

*Los Angeles  
Unified School District*

**Actuarial Study of the  
Workers Compensation Program  
as of December 31, 2004**



**March 14, 2005**



March 14, 2005

208-016

Los Angeles Unified School District  
333 South Beaudry Avenue, 28<sup>th</sup> Floor  
Los Angeles, California 90017

Attn: Mr. David R. Holmquist, CPCU, ARM  
Director of Risk Management and Insurance

**Actuarial Study of the  
Workers Compensation Program  
as of December 31, 2004**

This study has been completed for the Los Angeles Unified School District for the specific objectives listed in the study. It contains the analysis and conclusions of our work.

Each section and appendix of the study is an integral part of the whole. We recommend a review of the entire study prior to reliance upon this study.

No key personnel has a relationship with the Los Angeles Unified School District that may impair our objectivity.

Please call if you have any questions. Thank you for the opportunity to be of service.

Respectfully submitted,

*ARM TECH*

By \_\_\_\_\_  
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# I. Executive Summary

The Los Angeles Unified School District (the District) has been self-insured for workers compensation since (at least) 1976/77.

## Projected Financial Position as of June 30, 2005

The projected financial position is a comparison of the present value of estimated outstanding losses with the projected funds available (approximate and unaudited) to meet them. We project the financial position as of June 30, 2005 to be as shown in Table I-1.

**Table I-1  
Projected Financial Position  
June 30, 2005**

Item (1)	Optimistic (2)	Expected (3)	Pessimistic (4)
(A) Projected funds available	<i>To be filled in when provided</i>	<i>To be filled in when provided</i>	<i>To be filled in when provided</i>
(B) Present value of estimated outstanding losses at a 5% interest rate	560,675,597	622,972,886	747,567,463
<b>(C) Projected financial position (A) – (B)</b>	<i>To be filled in when provided</i>	<i>To be filled in when provided</i>	<i>To be filled in when provided</i>

Note: (A) was provided by the District.  
 (B2) is 90% of (B3).  
 (B3) is from Table III-1A.  
 (B4) is 120% of (B3).

The District has a shortfall in its projected financial position of \$ *To be filled in when provided* (expected) on June 30, 2005.

The estimated outstanding losses for workers compensation as of June 30, 2005 may be impacted by savings realized from enactment of SB 899. We venture that the savings may be in the range of 5% to 10%. At this preliminary stage, we have not factored in any potential savings. If savings are realized, they would offset as a contingency buffer against adverse development in historical open claims.

## Recommended Minimum Funding for 2005/06 and 2006/07

The recommended minimum funding is based on the present value (discounted at a 5% interest rate) of projected ultimate losses and expenses of the program. Future investment income is explicitly recognized. It does not include funding to reduce the shortfall cited in Table I-1. We recommend minimum funding for 2005/06 and 2006/07 to be as shown in Tables I-2A and I-2B.

**Table I-2A**  
**Recommended Minimum Funding**  
**2005/06**

Item (1)	Amount (2)	Rate per \$100 of Payroll (3)
(A) Present value of projected ultimate losses at a 5% interest rate	\$140,940,755	\$3.80
(B) Budgeted expenses for claims handling and administration	20,865,872	0.56
<b>(C) Recommended minimum funding (A) + (B)</b>	<b>\$161,806,627</b>	<b>\$4.36</b>

Note: (A) is from Exhibit SUM-2.  
(B) was provided by the District for 2004/05. We assumed a 3% trend.

**Table I-2B**  
**Recommended Minimum Funding**  
**2006/07**

Item (1)	Amount (2)	Rate per \$100 of Payroll (3)
(A) Present value of projected ultimate losses at a 5% interest rate	\$148,340,532	\$4.00
(B) Budgeted expenses for claims handling and administration	21,491,848	0.58
<b>(C) Recommended minimum funding (A) + (B)</b>	<b>\$169,832,380</b>	<b>\$4.58</b>

Note: (A) is from Exhibit SUM-2.  
(B) was provided by the District for 2004/05. We assumed a 3% trend.

In our projections, we have factored in the impact of statutory benefit increases enacted in Assembly Bill 749. AB 749 is expected to increase costs by 5.9% in 2003, 6.5% in 2004, 2.3% in 2005 and 2.1% in 2006. The cumulative increases through 2006 are about 18%.

We have also factored in the impact of SB 228 (effective January 1, 2004). A preliminary estimate by WCIRB is a reduction in costs of about 13.3% due to SB 228.

A preliminary estimate by WCIRB on SB 899 (effective July 1, 2004) is a reduction in costs of about 15%. We have presented the 2005/06 and 2006/07 projections with **half of the impact** of SB 899. Workers compensation reform takes a while to manifest, and the full impact of quantifiable savings may not be immediately realized in the next fiscal period. Emerging claims experience in subsequent fiscal years will partially reveal how much savings may be realized.

Funding is closely correlated to the number of employees and corresponding payroll. The District has projected 0% annual payroll increases. If payroll exceeds the District's projections, funding will need to increase.

The amounts in the above tables are the minimum funding as not to widen the shortfall. If the District can fund above the minimum amounts, the shortfall \$To be filled in when provided cited in Table I-1 will be lessened.

## Comparison to Previous Report

The loss experience for the District has increased from the previous study (dated February 20, 2004). Table I-3 highlights the increases in estimated outstanding losses and projected ultimate losses.

