City of Houston

Workers' Compensation Claim Trend Analysis

&

Claim Frequency Reduction Suggested Approach

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Submitted By:

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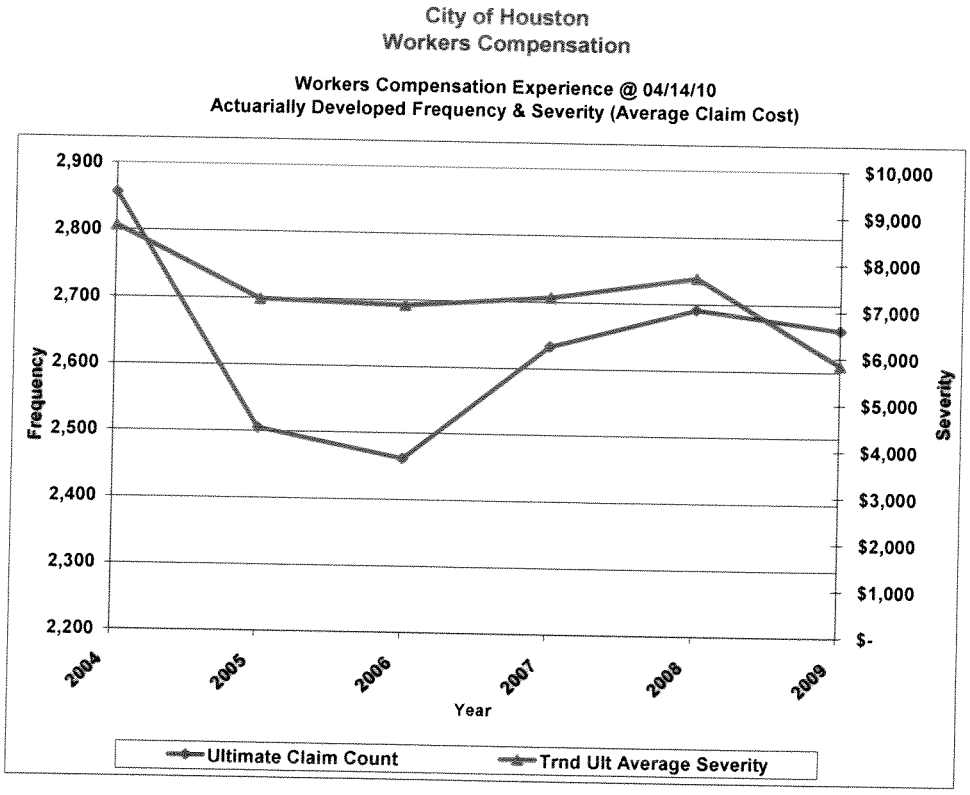
I. Executive Summary

This preliminary analysis and strategy was completed to determine where additional opportunities may exist within the retained loss portion of the workers' compensation (WC) claims to revise the current risk control approach of departmental auditing to a strategy linked to claim frequency reduction. By shifting focus in this way, this will help hone our focus to a few precise targets to help achieve measurable performance improvement in the safety of the City's employees and contribute to cost savings. By focusing on the top two injury types within the top five departments experiencing these type claims, we found the potential for conservatively targeting **$3.4 million of cumulative gross direct savings** in five years. These savings do not include indirect savings which are generally between three to five times direct savings and attributed to premium, employee replacement costs, claim administration costs, and related factors.



Based on the actuarially produced exhibit above, the key performance metrics for the retained loss costs and claim count within the WC program reveals there is **not** an established improvement trend. The 2009 values suggest improvement may be beginning, but it is too early and the data is not matured enough to have a high level of confidence at this time. The most precise means to measure the claim count and costs metrics is to also apply the payroll against these values to develop rates for measuring claim count or costs per unit of payroll. The rates will provide the most accurate means to gage performance. The payroll will help account for increases or decreases in payroll/exposure. **If the City wishes to provide payroll totals for each of the displayed years, we can produce the rate based graphic**.

We reviewed the underlying claim information to identify opportunities to focus improvements to drive reduced claims and enhance cost savings. The analysis revealed the following highlights.

- Slip/trip/fall (STF) and ergonomic type claims account for 42% of the claim count and 51% of total incurred loss costs out of the 2,853 claims and $12.5M in incurred losses for 2007 through 2009, excluding Fire and Police Departments.
- Within the STF and ergonomics claims, these five departments shown below should be the focal point for targeting improvements to drive claim count reduction and associated savings.

