



## **City of Houston, Texas**

### **Actuarial Study of the Self-Insured Workers Compensation Program as of June 30, 2013**

**Issue Date: September 16, 2013**



September 16, 2013

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Houston, Texas 77002

Attn: Mr. Ramiro Cano  
Human Resources Department

**Actuarial Study of the  
Self-Insured Workers Compensation Program  
as of June 30, 2013**

This study has been completed for the City of Houston 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 have a relationship with the City of Houston that may impair our objectivity.

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

Respectfully submitted,

*Aon Risk Consultants, Inc.*

  
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## I. Background

The City established the self-funded workers compensation program July 1, 1976.

From the inception of the program through September 30, 1983, the City purchased excess (stop-loss) insurance above a self-insured retention of \$100,000 per occurrence. From October 1, 1983 through March 31, 1985, the self-insured retention was \$400,000 per occurrence. Since April 1, 1985, the City has not purchased excess insurance.

The City of Houston self-funded program was initially administered by the Texas Employers Insurance Association (TEIA) through the Texas Municipal League (TML). TEIA gave way to Adjustco Claims Management after the City of Houston left TML. Subsequently, in April 1991, the claims administration contract was awarded to Summit Claims Management.

In the fall of 1994, Summit Claims Management underwent a split, and the claims administration was awarded to Integrated Healthcare Delivery System - Summit of Texas (IHDS-Summit). IHDS-Summit is a subsidiary of CARE Systems Incorporated, a Dallas-based information management system vendor. On February 8, 1995, IHDS-Summit underwent a name change to IHDS of Texas, LTD.

From September 1, 1998 to 2003, the City awarded a claims administration contract to Ward North America (Ward). Effective September 1, 2003, the claims administration contract was awarded to Cambridge Integrated Services Group, Inc. In 2008, the City awarded a new contract to the incumbent Cambridge Integrated Services Group, Inc.

We understand some of the insurers have since become insolvent. Recoveries are problematic. The impact of the insolvencies is expected to be less than \$500,000.



## **Data & Methodology**

Workers compensation data valued as of June 30, 2013 was provided to us by the City. The City provided payroll for years through 2017/18. Third party administrator (TPA) fees were provided by the City for 2012/13.

The City's TPA transitioned to a new system and data valued as of June 30, 2013 is now in a different format than that provided to us for previous studies. The voc rehab losses are included under the expense column in the current loss run. In prior loss runs, these amounts were an independent column, which we included under indemnity in our analysis. Since the voc rehab amounts could not be separated from the expenses for this study, we have completed our analysis on a combined basis.

In conducting this analysis, we relied upon the provided data without audit or independent verification; however, we reviewed it for reasonableness and consistency. Any inaccuracies in quantitative data or qualitative representations could have a significant effect on the results of our review and analysis. Any material discrepancies discovered in the loss data by the City or any other parties should be reported to us immediately, and if warranted, we will make appropriate amendments to the report.



## II. 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, 2013.

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

2. **Project Ultimate Losses.** Project ultimate losses (including ALAE) for 2013/14 and four subsequent claim periods.

The projected ultimate losses are the accrual value of losses during 2013/14 and four subsequent periods, regardless of report or payment date.

3. **Project Losses Paid.** Project losses paid during 2013/14 and four subsequent fiscal periods.

The projected losses paid are the claim disbursements during 2013/14 and four subsequent periods, regardless of accident or report date.

4. **Loss Experience Trends.**

5. **Size of Loss Distribution Analysis.** Analyze the distribution of losses in various layers.

6. **Allocation of Outstanding Losses by Department.** Allocate the estimated outstanding losses (including ALAE) as of June 30, 2013 by department.

7. **Affirm GASB Statement No. 10.** Provide a statement affirming that the conclusions in the actuarial study are consistent with Governmental Accounting Standards Board (GASB) Statement No. 10.



### III. Conclusions

#### 1. Estimate Outstanding Losses

We estimate outstanding losses as of June 30, 2013 as shown in Table III-1A.

**Table III-1A**  
**Estimated Outstanding Losses**  
**June 30, 2013**

<b>Item (1)</b>	<b>Amount (2)</b>
(A) Estimated Outstanding Losses	\$63,055,114
(B) Present Value of Estimated Outstanding Losses (2.0% Interest Rate Assumption)	57,183,890
(C) Present Value of Estimated Outstanding Losses (4.5% Interest Rate Assumption)	51,432,937

Note: (A) is from Exhibit WC-11.

The estimated outstanding losses increased from \$57,022,497 as of June 30, 2012 to \$63,055,114 as of June 30, 2013, an increase of about \$6 million. The increase can be attributed to an increase in the overall case reserves of about \$6.4 million from June 30, 2012 to June 30, 2013, as shown in Table III-1B.

The present value of the estimated outstanding losses is the amount of money, discounted for anticipated investment income, required to meet unpaid claims. It is calculated based on a 2.0% yield on investments and a 4.5% yield on investments, as provided by the City.

The estimated outstanding losses do not include outstanding unallocated loss adjustment expenses (ULAE). Outstanding ULAE are primarily composed of future claims administration for open claims. Outstanding ULAE are typically 5% to 10% of the estimated outstanding losses. Based on the ULAE paid-to-paid loss and ALAE ratios, the City's indicated ULAE provision is about 5.0% (see Exhibit WC-20).

The estimated outstanding losses only include regular workers compensation benefits. The amounts do not include salary continuation plans.

All costs other than unpaid claims are additional.



The changes in the case reserves by claim period is shown in Table III-1B.

**Table III-1B  
Comparison of Case Reserves  
June 30, 2012 to June 30, 2013**

Year (1)	Limited Case Reserves as of 6/30/12 (2)	Limited Case Reserves as of 6/30/13 (3)	Change (3) - (2) (4)
to 1993/94	\$5,677,458	\$5,626,517	(\$50,941)
1994/95	4,215,403	3,875,898	(339,505)
1995/96	53,200	67,691	14,491
1996/97	57,156	66,133	8,977
1997/98	816,550	1,096,060	279,509
1998/99	932,313	654,522	(277,791)
1999/00	173,842	188,690	14,848
2000/01	1,261,171	1,278,900	17,728
2001/02	1,233,016	1,148,626	(84,390)
2002/03	6,176,639	5,673,473	(503,165)
2003/04	947,883	871,449	(76,433)
2004/05	1,577,597	1,433,677	(143,920)
2005/06	603,172	558,970	(44,203)
2006/07	1,476,452	1,558,761	82,309
2007/08	1,833,540	1,742,900	(90,639)
2008/09	8,258,081	7,876,009	(382,071)
2009/10	1,291,673	1,258,002	(33,671)
2010/11	1,640,491	1,329,740	(310,751)
2011/12	4,134,728	1,842,470	(2,292,258)
2012/13		10,577,623	10,577,623
Total	\$42,360,364	\$48,726,114	\$6,365,749

Note: (2) is from the previous actuarial study.  
(3) is from Exhibit WC-1.

We have limited the development of claims with over \$4 million in case reserves to the current incurred amount valued as of June 30, 2013.

A list of large claims can be found on Exhibits WC-18.



## 2. Project Ultimate Losses

We project ultimate losses for 2013/14 and four subsequent claim periods as shown in Table III-2.

**Table III-2**  
**Projected Ultimate Losses**  
**2013/14 to 2017/18**

Period (1)	Undiscounted		Discounted at 2.0%		Discounted at 4.5%	
	Amount (2)	Loss Rate per \$100 of Payroll (3)	Amount (4)	Loss Rate per \$100 of Payroll (5)	Amount (6)	Loss Rate per \$100 of Payroll (7)
(A) 2013/14	\$17,930,000	\$1.50	\$17,008,000	\$1.42	\$16,066,000	\$1.35
(B) 2014/15	18,654,000	1.53	17,695,000	1.45	16,715,000	1.37
(C) 2015/16	19,408,000	1.56	18,410,000	1.48	17,391,000	1.40
(D) 2016/17	20,192,000	1.59	19,154,000	1.51	18,093,000	1.43
(E) 2017/18	21,007,000	1.62	19,928,000	1.54	18,824,000	1.46

Note: (A) through (E) are from Exhibit WC-10.

The present value of the projected ultimate limited losses is the amount of money, discounted for anticipated investment income, required to meet claims. It is calculated based on a 2.0% yield on investments and a 4.5% yield on investments, as provided by the City.

We note that actuarial projections beyond one or two claim periods may not be reliable. Changes in the types of municipal services, economic, societal and statutory factors affect the projections.

The projected ultimate losses are for regular workers compensation benefits. The amounts do not include salary continuance plans.

All costs other than claims are additional.



### 3. Project Losses Paid

We project losses paid during 2013/14 and four subsequent fiscal periods as shown in Table III-3.

**Table III-3  
Projected Losses Paid  
2013/14 through 2017/18**

<b>Period (1)</b>	<b>Projected Paid Losses (2)</b>
(A) 2013/14	\$15,399,003
(B) 2014/15	17,256,573
(C) 2015/16	17,505,032
(D) 2016/17	17,880,548
(E) 2017/18	18,563,627

Note: (A) to (E) are from Exhibits WC-12 through WC-16.

The projected losses paid do not include salary continuance plans.

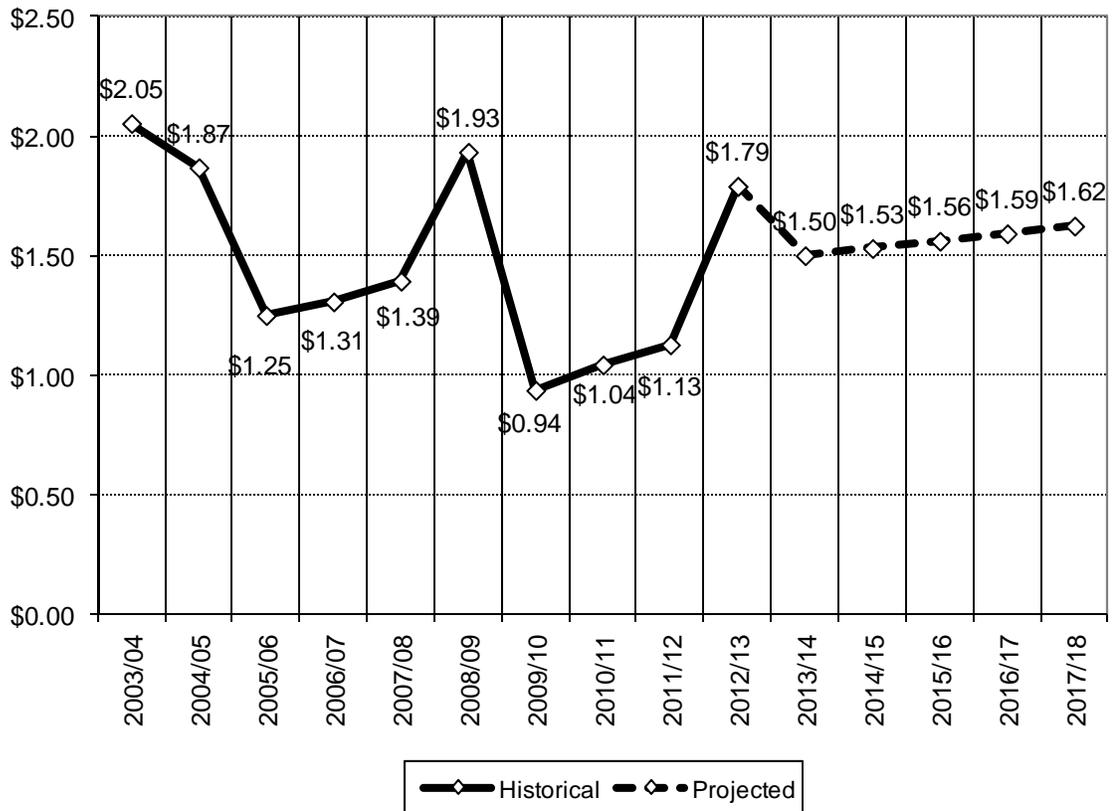
All costs other than claims are additional.



#### 4. Loss Experience Trends

Graphs III-1 and III-2 show loss experience trends for workers compensation as measured by loss rate per \$100 of payroll and frequency and severity, respectively.

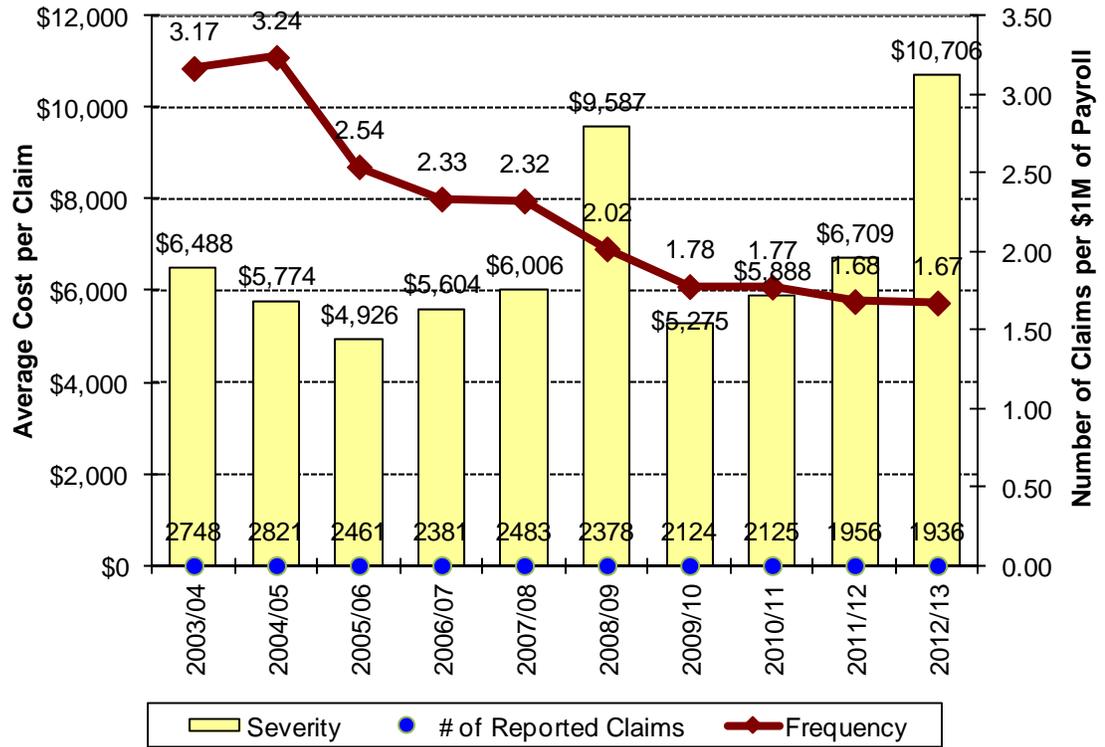
**Graph III-1  
Loss Rate per \$100 of Payroll**



Note: Loss rates are from Exhibit WC-10, columns (4) and (7).



**Graph III-2  
Frequency and Severity**

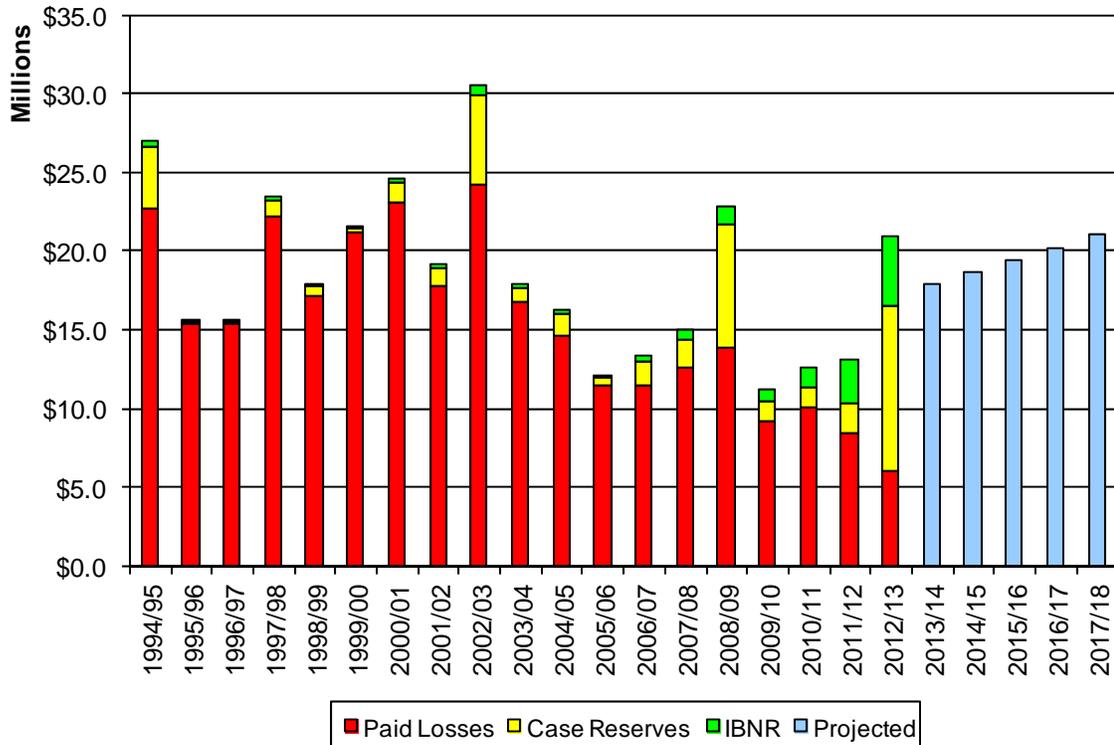


Note: Frequency amounts are from Exhibit WC-8, Section I, column (7).  
Severity amounts are based on the projected claim counts in Exhibit WC-8 and the projected ultimate losses in Exhibit WC-9.



