



Institute of Actuaries of Australia

# **Efficiency in CTP Claims Administration: Workflow and Imaging - A Case Study**

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# 1. Background

## Introduction

The WA Compulsory Motor Vehicle Third Party Personal Injury (CTP) Scheme has been in place for over 60 years during which time the scheme itself and the administrative arrangements that support it have been regularly amended to reflect prevailing conditions. One of the most significant changes to scheme administration took place during 2001 when the management of claims was changed from a paper based system to a fully electronic system. This paper presents an outline of the WA CTP scheme and the operational impact of the use of imaging and workflow technology.

## Overview of WA CTP Scheme

The current situation in Western Australia is that CTP insurance is provided solely by the Insurance Commission, operating as a statutory monopoly. Similar arrangements for provision of CTP insurance operate in Victoria, Tasmania and the Northern Territory. New South Wales and Queensland have CTP insurance provided competitively by multiple private insurers, and the ACT by a sole private insurer. In South Australia, CTP insurance is underwritten solely by a State agency with claims management let out on contract to a private insurer.

## Strengths of the Scheme

Owners and drivers of Western Australian registered vehicles are provided with an unlimited indemnity policy of insurance in the event that their negligent driving of a Western Australian registered motor vehicle causes injury or death to other persons. This insurance policy is combined with every motor vehicle registration license, with the premium being collected on behalf of the Insurance Commission by the Department for Planning and Infrastructure and its agents.

The Third Party Insurance Fund (TPIF) achieved an operating profit of \$96M in 2003/4 and the premium for a family motor vehicle remains clearly the lowest in Australia. The scheme is fully funded with target reserves and provisions in line with Australian Prudential Regulation Authority (APRA) requirements, although technically the scheme is not subject to APRA regulation. The risk margin used for calculation of the claims reserves for the TPIF is intended to provide a 75% adequacy of funds to meet projected liabilities.

## Limitations of the Scheme

A claim threshold and cap was imposed in 1993 on awards for pain and suffering to limit the cost and administration impact of smaller claims. The present amounts indexed at 1 July 2004 are \$13,000 and \$257,000 respectively.

The first part of this paper focuses on the Insurance Commission's point of view as to how the implementation of Workflow and Imaging has impacted on its operations.

## Key Financial Information (30 June 2004 Figures)

Gross Written Premium	\$335M
Claims Payments	\$250M
Net Outstanding Claims Liability	\$1,111M
Underwriting & Administration Costs	\$26M

## Interaction with Law Firms

The Insurance Commission maintains a panel of 15 defendants' lawyers by way of a tendered five year contract, to provide advice and litigation support. This panel is comprised of a range of International law firms through to small boutique firms. As the scheme is a common law, fault based scheme claimants often seek legal advice to ensure they are fairly compensated. Approximately 70% of claimants are legally represented and about 1% of claims involve trials.

## Volumes of work at 30 June 2004

Claims on Hand	8,598
New Claims	5,075
Claims Closures	5,385
Writs	758
Settlement Conferences - Formal	1,412
- Informal	2,152
Correspondence inward - pages per annum approximately	1.25M
Document Images Stored - pages (since inception) approximately	6.1M

## Why Look for Change?

The Insurance Commission's key goals, with respect to CTP Insurance, are:

- To provide affordable premiums for the motorists of Western Australia.
- To provide a cost-efficient claims system that treats claimants with respect and provides equitable compensation.
- To ensure that the TPIF is fully funded.

These goals were being met so the Insurance Commission could have sat back and adopted a “business as usual” approach. However, with the omni-present threat of privatisation (National Competition Policy) we knew that for us to maintain our business, the best form of defence was to operate the best CTP Scheme in Australia.

The Insurance Commission already believed it was achieving this goal (acknowledging that no two schemes in Australia are identical), but were keen to widen the margin between the Insurance Commission and the other jurisdictions.

## 2. Workflow and imaging

### **Refining the Claims Management Process:**

As part of the Insurance Commission’s ongoing commitment to continuous improvement it was decided in 1999/2000 to investigate the potential benefit of introducing imaging technology into the organisation. The general goal was to provide a system that helped to ensure that all claims were managed efficiently whilst enhancing service to claimants and service providers.