**Table I-3  
Comparison of Loss Experience  
Previous Study and Current Study**

Item (1)	Previous Study (2)	Current Study (3)	Change (3) – (2) (4)	Change (4) ÷ (2) (5)
(A) Estimated outstanding losses (balance sheet liability for unpaid claims)	\$723,632,469 (6/30/04)	\$779,445,752 (6/30/05)	\$55,813,283	8%
(B) Projected ultimate unlimited losses (projection of losses for new claims)	176,507,555 (2004/05)	\$178,022,227 (2005/06)	1,514,672	1%

Note: (2) is from the previous study.  
(3) is from Exhibit SUM-2 and Exhibit SUM-3.

- Case reserve levels increased by approximately \$26 million from December 31, 2003 to December 31, 2004.

- Benefit change due to AB749 from 2004/05 to 2005/06 is about 2.5%. The California Legislature enacted benefit level increases effective January 1, 2003. The maximum weekly benefit is set to rise over 25% in 2003 and by 71% through 2006. Overall AB749 is expected to increase costs by 18% through 2006.
- Benefit change due to SB228, effective January 1, 2004, is a savings of 13.3% per WCRIB preliminary estimate.
- Benefit change due to SB899, effective July 1, 2004, is a savings of 14.7% per WCIRB preliminary estimate. We have included half of this saving in the analysis.
- Inflation in medical and indemnity benefits has far outpaced wage inflation. Workers compensation costs are accelerating 10% to 12% above payroll.

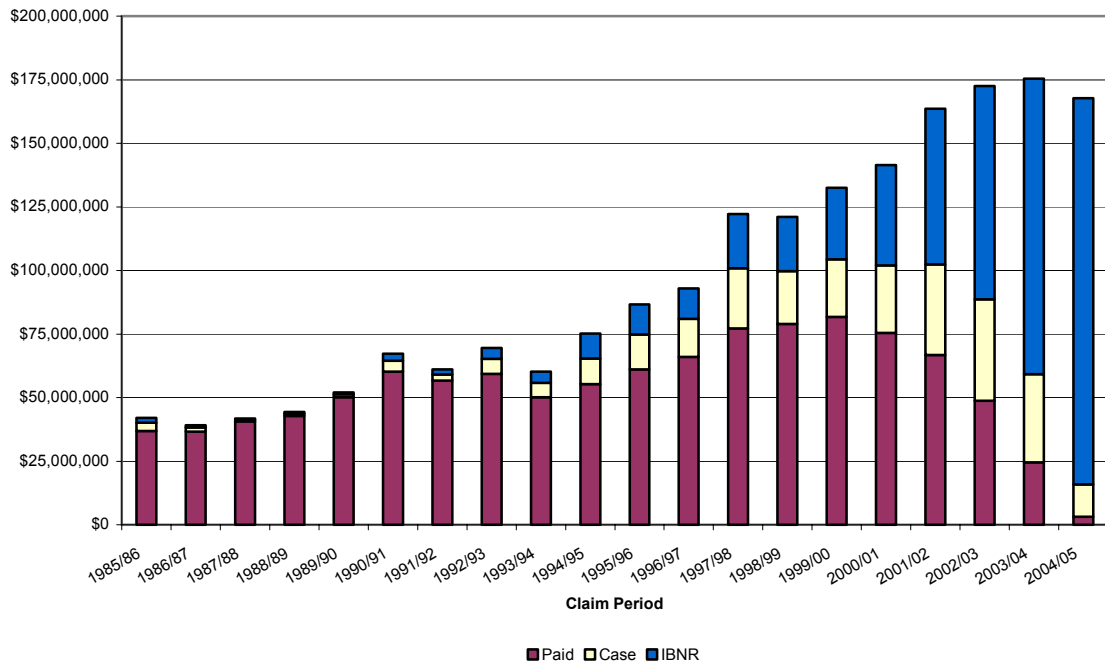
Exhibits SUM-2 and SUM-3 provide estimates and projections for future years.

## Loss Experience Trends

### Projected Ultimate Losses

Graph I-1, based on Exhibit SUM-1, page 4, shows the projected ultimate losses from 1985/86 through 2004/05. Projected ultimate losses are the cost of claims based upon the occurrence date. So, the amount shown for 2001/02 is the cost of claims occurring during 2001/02 regardless of report or payment date.

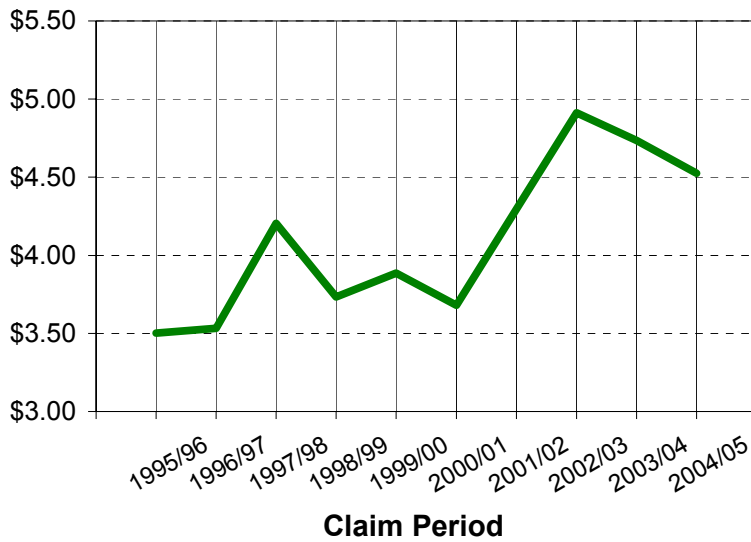
**Graph I-1**  
**Projected Ultimate Losses**  
**1985/86 to 2004/05**