Graph III-3 shows the composition of the projected ultimate limited losses for workers compensation.

**Graph III-3  
Composition of Projected Ultimate Limited Losses**



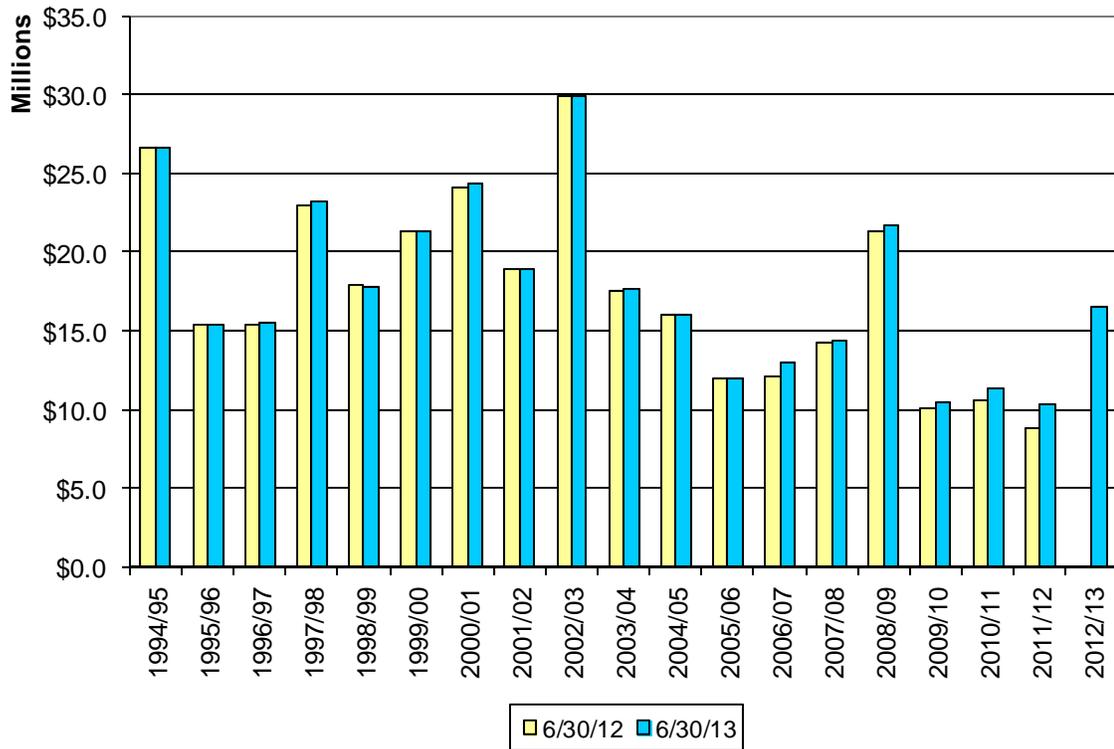
Note: Amounts through 2012/13 are from Exhibit WC-11.  
Amounts for 2013/14 through 2017/18 are from Exhibit WC-10.

For 2012/13, there are 2 claims which contribute a total of about \$4.4 million to the reported incurred losses. A size of loss distribution can be found on Exhibit WC-19 and a list of large claims greater than \$500,000 can be found on Exhibit WC-18.



Graphs III-4 and III-5 are graphical comparisons of the reported incurred losses and projected ultimate losses, respectively, by fiscal year of occurrence of the workers compensation program from the previous study (report dated August 17, 2012) to the current study.

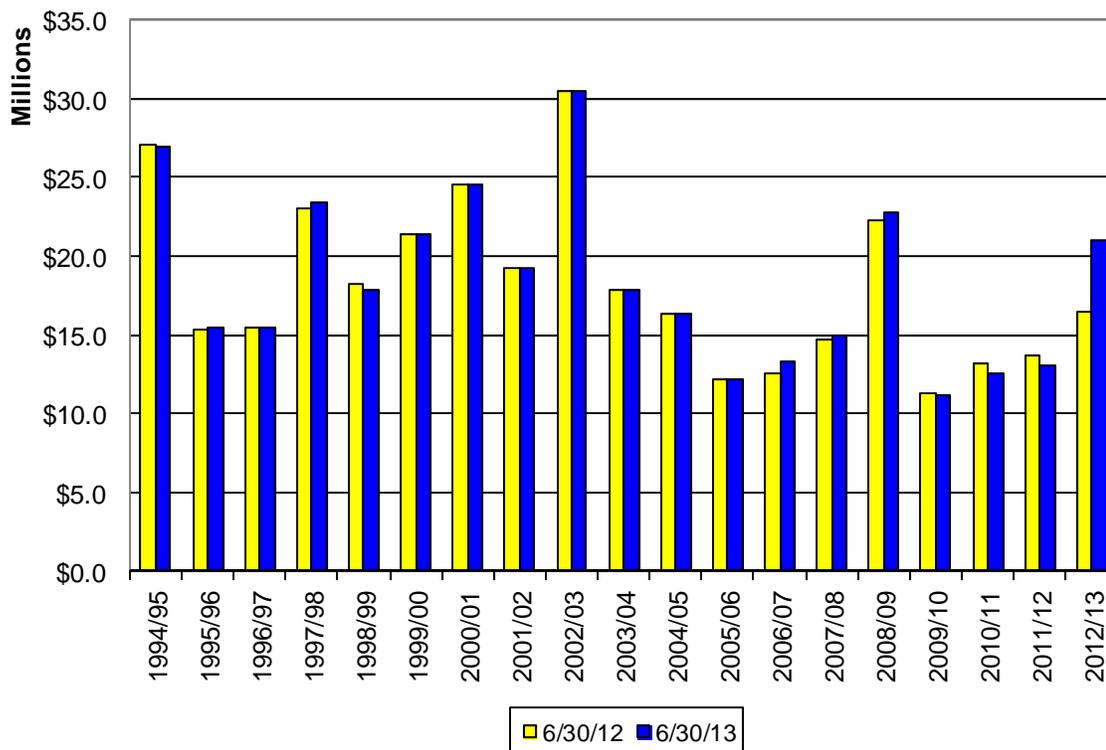
**Graph III-4  
Comparison of Reported Incurred Losses  
as of June 30, 2012 and June 30, 2013**



Note: Amounts as of June 30, 2012 are from the previous actuarial study.  
Amounts as of June 30, 2013 are from Exhibit WC-1.



**Graph III-5  
Comparison of Projected Ultimate Losses  
as of June 30, 2012 and June 30, 2013**



Note: Amounts as of June 30, 2012 are from the previous actuarial study.  
Amounts as of June 30, 2013 are from Exhibit WC-9.

For all claims through 2011/12, the change in the projected ultimate limited losses from June 30, 2012 to June 30, 2013 was -0.5%.



## 5. Size of Loss Distribution Analysis

Table III-5 shows the distribution of losses in various layers for workers compensation.

**Table III-5  
Size of Loss Distribution**

Layer (1)	Total Reported Claims (2)	Percent of Total (2)/Total(2) (3)	Cumulative Percent of Total (4)	Total Reported Incurred Losses (5)	Percent of Total (5)/Total(5) (6)	Cumulative Percent of Total (7)
(A) \$0 to \$5,000	87,002	85.6%	85.6%	\$55,134,003	9.4%	9.4%
(B) \$5,000 to \$10,000	4,335	4.3%	89.9%	31,034,724	5.3%	14.7%
(C) \$10,000 to \$25,000	4,983	4.9%	94.8%	80,289,602	13.7%	28.4%
(D) \$25,000 to \$50,000	2,862	2.8%	97.6%	101,287,677	17.3%	45.7%
(E) \$50,000 to \$100,000	1,619	1.6%	99.2%	112,386,317	19.2%	64.9%
(F) \$100,000 to \$250,000	672	0.7%	99.9%	96,514,056	16.5%	81.4%
(G) \$250,000 to \$500,000	79	0.1%	99.9%	27,321,873	4.7%	86.0%
(H) \$500,000 to \$750,000	23	0.0%	100.0%	14,209,679	2.4%	88.5%
(I) \$750,000 to \$1,000,000	10	0.0%	100.0%	9,273,711	1.6%	90.0%
(J) Over \$1,000,000	23	0.0%	100.0%	58,325,093	10.0%	100.0%
(K) Total (A) ... (J)	101,608	100%		\$585,776,733	100%	

Note: See Exhibit WC-19.

For workers compensation, about 90% of the non-zero claims reported are below \$10,000 and they represent about 15% of the incurred amounts. The remaining 10% of the claims consume about 85% of the incurred amounts.

## 6. Allocation of Outstanding Losses by Department

We have allocated outstanding losses as of June 30, 2013 by department in Exhibit WC-ALLOCATION. The allocation is based on each departments actual case reserves and the total IBNR is apportioned by each department's share of case reserves.

## 7. Affirm GASB Statement No. 10 Compliance

We affirm the conclusions in this actuarial study are consistent with the disclosure requirements of GASB Statement No. 10.

## Conditions and Limitations

It is important to understand the conditions and limitations listed below. Each chapter and section is an integral part of the whole study. If there are questions, please contact Aon for clarification.

- **Data Quality.** We relied upon data provided by the organization shown on the transmittal page or its designated agents. The data was used without verification or audit, other than checks for reasonableness. Unless otherwise stated, we assumed the data to be correct and complete.
- **Economic Environment.** Unless otherwise stated, we assumed the current economic conditions will continue in the foreseeable future.
- **Insurance Coverage.** Unless otherwise stated, we assumed no insurance coverage changes (including coverage provided by the organization to others) subsequent to the date this study was prepared. This includes coverage language, self-insured retention, limitations and similar issues.
- **Insurance Solvency.** Unless otherwise stated, we assumed all insurance purchased by the organization is from solvent sources payable in accordance with terms of the coverage document.
- **Interest Rate.** The exhibits specify the annual interest rate used.
- **Methodology.** In this study, different actuarial methods were applied. In some instances, the methods yield significantly disparate results. The estimates, projections and recommendations in this study reflect our judgments as to the best method or combination of methods that are most reliable and reflective of the exposure to loss.
- **Reproduction.** This study may only be reproduced in its entirety.
- **Risk and Variability.** Insurance is an inherently risky enterprise. Actual losses may vary significantly from our estimates, projections and recommendations. They may emerge higher or lower.



- **Statutory and Judicial Changes.** Legislatures and judiciaries may change statutes that govern indemnification. This includes benefit levels for workers compensation, immunities and limitations for liability, and other similar issues. Unless otherwise stated, we assumed no statutory changes subsequent to the date this study was prepared.
- **Supplemental Data.** In addition to the data provided by the organization, we supplemented our analysis with data from similar organizations and insurance industry statistics, as we deemed appropriate.
- **Usage.** This study has been prepared for the usage of the organization shown on the transmittal page. It was not prepared for and may not be appropriate for use by other organizations. Other organizations should obtain written permission from Aon prior to use of this study.

## Glossary of Actuarial Terms

### Actuarial Methods (Most Common)

A major objective of an actuarial study is to statistically project ultimate losses. The following actuarial methods are the most common:

- Developed Paid Losses
- Developed Reported Incurred Losses
- Developed Case Reserves
- Frequency Times Severity Analysis
- Loss Rate Analysis

The following describes each method:

1. **Developed Paid Losses.** Paid losses represent the amounts actually paid to claimants (less excess insurance recoveries). As time goes on, loss payments continue until all claims are closed and there are no remaining payments expected. At this time, the ultimate losses for the claim period are known. This common process is called “paid loss development.”

Paid loss development is an extrapolation of actual dollars paid. It does not depend on case reserve estimates. A potential shortcoming of utilizing this method is that only a small fraction of total payments have been made for the most recent claim periods. Extrapolating ultimate losses based on small amounts of actual payments may be speculative. A second potential shortcoming is that payment patterns can change over time.

2. **Developed Reported Incurred Losses.** Reported incurred losses are paid losses plus case reserves. In most programs, total reported incurred losses underestimate the ultimate losses. Over time, as more information about a body of claims becomes known, they are adjusted either up or down until they are closed. Though many individual claims settle for less than what was estimated, these decreases are generally more than offset by increases in the cost of other claims for which new information has emerged.

The net effect is that total estimated costs are often revised upward over time. This normal process is called “reported incurred loss development.” Actuaries typically review the development patterns of the recent past to make projections of the expected future loss development and, therefore, estimations of ultimate losses.

3. **Developed Case Reserves.** A case reserve is an estimate of the unpaid amount established by claims adjusters for which a particular claim will ultimately be settled or adjudicated. The developed case reserves method is a hybrid of the paid loss development and reported incurred loss development methods. It relies on the historical adequacy of case reserves to predict ultimate losses.



4. **Frequency Times Severity Analysis.** The frequency times severity analysis is an actuarial method that uses a preliminary projection of ultimate losses to project claims severity. The claims severity times the number of claims is a predictor of ultimate losses. The focus of the frequency times severity analysis is that ultimate losses each period are dependent on the number of claims.
5. **Loss Rate Analysis.** The loss rate analysis is based on the historical loss rates per exposure unit (such as payroll, vehicles or property value). The loss rates (projected ultimate losses divided by exposure units) are trended to reflect the effect of claim cost inflation and retention changes. The trended loss rates represent the rates that one would see if all of the claims had been handled in the claim cost environment that will be present in the upcoming period. The trended loss rate times the projected exposure units is a predictor of losses.
6. **Bornhuetter-Ferguson Method (B-F).** The B-F method is an actuarial method that weights a preliminary projection of ultimate losses with projections of ultimate losses determined by other actuarial methods (usually the developed paid losses and developed reported incurred losses methods). For less mature claim periods, the B-F method leans more heavily to the preliminary projection. It gradually converges to the projections of ultimate losses determined by the other actuarial methods as the claim periods mature.

### **Actuary**

A specialist trained in mathematics, statistics, and finance who is responsible for rate, reserve, and dividend calculations and other statistical studies.

### **Allocated Loss Adjustment Expenses**

Allocated loss adjustment expenses (ALAE) are the direct expenses to settle specific claims. These expenses are primarily legal expenses.

Governmental Accounting Standards Board (GASB) Statement No. 10 requires that ALAE be included in financial statements and that they be calculated by actuarial methods.

### **American Academy of Actuaries**

A society concerned with the development of education in the field of actuarial science and with the enhancement of standards in the actuarial field. Members may use the designation MAAA (Member, American Academy of Actuaries).

### **Benefits**

The financial reimbursement and other services provided insureds by insurers under the terms of an insurance contract. An example would be the benefits listed under a life or health insurance policy or benefits as prescribed by a workers compensation law.



### **Casualty Actuarial Society**

A professional society for actuaries in areas of property and casualty insurance work. This society grants the designation of Associate of the Casualty Actuarial Society (ACAS) and Fellow of the Casualty Actuarial Society (FCAS).

### **Claim**

Demand by an individual or entity to recover for a loss.

### **Claims Made**

A policy written on this basis covers only those claims that are made during the policy period. Coverage for prior acts is provided back to what is known as the retroactive date, which is the effective date of the original claims made policy with the same insurer.

### **Composite Rate**

A single rate with a single basis of premium (e.g., payroll or sales). For this single rate the insured is covered for a variety of hazards, such as premises and operations, completed operations, products liability, and automobile. Its primary value is to compute premium simply.

### **Confidence Level**

A confidence level is the statistical certainty that an actuary believes funding will be sufficient. For example, an 80% confidence level means that the actuary believes funding will be sufficient in eight years out of ten.

Confidence levels are determined based on mathematical models. Coverages that are low frequency and high severity (such as excess liability) are subject to greater risk than coverages that are high frequency and low severity (such as automobile physical damage). Therefore, they need a greater margin to attain a given confidence level.

### **Coverage**

The scope of the protection provided under a contract of insurance.

