

## **Beyond Rhetoric – How to Arrest Municipalities’ Very High Injury Rate by Combining Actuarial Analysis with Safety Management**

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### **Introduction**

Our perception from working with many municipal leaders and staff personnel is that they often distinguish the problems with employee injury rates as too complex for them to resolve, or they do not see the significance of the problem because the costs of injuries have been appropriately financed or transferred. There seems to be a level of acceptance that municipal worker injury rates are reflective of the reality of the job.

We came to realize the difficulty of overcoming this status quo thinking when we compared BLS data with data from the California Department of Industrial Relations showing how the incidence rates for the broad spectrum of employers compared to those of California municipalities. The reaction from the audience was alarm when they realized that working for a city is one of America’s more hazardous occupations based on incidence rates. Municipalities have unique occupational exposures that are difficult to control, and cities have special social expectations relative to benefits that further complicate the problem, but we found evidence that there are opportunities to reduce the injury experience using traditional, structure based safety management practices focused not on the unique exposures to public safety employees, but on the more mundane exposures these employees face.

We are calling on the safety profession to help address the perception that the current rates of injury are normal. The current (2006) three year average incidence rate of reportable injuries for California self-insured cities is 14.2 injuries per 100 full-time equivalent (FTE) employees, down from 15.2 in 2004.<sup>1</sup> This presentation is intended to help safety professionals and municipal audiences see that while the exposures to city employees are significant, the injury rate can be arrested using leadership driven safety management practices.

To help establish credibility for this presentation the assistance of Mark Priven and Jim Mason was solicited to ensure the data was accurate and effectively presented. Mark is a Fellow of the Casualty Actuarial Society (FCAS) with Bickmore Risk Services, and Jim is the Safety Manager for the City of Berkeley, California. While there are few cities that can hire an actuary of Mark’s stature to complete their loss analysis, or a Ph.D. such as Jim as their safety manager,

we can learn from their findings and successes with the City of Berkeley and the data they have to share with us.

## **Beyond Rhetoric**

The genesis for the presentation title came from a review of the April 2001 City of Austin, Texas, City Counsel minutes. In the city auditor's report on safety, the auditors state the positions dedicated to safety had been eliminated and that the City "has not placed emphasis at the corporate level on employee safety. For example, no citywide safety goals or performance measures have been developed nor have methods of performance accountability been established."<sup>2</sup> The city manager took exception to the audit findings and stated, "Safety continues to be a top priority. Our employees are our most valuable resource."<sup>3</sup>

Based on our experience working directly with hundreds of cities, we believe the events in Austin prior to their audit are typical. City leaders honestly believe employees are their most valuable resource, and they can easily say that safety is their top priority. The problem is the leaders seldom get beyond the rhetoric. As a result of the audit, the Austin city manager has progressed beyond rhetoric by instituting standard management and leadership practices to address employee safety at a structural level. By the term "structural" we mean they created institutions that drive employee behavior. They established safety performance standards and goals for the departments and the city as a whole.<sup>4</sup> As with many complex management problems, there will be a significant time delay between the commitment and the results, but the effort warrants continued monitoring to determine the long-term impact.

One of the trailing indicators the City of Austin's auditors referenced in their report was the city's injury or incidence rate. While the safety profession is looking more to leading indicators these days, the numbers presented helped to establish the seriousness of the problem with incidence rates of 18.82 and 15.16 for years 1997 and 1998. These numbers are not unlike the rates we were seeing in the cities we work with. While there are many cities with no injuries, we have seen cities with incidence rates in the high 20s and 30s.