### **Projected Loss Rate Per \$100 of Payroll**

One of the reasons for the escalating losses shown in Graph I-1 is greater payroll. LAUSD has had payroll growth of nearly 60% from 1995/96 to 2003/04. The level of workers compensation loss activity is closely related to payroll; more employment results in a greater exposure to loss. We calculated the projected loss rates per \$100 of payroll in Graph I-2.

**Graph I-2  
Projected Loss Rates  
Per \$100 of Payroll  
1995/96 to 2004/05**

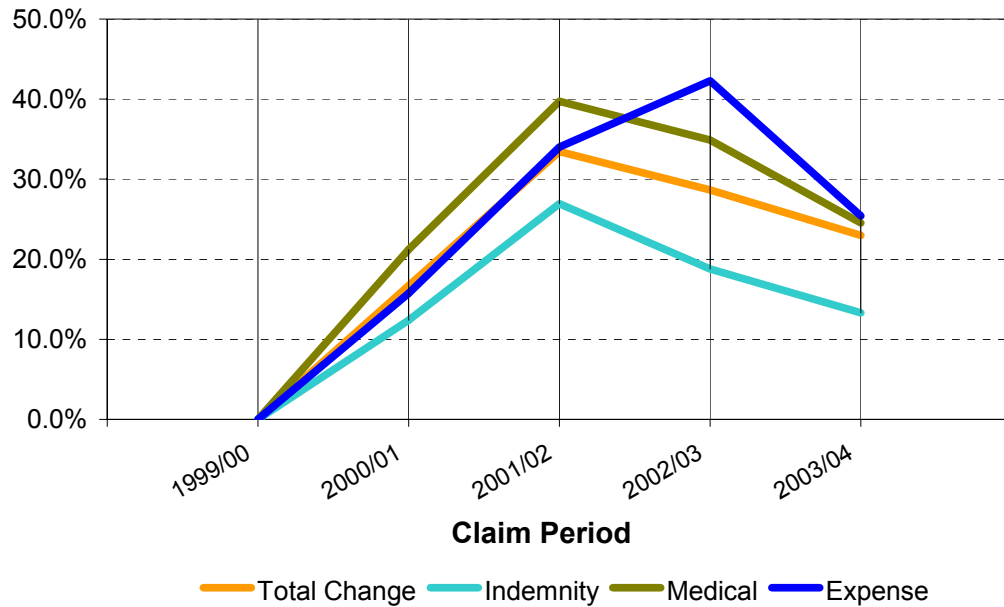


Graph I-2 shows that the increase in projected ultimate losses (from Graph I-1) is not so great when compared with payroll growth. During the period 1995/96 to 2004/05, payroll and losses increased substantially. That is, the main catalyst for escalating losses is additional employment. However, since 2001/02 the experience has shown slight improvement.

## Components

We reviewed the loss experience separately for indemnity, medical and expense components. Graphs I-3 focuses on the last five claim periods.

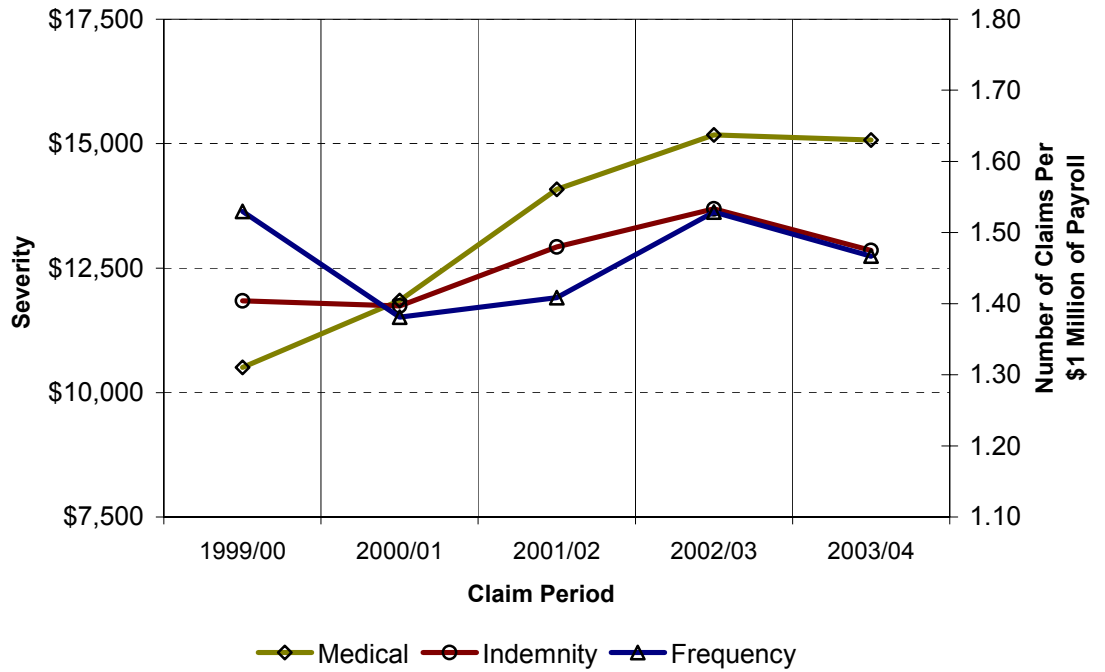
**Graph I-3**  
**Percentage Change in Loss Rates**  
**Per \$100 of Payroll**  
**By Component**  
**2000/01 to 2004/05**