### **Credibility**

Credibility is the belief that the sample data is an accurate reflection of the larger population. Credibility is highest when the sample data is large and the standard deviation (discussed later) of the larger population is low.



### **Dates**

There are at least three milestone dates in a claim. They are the date of injury or accident, the date of report and the date of closure. It is best if each of these dates is recorded. Some organizations may also keep the date a claim becomes a lawsuit, as opposed to a demand. Aon recommends this additional level of detail, especially if the data is to be used for litigation management.

### **Deductible**

The portion of an insured loss to be borne by the insured before he is entitled to recovery from the insurer. Deductibles may be expressed as a dollar amount, percentage or waiting period.

### **Disability**

A condition that curtails a person's ability to carry on his normal pursuits. A disability may be partial or total, and temporary or permanent.

### **Dividend (Policyholder)**

The return of part of the premium paid for a policy issued on a participating basis by either a mutual or a stock insurer.

### **Estimated Outstanding Losses**

Estimated outstanding losses are the cost of claims that have occurred but have not yet been paid. They typically include indemnification and allocated loss adjustment expenses (ALAE), but not unallocated loss adjustment expenses (ULAE).

Estimated outstanding losses are calculated as projected ultimate losses less paid losses. Alternatively, they are the sum of case reserves and incurred but not reported (IBNR) claims.

Estimated outstanding losses are usually the largest single item listed as a liability on the balance sheet of a public entity's financial statement. GASB Statement No. 10 requires they be calculated by actuarial methods. Other common names for estimated outstanding losses are outstanding claims liabilities and unpaid claims.

### **Experience Rating**

A method of adjusting the premium for a risk based on past loss experience for that risk compared to loss experience for an average risk.



## Exposure Data

Exposure data refers to the activities of the organization. For example, payroll is the most common exposure measure for workers compensation. Aon suggests collecting exposure data with the following characteristics:

- **Readily Available.** The exposure data should be easily obtained. It is best if it is a byproduct of other activities, although this is not always possible. If getting data is arduous, it may discourage collection.
- **Vary With Losses.** The exposure data should correlate directly with losses. The ideal situation is where exposure and expected losses move in tandem. The exposure base needs to be fitting to the coverage. For example, the number of employees may vary with property losses (more employees = more office space = more losses), but property value is a clearly superior exposure base for property losses.

## Generally Accepted Accounting Principles (GAAP)

These principles are intended to produce financial results (in the insurance industry) consistent with those of other industries and to assure consistency in financial reporting.

## Incurred But Not Reported

IBNR is really comprised of two distinct items. These are the development of known case reserves (incurred but not enough reported [IBNER] and incurred but not yet reported [IBNYR]).

IBNER are the actuary's estimate of the inadequacy of case reserves. Most claims settle at amounts close to what is set by the claims administrator. Some claims close favorably and some emerge as more expensive. On balance, case reserves tend to be too low (especially for recent years). IBNER is the actuary's estimate of the amount total case reserves will rise upon closure.

IBNYR refers to those claims that have occurred, but have not yet been reported. A classic example is medical malpractice claim reported several years after the medical procedure was performed.

## Insurance Services Office (ISO)

An organization of the property and casualty insurance business designed to gather statistics, promulgate rates, and develop policy forms.

## Investment Income

The return received by entities from their investment portfolios, including interest, dividends and realized capital gains on stocks. Realized capital gains means the profit realized on assets that have actually been sold for more than their purchase price.



### **Limited**

Most programs purchase excess insurance for catastrophic claims. For example, they may purchase coverage for claims above a \$500,000 per occurrence self-insured retention. "Limited" refers to an estimate or projection being limited to the self-insured retention. In contrast, "unlimited" means a loss projection not limited to the self-insured retention.

Other common names for limited are net of excess insurance or capped losses.

### **Loss Development**

The difference between the amount of losses initially estimated by the insurer and the amount reported in an evaluation on a later date. Loss development is typically measured for paid losses, reported incurred losses and claim counts.

### **Manual Rates**

Usually, the published rate for some unit of insurance. An example is in the workers compensation manual, where the rates shown apply to each \$100 of the payroll of the insured, \$100 being the "unit."

### **National Council on Compensation Insurance (NCCI)**

An association of workers compensation insurance companies whose main functions are collecting statistics and calculating rates, establishing policy wording, developing experience and retrospective rating plans, and serving as the filing organization for member companies.

### **Net**

Many pooling programs assign deductibles to members. For example, each member may have a \$5,000 per claim deductible. "Net" refers to a loss estimate or projection that excludes amounts below member deductibles.

### **Occurrence**

An event that results in an insured loss. In some lines of insurance, such as general liability, it is distinguished from accident in that the loss does not have to be sudden and fortuitous and can result from continuous or repeated exposure that results in bodily injury or property damage neither expected nor intended by the insured.

### **Pool**

An organization of entities through which particular types of risks are written with the premiums, losses, and expenses shared in agreed amounts among the members belonging to the organization.



### **Premium**

The price of insurance protection for a specified risk for a specified period of time.

### **Present Value**

The amount of money that future amounts receivable are currently worth. For example, a Life Insurance policy may provide for payments to be made monthly for ten years. The present value of that money would be less than the total amount of the regular periodic payments for 10 years because of the amount of interest that a present lump sum could earn during the term than the payments otherwise would have been made.

### **Probability**

The probability is the likelihood of an event. It is a measure of how likely a value or event is to occur. It can be measured from data by calculating the number of occurrences of the value or event divided by the total number of occurrences. This calculation can be converted to a percentage. For example, tossing a coin has a 50% probability of heads or tails.

### **Projected Losses Paid**

Projected losses paid are the projected claims disbursements in a period, regardless of when the claim occurred. They typically include indemnification and ALAE, but not unallocated loss adjustment expenses (ULAE).

“Projected losses paid” is a cash-flow analysis that can be used in making investment decisions.

### **Projected Ultimate Losses**

Projected ultimate losses are the accrual value of claims. They are the total amount that is expected to be paid in a particular claim period after all claims are closed. Projected ultimate losses are the total loss costs for a particular period. They typically include indemnification and ALAE, but not ULAE.

Other common names for projected ultimate losses are expected losses, ultimate losses and total losses.

### **Rate**

The cost of a given unit of insurance. For example, in life insurance, it is the price of \$1,000 of the face amount. In property insurance, it is the rate per \$100 of value to be insured. The premium is the rate multiplied by the number of units of insurance purchased.

### **Retrospective Rating**

A method for which the final premium is not determined until the end of the coverage period, and is based on the insured's own loss experience for that same period. It is usually subject to a maximum



and minimum premium. A plan of this type can be used in various types of insurance, especially workers compensation and liability, and is usually elected by only very large insureds.

### **Salvage**

Property taken over by an entity to reduce its loss. Automobile physical damage losses can be reduced by the sale of recovered vehicles.

### **Schedule Rating**

The application of debits or credits within established ranges for various characteristics of a risk according to an established schedule of items. Under liability and automobile insurance, the schedule rating plan allows credits and debits for various good or bad features of a particular commercial risk. An example in automobile schedule rating would be allowing credits for driver training classes or fleet maintenance programs.

### **Self-Insurance Retention (SIR)**

That portion of a risk or potential loss assumed by an insured. It is often in the form of a per occurrence deductible.

### **Society of Actuaries (SOA)**

A professional society for actuaries in areas of pensions, and life and health insurance work. The SOA grants the designation Associate of the Society of Actuaries (ASA) and Fellow of the Society of Actuaries (FSA).

### **Standard Premium**

Most often used in connection with retrospective rating for Workers Compensation and General Liability Insurance. It is the premium of which the basic premium is a percentage and is developed by applying the regular rates to an insured's payroll.

### **State Fund**

A fund set up by a state government to finance a mandatory insurance system, such as Workers Compensation or non-occupational disability benefits. Such a fund may be monopolistic, i.e., purchasers of the type of insurance required must place it in the state fund; or it may be competitive, i.e., an alternative to private insurance if the purchaser desires to use it.

### **Statutory Accounting Principles (SAP)**

Those principles required by statute that must be followed by an insurance company or other similar entity when submitting its financial statement to the state insurance department. Such principles differ from (GAAP) in some important respects. For one thing SAP requires that expenses must be



recorded immediately and cannot be deferred to track with premiums as they are earned and taken into revenue.

### **Unallocated Loss Adjustment Expenses**

Unallocated loss adjustment expenses (ULAE) are the indirect expenses to settle claims. These expenses are primarily administration and claims handling expenses.

GASB Statement No. 10 requires that ULAE be included in financial statements and that they be calculated by actuarial methods.



## Exhibits

The attached exhibits detail our analysis.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-1 (page 1)

Data Summary as of June 30, 2013  
Losses Limited to Self-Insured Retention

Claim Period (1)	Specific Self-Insured Retention (2)	Aggregate Retention (3)	Months of Development 6/30/13 (4)	Payroll (000) (5)	Reported Claims 6/30/13 (6)	Open Claims 6/30/13 (7)	Limited Paid Losses 6/30/13 (8)	Limited Case Reserves 6/30/13 (9)	Limited Reported Incurred Losses 6/30/13 (10)
to 1993/94	See Note	None	240.0	Not Provided	69,256	45	\$240,434,814	\$5,626,517	\$246,061,332
1994/95	Unlimited	None	228.0	Not Provided	5,048	7	22,687,207	3,875,898	26,563,105
1995/96	Unlimited	None	216.0	678,010	4,478	5	15,347,240	67,691	15,414,931
1996/97	Unlimited	None	204.0	688,244	3,953	3	15,391,912	66,133	15,458,045
1997/98	Unlimited	None	192.0	715,359	4,053	4	22,146,027	1,096,060	23,242,087
1998/99	Unlimited	None	180.0	742,804	3,504	7	17,106,368	654,522	17,760,890
1999/00	Unlimited	None	168.0	780,938	3,337	8	21,182,960	188,690	21,371,650
2000/01	Unlimited	None	156.0	784,844	3,568	11	23,013,719	1,278,900	24,292,619
2001/02	Unlimited	None	144.0	782,046	3,585	11	17,788,855	1,148,626	18,937,481
2002/03	Unlimited	None	132.0	876,295	3,248	9	24,219,244	5,673,473	29,892,717
2003/04	Unlimited	None	120.0	868,049	2,748	12	16,775,671	871,449	17,647,120
2004/05	Unlimited	None	108.0	871,428	2,821	16	14,545,274	1,433,677	15,978,951
2005/06	Unlimited	None	96.0	969,135	2,461	12	11,424,024	558,970	11,982,993
2006/07	Unlimited	None	84.0	1,020,129	2,381	15	11,383,002	1,558,761	12,941,764
2007/08	Unlimited	None	72.0	1,069,406	2,483	17	12,584,933	1,742,900	14,327,833
2008/09	Unlimited	None	60.0	1,178,947	2,378	21	13,782,728	7,876,009	21,658,737
2009/10	Unlimited	None	48.0	1,194,923	2,124	23	9,199,241	1,258,002	10,457,243
2010/11	Unlimited	None	36.0	1,198,048	2,125	40	9,989,726	1,329,740	11,319,465
2011/12	Unlimited	None	24.0	1,163,067	1,956	99	8,443,034	1,842,470	10,285,504
2012/13	Unlimited	None	12.0	1,170,952	1,936	668	5,955,971	10,577,623	16,533,594
<b>Total</b>					<b>127,443</b>	<b>1,033</b>	<b>\$533,401,950</b>	<b>\$48,726,114</b>	<b>\$582,128,064</b>

\* The specific self-insured retention changes are as follows:

Effective Date	Retention
07/01/70	\$100,000
10/01/83	400,000
04/01/85	Unlimited

(8), (9) and (10) are net of the specific self-insured retention.

Data was provided by the City.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-1 (page 2)

Data Summary as of June 30, 2013  
Unlimited Losses

Claim Period (1)	Specific Self-Insured Retention (2)	Aggregate Retention (3)	Months of Development 6/30/13 (4)	Payroll (000) (5)	Reported Claims 6/30/13 (6)	Open Claims 6/30/13 (7)	Unlimited Paid Losses 6/30/13 (8)	Unlimited Case Reserves 6/30/13 (9)	Unlimited Reported Incurred Losses 6/30/13 (10)
to 1993/94	Unlimited	None	240.0	Not Provided	69,256	45	\$243,544,104	\$6,049,023	\$249,593,127
1994/95	Unlimited	None	228.0	Not Provided	5,048	7	22,687,207	3,875,898	26,563,105
1995/96	Unlimited	None	216.0	678,010	4,478	5	15,347,240	67,691	15,414,931
1996/97	Unlimited	None	204.0	688,244	3,953	3	15,391,912	66,133	15,458,045
1997/98	Unlimited	None	192.0	715,359	4,053	4	22,146,027	1,096,060	23,242,087
1998/99	Unlimited	None	180.0	742,804	3,504	7	17,106,368	654,522	17,760,890
1999/00	Unlimited	None	168.0	780,938	3,337	8	21,182,960	188,690	21,371,650
2000/01	Unlimited	None	156.0	784,844	3,568	11	23,013,719	1,278,900	24,292,619
2001/02	Unlimited	None	144.0	782,046	3,585	11	17,788,855	1,148,626	18,937,481
2002/03	Unlimited	None	132.0	876,295	3,248	9	24,219,244	5,673,473	29,892,717
2003/04	Unlimited	None	120.0	868,049	2,748	12	16,775,671	871,449	17,647,120
2004/05	Unlimited	None	108.0	871,428	2,821	16	14,545,274	1,433,677	15,978,951
2005/06	Unlimited	None	96.0	969,135	2,461	12	11,424,024	558,970	11,982,993
2006/07	Unlimited	None	84.0	1,020,129	2,381	15	11,383,002	1,558,761	12,941,764
2007/08	Unlimited	None	72.0	1,069,406	2,483	17	12,584,933	1,742,900	14,327,833
2008/09	Unlimited	None	60.0	1,178,947	2,378	21	13,782,728	7,876,009	21,658,737
2009/10	Unlimited	None	48.0	1,194,923	2,124	23	9,199,241	1,258,002	10,457,243
2010/11	Unlimited	None	36.0	1,198,048	2,125	40	9,989,726	1,329,740	11,319,465
2011/12	Unlimited	None	24.0	1,163,067	1,956	99	8,443,034	1,842,470	10,285,504
2012/13	Unlimited	None	12.0	1,170,952	1,936	668	5,955,971	10,577,623	16,533,594
<b>Total</b>					<b>127,443</b>	<b>1,033</b>	<b>\$536,511,240</b>	<b>\$49,148,619</b>	<b>\$585,659,859</b>

(8), (9) and (10) are gross of the specific self-insured retention.

Data was provided by the City.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Summary of Percent Losses Paid, Losses Reported and Claims Reported

Months of Development (1)	Percent Losses Paid (2)	Percent Losses Reported (3)	Percent Claims Reported (4)	Months of Development (5)	Percent Losses Paid (6)	Percent Losses Reported (7)	Percent Claims Reported (8)
360.0	99.9%	100.0%	100.0%	354.0	99.9%	100.0%	100.0%
348.0	99.9%	100.0%	100.0%	342.0	99.9%	100.0%	100.0%
336.0	99.8%	100.0%	100.0%	330.0	99.8%	100.0%	100.0%
324.0	99.8%	100.0%	100.0%	318.0	99.7%	100.0%	100.0%
312.0	99.7%	100.0%	100.0%	306.0	99.6%	100.0%	100.0%
300.0	99.5%	100.0%	100.0%	294.0	99.4%	100.0%	100.0%
288.0	99.3%	100.0%	100.0%	282.0	99.2%	100.0%	100.0%
276.0	99.0%	100.0%	100.0%	270.0	98.8%	100.0%	100.0%
264.0	98.6%	100.0%	100.0%	258.0	98.3%	100.0%	100.0%
252.0	98.0%	100.0%	100.0%	246.0	97.5%	100.0%	100.0%
240.0	97.1%	100.0%	100.0%	234.0	97.0%	100.0%	100.0%
228.0	97.0%	99.9%	100.0%	222.0	96.9%	99.9%	100.0%
216.0	96.9%	99.8%	100.0%	210.0	96.8%	99.8%	100.0%
204.0	96.8%	99.7%	100.0%	198.0	96.7%	99.7%	100.0%
192.0	96.6%	99.6%	100.0%	186.0	96.5%	99.6%	100.0%
180.0	96.3%	99.5%	100.0%	174.0	96.1%	99.4%	100.0%
168.0	95.9%	99.3%	100.0%	162.0	95.7%	99.3%	100.0%
156.0	95.5%	99.2%	100.0%	150.0	95.3%	99.2%	100.0%
144.0	95.1%	99.1%	100.0%	138.0	94.7%	99.1%	100.0%
132.0	94.4%	99.0%	100.0%	126.0	94.0%	99.0%	100.0%
120.0	93.7%	98.9%	100.0%	114.0	93.2%	98.8%	100.0%
108.0	92.7%	98.7%	100.0%	102.0	92.3%	98.6%	100.0%
96.0	91.8%	98.4%	100.0%	90.0	91.1%	98.2%	100.0%
84.0	90.5%	97.9%	100.0%	78.0	89.6%	97.4%	100.0%
72.0	88.7%	97.0%	100.0%	66.0	87.8%	96.2%	100.0%
60.0	86.9%	95.5%	100.0%	54.0	85.5%	94.6%	100.0%
48.0	84.0%	93.6%	100.0%	42.0	82.0%	92.1%	100.0%
36.0	80.0%	90.5%	100.0%	30.0	73.6%	86.4%	100.0%
24.0	67.2%	82.3%	100.0%	18.0	50.4%	76.1%	99.4%
12.0	33.6%	70.0%	98.8%	6.0	16.8%	35.0%	49.4%

(2) is from Exhibit WC-2 (page 2).