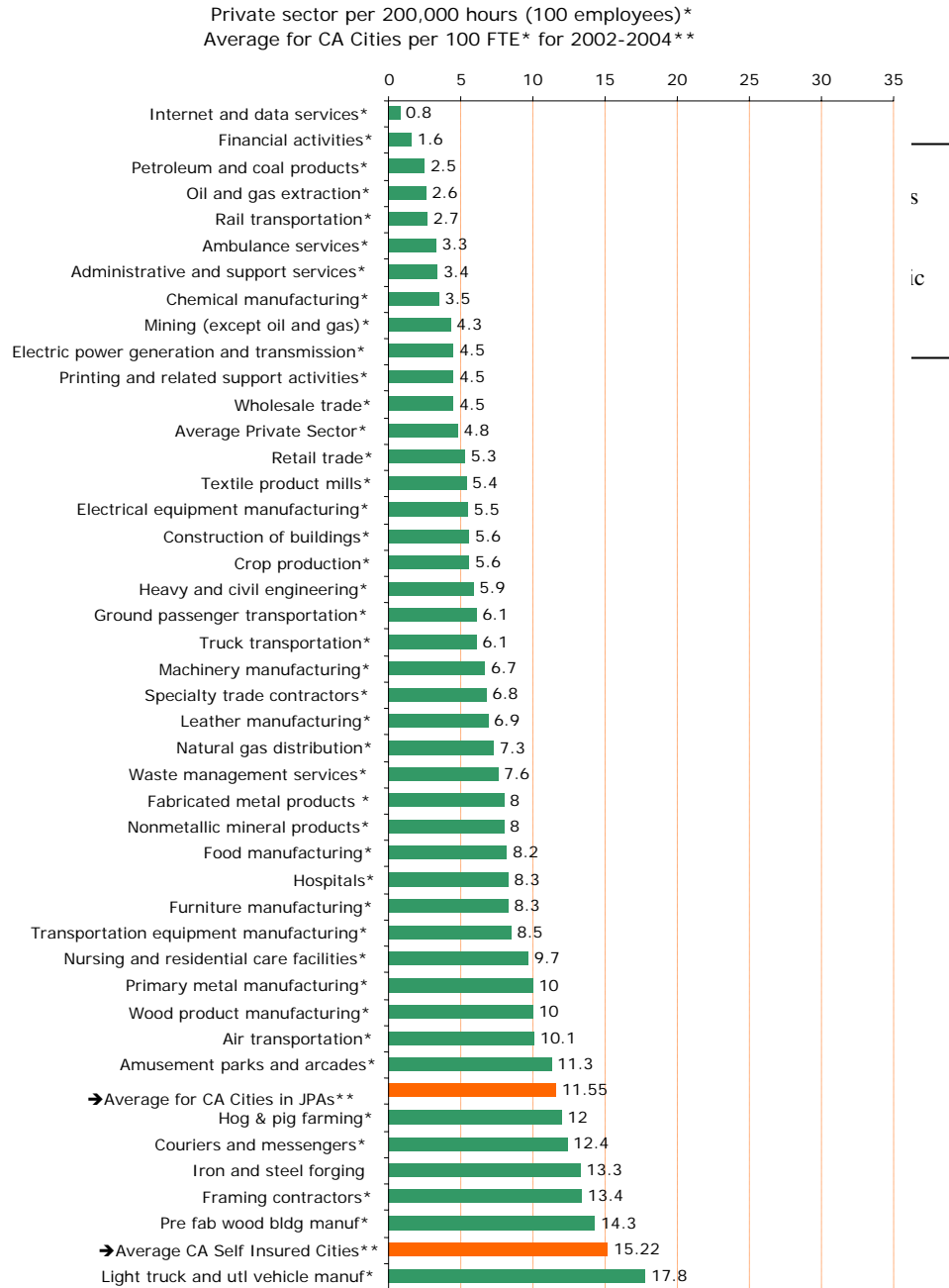
## **The Evidence**

Each year, the BLS publishes detailed industry level injury incidence rates. To aid in our understanding of the significance of the municipal incidence rates we compared the Federal BLS rates with the incidence rates available for self-insured cities in California as published by the California Institute for Public Risk Analysis (CIPRA). In addition to the questions posed by comparing national data to California, the cities report their data based on 100 FTE, and the BLS data is based on 200,000 hours worked. There are probably other factors in reporting that may result in the data being questioned, but the following chart is worth sharing, considering the gap between the cities and private sector.

The city rates were segmented to identify those that self insure in groups called Joint Powers Authorities (JPA) and those that individually self insure. The difference between the two warrants further study. It could be that cities sharing risk in a JPA have lower rates because they have the support of the JPA in controlling their risk. Cities self insuring could be doing so

because they were rejected by a JPA or a myriad of other factors. Regardless, both groups have incidence rates well above most industries considered highly hazardous.