We see that medical costs are rising more rapidly in comparison to indemnity costs. Expense costs are a small percentage, about 13%, of total costs. In 2003/04 we have observed higher than historical expense levels. Based on conversations with the District's claims administrator, they have paid a large amount of back legal bills in the recent year.

We reviewed the average indemnity and medical cost per claim (severity) for the complete fiscal years 1999/00 to 2003/04 valued as of December 31, 2004. Graph I-4 depicts the severities: medical severity has been increasing faster than the indemnity severity. AB 749 will increase the indemnity severity through 2006. However, due to the capitation of maximum indemnity benefits, this increase will rise more gradually, while the medical severity will increase more rapidly. Medical costs are expected to increase by about 8% to 10% annually.

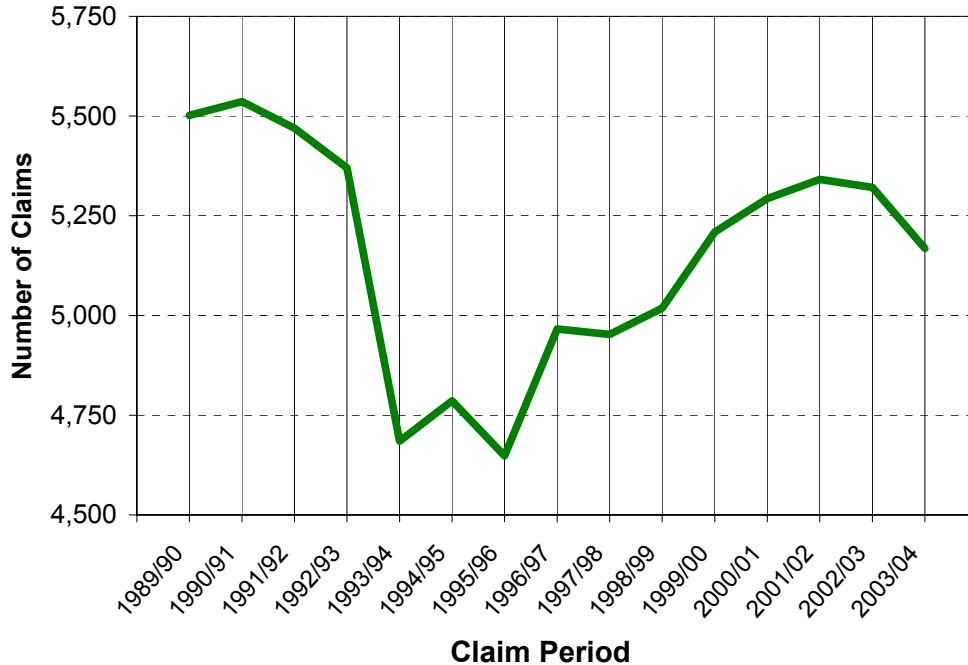
**Graph I-4**  
**Severity: Average Indemnity and Medical Cost Per Claim**  
**Frequency: Number of Claims Per \$1 Million of Payroll**



While frequency measure has remained fairly flat, it is important to note that this is measured against payroll. If exposure increases, the number of claims would be expected to increase commensurate with it. However, this has not increased as fast as payroll.

It is important also to monitor the number of claims. Graph I-5 displays the number of claims with payment for the last fifteen years. Two observations emerge: First, claims through 1992/93 are at a higher plateau (about 5,500 claims) than 1993/94 to 1998/99 (about 4,800 claims). Secondly, the number of claims in more recent years have started to rise (claims shown in Graph I-5 are not developed to ultimate basis). There appears to be a leveling off in the more recent years.