(3) is from Exhibit WC-2 (page 3).

(4) is from Exhibit WC-2 (page 4).

(6), (7) and (8) are interpolated, based on (2), (3) and (4), respectively.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-2 (page 2)

Historical Limited Paid Losses (\$000) and Limited Paid Loss Development

I. Historical Limited Paid Losses (\$000)

Claim Period	Months of Development:		Months of Development:																		
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	
to 1993/94																					
1994/95														20,999							
1995/96														20,696	21,164	21,368	21,641	22,105	22,392	22,687	
1996/97										15,070	15,094	15,147	15,244	15,270	15,300	15,318	15,334	15,347			
1997/98									15,081	15,167	15,194	15,220	15,265	15,287	15,296	15,347	15,392				
1998/99								19,282	19,712	20,128	20,804	21,254	21,749	21,970	22,105	22,146					
1999/00								16,397	16,559	16,649	16,720	16,819	16,878	16,967	17,016	17,106					
2000/01					21,098	20,203	20,391	20,624	20,735	20,857	20,950	21,091	21,139	21,183							
2001/02					21,492	21,846	22,159	22,320	22,481	22,720	22,896	23,014									
2002/03			19,414	16,337	16,717	16,941	17,056	17,236	17,407	17,575	17,680	17,789									
2003/04			20,434	21,336	21,904	22,387	22,789	23,162	23,738	24,219											
2004/05	6,061	12,640	14,499	15,126	15,854	16,058	16,278	16,451	16,574	16,776											
2005/06	4,154	8,749	10,226	10,708	10,932	11,200	11,333	11,424													
2006/07	4,460	8,758	9,674	10,046	10,306	10,688	11,383														
2007/08	5,762	10,236	11,275	11,924	12,362	12,585															
2008/09	5,270	10,189	12,080	13,053	13,783																
2009/10	4,792	8,083	8,787	9,199																	
2010/11	5,216	8,926	9,990																		
2011/12	4,722	8,443																			
2012/13	5,956																				

II. Limited Paid Loss Development

Claim Period	Months of Development:		Months of Development:																		
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-Ult	
to 1993/94																					
1994/95																					
1995/96										1.002	1.009	1.013	1.009	1.010	1.013	1.021	1.013	1.013			
1996/97									1.006	1.002	1.003	1.006	1.002	1.002	1.001	1.001	1.001	1.003	1.003		
1997/98								1.022	1.021	1.034	1.022	1.023	1.010	1.006	1.002						
1998/99							1.010	1.005	1.004	1.006	1.004	1.005	1.003	1.005							
1999/00							1.009	1.011	1.005	1.006	1.004	1.007	1.002	1.002							
2000/01					1.019	1.016	1.014	1.007	1.011	1.011	1.008	1.011	1.008	1.005							
2001/02				1.023	1.013	1.007	1.011	1.010	1.010	1.006	1.006										
2002/03			1.053	1.044	1.027	1.022	1.018	1.016	1.025	1.020											
2003/04		1.147	1.043	1.048	1.013	1.014	1.011	1.007	1.012												
2004/05	1.904	1.133	1.044	1.014	1.015	1.013	1.012	1.010													
2005/06	2.106	1.169	1.047	1.021	1.024	1.012	1.008														
2006/07	1.964	1.105	1.038	1.026	1.037	1.065															
2007/08	1.776	1.102	1.058	1.037	1.018																
2008/09	1.933	1.186	1.081	1.056																	
2009/10	1.687	1.087	1.047																		
2010/11	1.711	1.119																			
2011/12	1.788																				
2012/13																					
Average																					
All	1.859	1.131	1.051	1.034	1.021	1.020	1.012	1.010	1.011	1.011	1.007	1.008	1.005	1.005	1.005	1.008	1.007	1.013			
Wtd 3	1.728	1.135	1.063	1.041	1.026	1.028	1.010	1.012	1.017	1.013	1.007	1.004	1.005	1.004	1.002	1.010					
Last 3	1.729	1.131	1.062	1.040	1.027	1.030	1.010	1.011	1.016	1.012	1.007	1.004	1.005	1.004	1.002	1.008					
Last 5	1.759	1.108	1.051	1.028	1.019	1.016	1.011	1.009	1.010	1.007	1.007	1.004	1.002	1.004							
x-hi,low																					
Similar	1.957	1.171	1.055	1.029	1.022	1.019	1.016	1.205													
Previous	2.000	1.190	1.050	1.030	1.020	1.018	1.015	1.010	1.010	1.007	1.005	1.004	1.004	1.003	1.003	1.002	1.001	1.001	1.001	1.020	
Selected	2.000	1.190	1.050	1.035	1.020	1.020	1.015	1.010	1.010	1.008	1.007	1.005	1.004	1.004	1.003	1.002	1.001	1.001	1.001	1.030	
Cumulative	2.975	1.487	1.250	1.190	1.150	1.128	1.105	1.089	1.078	1.068	1.059	1.052	1.047	1.042	1.038	1.035	1.033	1.032	1.031	1.030	
Percent	33.6%	67.2%	80.0%	84.0%	86.9%	88.7%	90.5%	91.8%	92.7%	93.7%	94.4%	95.1%	95.5%	95.9%	96.3%	96.6%	96.8%	96.9%	97.0%	97.1%	

Amounts are limited (net of excess insurance).

Data was provided by the City.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-2 (page 3)

Historical Limited Reported Incurred Losses (\$000) and Limited Reported Incurred Loss Development

I. Historical Limited Reported Incurred Losses (\$000)

Claim Period	Months of Development:																			
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240
to 1993/94																				
1994/95											25,617	26,504	29,477	27,859	27,851	26,341	26,447	26,607	26,563	
1995/96										15,134	15,186	15,247	15,368	15,531	15,523	15,380	15,387	15,415		
1996/97								24,538	15,221	15,250	15,260	15,273	15,486	15,340	15,320	15,404	15,458			
1997/98								30,571	30,565	30,664	32,235	32,332	22,937	22,922	23,242					
1998/99							17,049	17,433	18,038	17,828	18,096	18,174	18,168	17,948	17,761					
1999/00						20,871	20,956	21,233	21,027	21,177	21,216	21,251	21,312	21,372						
2000/01					21,770	22,644	22,973	23,151	23,670	23,505	23,543	24,157	24,293							
2001/02				17,829	17,695	18,586	18,751	19,402	19,482	18,837	18,913	18,937								
2002/03			23,750	29,623	29,731	29,832	29,797	29,859	29,813	29,914	29,893									
2003/04		15,631	16,690	16,717	17,275	17,224	17,472	17,384	17,522	17,647										
2004/05	16,202	17,298	16,131	16,368	16,310	15,875	15,984	15,983	15,979											
2005/06	10,805	11,619	12,012	11,718	11,712	11,884	11,936	11,983												
2006/07	12,965	12,560	11,791	11,856	11,892	12,164	12,942													
2007/08	15,366	13,827	13,395	13,354	14,196	14,328														
2008/09	13,128	14,518	20,386	21,311	21,659															
2009/10	7,947	9,034	10,078	10,457																
2010/11	8,077	10,567	11,319																	
2011/12	8,857	10,286																		
2012/13	16,534																			

II. Limited Reported Incurred Loss Development

Claim Period	Months of Development:																			
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-Ult
to 1993/94																				
1994/95										1.003	1.035	1.112	0.945	1.000	0.946	1.004	1.006	0.998		
1995/96										1.004	1.008	1.011	1.000	0.991	1.000	1.002				
1996/97									1.002	1.001	1.014	0.991	0.999	1.005	1.004					
1997/98								1.246	1.000	1.003	1.051	1.003	0.709	0.999	1.014					
1998/99							1.023	1.035	0.988	1.015	1.004	1.000	0.988	0.990						
1999/00								1.013	0.990	1.007	1.002	1.003	1.003							
2000/01					1.040	1.015	1.008	1.022	0.993	1.002	1.026	1.006								
2001/02				0.993	1.050	1.009	1.035	1.004	0.967	1.004	1.001									
2002/03			1.247	1.004	1.003	0.999	1.002	0.998	1.003	0.999										
2003/04		1.068	1.002	1.033	0.997	1.014	0.995	1.008	1.007											
2004/05	1.068	0.933	1.015	0.997	0.973	1.007	1.000	1.000												
2005/06	1.075	1.034	0.976	1.000	1.015	1.004	1.004													
2006/07	0.969	0.939	1.006	1.003	1.023	1.064														
2007/08	0.900	0.969	0.997	1.063	1.009															
2008/09	1.106	1.404	1.045	1.016																
2009/10	1.137	1.116	1.038																	
2010/11	1.308	1.071																		
2011/12	1.161																			
2012/13																				
Average																				
All	1.090	1.067	1.041	1.013	1.014	1.014	1.010	1.038	0.996	1.004	1.016	1.021	0.941	0.997	0.989	1.003	1.004	0.998		
Wtd 3	1.201	1.225	1.029	1.026	1.015	1.024	0.999	1.001	0.994	1.001	1.011	1.003	0.867	0.996	1.005	1.003				
Last 3	1.202	1.197	1.027	1.027	1.016	1.025	1.000	1.002	0.992	1.002	1.010	1.003	0.900	0.996	1.003	1.003				
Last 5	1.135	1.052	1.013	1.006	1.007	1.009	1.002	1.004	1.001	1.002	1.011	1.004	0.994	0.999						
x-hi,low																				
Similar	1.178	1.030	1.015	1.004	1.010	1.010	1.004	1.048												
Previous	1.175	1.070	1.030	1.020	1.015	1.010	1.005	1.003	1.002	1.001	1.001	1.001	1.001	1.002	1.001	1.001	1.001	1.000	1.000	1.000
Selected	1.175	1.100	1.035	1.020	1.015	1.010	1.005	1.003	1.002	1.001	1.001	1.001	1.001	1.002	1.001	1.001	1.001	1.001	1.001	1.000
Cumulative	1.428	1.216	1.105	1.068	1.047	1.031	1.021	1.016	1.013	1.011	1.010	1.009	1.008	1.007	1.005	1.004	1.003	1.002	1.001	1.000
Percent	70.0%	82.3%	90.5%	93.6%	95.5%	97.0%	97.9%	98.4%	98.7%	98.9%	99.0%	99.1%	99.2%	99.3%	99.5%	99.6%	99.7%	99.8%	99.9%	100.0%

Amounts are limited (net of excess insurance).

Data was provided by the City.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-2 (page 4)

Historical Reported Claims and Reported Claim Development

I. Historical Reported Claims

Claim Period	Months of Development:																			
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240
to 1993/94																				
1994/95		5,049	5,049	5,049	5,049	5,049	5,049	5,049	5,048	5,048	5,048	5,048	5,048	5,048	5,048	5,048	5,048	5,048	5,048	5,048
1995/96	4,477	4,477	4,477	4,477	4,477	4,477	4,477	4,478	4,478	4,478	4,478	4,478	4,478	4,478	4,478	4,478	4,478	4,478	4,478	4,478
1996/97	3,952	3,952	3,952	3,952	3,952	3,952	3,952	3,953	3,953	3,953	3,953	3,953	3,953	3,953	3,953	3,953	3,953	3,953	3,953	3,953
1997/98	4,050	4,050	4,050	4,050	4,050	4,050	4,052	4,052	4,052	4,052	4,052	4,052	4,052	4,053	4,053	4,053				
1998/99	3,503	3,504	3,503	3,503	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504				
1999/00	3,336	3,336	3,336	3,336	3,336	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337	3,337					
2000/01	3,561	3,562	3,566	3,566	3,566	3,566	3,566	3,568	3,568	3,568	3,568	3,568	3,568	3,568						
2001/02	3,514	3,583	3,583	3,585	3,585	3,585	3,584	3,584	3,584	3,584	3,584	3,584	3,584							
2002/03	3,248	3,248	3,248	3,249	3,249	3,249	3,249	3,249	3,249	3,249	3,249	3,249								
2003/04	2,694	2,741	2,740	2,740	2,746	2,746	2,746	2,746	2,748	2,748										
2004/05	2,795	2,819	2,819	2,821	2,821	2,821	2,821	2,821	2,821											
2005/06	2,411	2,460	2,461	2,461	2,461	2,461	2,461	2,461												
2006/07	2,347	2,380	2,380	2,381	2,381	2,381	2,381													
2007/08	2,453	2,482	2,483	2,483	2,483	2,483														
2008/09	2,361	2,377	2,378	2,378	2,378															
2009/10	2,101	2,123	2,124	2,124																
2010/11	2,099	2,125	2,125																	
2011/12	1,939	1,956																		
2012/13	1,936																			

II. Reported Claim Development

Claim Period	Months of Development:																			
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-Ult
to 1993/94																				
1994/95		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995/96	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996/97	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997/98	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998/99	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999/00	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000/01	1.000	1.001	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001/02	1.020	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002/03	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003/04	1.017	1.000	1.000	1.002	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004/05	1.009	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005/06	1.020	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006/07	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007/08	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2008/09	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2009/10	1.010	1.000	1.000																	
2010/11	1.012	1.000																		
2011/12	1.009																			
2012/13																				
Average																				
All	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Wtd 3	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Last 3	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Last 5	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
x-hi,low																				
Similar																				
Previous	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Cumulative	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Percent	98.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Data was provided by the City.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-2 (page 5)

Historical Ratio of Limited Paid Losses and Limited Reported Incurred Losses

I. Ratio of Limited Paid Losses to Limited Reported Incurred Losses

Claim Period	Months of Development:																			
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240
to 1993/94																				
1994/95											80.1%	78.1%	71.1%	76.0%	76.7%	82.2%	83.6%	84.2%	85.4%	
1995/96										99.6%	99.4%	99.3%	99.2%	98.3%	98.6%	99.6%	99.7%	99.6%		
1996/97									99.1%	99.5%	99.6%	99.7%	98.6%	99.7%	99.8%	99.6%	99.6%			
1997/98									84.5%	65.9%	67.8%	65.9%	67.3%	95.8%	96.4%	95.3%				
1998/99							96.2%	95.0%	92.3%	93.8%	92.9%	92.9%	93.4%	94.8%	96.3%					
1999/00						96.8%	97.3%	97.1%	98.6%	98.5%	98.7%	99.2%	99.2%	99.1%						
2000/01					96.9%	94.9%	95.1%	95.7%	94.3%	95.6%	96.5%	94.8%	94.7%							
2001/02				91.6%	94.5%	91.1%	91.0%	88.8%	89.3%	93.3%	93.5%	93.9%								
2002/03			81.7%	69.0%	71.8%	73.4%	75.1%	76.3%	77.7%	79.4%	81.0%									
2003/04		80.9%	86.9%	90.5%	91.8%	93.2%	93.2%	94.6%	94.6%	95.1%										
2004/05	37.4%	66.7%	81.1%	83.4%	84.9%	88.5%	89.1%	90.1%	91.0%											
2005/06	38.5%	75.3%	85.1%	91.4%	93.3%	94.2%	94.9%	95.3%												
2006/07	34.4%	69.7%	82.0%	84.7%	86.7%	87.9%	88.0%													
2007/08	37.5%	74.0%	84.2%	89.3%	87.1%	87.8%														
2008/09	40.1%	70.2%	59.3%	61.2%	63.6%															
2009/10	60.3%	89.5%	87.2%	88.0%																
2010/11	64.6%	84.5%	88.3%																	
2011/12	53.3%	82.1%																		
2012/13	36.0%																			
Average																				
All	44.7%	77.0%	81.8%	83.2%	85.6%	89.8%	91.1%	90.2%	89.0%	91.2%	90.0%	90.5%	89.1%	93.9%	93.6%	94.2%	94.3%	91.9%	85.4%	
Last 3	51.3%	85.3%	78.2%	79.5%	79.1%	90.0%	90.7%	93.4%	87.8%	89.2%	90.3%	96.0%	95.8%	96.6%	97.5%	98.2%	94.3%			
Last 5	51.3%	80.2%	84.5%	87.3%	86.2%	89.9%	90.1%	91.2%	91.6%	94.7%	94.3%	93.9%	95.6%	97.7%	97.1%					
x-hi,low																				
Implicit	48.0%	81.7%	88.4%	89.7%	91.0%	91.5%	92.4%	93.3%	93.9%	94.7%	95.4%	95.9%	96.3%	96.6%	96.8%	97.0%	97.1%	97.1%	97.1%	97.1%



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-3

Developed Limited Paid Losses

Claim Period (1)	Months of Development 6/30/13 (2)	Limited Paid Losses 6/30/13 (3)	Percent Losses Paid (4)	Developed Limited Paid Losses (3)/(4) (5)
to 1993/94	240.0	\$240,434,814	97.1%	\$247,556,448 *
1994/95	228.0	22,687,207	97.0%	23,391,191
1995/96	216.0	15,347,240	96.9%	15,839,289
1996/97	204.0	15,391,912	96.8%	15,901,278
1997/98	192.0	22,146,027	96.6%	22,924,666
1998/99	180.0	17,106,368	96.3%	17,760,939
1999/00	168.0	21,182,960	95.9%	22,081,495
2000/01	156.0	23,013,719	95.5%	24,085,870
2001/02	144.0	17,788,855	95.1%	18,710,681
2002/03	132.0	24,219,244	94.4%	25,652,615
2003/04	120.0	16,775,671	93.7%	17,910,656
2004/05	108.0	14,545,274	92.7%	15,684,652
2005/06	96.0	11,424,024	91.8%	12,442,093
2006/07	84.0	11,383,002	90.5%	12,583,377
2007/08	72.0	12,584,933	88.7%	14,190,297
2008/09	60.0	13,782,728	86.9%	15,851,703
2009/10	48.0	9,199,241	84.0%	10,950,478
2010/11	36.0	9,989,726	80.0%	12,486,018
2011/12	24.0	8,443,034	67.2%	12,557,867
2012/13	12.0	5,955,971	33.6%	17,717,397

#VALUE!