2007 - 2009 excluding HPD and HFD					
Business Area	Count	Incurred	% Count	% Incurred	Average
2000 - PWE	429	$2,992,915	35.8%	46.6%	$6,976
3600 - PRD	153	$787,870	12.8%	12.3%	$5,149
3800 - HHS	147	$462,592	12.3%	7.2%	$3,147
2800 - HAS	132	$431,655	11.0%	6.7%	$3,270
2100 - SWM	101	$776,595	8.4%	12.1%	$7,689

- Within the STFs and ergonomics cases, and excluding Fire and Police Departments, a key adverse trend leading to losses is attributed to employees having claims early in their employment with the City of Houston as seen below. We have specific strategies to direct upon the hiring/onbaording, training, and supervisory processes to help.

Count	Incurred	Time Band
19.7%	12.7%	Year 1 or less
33.4%	24.4%	Year 2 or less
42.2%	33.4%	Year 3 or less

- The final highlight is that the current audit process supported by Aon is not sufficient to address claim reduction within the two injury types, and the City's safety process has missing components that are geared toward improving performance in these two injury types.

In closing, this preliminary analysis reveals there are adverse trends and missing safety process components that should be addressed by altering the current Aon supported approach. While audits are important, like the one Aon is supporting, they typically are not necessary each year and they have very limited capacity to reduce claim frequency since they are not precisely targeted to the underlying causes of the factors contributing to the claims. Thus, Aon suggests the City of Houston leadership consider revising Aon's support to allow the audit schedule to be substituted with alternative approaches more suited to reducing the two types of loss leading claims discussed above. To accomplish this change in strategy, Aon is proposing to discontinue audit support for at least the next two years, and shifting all resources of an equal amount to support a revised strategy. We have included a revised preliminary strategy below for redirecting Aon support.

We would welcome an opportunity to meet with City of Houston safety leadership or other key leaders to discuss this further.

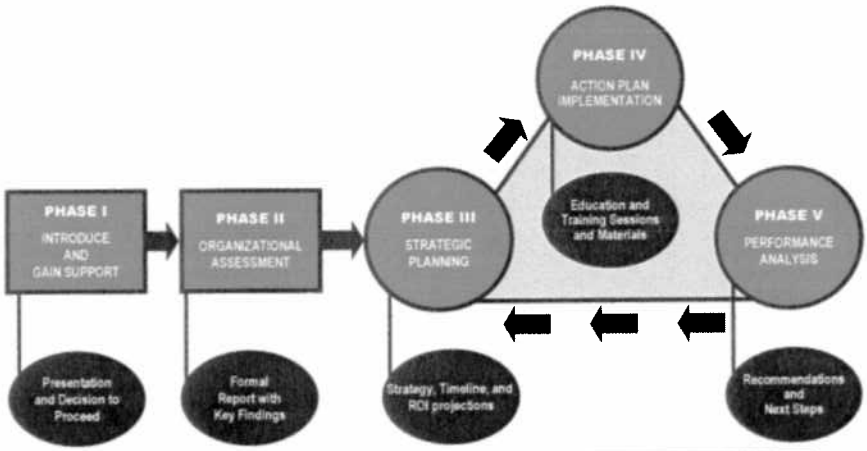
II. Additional Details on Cost Savings

With Aon's WC Claim Frequency Reduction Project					
Policy Year	Projected % Frequency Reduction	Projected Claim Frequency (Developed)	Projected Claims Prevented From Base Year	Projected Claims Costs (Developed)	Cumulative Gross Savings vs. Base Year
2007 - 2009 Avg. Base Year	*0%*	*356*	*0*	*$2,495,076*	$0
2010	5%	338	18	$2,488,838	$130,991
2011	15%	287	68	$2,221,288	$529,533
2012	10%	258	97	$2,099,117	$789,245
2013	5%	246	110	$2,093,869	$938,911
2014	3%	238	117	$2,132,606	$1,051,813
			411	11,035,718	$3,440,493

- The exhibit above provides additional insight into the STF and Ergonomics estimated cost savings opportunity. If engaged, we will further refine this after we identify and agree upon departments to target and after we complete an assessment to aid better projections.
- This data is based on the **top five** STF and ergonomics claims producing departments, excluding the Fire and Police departments.
- The red column (with % improvement levels) reveals the level of improvement that is anticipated each year to yield the gross cumulative savings shown to the right.
- 5% medical inflation is included

III. How Aon Can Compliment The City For Greater Results

As with increasing sales or improving customer service, improving safety and/or claims performance takes a formal, precise strategy using the right mix of talent and techniques, and experienced project management to facilitate timely execution. Unfortunately, many barriers to improvement are often encountered, such as limited resources, lack of technical experts, and limited risk reduction capabilities to name a few. As indicated earlier, City of Houston's frequency and severity performance metrics suggest that Aon may be able to help achieve sustainable improvement in performance.



The model at the right provides the framework of phases Aon would lead to support City of Houston in targeting the loss leading injury types. We suggest beginning with a pilot project to allow solutions to be

tested and enhanced for roll-out to other locations as the timing is appropriate. The phase 2 assessment will be abbreviated since our participation in the audit process has helped prepare much of the knowledge we need to move to the next phase.

