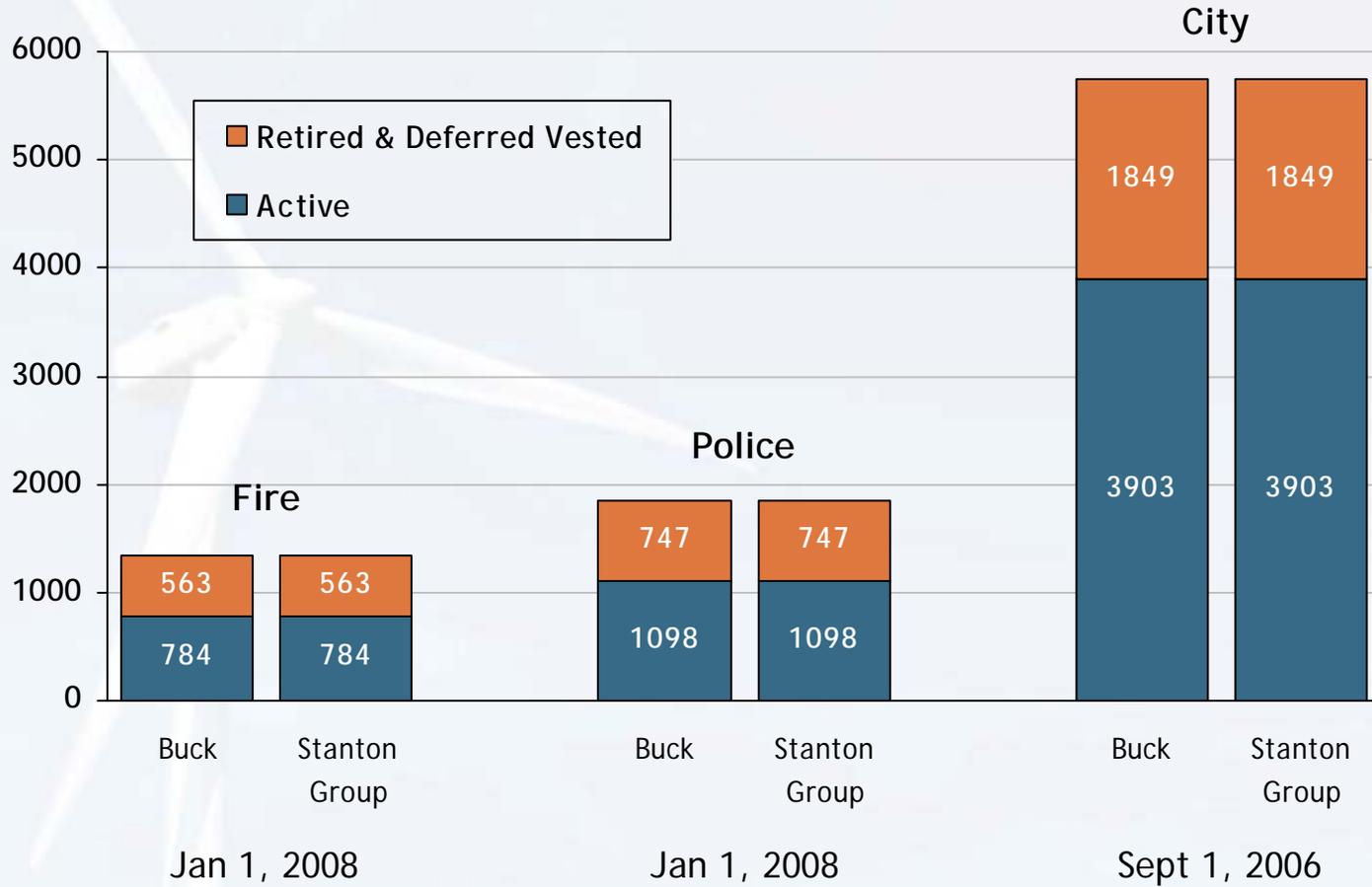
Purpose of the Actuarial Audit

- Required by Government Code Chapter 802.1012
- Review of actuarial valuations, studies, & reports from 9/1/2003 through 9/1/2008
- Consider other issues of interest or concern to the City