(3) is from Exhibit WC-1.

(4) is from Exhibit WC-2.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-4

Developed Limited Reported Incurred Losses

Claim Period (1)	Months of Development 6/30/13 (2)	Limited Reported Incurred Losses 6/30/13 (3)	Percent Losses Reported (4)	Developed Limited Reported Incurred Losses (3)/(4) (5)
to 1993/94	240.0	\$246,061,332	100.0%	\$246,061,332
1994/95	228.0	26,563,105	99.9%	26,589,668
1995/96	216.0	15,414,931	99.8%	15,445,776
1996/97	204.0	15,458,045	99.7%	15,504,466
1997/98	192.0	23,242,087	99.6%	23,335,195
1998/99	180.0	17,760,890	99.5%	17,849,873
1999/00	168.0	21,371,650	99.3%	21,521,680
2000/01	156.0	24,292,619	99.2%	24,487,617
2001/02	144.0	18,937,481	99.1%	19,108,583
2002/03	132.0	29,892,717	99.0%	30,094,501 *
2003/04	120.0	17,647,120	98.9%	17,842,195
2004/05	108.0	15,978,951	98.7%	16,187,896
2005/06	96.0	11,982,993	98.4%	12,176,105
2006/07	84.0	12,941,764	97.9%	13,216,078
2007/08	72.0	14,327,833	97.0%	14,777,842
2008/09	60.0	21,658,737	95.5%	22,352,375 *
2009/10	48.0	10,457,243	93.6%	11,166,419
2010/11	36.0	11,319,465	90.5%	12,510,164
2011/12	24.0	10,285,504	82.3%	12,504,184
2012/13	12.0	16,533,594	70.0%	23,617,553

(3) is from Exhibit WC-1.

(4) is from Exhibit WC-2.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-5

Developed Limited Case Reserves

Claim Period (1)	Months of Development 6/30/13 (2)	Percent Losses Paid (3)	Percent Losses Reported (4)	Percent Losses Reserved 6/30/13 [(4)-(3)]/ [100.0%-(3)] (5)	Limited Paid Losses 6/30/13 (6)	Limited Case Reserves 6/30/13 (7)	Developed Limited Case Reserves (6)+(7)/(5) (8)
to 1993/94	240.0	97.1%	100.0%	100.0%	\$240,434,814	\$5,626,517	\$246,061,332
1994/95	228.0	97.0%	99.9%	96.7%	22,687,207	3,875,898	26,696,177
1995/96	216.0	96.9%	99.8%	93.6%	15,347,240	67,691	15,419,581
1996/97	204.0	96.8%	99.7%	90.7%	15,391,912	66,133	15,464,864
1997/98	192.0	96.6%	99.6%	88.3%	22,146,027	1,096,060	23,387,985
1998/99	180.0	96.3%	99.5%	86.5%	17,106,368	654,522	17,863,271
1999/00	168.0	95.9%	99.3%	82.9%	21,182,960	188,690	21,410,658
2000/01	156.0	95.5%	99.2%	82.1%	23,013,719	1,278,900	24,571,247
2001/02	144.0	95.1%	99.1%	81.8%	17,788,855	1,148,626	19,192,609
2002/03	132.0	94.4%	99.0%	82.2%	24,219,244	5,673,473	30,084,843 *
2003/04	120.0	93.7%	98.9%	82.7%	16,775,671	871,449	17,828,824
2004/05	108.0	92.7%	98.7%	82.2%	14,545,274	1,433,677	16,288,737
2005/06	96.0	91.8%	98.4%	80.6%	11,424,024	558,970	12,117,386
2006/07	84.0	90.5%	97.9%	78.2%	11,383,002	1,558,761	13,375,243
2007/08	72.0	88.7%	97.0%	73.1%	12,584,933	1,742,900	14,969,760
2008/09	60.0	86.9%	95.5%	65.7%	13,782,728	7,876,009	23,097,039 *
2009/10	48.0	84.0%	93.6%	60.3%	9,199,241	1,258,002	11,285,916
2010/11	36.0	80.0%	90.5%	52.4%	9,989,726	1,329,740	12,527,717
2011/12	24.0	67.2%	82.3%	45.8%	8,443,034	1,842,470	12,461,556
2012/13	12.0	33.6%	70.0%	54.8%	5,955,971	10,577,623	25,252,437

(3) and (4) are from Exhibit WC-2.

(6) and (7) are from Exhibit WC-1.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-6

Preliminary Projected Ultimate Limited Losses to 2012/13

Claim Period (1)	Developed Limited Paid Losses (2)	Developed Limited Reported Incurred Losses (3)	Developed Limited Case Reserves (4)	Preliminary Projected Ultimate Limited Losses (5)
to 1993/94	\$247,556,448	\$246,061,332	\$246,061,332	\$246,623,984
1994/95	23,391,191	26,589,668	26,696,177	26,950,695
1995/96	15,839,289	15,445,776	15,419,581	15,421,700
1996/97	15,901,278	15,504,466	15,464,864	15,464,864
1997/98	22,924,666	23,335,195	23,387,985	23,387,985
1998/99	17,760,939	17,849,873	17,863,271	17,863,271
1999/00	22,081,495	21,521,680	21,410,658	21,410,658
2000/01	24,085,870	24,487,617	24,571,247	24,571,247
2001/02	18,710,681	19,108,583	19,192,609	19,192,609
2002/03	25,652,615	30,094,501	30,084,843	30,460,064
2003/04	17,910,656	17,842,195	17,828,824	17,828,824
2004/05	15,684,652	16,187,896	16,288,737	16,288,737
2005/06	12,442,093	12,176,105	12,117,386	12,123,258
2006/07	12,583,377	13,216,078	13,375,243	13,343,410
2007/08	14,190,297	14,777,842	14,969,760	14,912,184
2008/09	15,851,703	22,352,375	23,097,039	22,799,174
2009/10	10,950,478	11,166,419	11,285,916	11,204,573
2010/11	12,486,018	12,510,164	12,527,717	12,512,356
2011/12	12,557,867	12,504,184	12,461,556	12,497,869
2012/13	17,717,397	23,617,553	25,252,437	23,091,476

(2) is from Exhibit WC-3.

(3) is from Exhibit WC-4.

(4) is from Exhibit WC-5.

(5) is based on (2) to (4) and actuarial judgment.



Bornhuetter - Ferguson Analysis

I. A-priori Loss Rate

Claim Period (1)	Preliminary Projected Ultimate Limited Losses (2)	Payroll (000) (3)	Limited Loss Rate per \$100 of Payroll (2)/(3)/10 (4)	Loss Rate Trend (2013/14 = 1.000) (5)	Trended Limited Loss Rate per \$100 of Payroll (4)X(5) (6)	Projected A-priori Loss Rate per \$100 of Payroll (7)/(5) (8)
2003/04	\$17,828,824	\$868,049	\$2.05	1.505	\$3.09	\$1.01
2004/05	16,288,737	871,428	1.87	1.465	2.74	1.04
2005/06	12,123,258	969,135	1.25	1.426	1.78	1.07
2006/07	13,343,410	1,020,129	1.31	1.364	1.78	1.12
2007/08	14,912,184	1,069,406	1.39	1.297	1.81	1.18
2008/09	22,799,174	1,178,947	1.93	1.190	2.30	1.28
2009/10	11,204,573	1,194,923	0.94	1.138	1.07	1.34
2010/11	12,512,356	1,198,048	1.04	1.087	1.14	1.40
2011/12	12,497,869	1,163,067	1.07	1.042	1.12	1.47
2012/13	23,091,476	1,170,952	1.97	1.020	2.01	1.50

(7) Projected 2013/14 a-priori loss rate per \$100 of Payroll \$1.53

II. Bornhuetter - Ferguson Analysis Based on Limited Paid Losses

Claim Period (1)	Limited Paid Losses 6/30/13 (2)	Percent Losses Paid (3)	Projected A-priori Loss Rate per \$100 of Payroll (4)	Payroll (000) (5)	B-F Unpaid Losses [100.0%-(3)] X(4)X(5)X10 (6)	B-F Ultimate Limited Paid Losses (2)+(6) (7)
2008/09	\$13,782,728	86.9%	\$1.28	\$1,178,947	\$1,974,589	\$15,757,317
2009/10	9,199,241	84.0%	1.34	1,194,923	2,563,243	11,762,484
2010/11	9,989,726	80.0%	1.40	1,198,048	3,364,929	13,354,655
2011/12	8,443,034	67.2%	1.47	1,163,067	5,586,020	14,029,055
2012/13	5,955,971	33.6%	1.50	1,170,952	11,635,973	17,591,944

III. Bornhuetter - Ferguson Analysis Based on Limited Reported Incurred Losses

Claim Period (1)	Limited Reported Incurred Losses 6/30/13 (2)	Percent Losses Reported (3)	Projected A-priori Loss Rate per \$100 of Payroll (4)	Payroll (000) (5)	B-F Unreported Losses [100.0%-(3)] X(4)X(5)X10 (6)	B-F Ultimate Limited Reported Losses (2)+(6) (7)
2008/09	\$21,658,737	95.5%	\$1.28	\$1,178,947	\$677,455	\$22,336,192
2009/10	10,457,243	93.6%	1.34	1,194,923	1,017,931	11,475,173
2010/11	11,319,465	90.5%	1.40	1,198,048	1,601,929	12,921,394
2011/12	10,285,504	82.3%	1.47	1,163,067	3,024,861	13,310,365
2012/13	16,533,594	70.0%	1.50	1,170,952	5,257,554	21,791,149

Section I, (2) is from Exhibit WC-6.

Section I, (3), Section II, (5) and Section III, (5) are from Exhibit WC-10.

Section I, (5) is from Exhibit WC-17.

Section I, (7) is based on Section I, (6) and actuarial judgment.

Sections II and III, (2) are from Exhibit WC-1.

Sections II and III, (3) are from Exhibit WC-2.

Sections II and III, (4) are from Section I, (8).



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-8

Frequency Times Severity Analysis

I. Projected Ultimate Claims

Claim Period (1)	Months of Development 6/30/13 (2)	Reported Claims 6/30/13 (3)	Percent Claims Reported (4)	Projected Ultimate Claims (3)/(4) (5)	Payroll (000) (6)	Frequency (per \$1M of Payroll) (5)/(6)X1,000 (7)
2003/04	120.0	2,748	100.0%	2,748	\$868,049	3.17
2004/05	108.0	2,821	100.0%	2,821	871,428	3.24
2005/06	96.0	2,461	100.0%	2,461	969,135	2.54
2006/07	84.0	2,381	100.0%	2,381	1,020,129	2.33
2007/08	72.0	2,483	100.0%	2,483	1,069,406	2.32
2008/09	60.0	2,378	100.0%	2,378	1,178,947	2.02
2009/10	48.0	2,124	100.0%	2,124	1,194,923	1.78
2010/11	36.0	2,125	100.0%	2,125	1,198,048	1.77
2011/12	24.0	1,956	100.0%	1,956	1,163,067	1.68
2012/13	12.0	1,936	98.8%	1,959	1,170,952	1.67

II. Frequency Times Severity

Claim Period (1)	Preliminary Projected Ultimate Limited Losses (2)	Projected Ultimate Claims (3)	Average Severity (2)/(3) (4)	Severity Trend (2013/14 = 1.000) (5)	Trended Average Claim Severity (4)X(5) (6)	De-Trended Projected 2013/14 Average Claim Severity (7)/(5) (8)	Frequency Times Severity (3)X(8) (9)
2003/04	\$17,828,824	2,748	\$6,488	2.023	\$13,122	\$4,590	\$12,614,466
2004/05	16,288,737	2,821	5,774	1.911	11,034	4,859	13,706,144
2005/06	12,123,258	2,461	4,926	1.807	8,900	5,139	12,646,872
2006/07	13,343,410	2,381	5,604	1.678	9,403	5,533	13,174,346
2007/08	14,912,184	2,483	6,006	1.549	9,304	5,993	14,880,591
2008/09	22,799,174	2,378	9,588	1.379	13,225	6,731	16,005,740
2009/10	11,204,573	2,124	5,275	1.281	6,759	7,247	15,391,844
2010/11	12,512,356	2,125	5,888	1.188	6,993	7,817	16,612,090
2011/12	12,497,869	1,956	6,390	1.105	7,061	8,401	16,432,472
2012/13	23,091,476	1,959	11,787	1.051	12,384	8,837	17,312,024
(7) Projected 2013/14 average claim severity					\$9,284		

Section I, (3) is from Exhibit WC-1.

Section I, (4) is from Exhibit WC-2.

Section I, (6) is from Exhibit WC-10.

Section II, (2) is from Exhibit WC-6.

Section II, (3) is from Section I, (5).

Section II, (5) is from Exhibit WC-17.

Section II, (7) is based on (6) and actuarial judgment.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-9

Projected Ultimate Limited Losses to 2012/13

Claim Period (1)	Developed Limited Paid Losses (2)	Developed Limited Reported Incurred Losses (3)	Developed Limited Case Reserves (4)	B-F Ultimate Limited Paid Losses (5)	B-F Ultimate Limited Reported Losses (6)	Frequency Times Severity (7)	Projected Ultimate Limited Losses (8)
to 1993/94	\$247,556,448	\$246,061,332	\$246,061,332				\$246,624,000
1994/95	23,391,191	26,589,668	26,696,177				26,951,000
1995/96	15,839,289	15,445,776	15,419,581				15,422,000
1996/97	15,901,278	15,504,466	15,464,864				15,465,000
1997/98	22,924,666	23,335,195	23,387,985				23,388,000
1998/99	17,760,939	17,849,873	17,863,271				17,863,000
1999/00	22,081,495	21,521,680	21,410,658				21,411,000
2000/01	24,085,870	24,487,617	24,571,247				24,571,000
2001/02	18,710,681	19,108,583	19,192,609				19,193,000
2002/03	25,652,615	30,094,501	30,084,843				30,460,064
2003/04	17,910,656	17,842,195	17,828,824				17,829,000
2004/05	15,684,652	16,187,896	16,288,737				16,289,000
2005/06	12,442,093	12,176,105	12,117,386				12,123,000
2006/07	12,583,377	13,216,078	13,375,243				13,343,000
2007/08	14,190,297	14,777,842	14,969,760				14,912,000
2008/09	15,851,703	22,352,375	23,097,039	15,757,317	22,336,192	16,005,740	22,799,000
2009/10	10,950,478	11,166,419	11,285,916	11,762,484	11,475,173	15,391,844	11,205,000
2010/11	12,486,018	12,510,164	12,527,717	13,354,655	12,921,394	16,612,090	12,512,000
2011/12	12,557,867	12,504,184	12,461,556	14,029,055	13,310,365	16,432,472	13,123,000
2012/13	17,717,397	23,617,553	25,252,437	17,591,944	21,791,149	17,312,024	20,974,000

(2) is from Exhibit WC-3.