Preliminary Strategy -- We will need to develop an improvement strategy with the City's safety leaders, however at this time we understand that the following are key components that will need to be engaged:

1. **Ergonomics team** – Train a team with the right risk level measurement and evaluation tools and techniques so high and moderate risks can be evaluated and mitigated in a consistent manner which includes a prioritization system.
2. **Ergonomics risks targeting** – Identify and mitigate risk in the top loss producing job tasks.
3. **Ergonomics claims validation** – Pilot a validation process to help determine work-relatedness of claims with our court tested process focusing on office/clerical oriented claims initially; also review for open claims with high outstanding reserves that could benefit with support for accelerated closure using this process.
4. **Ergonomics & STF dashboard** – Establish rate based metrics in a dashboard for each department targeted and set a baseline, goal, and track progress toward the goal each month and report to department leadership.
5. **Slip/Trip/Fall Data Analysis** – Review the claim data loss description and incident investigation reports for the targeted departments and survey the departments to identify causal factors that led to claims and methods to reduce claims using a detailed checklist of typical factors to address in a holistic STF program.
6. **Root Cause Analysis Team** – Prepare a central cross-functional team of key personnel to complete a hybrid team-based root cause analysis of the STF and ergonomics incidents that occur within the targeted departments. Causal factors and corrective actions are to be tracked to allow cause trend analysis and progress to be monitored.
7. **Employee onboarding** – Review this process to determine how STF and ergonomics risks are addressed to help control claim occurrences. Critical safe job procedures for STFs and ergonomics should be developed for the high loss job tasks.
8. **Observation process** – Engage an observation process to review critical safe job procedures/behaviors relating to STFs and ergonomics in the loss leading job tasks in the targeted departments. Include an emphasis for new hires, such as a 30, 60, and 90-day review by the immediate supervisor. These techniques help reinforce critical safety procedures and also review the application of the procedures.

We hope that this report and illustrations help demonstrate that Aon has value added services that can help achieve greater results and savings for the City of Houston. We look forward to a meeting to discuss this further and how Aon can compliment City of Houston's existing risk control strategies.

Appendix #1

Aon's Unique Approach to Ergonomics

In order to demonstrate how Aon's process to address the City of Houston's ergonomics risks from a **pre-injury** standpoint, please review the following. Aon can engage our Board Certified Professional Ergonomists as part of the team to measure risk levels and design solutions to minimize risk in the job tasks that are loss leaders. We can teach these techniques and provide the necessary tools to institutionalize the process. As seen in the partial illustration below, the process provides the means to measure risk level in a "before" and "after" comparative manner, prior to solution investments, to help ensure investments in effective solutions.

Before Risk Mitigation

I. Posture/Force/Repetitive Motion	Force	Freq.	Score	Observations and Job Factors
Neck and Shoulder	Low	Low	0	
Trunk Twist and Bend	Mod	Mod	10	
Arm and Elbow Motion	Mod	High	15	Reaching for parts on back of table in parts bins. Need to move closer.
Wrist Bend	Low	Mod	5	
Finger/Hand Motion	High	Mod	15	Using hand tools for crimping; need a clamp
Legs, Knees, Ankles	Low	Low	0	
Static Posture	Low	Low	0	
Eye Strain			10	
I. Repetitive Motion/Awkward Posture -Total			55	

After Risk Mitigation

I. Posture/Force/Repetitive Motion	Force	Freq.	Score	Observations and Job Factors
Neck and Shoulder	Low	Low	0	
Trunk Twist and Bend	Mod	Low	5	
Arm and Elbow Motion	Low	Low	0	
Wrist Bend	Low	Mod	5	
Finger/Hand Motion	Low	Mod	5	
Legs, Knees, Ankles	Low	Low	0	
Static Posture	Low	Low	0	
Eye Strain			10	
I. Repetitive Motion/Awkward Posture -Total			25	

Next, as seen in the illustration below, we take the risk level data from the various loss leading job task evaluations and use a data management system to aggregate and analyze the data. Data is prioritized and ranked to help easily and consistently apply improvement solutions to job tasks that have the greatest need and provide the best return on investment.