To the Insurance Commission, a **Well Managed Claim** is:-

- actioned in a timely and consistent manner throughout its life cycle
- is handled fairly & equitably
- settled promptly
- doesn’t set precedents that threaten the scheme

### **Process Review**

During the Insurance Commission’s Annual Business Planning process for 1999/2000, the organisation identified workflow and document imaging systems as a potential source of significant productivity and customer service improvement. This view was part technology driven; imaging systems were becoming more affordable particularly at the desktop end, and part business driven; we knew that some claims officers were consistently high performers and we had the desire to move our overall performance upwards.

A full-time project team consisting of three business users and an IT representative was established to fully investigate the costs and benefits of incorporating these technologies into the Insurance Commission's operations. Over a period of 6 months the project team evaluated currently available workflow systems, visited a number of organisations using workflow and/or imaging systems on the East Coast and explored the feasibility of re-designing CTP work practices to take advantage of this technology. Critical success factors and likely threats were identified.

Following this, a strong management view was formed that the adoption of this technology would give rise to some significant financial and operational benefits. These included:-

- **standardisation and regulation of workflow leading to reduced claims costs.** Figures from claims settled in 1998 show that average claims were active for 2.5 years at a cost of \$50,000, while claims managed in a disciplined and pro-active manner were active for 1.9 years at an average cost of \$36,000.

This comparison was based on a "role model" claims officer's output compared to the other 39 claims officers.

The workflow system was not expected to close this gap completely, however even a narrowing of the gap by 10% would result in a reduction of \$6M per annum in claims costs.

Implementation of agreed business rules into a workflow system would provide the opportunity to identify where these rules were not being adhered to.

- **productivity improvement.** An Imaging and Workflow survey performed in Australasia by Deloitte & Touche Consulting in the mid to late 1990s found average productivity increases of 10-15% from imaging systems and 15-25% from workflow systems. Productivity improvements gained were to be primarily focused on allowing more time for better claims management resulting in reduced claims costs.
- Administrative cost reductions - file storage, filing officer support including archiving, floor space
- Business continuity advantages ('paper files' could not be backed up and loss due to fire or water damage would be inestimable)

- Improved customer service - telephone enquiries could be answered immediately rather than requiring a call back after a paper-based file had been located and accessed. The Imaging and Workflow system can support separation of front office (client contact) and back office (claims management and processing) roles thus providing some organizational options not available in a paper based operation.
- More than one person could simultaneously view and work on a claim file.
- Improved management information could be collected (eg how much correspondence is received, how much is not addressed each day) and resources allocated to areas that required attention.

### **Change and Risk Management**

A pilot involving one of the ten claims teams of the proposed work-flow and imaging system was successfully conducted over November/December 2000, which gave us the confidence to roll out the system to the rest of the CTP Division progressively from January 2001.

While the system was being introduced there was some ongoing in-house scepticism/conservatism fuelled by reported difficulties with earlier imaging attempts in other organisations. In addition some significant implementation teething troubles were encountered during the roll out to the other teams, which took a couple of months to resolve. This provided the doubters with an opportunity to further question the value of the system as the situation was pretty grim at that time. Once the system had been stabilised and “tuned” (May 2001) the performance was very good and objections gradually subsided. The system is now able to consistently retrieve and present document images in 1 to 2 seconds which is quite satisfactory from a system user perspective.

The introduction of the system placed an additional load on the IT Division to ensure high levels of availability and a good disaster recovery capability as access to hard copy files as a fall back position was to be rapidly phased out.

Evidence needs had to be re-evaluated, resulting in documents being classified as of evidentiary value or not. Originals marked as evidentiary are retained for 7 years after the claim is finalised, non-evidentiary documents are destroyed 12 months after processing. Document images are retained permanently.

## **Description of System**

The Insurance Commission opted for a fully integrated imaging and workflow implementation tightly coupled to the core mainframe based claim recording and payments systems. The resulting fully integrated system is primarily a Claims Management System.

The CTP Imaging & Workflow System is a client/server application which enables documents received by the Insurance Commission for CTP claims to be stored electronically. It provides a mechanism to relate documents to crashes recorded in the CTP claims systems, and processes the document online in a controlled manner through the use of Case Management procedures.