**Graph I-5  
Number of Reported Claims with Payment**



***Impact of AB 749, SB 228, and SB899***

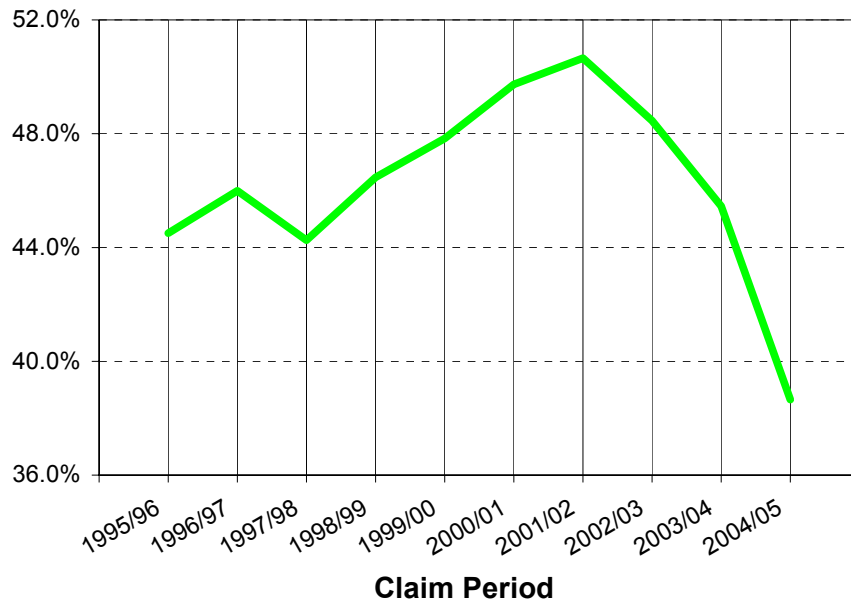
The California Legislature enacted Assembly Bill 749 (AB 749) effective January 1, 2003. AB 749 increases workers compensation benefits. Over four years, the maximum weekly indemnity benefit will increase to \$840. Overall, the benefit costs will increase by 5.9% in 2003, 6.5% in 2004, 2.3% in 2005 and 2.1% in 2006. By 2006 the costs will increase by about 18%.

We have also factored in the impact of SB 228 (effective January 1, 2004) and SB 899 (effective July 1, 2004). WCIRB estimates a reduction in costs of about 13.3% due to SB 228 and 15% due to SB899. However, we have recognized only half of the anticipated savings for SB899.

### ***Increase in Claims With Indemnity***

The impact of AB 749 could have been worse if a disturbing trend towards more indemnity claims had not been stemmed in recent years. Graph I-6 shows the percent of claims with indemnity.

**Graph I-6  
Percent of Claims with Indemnity  
1995/96 to 2004/05**

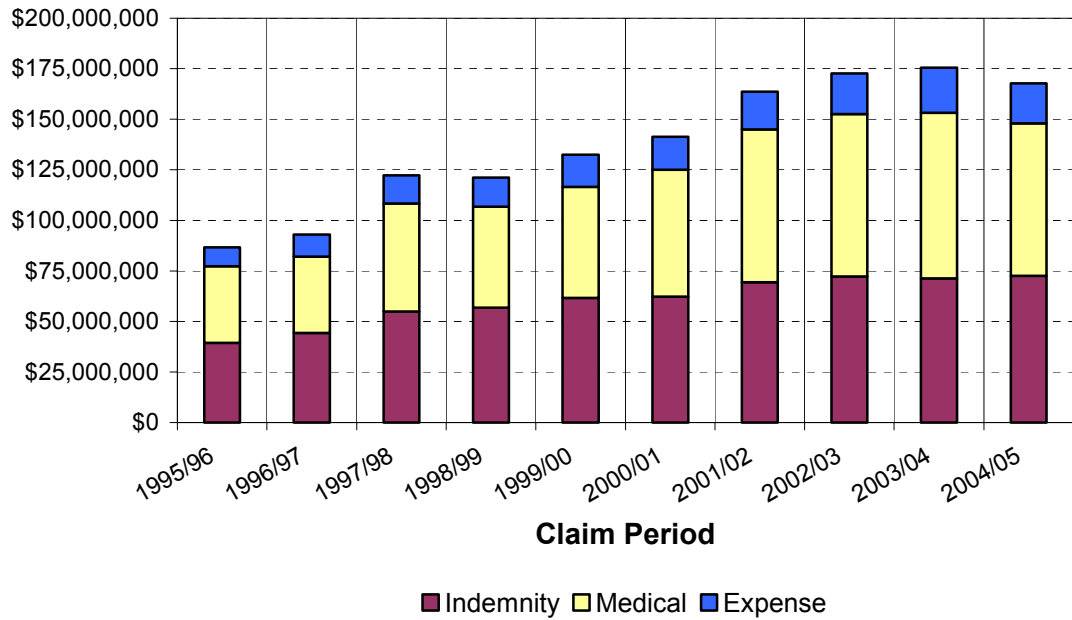


The percent of claims with indemnity steadily increased through 2001. While the four most recent years show a downturn, rising benefit levels due to AB 749 will more than offset any potential gains. Reforms due to SB228 and SB899 may contain costs in the long run.

## Proportion of Indemnity, Medical and Expense

Graph I-7 shows the historic proportion of losses by indemnity medical and expense.

**Graph I-7**  
**Apportioning Projected Ultimate Losses**  
**By Component**  
**1995/96 to 2004/05**



We observe the portion of the benefits for medical is continuing to increase. With rising medical costs, the medical portion of costs would be expected to be larger than the indemnity component.