### 2004 Occupational Injury and Illness Incidence Rates



**Exhibit 1. Cities have an exceptionally high employee injury incidence rate.**

From looking at this chart, we believe city injury rates can be lowered. Working in a city should not be more hazardous than construction, but we lacked hard data to validate our hypothesis. Further complicating our problem, when we show this chart to professional risk managers, safety professionals, and city officials, we get a surprised reaction. The first reaction is that the data is wrong or that the post-loss factors such as salary continuation are driving the losses. We acknowledge the possibility of both, but we suggest that those questioning the data develop their own metric for their city to determine their own reality.

By far the most common response is that cities are “different” from other employment sectors. Cities do have a huge exposure difference considering firefighters and police. To determine the significance of this issue we partnered with the City of Berkeley, California to determine just how different city employee injury types really are. Berkeley is as unique as any city, but the simple process we used to determine the nature of police and firefighter injuries can be employed by others to determine just how different their individual city is.

To conduct the study, we looked at over three years of loss data. We reviewed each individual reportable injury and based on the description of the event, segmented the information into two files; one file for those injuries that were unique to fire or police activity; the other for those injuries that could have happened to any employee.

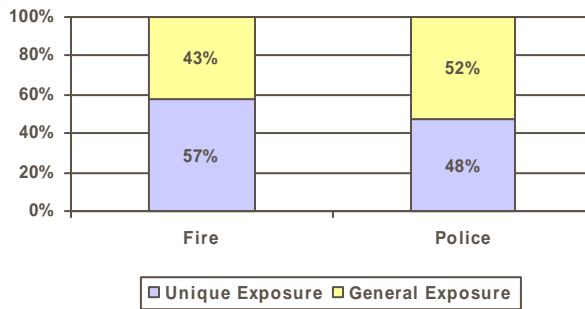
## Key Questions

The questions we asked were:

- Are municipal workers’ compensation claims avoidable?
- What percent of municipal workers’ compensation claims are due to unique municipal exposures?
- How do police and fire workers’ compensation claim frequencies compare with those of “other industries”?

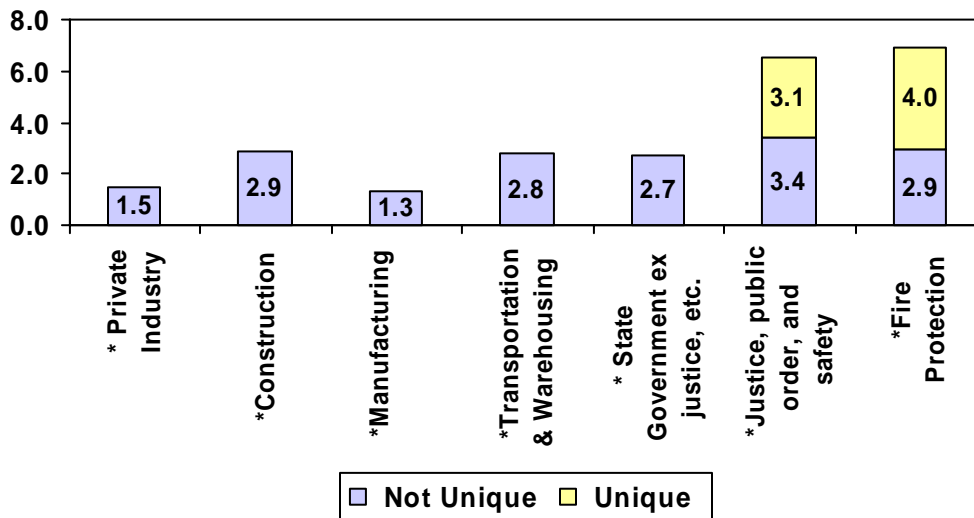
Mark was asked to address these questions. The answer to the first question is rhetorical. We undertook the study because we believe the answer is yes, and the evidence developed below supports this premise.

We found that while municipal employees are exposed to unique hazards from firefighting and policing, the analysis of losses from the City of Berkeley strongly suggests that cities are only different by about half. In other words, about half of police and fire injuries are caused by unique police/fire exposures, whereas about half of the injuries could have been incurred by anyone in a typical employment environment. For example, we found that 43 per cent of the fire department losses were of the nature that they could have been incurred by any employee, in most employment environments. The police department losses were even less unique with 52 per cent of injuries being of a common nature that lend themselves to standard injury management practices.