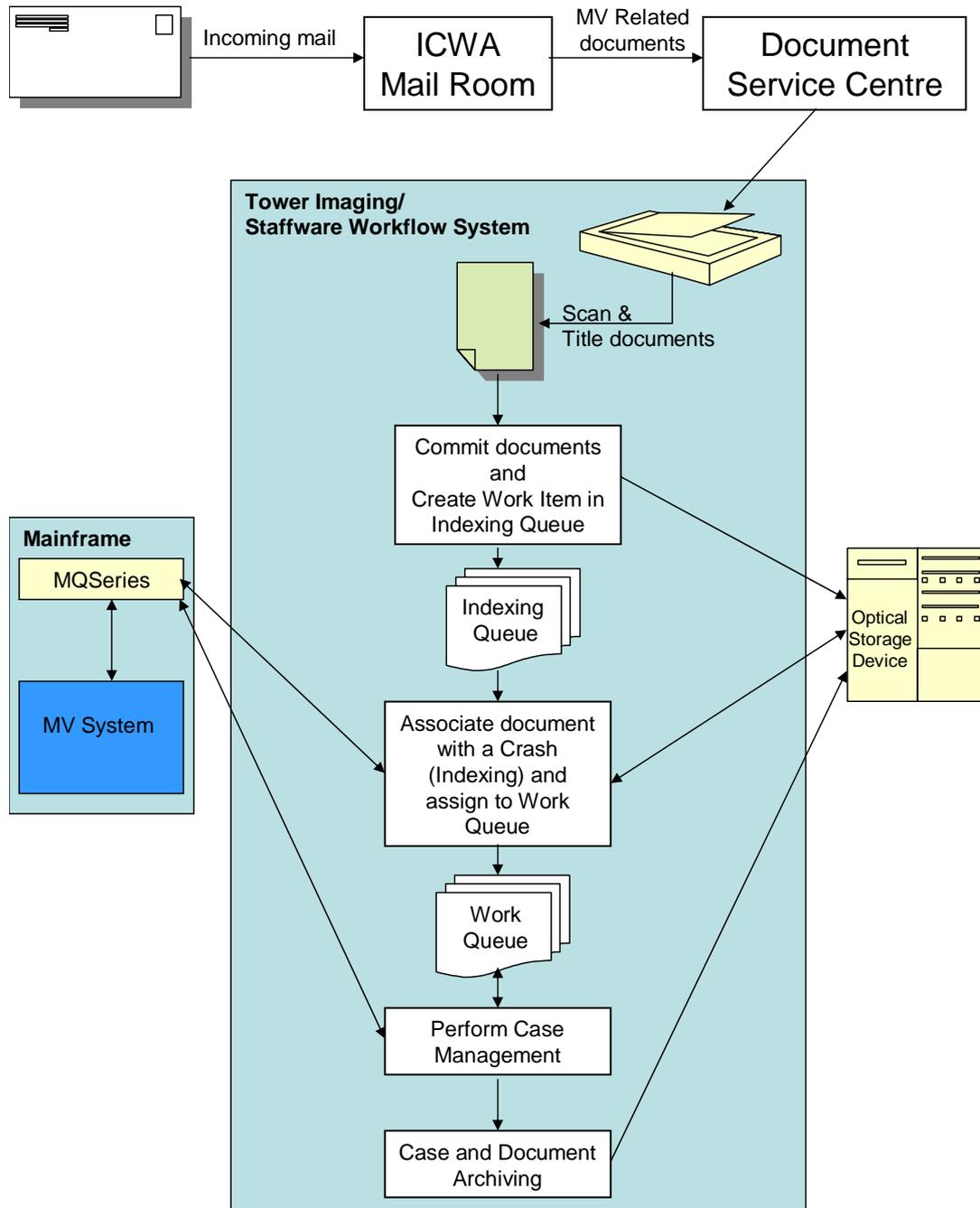
The system consists of:

- The Tower Technology Imaging system which provides the mechanism for scanning documents upon arrival at the Insurance Commission and indexing and storing the image electronically;
- The Staffware Workflow Management system which provides the Case Management Control functions;
- The Staffware Graphical Workflow Designer, which is a graphical based developers tool for the Staffware Workflow Management system, provides the means of constructing workflows and Image Processing screens for Case Management;
- Oracle Database which is stores the crash related information associated with each document image;
- IBM MQSeries which provides the communication layer for data access between the mainframe systems and Staffware workflow to enable linking of Crash File numbers and other relevant information to the scanned documents, and;
- In-house written web (html) pages to provide access of scanned documents to nominated external parties.