**Comparison to Previous Actuarial Study (Dated February 20, 2004)**

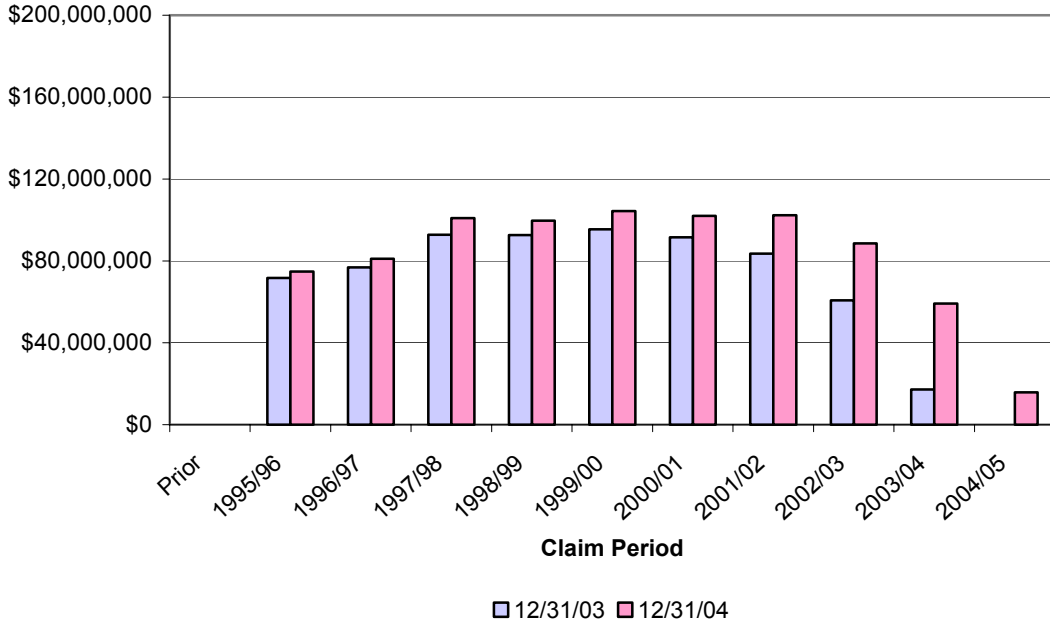
Table I-4 shows the projected ultimate losses by fiscal year from the previous study to the current study. In aggregate, the projections from our last study have differed by about 0.7%.

**Table I-4  
Projected Ultimate Losses  
Through 2004/05**

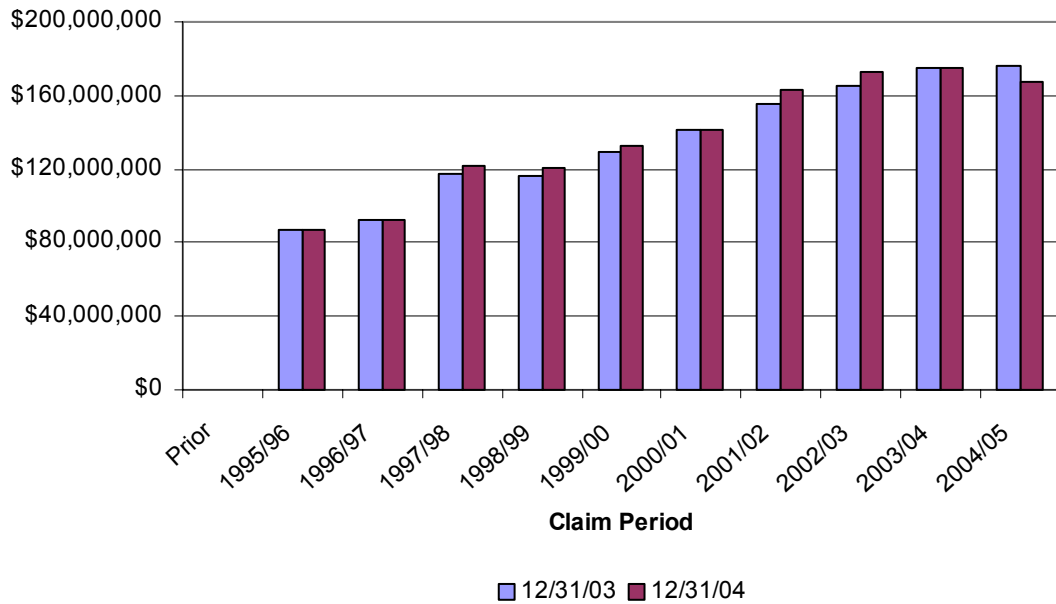
<b>Fiscal Year Ending (A)</b>	<b>Projected Ultimate Unlimited 12/31/03 (B)</b>	<b>Projected Ultimate Unlimited 12/31/04 (C)</b>	<b>Change in Projected Ultimate Unlimited (C) – (B) (D)</b>	<b>Percentage Change [(C) – (B)]/(B) (E)</b>
To 1984/85	\$55,687,758	\$55,579,102	(\$108,656)	-0.20%
1985/86	43,053,347	42,005,968	( 1,047,379)	-2.43%
1986/87	38,931,912	39,163,644	231,732	0.01%
1987/88	41,560,818	41,763,337	202,519	0.49%
1988/89	44,162,753	44,328,185	165,432	0.37%
1989/90	53,999,673	52,056,340	( 1,943,333)	-3.60%
1990/91	69,095,839	67,306,050	( 1,789,789)	-2.59%
1991/92	60,792,464	61,080,194	287,730	0.47%
1992/93	70,490,472	69,531,969	( 958,503)	-1.36%
1993/94	60,139,490	60,210,146	70,656	0.12%
1994/95	77,186,672	75,178,660	( 2,008,012)	-2.60%
1995/96	86,639,909	86,621,100	( 18,809)	-0.02%
1996/97	92,448,362	92,909,255	460,893	0.50%
1997/98	117,063,308	122,216,708	5,153,400	4.40%
1998/99	116,129,507	121,085,732	4,956,225	4.27%
1999/00	128,857,965	132,432,116	3,574,151	2.77%
2000/01	141,105,388	141,379,541	274,153	0.19%
2001/02	155,958,738	163,586,648	7,627,910	4.89%
2002/03	165,187,135	172,591,486	7,404,351	4.48%
2003/04	174,975,844	175,483,345	507,501	0.29%
2004/05	176,507,555	167,746,076	( 8,761,479)	-4.96%
<b>Total</b>	<b>\$1,969,974,909</b>	<b>\$1,984,255,602</b>	<b>\$14,280,693</b>	<b>0.72%</b>