**Exhibit 2. Police and fire departments have a high percentage of injuries that are common to most employment situations.**

This injury analysis is unique to the City of Berkeley. We encourage municipal risk managers and safety personnel to analyze their own injury reports to determine the impact that “general injuries” those that could have happened to any employee, are having on their injury rates. We find in our work with cities that the preponderance of municipal safety and risk management personnel do not address police and fire injury rates. The assumption seems to be that the exposures are unique to public safety and are being addressed by the police and firefighting procedures and training regimen. By making this assumption, we may be ignoring up to half the loss issues faced by these employees. The police and fire departments are so focused on the fire scene, injury prevention issues, or the arrest procedures that they are not looking at the common injury types. The following exhibit shows the results of our analysis of the City of Berkeley applied to statewide data.



*\*Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses: 2004*

**Exhibit 3. The State of California calculates incidence rate of injuries and illnesses with days away from work illustrating that police and fire departments have abnormally high injury rates from causes that are not unique to firefighting or police work.**

We are not suggesting that the exposures and resulting injuries to firefighters or police personnel that are unique to their profession should not continue to be aggressively addressed based on the fire department and police procedures. Municipal safety personnel may be reluctant to address the fire and police injury causes. But armed with the information that a significant number of the injuries are of a similar nature to those incurred in more traditional employment, the safety person may be able to work with the public safety departments to address their loss causes. Our conclusion is that the analysis of the City of Berkeley loss causes and California statewide incidence rates by industry suggest that a sizable percentage of municipal claims are not due to unique municipal exposures and can be addressed using traditional safety management practices.

## **The City of Berkeley**

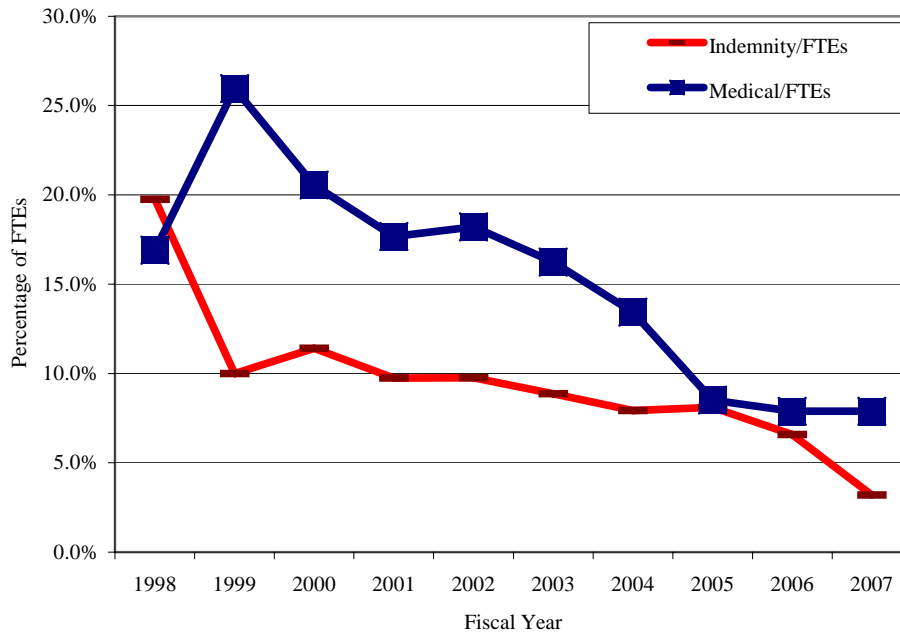
The City of Berkeley is fortunate to have a safety professional of Jim's professional stature on staff. While few cities have someone with a Masters in Safety Science, let alone a Ph.D. in Industrial Psychology on staff, the benefit is that all cities can learn from Berkeley's successes. The actions that Jim has helped orchestrate have been from a structural perspective and are rooted in fundamental leadership principals. The results have been significant.

The City of Berkeley identified several areas that would benefit from traditional safety management practices through the use of perception surveys, independently scored and conducted by Bickmore Risk Services, benchmarking, audits, and training. These components revealed that middle and senior management were ill equipped to address day-to-day safety issues and where they were, they did not have adequate support and confidence to recognize and implement necessary changes.