(3) is from Exhibit WC-4.

(4) is from Exhibit WC-5.

(5) and (6) are from Exhibit WC-7.

(7) is from Exhibit WC-8.

(8) is based on (2) to (7) and actuarial judgment.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-10

Projected Ultimate Limited Losses for 2013/14 and Subsequent

Claim Period (1)	Projected Ultimate Limited Losses (2)	Payroll (000) (3)	Limited Loss Rate per \$100 of Payroll (2)/(3)/10 (4)	Loss Rate Trend (2013/14 = 1.000) (5)	Trended Limited Loss Rate per \$100 of Payroll (4)X(5) (6)
2003/04	\$17,829,000	\$868,049	\$2.05	1.505	\$3.09
2004/05	16,289,000	871,428	1.87	1.465	2.74
2005/06	12,123,000	969,135	1.25	1.426	1.78
2006/07	13,343,000	1,020,129	1.31	1.364	1.78
2007/08	14,912,000	1,069,406	1.39	1.297	1.81
2008/09	22,799,000	1,178,947	1.93	1.190	2.30
2009/10	11,205,000	1,194,923	0.94	1.138	1.07
2010/11	12,512,000	1,198,048	1.04	1.087	1.14
2011/12	13,123,000	1,163,067	1.13	1.042	1.18
2012/13	20,974,000	1,170,952	1.79	1.020	1.83
Total	\$155,109,000	\$10,704,083	\$1.45		\$1.87

2% Interest Rate Assumption						
Claim Period (1)	Projected Limited Loss Rate per \$100 of Payroll (7)	Projected Payroll (000) (8)	Projected Ultimate Limited Losses (7)X(8)X10 (9)	Present Value Factor (10)	Present Value of Projected Limited Loss Rate per \$100 of Payroll (7)X(10) (11)	Present Value of Projected Ultimate Limited Losses (8)X(11)X10 (12)
2013/14	\$1.50	\$1,194,371	\$17,930,000	0.95	\$1.42	\$17,008,000
2014/15	1.53	1,218,258	18,654,000	0.95	1.45	17,695,000
2015/16	1.56	1,242,623	19,408,000	0.95	1.48	18,410,000
2016/17	1.59	1,267,476	20,192,000	0.95	1.51	19,154,000
2017/18	1.62	1,292,825	21,007,000	0.95	1.54	19,928,000

4.5% Interest Rate Assumption		
Claim Period	Present Value Factor	Present Value of Projected Ultimate Limited Losses
2013/14	0.90	\$16,066,000
2014/15	0.90	16,715,000
2015/16	0.90	17,391,000
2016/17	0.90	18,093,000
2017/18	0.90	18,824,000

(2) is from Exhibit WC-9.

(3) was provided by the City.

(5) is from Exhibit WC-17.

(7) for 2013/14 is based on (6) and actuarial judgment.

(7) for 2014/15 and subsequent are based on 2013/14 plus the trend in Exhibit WC-17.

(8) was provided by the City.

(10) is based on a 2% interest rate and the payout pattern in Exhibit WC-2.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-11

Estimated Outstanding Losses as of June 30, 2013

Claim Period (1)	Limited Paid Losses 6/30/13 (2)	Limited Case Reserves 6/30/13 (3)	Limited Reported Incurred Losses 6/30/13 (4)	Projected Ultimate Limited Losses (5)	Estimated IBNR 6/30/13 (5)-(4) (6)	Estimated Outstanding Losses 6/30/13 (3)+(6) (7)	2% Interest Rate Assumption		4.5% Interest Rate Assumption	
							Present Value Factor (8)	Present Value of Estimated Outstanding Losses 6/30/13 (7)X(8) (9)	Present Value Factor (10)	Present Value of Estimated Outstanding Losses 6/30/13 (7)X(10) (11)
to 1993/94	\$240,434,814	\$5,626,517	\$246,061,332	\$246,624,000	\$562,668	\$6,189,185	0.95	\$5,890,700	0.90	\$5,558,605
1994/95	22,687,207	3,875,898	26,563,105	26,951,000	387,895	4,263,793	0.94	3,986,649	0.86	3,681,260
1995/96	15,347,240	67,691	15,414,931	15,422,000	7,069	74,760	0.92	68,706	0.83	62,131
1996/97	15,391,912	66,133	15,458,045	15,465,000	6,955	73,088	0.90	66,054	0.80	58,540
1997/98	22,146,027	1,096,060	23,242,087	23,388,000	145,913	1,241,973	0.89	1,107,982	0.78	967,261
1998/99	17,106,368	654,522	17,760,890	17,863,000	102,110	756,632	0.88	668,776	0.76	578,032
1999/00	21,182,960	188,690	21,371,650	21,411,000	39,350	228,040	0.88	200,322	0.75	172,135
2000/01	23,013,719	1,278,900	24,292,619	24,571,000	278,381	1,557,281	0.87	1,358,733	0.74	1,159,746
2001/02	17,788,855	1,148,626	18,937,481	19,193,000	255,519	1,404,145	0.87	1,219,666	0.74	1,037,264
2002/03	24,219,244	5,673,473	29,892,717	30,460,064	567,347	6,240,820	0.87	5,418,404	0.74	4,614,938
2003/04	16,775,671	871,449	17,647,120	17,829,000	181,880	1,053,329	0.87	914,123	0.74	779,516
2004/05	14,545,274	1,433,677	15,978,951	16,289,000	310,049	1,743,726	0.87	1,514,976	0.74	1,295,678
2005/06	11,424,024	558,970	11,982,993	12,123,000	140,007	698,977	0.87	606,337	0.74	518,179
2006/07	11,383,002	1,558,761	12,941,764	13,343,000	401,236	1,959,997	0.87	1,706,174	0.75	1,466,050
2007/08	12,584,933	1,742,900	14,327,833	14,912,000	584,167	2,327,067	0.88	2,036,235	0.76	1,762,117
2008/09	13,782,728	7,876,009	21,658,737	22,799,000	1,140,263	9,016,272	0.88	7,894,656	0.76	6,839,948
2009/10	9,199,241	1,258,002	10,457,243	11,205,000	747,757	2,005,759	0.88	1,770,632	0.77	1,549,603
2010/11	9,989,726	1,329,740	11,319,465	12,512,000	1,192,535	2,522,275	0.89	2,246,126	0.79	1,985,818
2011/12	8,443,034	1,842,470	10,285,504	13,123,000	2,837,496	4,679,966	0.92	4,300,039	0.84	3,937,149
2012/13	5,955,971	10,577,623	16,533,594	20,974,000	4,440,406	15,018,029	0.95	14,208,600	0.89	13,408,967
<b>Total</b>	<b>\$533,401,950</b>	<b>\$48,726,114</b>	<b>\$582,128,064</b>	<b>\$596,457,064</b>	<b>\$14,329,003</b>	<b>\$63,055,114</b>		<b>\$57,183,890</b>		<b>\$51,432,937</b>

(2), (3) and (4) are net of specific self insured retention and aggregate retention.

(5) is from Exhibit WC-9.

(8) is based on a 2% interest rate and the payout pattern in Exhibit WC-2.

(10) is based on a 4.5% interest rate and the payout pattern in Exhibit WC-2.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-12

Projected Losses Paid July 1, 2013 to June 30, 2014

Claim Period (1)	Months of Development 6/30/13 (2)	Percent Losses Paid (3)	Months of Development 6/30/14 (4)	Percent Losses Paid (5)	Percent Outstanding Losses Paid 7/1/13 to 6/30/14 [(5)-(3)]/ [100.0%-(3)] (6)	Estimated Outstanding Losses 6/30/13 (7)	Projected Losses Paid (6)X(7) (8)	Estimated Outstanding Losses 6/30/14 (7)-(8) (9)	2% Interest Rate Assumption		4.5% Interest Rate Assumption	
									Present Value Factor (10)	Present Value of Estimated Outstanding Losses 6/30/14 (9)X(10) (11)	Present Value Factor (12)	Present Value of Estimated Outstanding Losses 6/30/14 (9)X(12) (13)
to 1993/94	240.0	97.1%	252.0	98.0%	25.0% *	\$6,189,185	\$1,547,296	\$4,641,889	0.95	\$4,425,243	0.90	\$4,183,000
1994/95	228.0	97.0%	240.0	97.1%	3.2% *	4,263,793	137,409	4,126,384	0.95	3,927,381	0.90	3,705,971
1995/96	216.0	96.9%	228.0	97.0%	3.1% *	74,760	2,332	72,428	0.94	67,720	0.86	62,533
1996/97	204.0	96.8%	216.0	96.9%	3.0% *	73,088	2,209	70,879	0.92	65,139	0.83	58,905
1997/98	192.0	96.6%	204.0	96.8%	5.7% *	1,241,973	70,648	1,171,325	0.90	1,058,604	0.80	938,179
1998/99	180.0	96.3%	192.0	96.6%	7.8% *	756,632	59,321	697,311	0.89	622,081	0.78	543,073
1999/00	168.0	95.9%	180.0	96.3%	9.4% *	228,040	21,504	206,536	0.88	182,554	0.76	157,784
2000/01	156.0	95.5%	168.0	95.9%	8.6% *	1,557,281	133,708	1,423,573	0.88	1,250,538	0.75	1,074,578
2001/02	144.0	95.1%	156.0	95.5%	9.6% *	1,404,145	135,482	1,268,663	0.87	1,106,913	0.74	944,805
2002/03	132.0	94.4%	144.0	95.1%	11.8% *	6,240,820	738,145	5,502,675	0.87	4,779,723	0.74	4,064,912
2003/04	120.0	93.7%	132.0	94.4%	11.8% *	1,053,329	124,550	928,779	0.87	806,384	0.74	686,810
2004/05	108.0	92.7%	120.0	93.7%	12.8% *	1,743,726	222,604	1,521,122	0.87	1,320,094	0.74	1,125,707
2005/06	96.0	91.8%	108.0	92.7%	11.2% *	698,977	78,434	620,543	0.87	539,137	0.74	461,095
2006/07	84.0	90.5%	96.0	91.8%	14.2% *	1,959,997	278,796	1,681,201	0.87	1,458,381	0.74	1,246,341
2007/08	72.0	88.7%	84.0	90.5%	15.7% *	2,327,067	364,852	1,962,215	0.87	1,708,104	0.75	1,467,709
2008/09	60.0	86.9%	72.0	88.7%	13.3% *	9,016,272	1,201,260	7,815,012	0.88	6,838,308	0.76	5,917,735
2009/10	48.0	84.0%	60.0	86.9%	18.4% *	2,005,759	368,769	1,636,990	0.88	1,433,350	0.76	1,241,858
2010/11	36.0	80.0%	48.0	84.0%	20.0% *	2,522,275	504,685	2,017,590	0.88	1,781,076	0.77	1,558,744
2011/12	24.0	67.2%	36.0	80.0%	25.0% *	4,679,966	1,169,992	3,509,974	0.89	3,125,687	0.79	2,763,445
2012/13	12.0	33.6%	24.0	67.2%	25.0% *	15,018,029	3,754,507	11,263,522	0.92	10,349,132	0.84	9,475,745
2013/14	0.0	0.0%	12.0	33.6%	25.0% *	17,930,000	4,482,500	13,447,500	0.95	12,722,718	0.89	12,006,707
<b>Total</b>						<b>\$80,985,114</b>	<b>\$15,399,003</b>	<b>\$65,586,111</b>		<b>\$59,568,267</b>		<b>\$53,685,636</b>

\* - Limited to a maximum of 25% per actuarial judgment.

(3) and (5) are from Exhibit WC-2.

(7) to 2012/13 is from Exhibit WC-11. The amount for 2013/14 is from Exhibit WC-10.

(10) is based on a 2% interest rate and the payout pattern in Exhibit WC-2.

(12) is based on a 4.5% interest rate and the payout pattern in Exhibit WC-2.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-13

Projected Losses Paid July 1, 2014 to June 30, 2015

Claim Period (1)	Months of Development 6/30/14 (2)	Percent Losses Paid (3)	Months of Development 6/30/15 (4)	Percent Losses Paid (5)	Percent Outstanding Losses Paid 7/1/14 to 6/30/15 [(5)-(3)]/[100.0%-(3)] (6)	Estimated Outstanding Losses 6/30/14 (7)	Projected Losses Paid (6)X(7) (8)	Estimated Outstanding Losses 6/30/15 (7)-(8) (9)	2% Interest Rate Assumption		4.5% Interest Rate Assumption	
									Present Value Factor (10)	Present Value of Estimated Outstanding Losses 6/30/15 (9)X(10) (11)	Present Value Factor (12)	Present Value of Estimated Outstanding Losses 6/30/15 (9)X(12) (13)
to 1993/94	252.0	98.0%	264.0	98.6%	25.0% *	\$4,641,889	\$1,160,472	\$3,481,417	0.96	\$3,325,849	0.91	\$3,150,876
1994/95	240.0	97.1%	252.0	98.0%	25.0% *	4,126,384	1,031,596	3,094,788	0.95	2,950,348	0.90	2,788,843
1995/96	228.0	97.0%	240.0	97.1%	3.2% *	72,428	2,334	70,094	0.95	66,714	0.90	62,953
1996/97	216.0	96.9%	228.0	97.0%	3.1% *	70,879	2,211	68,668	0.94	64,205	0.86	59,286
1997/98	204.0	96.8%	216.0	96.9%	3.0% *	1,171,325	35,395	1,135,930	0.92	1,043,944	0.83	944,036
1998/99	192.0	96.6%	204.0	96.8%	5.7% *	697,311	39,666	657,645	0.90	594,357	0.80	526,744
1999/00	180.0	96.3%	192.0	96.6%	7.8% *	206,536	16,193	190,343	0.89	169,808	0.78	148,241
2000/01	168.0	95.9%	180.0	96.3%	9.4% *	1,423,573	134,243	1,289,330	0.88	1,139,621	0.76	984,989
2001/02	156.0	95.5%	168.0	95.9%	8.6% *	1,268,663	108,927	1,159,736	0.88	1,018,770	0.75	875,422
2002/03	144.0	95.1%	156.0	95.5%	9.6% *	5,502,675	530,937	4,971,738	0.87	4,337,858	0.74	3,702,579
2003/04	132.0	94.4%	144.0	95.1%	11.8% *	928,779	109,853	818,926	0.87	711,334	0.74	604,953
2004/05	120.0	93.7%	132.0	94.4%	11.8% *	1,521,122	179,864	1,341,258	0.87	1,164,507	0.74	991,828
2005/06	108.0	92.7%	120.0	93.7%	12.8% *	620,543	79,218	541,325	0.87	469,785	0.74	400,608
2006/07	96.0	91.8%	108.0	92.7%	11.2% *	1,681,201	188,652	1,492,549	0.87	1,296,749	0.74	1,109,041
2007/08	84.0	90.5%	96.0	91.8%	14.2% *	1,962,215	279,112	1,683,103	0.87	1,460,031	0.74	1,247,751
2008/09	72.0	88.7%	84.0	90.5%	15.7% *	7,815,012	1,225,285	6,589,727	0.87	5,736,345	0.75	4,929,021
2009/10	60.0	86.9%	72.0	88.7%	13.3% *	1,636,990	218,100	1,418,890	0.88	1,241,560	0.76	1,074,421
2010/11	48.0	84.0%	60.0	86.9%	18.4% *	2,017,590	370,944	1,646,646	0.88	1,441,805	0.76	1,249,183
2011/12	36.0	80.0%	48.0	84.0%	20.0% *	3,509,974	702,315	2,807,659	0.88	2,478,528	0.77	2,169,133
2012/13	24.0	67.2%	36.0	80.0%	25.0% *	11,263,522	2,815,881	8,447,641	0.89	7,522,757	0.79	6,650,931
2013/14	12.0	33.6%	24.0	67.2%	25.0% *	13,447,500	3,361,875	10,085,625	0.92	9,266,858	0.84	8,484,807
2014/15	0.0	0.0%	12.0	33.6%	25.0% *	18,654,000	4,663,500	13,990,500	0.95	13,236,451	0.89	12,491,529
<b>Total</b>							<b>\$84,240,111</b>	<b>\$17,256,573</b>		<b>\$60,738,184</b>		<b>\$54,647,175</b>

\* - Limited to a maximum of 25% per actuarial judgment.

(3) and (5) are from Exhibit WC-2.

(7) to 2013/14 is from Exhibit WC-12, (9). The amount for 2014/15 is from Exhibit WC-10.

(10) is based on a 2% interest rate and the payout pattern in Exhibit WC-2.