Actuarial Audit Report Components

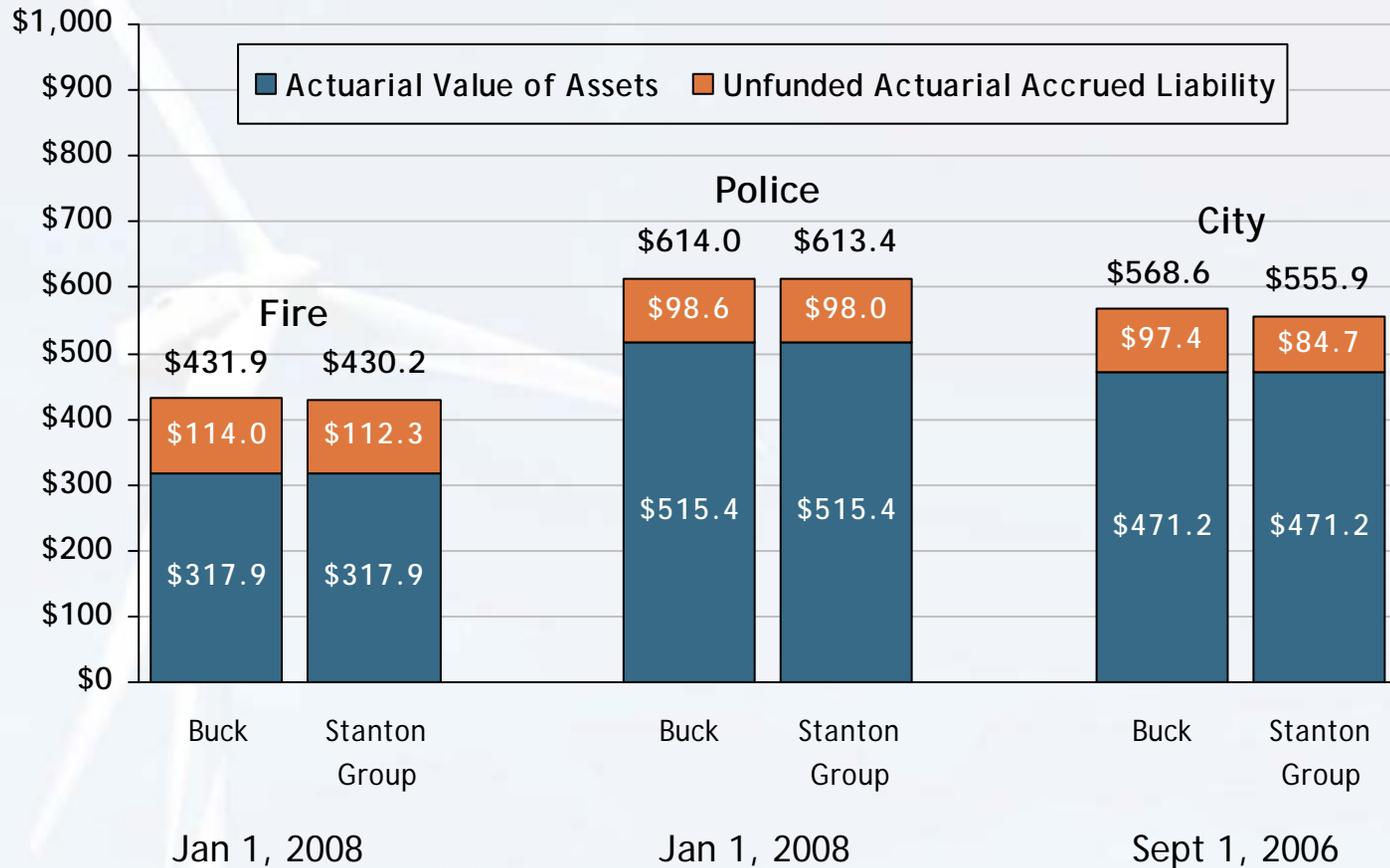
- Stanton Group Summary Letter
- City Employees' Pension Fund Response
- Firemen & Policemen's Pension Fund Response
- Preliminary Draft Actuarial Audit Report
 - Plan Liability Audit
 - Actuarial Assumption & Cost Method Review
 - Summary of Findings & Recommendations

Membership



Actuarial Accrued Liability

(in millions)