Graphs I-8 and I-9 show a comparison for the last ten claim periods of the reported incurred losses and the projected ultimate losses from the prior actuarial study to the current study.

**Graph I-8**  
**Reported Incurred Losses**  
**1995/96 to 2004/05**



**Graph I-9**  
**Projected Ultimate Losses**  
**1995/96 to 2004/05**



## II. Background and Objectives

### A. Background

The District has been self-insured for workers compensation since (at least) 1976/77.

The District has not purchased insurance to cover excess losses.

Sedgwick CMS has managed the District's claims since August 1, 2003. Prior to that date, the claims were managed by Helsman.

### B. Objectives

The specific objectives of this study are:

1. **Estimate Outstanding Losses.** Estimate outstanding losses (including allocated loss adjustment expenses [ALAE]) as of June 30, 2005.

The estimated outstanding losses are the cost of unpaid claims. The estimated outstanding losses include case reserves, the development of known claims and incurred but not reported (IBNR) claims. ALAE are the direct settlement expenses for specific claims, primarily legal expenses.

2. **Project Financial Position.** Project the financial position of the program as of June 30, 2005.

The projected financial position is a comparison of the present value of estimated outstanding losses with projected funds available (approximate and unaudited) to meet them.

3. **Project Ultimate Losses.** Project ultimate losses (including ALAE) for 2005/06 and 2006/07.

The projected ultimate losses are the accrual value of losses with accident dates in 2005/06 and 2006/07, regardless of report or payment date. The amount is limited to the self-insured retention.

4. **Project Losses Paid.** Project losses paid (claim disbursements) during 2005/06 and 2006/07.

The projected losses paid are the claim disbursements of losses paid during 2005/06 and 2006/07, regardless of accident or report date.

5. **Recommend Minimum Funding.** Recommend minimum funding for 2005/06 and 2006/07.

The recommended minimum funding is based on the projected ultimate losses, expenses and the projected financial position.

### III. Conclusions

We have reached the following conclusions:

#### 1. Estimate Outstanding Losses

We estimate outstanding losses as of June 30, 2005 to be as shown in Table III-1A.

**Table III-1A  
Estimated Outstanding Losses  
June 30, 2005**

<b>Interest Rate (1)</b>	<b>Indemnity (2)</b>	<b>Medical (3)</b>	<b>Expense (4)</b>	<b>Total (5)</b>
(A) Full Value	\$316,163,986	\$369,441,925	\$93,839,841	<b>\$779,445,752</b>
(B) 1% Interest	300,979,523	349,483,905	90,906,995	<b>741,370,423</b>
(C) 2% Interest	287,367,549	331,650,820	88,163,874	<b>707,182,243</b>
(D) 3% Interest	275,106,035	315,642,322	85,593,173	<b>676,341,530</b>
(E) 4% Interest	264,010,097	301,208,082	83,179,543	<b>648,397,722</b>
(F) 5% Interest	253,925,019	288,138,484	80,909,383	<b>622,972,886</b>

Note: (2) is from Exhibit WC-I-12.  
(3) is from Exhibit WC-M-12.  
(4) is from Exhibit WC-E-12.

The estimated outstanding losses at optimistic, expected and pessimistic levels are shown in Table III-1B.

**Table III-1B**  
**Estimated Outstanding Losses**  
**June 30, 2005**

Item (1)	Optimistic (2)	Expected (3)	Pessimistic (4)
(A) Estimated outstanding losses	\$701,501,177	\$779,445,752	\$935,334,902
(B) Present value of estimated outstanding losses at a 1% interest rate	667,233,381	741,370,423	889,644,508
(C) Present value of estimated outstanding losses at a 2% interest rate	636,464,019	707,182,243	848,618,692
(D) Present value of estimated outstanding losses at a 3% interest rate	608,707,377	676,341,530	811,609,836
(E) Present value of estimated outstanding losses at a 4% interest rate	583,557,950	648,397,722	778,077,266
(F) Present value of estimated outstanding losses at a 5% interest rate	560,675,597	622,972,886	747,567,463

Note: (2) is 90% of (3).  
(3) is from Table III-1A.  
(4) is 120% of (3).

The present value of the estimated outstanding losses is the amount of money, discounted for anticipated investment income, required to meet outstanding losses. It is calculated based on a 1%, 2%, 3%, 4% and 5% yield on investments.

The optimistic end of the range is based on an improved outlook due to the implementation of loss control, best practices, claims handling and other efforts. The pessimistic end implies a deterioration.