Job/Task	Part I – POSTURE/FORCE/REPETITIVE MOTION								Part II – LIFTING EVALUATION								SCORE TOTALS		RANK
	Neck & Shoulder	Trunk Twist/Bend	Arm/Elbow Motion	Wrist Bend	Finger/Hand Motion	Legs/Knees/Ankles	Static Posture	Eye Strain	Load Weight	SLP	SLH	LLD	Freq.	BTA	Grip	Distance	EJMS Part 1 Total Score	EJMS Part 2 Total Score	3 + RED = PRIORITY
Maintenance pump install for riser C	10	10	10	10	10	10	10	5	30	20	20	20	1	10	5	30	75	136	1
Crating tow motor operator	10	5	15	15	10	10	5	10	1	1	1	1	1	10	1	1	80	17	0
Stand up truck driving in warehouse	15	20	10	15	15	15	15	5	10	5	1	5	10	20	1	5	110	57	1
K-39 materials delivery	5	10	10	5	5	5	0	5	20	20	5	5	20	1	1	20	45	92	1
Keystone material handler	15	15	10	10	10	10	5	5	20	20	5	10	20	5	5	20	80	105	1
Material handler	10	0	10	5	5	10	15	5	20	5	10	10	1	1	5	1	60	53	0
Moving XY boxes to Z shelf	20	15	20	10	20	15	0	0	10	20	10	10	10	5	10	5	100	80	1
Polishing AB lever	10	5	10	10	10	0	0	5	1	1	1	1	5	5	1	1	50	16	0
Sanding station B	15	20	15	10	10	0	10	5	1	1	1	1	5	5	1	1	85	16	1
Janitorial trash removal for A line	15	5	0	15	5	0	10	5	1	1	1	5	30	1	1	1	55	41	0
Oil tank inspection	0	20	15	10	15	0	5	10	5	1	5	5	10	10	5	1	75	42	0
Heat shield 23 removal	0	15	5	5	15	0	0	5	1	1	1	10	10	1	1	1	45	26	0
Install heat shield	15	10	20	15	20	0	5	5	1	1	5	10	10	5	5	1	90	38	1
Inspect product Z	15	5	10	10	10	0	0	10	5	1	20	20	10	5	5	10	60	76	0

From a **post-injury** standpoint, once the risks are mitigated and residual risk levels are at acceptable levels, then claims resulting from these job tasks can be more carefully scrutinized as to work-relatedness and possible denial. We find that claims adjusters, treating physicians, legal counsel, risk management, and other key players lack objective, scientific evidence to determine if ergonomics claims are work-related. Our court tested claims validation process for ergonomics claims can provide this essential work-relatedness determination to support City of Houston's claim defense process. This process has been successful in achieving:

- **73.0%** of claims the employee accepted adjuster's denial, no petition filed
- **4.0%** of medical providers reversed their opinion from occupational to non-occupational causation
- **7.0%** of denials upheld at WC Board level
- **10%** of the claims settled on negotiated basis at lower than "normal" settlement
- **6.0%** of the claims were found at WC Board level to be causally related
- Victories in difficult jurisdictions – e.g. TX, NC, CA, NJ
- First-time admission of ergonomist testimony in several states – e.g. DE, TX, NC, AL

Appendix #2

Case Studies

The following case studies are included to help demonstrate the value that Aon's approach and advanced capabilities have achieved with other clients.

Aon's analytics approach to claim frequency reduction generates a positive ROI in 18 months for over 400 sites

Client Situation	Aon Approach	Aon Delivers Distinctive Client Value & Impact
• A service company with over 1,800 locations was interested in cost savings in their high retention Workers' Compensation program. • There were strategies for cost mitigation, but due to the geographic spread, risk control was a challenge. •The company was faced with no on-site risk control personnel at most sites to facilitate improvement initiatives at the sites.	• Aon engaged an analytics driven risk improvement process •The process was structured to focus on the top two loss producing injury types for over 400 sites •Analysis revealed the top loss producing job tasks for the injury types •We implemented injury and job task specific training, self-surveys, observations, investigative techniques, and performance metrics •A corporate leadership team facilitates strategy and process improvements	• Frequency of Workers' Compensation claims improved by 20% •We generated an ROI of 178% in 18 months •Frequency of claims for sites not included worsened by 9%

Aon Assists Client with Ergonomic/Repetitive Motion Injury Trends

Client Situation	Aon Approach	Aon Delivers Distinctive Client Value & Impact
• Client reported consistently high rates of ergonomic related injuries (59% of total frequency) across the United States. •The Client questioned the acceptance of claims by the adjuster without a thorough investigation into the job and the risk factors. •Client requested a strategy to handle the post-claim aspect of ergonomic injuries for appropriate adjudication of the claim.	• Delivered a new, innovative product call Musculoskeletal Claim Validation to the client. •Service validated the purported claim against ergonomic standards and injury-specific epidemiology to determine the likelihood of work-related causality. •Worked with client's TPA to standardized approach to repetitive motion injuries by educating adjusters on the process and adding service triggers into the workflow for repetitive motion claims.	• Client realized **$5.4 million** in savings over a two year period. •Client reported ergonomic related injuries reduced to less than 15% of total frequency. • Aon demonstrated the technical expertise to take repetitive motion cases from inception through court proceeding in support of the results.