The safety audit and perception survey were effective in helping to engage organizational leaders in the need to make some fundamental structural and organizational behavior changes by taking the lead and fully implementing all the components of the state mandated Illness and Injury Prevention Program (IIPP). The result is a change in the culture of the city relative to employee safety. The IIPP is a performance standard in that it outlines goals that establish responsibilities, communications, hazards assessment, compliance, accident/exposure investigation and corrections, training and records keeping; however, it is not prescriptive in how these goals are met. Recognizing these were excellent indicators, the first structural process we undertook was to implement a set of management performance measures to engage senior managers and hold them accountable for the safety performance of their respective departments. We defined roles and gained commitment from the managers that employee safety is in fact a management function and successful change must be focused on saving lives, not simply to comply with the law. This action allowed us to address the root causes for accidents and injuries and to systematically implement lasting preventative methods that were culturally consistent with organizational needs.

Concurrently, there was increasing pressure on and from both management and the city council to bring workers' compensation costs under control. It was quickly recognized that the labor unions were an integral part of the process. So, another structural change was implemented that resulted in the formation of an ad hoc committee to discuss possible remedies for this apparently out-of-control situation. The committee agreed on a goal of reducing lost workday

Annual Workers' Comp Claims/Percentage of FTEs as of 09-30-06



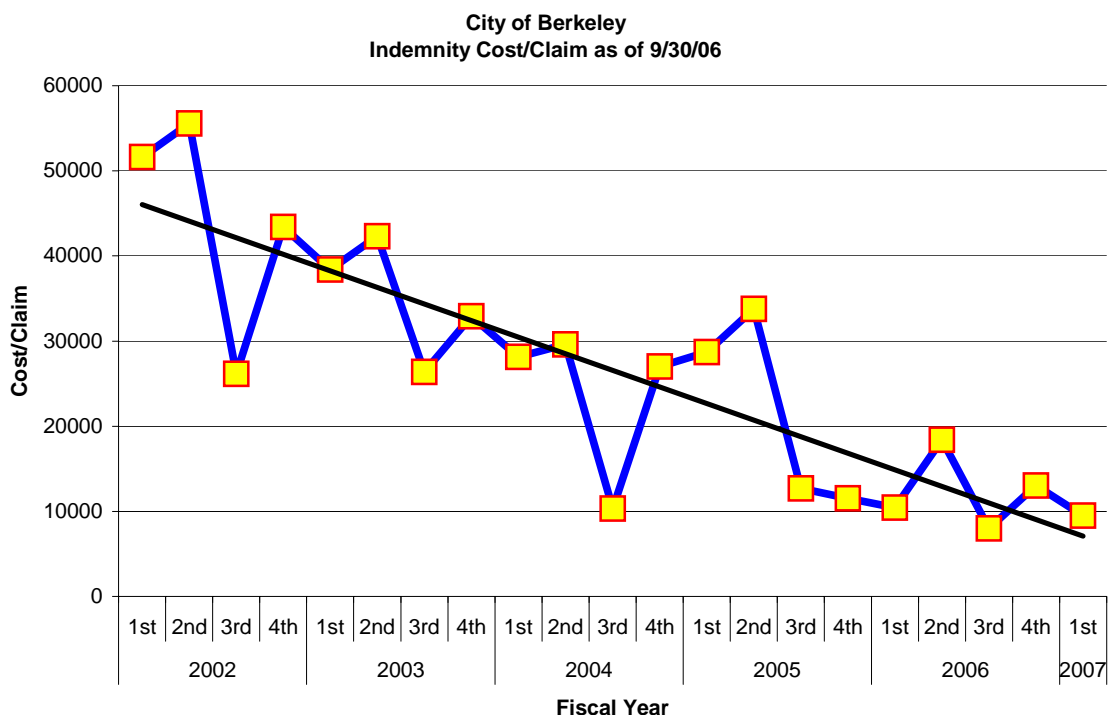
injuries and lost workdays by ten percent. If successful, there would be a one-time bonus of one **Exhibit 4. Annual workers' compensation claims as a function of FTEs illustrating a significant reduction in indemnity claims over a nine-year period.**

percent of payroll or \$535 per employee. As indicated in Exhibit 3, the combination of efforts had some degree of success.