Estimated outstanding unallocated loss adjustment expenses (ULAE) are additional. ULAE are the future costs to administer open claims to conclusion. It is typically 5% to 10% of the estimated outstanding losses.

## 2. Project Financial Position

We project the financial position of the program as of June 30, 2005 to be as shown in Table III-2.

**Table III-2  
Projected Financial Position  
June 30, 2005**

Item (1)	Optimistic (2)	Expected (3)	Pessimistic (4)
(A) Projected funds available	<i>To be filled in when provided</i>	<i>To be filled in when provided</i>	<i>To be filled in when provided</i>
(B) Present value of estimated outstanding losses at a 5% interest rate	560,675,597	622,972,886	747,567,463
(C) Projected financial position (A) – (B)	<i>To be filled in when provided</i>	<i>To be filled in when provided</i>	<i>To be filled in when provided</i>

Note: (A) was provided by the District.  
 (B2) is 90% of (B3).  
 (B3) is from Table III-1A.  
 (B4) is 120% of (B3).

The optimistic end of the range is based on an improved outlook due to loss control and claims handling. The pessimistic end implies a deterioration.

### 3. Project Ultimate Losses

We project ultimate losses for 2005/06 and 2006/07 to be as shown in Tables III-3A and III-3B.

**Table III-3A**  
**Projected Ultimate Losses**  
**2005/06**

Interest Rate (1)	Indemnity (2)	Medical (3)	Expense (4)	Total (5)
(A) Full Value	\$76,615,073	\$81,716,566	\$19,690,588	<b>\$178,022,227</b>
(B) 1% Interest	72,902,775	77,289,199	18,826,569	<b>169,018,543</b>
(C) 2% Interest	69,557,650	73,347,697	18,023,516	<b>160,928,863</b>
(D) 3% Interest	66,526,488	69,818,267	17,278,225	<b>153,622,980</b>
(E) 4% Interest	63,765,640	66,640,553	16,584,249	<b>146,990,442</b>
(F) 5% Interest	61,239,071	63,764,896	15,936,788	<b>140,940,755</b>

Note: (A), (B), and (C) are from Exhibits WC-I-10, WC-M-10 and WC-E-10, respectively.

**Table III-3B**  
**Projected Ultimate Losses**  
**2006/07**

Interest Rate (1)	Indemnity (2)	Medical (3)	Expense (4)	Total (5)
(A) Full Value	\$78,602,970	\$89,163,318	\$19,690,588	<b>\$187,456,876</b>
(B) 1% Interest	74,794,350	84,332,489	18,826,569	<b>177,953,408</b>
(C) 2% Interest	71,362,431	80,031,802	18,023,516	<b>169,417,749</b>
(D) 3% Interest	68,252,621	76,180,738	17,278,225	<b>161,711,584</b>
(E) 4% Interest	65,420,138	72,713,442	16,584,249	<b>154,717,829</b>
(F) 5% Interest	62,828,014	69,575,730	15,936,788	<b>148,340,532</b>

Note: (A), (B), and (C) are from Exhibits WC-I-10, WC-M-10 and WC-E-10, respectively.

The present value of the projected ultimate losses is the amount of money, discounted for anticipated investment income, required to meet claims. It is calculated based on a 1%, 2%, 3%, 4% and 5% yield on investments.

## 4. Project Losses Paid

We project losses paid during 2005/06 and 2006/07 to be as shown in Table III-4.

**Table III-4  
Projected Losses Paid  
2005/06 and 2006/07**

Component (1)	2005/06 (2)	2006/07 (3)
(A) Indemnity	\$70,837,788	\$71,594,085
(B) Medical	72,267,946	74,301,830
(C) Expense	23,462,549	22,459,270
<b>(D) Total (A) ... (C)</b>	<b>\$166,568,283</b>	<b>\$168,355,185</b>

Note: (A) is from Exhibit WC-I-14 and WC-I-15.  
(B) is from Exhibit WC-M-14 and WC-M-15.  
(C) is from Exhibit WC-E-14 and WC-E-15.

All costs other than claims are additional.

## 5. Recommend Minimum Funding

We recommend minimum funding for 2005/06 and 2006/07 to be as shown in Tables III-5A and III-5B.

**Table III-5A  
Recommended Minimum Funding  
2005/06**

Item (1)	Amount (2)	Rate per \$100 of Payroll (3)
(A) Present value of projected ultimate losses at a 5% interest rate	\$140,940,755	\$3.80
(B) Budgeted expenses for claims handling and administration	20,865,872	0.56
<b>(C) Recommended minimum funding (A) + (B)</b>	<b>\$161,806,627</b>	<b>\$4.36</b>

Note: (A) is from Exhibit SUM-2.  
(B) provided by the District for 2004/05. We assumed a 3% trend.

**Table III-5B  
Recommended Minimum Funding  
2006/07**

Item (1)	Amount (2)	Rate per \$100 of Payroll (3)
(A) Present value of projected ultimate losses at a 5% interest rate	\$148,340,532	\$4.00
(B) Budgeted expenses for claims handling and administration	21,491,848	0.58
<b>(C) Recommended minimum funding (A) + (B)</b>	<b>\$169,832,380</b>	<b>\$4.58</b>

Note: (A) is from Exhibit SUM-2.  
(B) was provided by the District for 2004/05. We assumed a 3% trend.