(12) is based on a 4.5% interest rate and the payout pattern in Exhibit WC-2.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-14

Projected Losses Paid July 1, 2015 to June 30, 2016

Claim Period (1)	Months of Development 6/30/15 (2)	Percent Losses Paid (3)	Months of Development 6/30/16 (4)	Percent Losses Paid (5)	Percent Outstanding Losses Paid 7/1/15 to 6/30/16 [(5)-(3)]/[100.0%-(3)] (6)	Estimated Outstanding Losses 6/30/15 (7)	Projected Losses Paid (6)X(7) (8)	Estimated Outstanding Losses 6/30/16 (7)-(8) (9)	2% Interest Rate Assumption		4.5% Interest Rate Assumption	
									Present Value Factor (10)	Present Value of Estimated Outstanding Losses 6/30/16 (9)X(10) (11)	Present Value Factor (12)	Present Value of Estimated Outstanding Losses 6/30/16 (9)X(12) (13)
to 1993/94	264.0	98.6%	276.0	99.0%	25.0% *	\$3,481,417	\$870,354	\$2,611,063	0.96	\$2,500,948	0.91	\$2,376,249
1994/95	252.0	98.0%	264.0	98.6%	25.0% *	3,094,788	773,697	2,321,091	0.96	2,217,372	0.91	2,100,717
1995/96	240.0	97.1%	252.0	98.0%	25.0% *	70,094	17,524	52,570	0.95	50,116	0.90	47,373
1996/97	228.0	97.0%	240.0	97.1%	3.2% *	68,668	2,213	66,455	0.95	63,250	0.90	59,684
1997/98	216.0	96.9%	228.0	97.0%	3.1% *	1,135,930	35,430	1,100,500	0.94	1,028,968	0.86	950,146
1998/99	204.0	96.8%	216.0	96.9%	3.0% *	657,645	19,873	637,772	0.92	586,126	0.83	530,033
1999/00	192.0	96.6%	204.0	96.8%	5.7% *	190,343	10,827	179,516	0.90	162,241	0.80	143,784
2000/01	180.0	96.3%	192.0	96.6%	7.8% *	1,289,330	101,085	1,188,245	0.89	1,060,050	0.78	925,417
2001/02	168.0	95.9%	180.0	96.3%	9.4% *	1,159,736	109,363	1,050,373	0.88	928,410	0.76	802,436
2002/03	156.0	95.5%	168.0	95.9%	8.6% *	4,971,738	426,873	4,544,865	0.88	3,992,437	0.75	3,430,673
2003/04	144.0	95.1%	156.0	95.5%	9.6% *	818,926	79,016	739,910	0.87	645,574	0.74	551,030
2004/05	132.0	94.4%	144.0	95.1%	11.8% *	1,341,258	158,640	1,182,618	0.87	1,027,243	0.74	873,618
2005/06	120.0	93.7%	132.0	94.4%	11.8% *	541,325	64,009	477,316	0.87	414,415	0.74	352,964
2006/07	108.0	92.7%	120.0	93.7%	12.8% *	1,492,549	190,539	1,302,010	0.87	1,129,939	0.74	963,553
2007/08	96.0	91.8%	108.0	92.7%	11.2% *	1,683,103	188,865	1,494,238	0.87	1,298,217	0.74	1,110,296
2008/09	84.0	90.5%	96.0	91.8%	14.2% *	6,589,727	937,343	5,652,384	0.87	4,903,240	0.74	4,190,335
2009/10	72.0	88.7%	84.0	90.5%	15.7% *	1,418,890	222,462	1,196,428	0.87	1,041,488	0.75	894,911
2010/11	60.0	86.9%	72.0	88.7%	13.3% *	1,646,646	219,387	1,427,259	0.88	1,248,883	0.76	1,080,759
2011/12	48.0	84.0%	60.0	86.9%	18.4% *	2,807,659	516,202	2,291,457	0.88	2,006,402	0.76	1,738,351
2012/13	36.0	80.0%	48.0	84.0%	20.0% *	8,447,641	1,690,299	6,757,342	0.88	5,965,206	0.77	5,220,567
2013/14	24.0	67.2%	36.0	80.0%	25.0% *	10,085,625	2,521,406	7,564,219	0.89	6,736,056	0.79	5,955,402
2014/15	12.0	33.6%	24.0	67.2%	25.0% *	13,990,500	3,497,625	10,492,875	0.92	9,641,047	0.84	8,827,417
2015/16	0.0	0.0%	12.0	33.6%	25.0% *	19,408,000	4,852,000	14,556,000	0.95	13,771,473	0.89	12,996,440
<b>Total</b>						<b>\$86,391,538</b>	<b>\$17,505,032</b>	<b>\$68,886,506</b>		<b>\$62,419,101</b>		<b>\$56,122,155</b>

\* - Limited to a maximum of 25% per actuarial judgment.

(3) and (5) are from Exhibit WC-2.

(7) to 2014/15 is from Exhibit WC-13, (9). The amount for 2015/16 is from Exhibit WC-10.

(10) is based on a 2% interest rate and the payout pattern in Exhibit WC-2.

(12) is based on a 4.5% interest rate and the payout pattern in Exhibit WC-2.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-15

Projected Losses Paid July 1, 2016 to June 30, 2017

Claim Period (1)	Months of Development 6/30/16 (2)	Percent Losses Paid (3)	Months of Development 6/30/17 (4)	Percent Losses Paid (5)	Percent Outstanding Losses Paid 7/1/16 to 6/30/17 [(5)-(3)]/ [100.0%-(3)] (6)	Estimated Outstanding Losses 6/30/16 (7)	Projected Losses Paid (6)X(7) (8)	Estimated Outstanding Losses 6/30/17 (7)-(8) (9)	2% Interest Rate Assumption		4.5% Interest Rate Assumption	
									Present Value Factor (10)	Present Value of Estimated Outstanding Losses 6/30/17 (9)X(10) (11)	Present Value Factor (12)	Present Value of Estimated Outstanding Losses 6/30/17 (9)X(12) (13)
to 1993/94	276.0	99.0%	288.0	99.3%	25.0% *	\$2,611,063	\$652,766	\$1,958,297	0.96	\$1,881,868	0.92	\$1,794,633
1994/95	264.0	98.6%	276.0	99.0%	25.0% *	2,321,091	580,273	1,740,818	0.96	1,667,403	0.91	1,584,265
1995/96	252.0	98.0%	264.0	98.6%	25.0% *	52,570	13,143	39,427	0.96	37,665	0.91	35,684
1996/97	240.0	97.1%	252.0	98.0%	25.0% *	66,455	16,614	49,841	0.95	47,515	0.90	44,914
1997/98	228.0	97.0%	240.0	97.1%	3.2% *	1,100,500	35,466	1,065,034	0.95	1,013,671	0.90	956,524
1998/99	216.0	96.9%	228.0	97.0%	3.1% *	637,772	19,892	617,880	0.94	577,718	0.86	533,463
1999/00	204.0	96.8%	216.0	96.9%	3.0% *	179,516	5,425	174,091	0.92	159,993	0.83	144,682
2000/01	192.0	96.6%	204.0	96.8%	5.7% *	1,188,245	67,592	1,120,653	0.90	1,012,808	0.80	897,593
2001/02	180.0	96.3%	192.0	96.6%	7.8% *	1,050,373	82,350	968,023	0.89	863,587	0.78	753,906
2002/03	168.0	95.9%	180.0	96.3%	9.4% *	4,544,865	428,581	4,116,284	0.88	3,638,326	0.76	3,144,651
2003/04	156.0	95.5%	168.0	95.9%	8.6% *	739,910	63,529	676,381	0.88	594,167	0.75	510,563
2004/05	144.0	95.1%	156.0	95.5%	9.6% *	1,182,618	114,107	1,068,511	0.87	932,279	0.74	795,747
2005/06	132.0	94.4%	144.0	95.1%	11.8% *	477,316	56,455	420,861	0.87	365,567	0.74	310,897
2006/07	120.0	93.7%	132.0	94.4%	11.8% *	1,302,010	153,955	1,148,055	0.87	996,764	0.74	848,959
2007/08	108.0	92.7%	120.0	93.7%	12.8% *	1,494,238	190,754	1,303,484	0.87	1,131,218	0.74	964,644
2008/09	96.0	91.8%	108.0	92.7%	11.2% *	5,652,384	634,269	5,018,115	0.87	4,359,815	0.74	3,728,718
2009/10	84.0	90.5%	96.0	91.8%	14.2% *	1,196,428	170,184	1,026,244	0.87	890,230	0.74	760,795
2010/11	72.0	88.7%	84.0	90.5%	15.7% *	1,427,259	223,774	1,203,485	0.87	1,047,631	0.75	900,189
2011/12	60.0	86.9%	72.0	88.7%	13.3% *	2,291,457	305,296	1,986,161	0.88	1,737,935	0.76	1,503,974
2012/13	48.0	84.0%	60.0	86.9%	18.4% *	6,757,342	1,242,370	5,514,972	0.88	4,828,914	0.76	4,183,783
2013/14	36.0	80.0%	48.0	84.0%	20.0% *	7,564,219	1,513,534	6,050,685	0.88	5,341,387	0.77	4,674,620
2014/15	24.0	67.2%	36.0	80.0%	25.0% *	10,492,875	2,623,219	7,869,656	0.89	7,008,052	0.79	6,195,876
2015/16	12.0	33.6%	24.0	67.2%	25.0% *	14,556,000	3,639,000	10,917,000	0.92	10,030,741	0.84	9,184,224
2016/17	0.0	0.0%	12.0	33.6%	25.0% *	20,192,000	5,048,000	15,144,000	0.95	14,327,781	0.89	13,521,441
<b>Total</b>						<b>\$89,078,506</b>	<b>\$17,880,548</b>	<b>\$71,197,958</b>		<b>\$64,493,035</b>		<b>\$57,974,745</b>

\* - Limited to a maximum of 25% per actuarial judgment.

(3) and (5) are from Exhibit WC-2.

(7) to 2015/16 is from Exhibit WC-14, (9). The amount for 2016/17 is from Exhibit WC-10.

(10) is based on a 2% interest rate and the payout pattern in Exhibit WC-2.

(12) is based on a 4.5% interest rate and the payout pattern in Exhibit WC-2.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-16

Projected Losses Paid July 1, 2017 to June 30, 2018

Claim Period (1)	Months of Development 6/30/17 (2)	Percent Losses Paid (3)	Months of Development 6/30/18 (4)	Percent Losses Paid (5)	Percent Outstanding Losses Paid 7/1/17 to 6/30/18 [(5)-(3)]/[100.0%-(3)] (6)	Estimated Outstanding Losses 6/30/17 (7)	Projected Losses Paid (6)X(7) (8)	Estimated Outstanding Losses 6/30/18 (7)-(8) (9)	2% Interest Rate Assumption		4.5% Interest Rate Assumption	
									Present Value Factor (10)	Present Value of Estimated Outstanding Losses 6/30/18 (9)X(10) (11)	Present Value Factor (12)	Present Value of Estimated Outstanding Losses 6/30/18 (9)X(12) (13)
to 1993/94	288.0	99.3%	300.0	99.5%	25.0% *	\$1,958,297	\$489,574	\$1,468,723	0.96	\$1,417,113	0.92	\$1,357,675
1994/95	276.0	99.0%	288.0	99.3%	25.0% *	1,740,818	435,205	1,305,613	0.96	1,254,657	0.92	1,196,497
1995/96	264.0	98.6%	276.0	99.0%	25.0% *	39,427	9,857	29,570	0.96	28,323	0.91	26,911
1996/97	252.0	98.0%	264.0	98.6%	25.0% *	49,841	12,460	37,381	0.96	35,711	0.91	33,832
1997/98	240.0	97.1%	252.0	98.0%	25.0% *	1,065,034	266,259	798,775	0.95	761,495	0.90	719,810
1998/99	228.0	97.0%	240.0	97.1%	3.2% *	617,880	19,912	597,968	0.95	569,130	0.90	537,045
1999/00	216.0	96.9%	228.0	97.0%	3.1% *	174,091	5,430	168,661	0.94	157,698	0.86	145,618
2000/01	204.0	96.8%	216.0	96.9%	3.0% *	1,120,653	33,864	1,086,789	0.92	998,783	0.83	903,197
2001/02	192.0	96.6%	204.0	96.8%	5.7% *	968,023	55,065	912,958	0.90	825,101	0.80	731,239
2002/03	180.0	96.3%	192.0	96.6%	7.8% *	4,116,284	322,721	3,793,563	0.89	3,384,291	0.78	2,954,464
2003/04	168.0	95.9%	180.0	96.3%	9.4% *	676,381	63,783	612,598	0.88	541,467	0.76	467,997
2004/05	156.0	95.5%	168.0	95.9%	8.6% *	1,068,511	91,742	976,769	0.88	858,043	0.75	737,310
2005/06	144.0	95.1%	156.0	95.5%	9.6% *	420,861	40,608	380,253	0.87	331,772	0.74	283,184
2006/07	132.0	94.4%	144.0	95.1%	11.8% *	1,148,055	135,788	1,012,267	0.87	879,273	0.74	747,777
2007/08	120.0	93.7%	132.0	94.4%	11.8% *	1,303,484	154,129	1,149,355	0.87	997,893	0.74	849,921
2008/09	108.0	92.7%	120.0	93.7%	12.8% *	5,018,115	640,612	4,377,503	0.87	3,798,982	0.74	3,239,573
2009/10	96.0	91.8%	108.0	92.7%	11.2% *	1,026,244	115,158	911,086	0.87	791,565	0.74	676,984
2010/11	84.0	90.5%	96.0	91.8%	14.2% *	1,203,485	171,187	1,032,298	0.87	895,481	0.74	765,283
2011/12	72.0	88.7%	84.0	90.5%	15.7% *	1,986,161	311,402	1,674,759	0.87	1,457,875	0.75	1,252,696
2012/13	60.0	86.9%	72.0	88.7%	13.3% *	5,514,972	734,773	4,780,199	0.88	4,182,779	0.76	3,619,694
2013/14	48.0	84.0%	60.0	86.9%	18.4% *	6,050,685	1,112,448	4,938,237	0.88	4,323,925	0.76	3,746,258
2014/15	36.0	80.0%	48.0	84.0%	20.0% *	7,869,656	1,574,650	6,295,006	0.88	5,557,067	0.77	4,863,376
2015/16	24.0	67.2%	36.0	80.0%	25.0% *	10,917,000	2,729,250	8,187,750	0.89	7,291,320	0.79	6,446,316
2016/17	12.0	33.6%	24.0	67.2%	25.0% *	15,144,000	3,786,000	11,358,000	0.92	10,435,940	0.84	9,555,227
2017/18	0.0	0.0%	12.0	33.6%	25.0% *	21,007,000	5,251,750	15,755,250	0.95	14,906,086	0.89	14,067,200
Total						\$92,204,958	\$18,563,627	\$73,641,331		\$66,681,770		\$59,925,084

\* - Limited to a maximum of 25% per actuarial judgment.

(3) and (5) are from Exhibit WC-2.

(7) to 2016/17 is from Exhibit WC-15, (9). The amount for 2017/18 is from Exhibit WC-10.

(10) is based on a 2% interest rate and the payout pattern in Exhibit WC-2.

(12) is based on a 4.5% interest rate and the payout pattern in Exhibit WC-2.



Loss Rate and Severity Trend

I. Benefit Level Changes

Effective Date (1)	Benefit Level Change (2)	Cumulative Benefit Level Change (3)
08/01/03	0.977	0.977
01/01/04	1.012	0.989
01/01/05	1.004	0.993
09/01/05	1.006	0.999
04/01/06	0.999	0.998
10/01/06	1.039	1.037
01/01/07	0.991	1.027
10/01/07	1.008	1.035
03/01/08	1.059	1.097
08/31/08	1.009	1.106
10/01/08	1.007	1.114
01/01/09	1.029	1.146
10/01/09	1.004	1.151
01/01/10	1.008	1.160
10/01/10	1.005	1.166
01/01/11	1.036	1.208
10/01/11	1.005	1.214

II. Loss Rate and Severity Trend

Claim Period (1)	Benefit Trend (2013/14 = 1.000) (2)	Residual Trend (2013/14 = 1.000) (3)	Retention Index (2013/14 = 1.000) (4)	Loss Rate Trend (2013/14 = 1.000) (2)X(3)X(4) (5)	Wage Trend (2013/14 = 1.000) (6)	Severity Trend (2013/14 = 1.000) (5)X(6) (7)
2003/04	1.235	1.219	1.000	1.505	1.344	2.023
2004/05	1.225	1.195	1.000	1.465	1.305	1.911
2005/06	1.217	1.172	1.000	1.426	1.267	1.807
2006/07	1.188	1.149	1.000	1.364	1.230	1.678
2007/08	1.152	1.126	1.000	1.297	1.194	1.549
2008/09	1.078	1.104	1.000	1.190	1.159	1.379
2009/10	1.052	1.082	1.000	1.138	1.126	1.281
2010/11	1.024	1.061	1.000	1.087	1.093	1.188
2011/12	1.001	1.040	1.000	1.042	1.061	1.105
2012/13	1.000	1.020	1.000	1.020	1.030	1.051
2013/14	1.000	1.000	1.000	1.000	1.000	1.000
2014/15	1.000	0.980	1.000	0.980	0.971	0.952
2015/16	1.000	0.961	1.000	0.961	0.943	0.906
2016/17	1.000	0.942	1.000	0.942	0.915	0.862
2017/18	1.000	0.924	1.000	0.924	0.888	0.821

Section I, (2) and (3) reflect NCCI data.