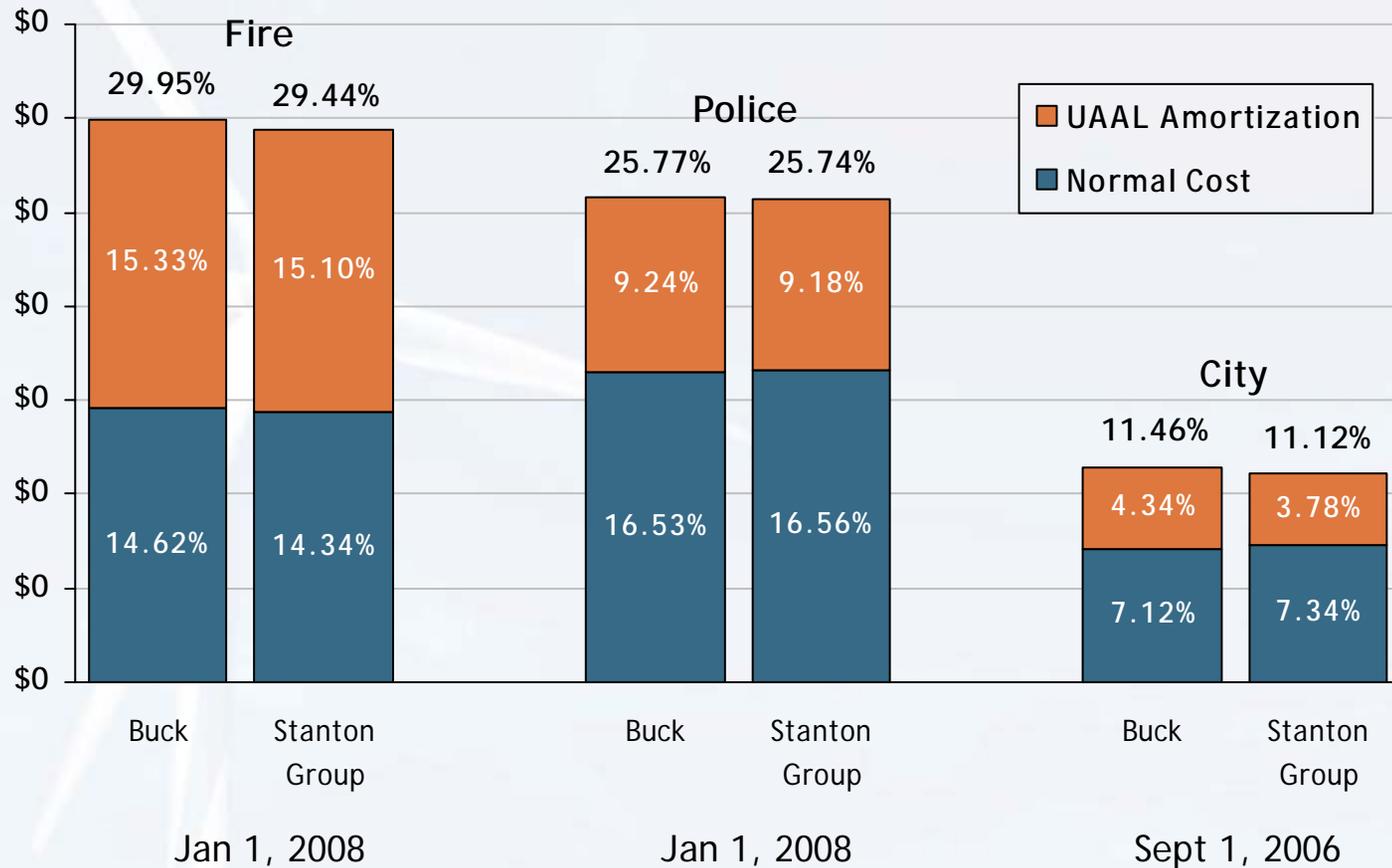
Total Normal Cost

(in millions)



30-year Funding Cost for City

(as a % of payroll)



Actuarial Assumptions & Cost Methods

- Economic Assumptions
 - Investment Return
 - Inflation Rate
 - Salary Increase Rate
 - Overtime Pay
 - Total Payroll Growth Rate
 - Post-Retirement Cost of Living
- Demographic Assumptions
 - Mortality Rates
 - Retirement Rates
 - Withdrawal Rates
 - Disability Rates
 - Accumulated Sick Leave Credits
 - Marriage and Spouse Age
 - Back DROP Election and Back DROP Period
- Actuarial Cost Methods
 - Actuarial Funding Method
 - Actuarial Asset Method

Findings & Recommendations

- Buck Consultants are accurately determining liability & contribution estimates
- Assumptions are reasonable
- Next Experience Study should include
 - More documentation of sources of information
 - Greater detail of basis for conclusions
 - Other specific recommendations