In executing the safety perception surveys, we asked questions that measure safety-related knowledge and perceptions with a design feature that stimulated a degree of dissatisfaction while assessing the general climate. We also wanted to determine the gap between leadership, mid-management, and staff. Using these data, we were able to develop some guidelines for benchmarking and decision-making. These in turn lead to the development and implementation of leading indicators that were measurable and reproducible for training, coaching behavior, and auditing essential activities and processes.

Supervisor's safety training was based on the National Safety Council's Supervisor's Professional Development course and is presented over an eight-month, two modules per month, period utilizing modified adult learning techniques. This component includes a significant discussion forum, which allows cultural modification to take place while integrating sound, proven safety techniques such as accident investigation, accident causation, and job safety analysis. Also, a cooperative initiative to closely monitor every injury and coordinate effective return-to-duty activities was spearheaded by the Workers' Compensation division, which further served to reduce lost workdays.

These are, in part, the foundation for integrating safety as a core value into a changing culture, and thus far, the outcome has been dramatic. As shown in Exhibit 5, we experienced a per claim cost of \$55,560 at the highest cost in the second quarter of fiscal year 2002, and as of first quarter 2007, our per claim costs were \$9,490.



**Exhibit 5. Annual cost as a function of total indemnity claims illustrating a significant reduction in indemnity costs over a five-year period.**

These dollar costs reflect a corresponding reduction in all claims and is an indicator that effective leadership, commitment, and teamwork can and does play a major part in ensuring a workplace that is committed to internalizing safety as a core value.

## Conclusion

First we need to acknowledge that we have a problem. By seeing how cities compare with other employment sectors, we see the significance of the municipal employee’s accident rate. The status quo approach to employee safety means traditional safety training and compliance or event response driven safety programs that will result in a continuation of the current results. This problem warrants structural interventions that will go beyond rhetoric, integrate the city’s leaders into the process of managing the safety of their employees, and maintain their behavioral focus.



Structural changes impact the relationships within the city and can be defined as those institutions that drive behavior.<sup>4</sup> Structural changes, like engineering controls or exposure elimination are far more effective than safety practices based on compliance or responding to individual events.

Culture and organizational hierarchy are examples of structural factors. We believe the City of Austin instituted structural controls to impact the behavior of all the managers and all the departments by establishing a safety department and setting measurable performance standards and goals for the departments and the City as a whole. The City of Berkeley instituted structural controls with their institutionalization of safety as a leadership function. But first, both cities went through a process to recognize the impact that poorly administered safety efforts were having on their employees.

Another structural issue that could be impacting cities is the success of risk financing. In general risk managers have successfully transferred or financed their risks. While there are significant challenges faced by the risk managers on a daily basis, our observation is that most city managers, city councils, and department heads are not immediately worried about how they are going to pay for their employee injuries. That problem has been addressed. In many situations, the safety function is a subset of the risk financing function in the city, and since the risk is effectively financed, the safety aspects are considered to be a secondary factor. This is likely to be a controversial hypothesis, but it may be worthy of further analysis by individual cities as the operational nature of risk at a department level is less likely to be addressed aggressively if the risk management department is considered to have completed their primary task so effectively.

We believe the loss rate for city employees is higher than warranted based on the exposures. We believe that unless we make structural changes in the way we address municipal employee injury prevention, things will not change, especially for police and fire exposures. Both the cities of Austin, Texas and Berkeley, California have begun the process of instituting changes at a structural level that we can use as models. It will take years for the results of their decisions to become evident, but their actions are based on sound management practices that are designed to drive behavioral changes in the leaders as well as the staff.

## Endnotes

1. California Institute for Public Risk Analysis (CIPRA), *A Report Based on Data Compiled from Annual Self Insures Reports Filed with the State Department of Industrial Relations from June 1993 through June 2006*.
2. Stephen L. Morgan, City Auditor. *City of Austin Employee Safety Audit Report, Volume 1 of 4, April 2001*, Audit Report No. AU000302A.
3. Stephen L. Morgan
4. Senge, Peter. *The Fifth Discipline*. New York: Currency Doubleday. 1990.