Section II, (2) is based on Section I, (2).

Section II, (3) is based on 2% trend per actuarial judgment.

Section II, (4) is based on industry statistics and actuarial judgment.

Section II, (6) is based on 3% trend.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-18

List of Large Claims  
Reported Incurred Losses Greater Than \$500,000

Claim Number (1)	Date of Loss (2)	Claim Period (3)	Specific Self-Insured Retention (4)	Unlimited Paid Losses 6/30/13 (5)	Unlimited Case Reserves 6/30/13 (6)	Unlimited Reported Incurred Losses 6/30/13 (7)
21119-1	6/15/1983	to 1993/94	\$100,000	\$437,777 *	\$155,493	\$593,270
23180-1	10/25/1983	to 1993/94	400,000	1,289,041 *	0	1,289,041
23398-1	8/27/1986	to 1993/94	Unlimited	1,136,835	0	1,136,835
22152-1	10/13/1986	to 1993/94	Unlimited	939,492	0	939,492
100159-1	9/10/1987	to 1993/94	Unlimited	515,757	0	515,757
33126-1	2/25/1988	to 1993/94	Unlimited	538,836	82,917	621,754
95621-1	3/21/1988	to 1993/94	Unlimited	596,830	0	596,830
22578-1	4/16/1990	to 1993/94	Unlimited	669,217	78,344	747,561
23779-1	6/13/1990	to 1993/94	Unlimited	524,150	28,142	552,291
22566-1	9/9/1990	to 1993/94	Unlimited	396,631	231,333	627,964
108335-1	11/10/1990	to 1993/94	Unlimited	509,483	0	509,483
20826-1	2/28/1991	to 1993/94	Unlimited	1,064,043	203,899	1,267,942
20572-1	4/7/1991	to 1993/94	Unlimited	668,569	532,224	1,200,793
22169-1	5/8/1992	to 1993/94	Unlimited	661,830	0	661,830
100241-1	10/1/1992	to 1993/94	Unlimited	622,836	0	622,836
20653-1	10/19/1992	to 1993/94	Unlimited	1,819,468	506,423	2,325,892
20651-1	3/20/1993	to 1993/94	Unlimited	1,218,703	435,971	1,654,674
23788-1	6/30/1993	to 1993/94	Unlimited	502,210	0	502,210
20819-1	1/5/1994	to 1993/94	Unlimited	461,365	445,522	906,887
20894-1	1/31/1994	to 1993/94	Unlimited	478,874	168,328	647,202
20795-1	6/19/1994	to 1993/94	Unlimited	4,306,341	1,665,673	5,972,014
22561-1	7/19/1994	1994/95	Unlimited	842,136	653,465	1,495,601
20630-1	8/23/1994	1994/95	Unlimited	3,477,967	3,170,273	6,648,240
20660-1	2/4/1998	1997/98	Unlimited	3,927,222	0	3,927,222
22206-1	5/8/1998	1997/98	Unlimited	748,222	351,868	1,100,090
20938-1	5/22/1998	1997/98	Unlimited	417,073	722,885	1,139,958
20880-1	5/19/1999	1998/99	Unlimited	394,702	578,281	972,983
21302-1	3/24/2000	1999/00	Unlimited	544,414	110,625	655,039
20942-1	1/10/2001	2000/01	Unlimited	355,203	531,103	886,306
20924-1	5/22/2001	2000/01	Unlimited	331,071	354,838	685,910
20617-1	6/27/2001	2000/01	Unlimited	484,599	95,638	580,237
20835-1	10/13/2001	2001/02	Unlimited	300,399	646,628	947,026
20785-1	10/24/2001	2001/02	Unlimited	435,753	74,997	510,750
22916-1	3/7/2002	2001/02	Unlimited	312,240	344,394	656,634
20888-1	2/14/2003	2002/03	Unlimited	684,027	0	684,027
20784-1	3/23/2003	2002/03	Unlimited	5,016,848	4,786,050	9,802,898
20950-1	4/3/2003	2002/03	Unlimited	291,359	765,239	1,056,598
203902-1	4/4/2004	2003/04	Unlimited	215,090	770,133	985,223
280309-1	12/1/2004	2004/05	Unlimited	385,207	197,924	583,131
360817-1	2/19/2005	2004/05	Unlimited	236,236	896,422	1,132,658
830768-1	10/26/2005	2005/06	Unlimited	225,134	432,759	657,893
753090-1	9/21/2006	2006/07	Unlimited	185,916	1,019,194	1,205,111
1116501-1	5/1/2007	2006/07	Unlimited	840,706	335,133	1,175,839
1159280-1	12/14/2007	2007/08	Unlimited	135,657	997,674	1,133,331
1210332-1	6/29/2008	2007/08	Unlimited	195,317	455,266	650,583
1404002-1	11/3/2008	2008/09	Unlimited	590,598	101,503	692,101
1433334-1	3/5/2009	2008/09	Unlimited	1,740,372	5,122,071	6,862,443
1570102-1	4/12/2009	2008/09	Unlimited	166,989	1,210,750	1,377,739
1576633-1	5/23/2009	2008/09	Unlimited	596,561	358,384	954,945
1581933-1	6/23/2009	2008/09	Unlimited	162,295	672,179	834,474
1634354-1	1/14/2010	2009/10	Unlimited	590,358	306,759	897,117
1654170-1	5/18/2010	2009/10	Unlimited	220,793	728,463	949,256
1707058-1	5/3/2011	2010/11	Unlimited	722,396	314,835	1,037,230
1716422-1	5/29/2011	2010/11	Unlimited	80,482	573,904	654,386
1786438-1	9/25/2012	2012/13	Unlimited	552,508	2,306,191	2,858,700
30130637622-0001	5/31/2013	2012/13	Unlimited	3,280	1,520,964	1,524,244

+ Claims have been limited in development based on actuarial judgment.

The claim(s) indicated by a "\*" have been limited in development.

(1) through (7) were provided by the City.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-19

Size of Loss Distribution

I. Reported Claim Count

Layer (1)	Prior (2)	2008/09 (3)	2009/10 (4)	2010/11 (5)	2011/12 (6)	2012/13 (7)	Total (2)...(7) (8)	Non-Zero Claim Cumulative Total (9)	Non-Zero Claim Cumulative % of Total (10)
0	22,400	857	738	689	609	542	25,835		
0.01 - 5,000	81,417	1,209	1,121	1,140	1,074	1,041	87,002	87,002	85.6%
5,000 - 10,000	3,887	92	78	90	63	125	4,335	91,337	89.9%
10,000 - 25,000	4,479	95	98	99	88	124	4,983	96,320	94.8%
25,000 - 50,000	2,570	67	50	59	64	52	2,862	99,182	97.6%
50,000 - 100,000	1,443	39	24	35	44	34	1,619	100,801	99.2%
100,000 - 250,000	615	11	13	10	14	9	672	101,473	99.9%
250,000 - 500,000	68	3	0	1	0	7	79	101,552	99.9%
500,000 - 750,000	21	1	0	1	0	0	23	101,575	100.0%
750,000 - 1,000,000	6	2	2	0	0	0	10	101,585	100.0%
Over 1,000,000	18	2	0	1	0	2	23	101,608	100.0%
<b>Total</b>	<b>116,924</b>	<b>2,378</b>	<b>2,124</b>	<b>2,125</b>	<b>1,956</b>	<b>1,936</b>	<b>127,443</b>	<b>101,608</b>	

II. Total Reported Incurred Losses

Layer (1)	Prior (2)	2008/09 (3)	2009/10 (4)	2010/11 (5)	2011/12 (6)	2012/13 (7)	Total (2)...(7) (8)	Non-Zero Claim Cumulative Total (9)	Non-Zero Claim Cumulative % of Total (10)
0	-\$116,874	\$0	\$0	\$0	\$0	\$0	-\$116,874		
0.01 - 5,000	49,092,835	1,183,613	1,238,130	1,166,897	1,189,266	1,263,264	55,134,003	55,134,003	9.4%
5,000 - 10,000	27,837,723	646,932	543,329	660,146	443,243	903,350	31,034,724	86,168,727	14.7%
10,000 - 25,000	72,308,434	1,525,981	1,581,189	1,557,652	1,377,183	1,939,162	80,289,602	166,458,328	28.4%
25,000 - 50,000	90,802,745	2,383,906	1,699,882	2,232,195	2,298,750	1,870,200	101,287,677	267,746,005	45.7%
50,000 - 100,000	100,389,813	2,628,968	1,674,874	2,369,591	3,028,344	2,294,727	112,386,317	380,132,322	64.9%
100,000 - 250,000	88,222,732	1,649,631	1,873,466	1,390,965	1,948,719	1,428,542	96,514,056	476,646,377	81.4%
250,000 - 500,000	23,702,059	918,003	0	250,404	0	2,451,406	27,321,873	503,968,250	86.0%
500,000 - 750,000	12,863,193	692,101	0	654,386	0	0	14,209,679	518,177,929	88.5%
750,000 - 1,000,000	5,637,918	1,789,420	1,846,373	0	0	0	9,273,711	527,451,640	90.0%
Over 1,000,000	44,664,737	8,240,182	0	1,037,230	0	4,382,944	58,325,093	585,776,733	100.0%
<b>Total</b>	<b>\$515,405,315</b>	<b>\$21,658,737</b>	<b>\$10,457,243</b>	<b>\$11,319,465</b>	<b>\$10,285,504</b>	<b>\$16,533,594</b>	<b>\$585,659,859</b>	<b>\$585,776,733</b>	

Amounts are unlimited.

Data was provided by the City.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-20

Estimated Outstanding Unallocated Loss Adjustment Expenses

Fiscal Period (1)	Total Paid Losses During Fiscal Period (2)	ULAE - TPA Fees (3)	Ratio (3)/(2) (4)
2002/03	\$16,028,352	\$1,691,089	10.6%
2003/04	21,604,468	1,499,741	6.9%
2004/05	19,306,339	1,361,821	7.1%
2005/06	15,440,236	1,670,785	10.8%
2006/07	14,849,221	1,729,116	11.6%
2007/08	16,125,116	1,789,284	11.1%
2008/09	14,233,675	1,416,445	10.0%
2009/10	14,551,585	1,488,906	10.2%
2010/11	14,656,703	1,388,793	9.5%
2011/12	13,795,245	1,313,037	9.5%
2012/13	15,297,092	1,389,530	9.1%
Total/Average	\$175,888,032	\$16,738,547	9.5%
(5) Selected Paid-to-Paid Ratio			10.0%

	Amount (a)	Estimated ULAE (b)
(6) Limited Case Reserves as of 6/30/13	\$48,726,114	\$2,436,306
(7) (i) Estimated Pure IBNR	\$246,249	\$24,625
(ii) Case Reserve Development	14,082,754	704,138
(iii) Estimated IBNR as of 6/30/13	\$14,329,003	\$728,763
(8) Outstanding Losses as of 6/30/13 (6)+(7iii)	\$63,055,117	\$3,165,068
(9) Ratio of ULAE to Outstanding Losses (8b)/(8a)		5.0%
(10) Selected Ratio of ULAE to Outstanding Losses		5.0%

(2) and (3) were provided by the City.

(5) is based on (4) and actuarial judgment.

(6a) is from Exhibit WC-1.

(6b) is 50% of (6a) multiplied by (5).

(7ia) is based on estimated late reported claims multiplied by the average severity from Exhibit WC-8.

(7ib) is (7ia) multiplied by (5).

(7iia) is (7iia) minus (7ia).

(7iib) is 50% of (7iia) multiplied by (5).

(7iia) is from Exhibit WC-11.

(7iiib) is (7ib) plus (7iib).

(10) is based on (9) and actuarial judgment.



CITY OF HOUSTON, TEXAS  
WORKERS' COMPENSATION

Exhibit WC-ALLOCATION

Allocation of Total Estimated Outstanding Losses as of June 30, 2013

Fund		Department		As of June 30, 2013		
				Total Case Reserves (5)	Total IBNR (6)	Total Estimated Outstanding Losses (7)
(1)	(2)	(3)	(4)			
<b>ENTERPRISE FUNDS</b>						
8001	HAS-Revenue	2800	Houston Airport System	\$2,451,348	\$393,683	\$2,845,031
8300	Wtr&SwrSystOperating	2000	Public Works & Engineering	669,778	395,305	1,065,084
8700	Parking Management	6500	Admn & Regulatory Affairs	10,905	5,226	16,131
Sub-Total				\$3,132,031	\$794,215	\$3,926,246
<b>GENERAL FUND</b>						
1000	General Fund	1000	Houston Police Department	\$30,283,690	\$7,646,307	\$37,929,997
1000	General Fund	1100	Dept of Neighborhoods	8,415	3,532	11,947
1000	General Fund	1200	Houston Fire Department	9,836,760	3,669,982	13,506,742
1000	General Fund	1600	Municipal Courts Department	168,940	44,971	213,910
1000	General Fund	2100	Solid Waste Management	892,298	268,701	1,160,999
1000	General Fund	2500	General Services Department	111,592	81,814	193,406
1000	General Fund	3400	Library	45,812	19,231	65,043
1000	General Fund	3600	Parks & Recreation	1,464,810	362,870	1,827,680
1000	General Fund	3800	Health & Human Services	201,633	92,109	293,742
1000	General Fund	5500	City Council	5,455	2,290	7,745
1000	General Fund	6500	Admn & Regulatory Affairs	18,456	7,748	26,204
1000	General Fund	6800	Information Technology	4,842	1,054	5,896
1000	General Fund	7000	Planning & Development	2,792	855	3,647
1000	General Fund	8000	Human Resources Dept.	34,937	14,666	49,604
Sub-Total				\$43,080,432	\$12,216,130	\$55,296,561
<b>OTHER FUNDS</b>						
1001	Project Cost Recovery	2000	Public Works & Engineering	\$416,115	\$171,300	\$587,415
1001	Project Cost Recovery	2500	General Services Department	350	147	497
1002	Central Service	8000	Human Resources Dept	14,666	16,365	31,031
1003	In-House Renovation	2500	General Services Department	31,440	10,930	42,370
1005	Fleet Management	2000	Public Works & Engineering	57,086	12,760	69,846
1005	Fleet Management	6700	Fleet Management Dept	44,906	41,492	86,398
2104	Parks Golf Special	3600	Parks & Recreation	16,453	2,382	18,835
2200	Auto Dealers	1000	Houston Police Department	69,423	106,915	176,338
2201	Police Special Svcs	1000	Houston Police Department	7,842	3,292	11,134
2205	Houston Emergency Center	1500	Houston Emergency Center	36,306	10,693	46,999
2206	Municipal Court Security Fund	1600	Municipal Courts Department	3,953	6,088	10,042
2301	Building Inspection	2000	Public Works & Engineering	48,142	21,572	69,714
2302	Stormwater Fund	2000	Public Works & Engineering	303,495	233,906	537,401
2304	Mobility Response	1000	Public Works & Engineering	55,351	85,244	140,595
2310	DDSR	2000	Public Works & Engineering	1,271,518	474,192	1,745,710
2427	BARC Special Revenue	6500	Admn & Regulatory Affairs	38,013	49,141	87,153
5000	Federal Government	1000	Houston Police Department	10,082	4,232	14,315
5000	Federal Government	1100	Dept of Neighborhoods	15,538	17,295	32,833
5000	Federal Government	3200	Housing and Community Development	19,351	6,535	25,886
5000	Federal Government	3800	Health & Human Services	8,068	3,387	11,455
5030	Fed/State/Local Pass	3200	Housing And Community Devp.	5,244	2,201	7,445
5030	Fed/State/Local Pass	3800	Health & Human Services	38,787	37,951	76,739
5300	Arra-Reimbursement	3400	Library	1,520	638	2,158
Sub-Total				\$2,513,651	\$1,318,659	\$3,832,310
<b>ALL FUNDS - TOTAL</b>				<b>\$48,726,114</b>	<b>\$14,329,003</b>	<b>\$63,055,117</b>

Case reserves were provided by the City and IBNR is from the actuarial study valued as of June 30, 2013.

Allocation of IBNR is based on apportionment of case reserves.