The Imaging & Workflow System (IWS) provides the following functionality:

- Image Capture and Committal.
- Document Indexing and Routing.
- Case Management.
- Case and Document Archive.
- Workflow Statistics Capture.
- Remote Search & Retrieval via the Internet.
- Offline Document & Case Note Selection and Viewing.
- Inbound and Outbound Fax and Email facilities.
- Mainframe System Data Retrieval and Refresh.

The following diagram provides a high level representation of the major components of the system.



The cost of implementing the Workflow and Imaging system was \$3.2M, which was in line with Budget. Current running costs are \$588,000 per annum.

### **Interaction with the Legal System**

When processing a Claims Officer's request for legal services on a claim, the mainframe system ensures a fair and equitable allocation of work among the eligible pool of legal service providers by ensuring:-

1. no solicitor is allocated more work than they can handle,
2. that specific experience requirements are catered for, and
3. that practitioners are not systematically awarded work preferentially.

The system's allocation of a legal service request can be overridden by the Claims Officer, which may be necessary where additional or continuing legal work is required for an ongoing claim, or where a solicitor may have been involved with the claim previously. Where a solicitor has unique and specific relevant experience, they may also be specifically requested to handle the matter.

The primary functions of the Legal Panel work allocation system are as follows:

- Maintains details of legal firms, solicitors, their skills, fee structures and the business areas within the Insurance Commission for which they are approved to do work.
- Records and actions Claims Officers' requests for legal services by allocating work to solicitors based on:
  - the next available solicitor approved to work in the area of the request,
  - the number of active briefs for the solicitor not exceeding the pre determined limit for that solicitor
  - any special skill required for the brief
- Produces a Request for Legal Service notification which is sent to the allocated solicitor, usually by email.

The Request for Legal Service notification that is sent to the solicitor includes details of the brief and instructions for accessing the claim file documents via an internet based enquiry facility. This facility allows legal firms to review and mark documents and retrieve images of those documents. There is also a facility to produce hard copies of sections of the claim file if required.

In practice accessing the initial claim file via the web has proven to be fairly cumbersome and most legal panel members prefer to receive the initial claim file (usually about 250 pages) in hard copy. Subsequent documents are usually accessed via the web interface.

The Insurance Commission is soon to undertake a review of the imaging system remote access facilities with the aim of developing a new more efficient process that meets the needs of both Insurance Commission and its Legal Panel members.

### **Current Status**

Employee doubts are now gone and they have embraced the system. A number of enhancements to the system have been and continue to be generated from the people working in the CTP Claims area.

Benefits are tangible as evidenced by the following information:

Disaster Recovery is in place and has been tested which provides far superior assurance than was present when paper files were being maintained.

Claims Costs have reduced as shown in the next section.

Quality of service has improved as claims enquiries can generally be handled “on the spot” as well as some large service providers having restricted access to the system so they can check the invoice status in terms of being paid. This has cut down the number of calls to claims officers considerably, allowing them to concentrate on their core task of claims management.

The strict application of agreed business rules results in work not being done within prescribed deadlines being escalated to the attention of the Claims Supervisor so that the work item gets resolved before it becomes a problem. The notion of the “lost or misplaced file” is a thing of the past.

Current running costs of the workflow and imaging system amount to approximately \$588,000 pa.

Remote interfaces remain a problem in respect to Web and IDM Offline applications and this is a major challenge for the Insurance Commission's IT Division and CTP Division to work together to resolve.

The Insurance Commission will be building on the success of the workflow and imaging system as the view is that there are greater productivity gains available if all the features of the system are fully exploited.

### 3. Results

#### Warning

An analysis of the experience of the Scheme before, during and after the implementation of workflow and imaging allows some conclusions to be drawn regarding the effectiveness of the change in procedures. However, as with any statistical exercise that attempts to link cause and effect there is a caveat: that is, it is possible that other, perhaps unknown, causes are at work that have led to the changes in the experience. In fact, just prior (July 1999) to the introduction of workflow and imaging the Insurance Commission strengthened its policy in relation to using informal conferences to settle claims prior to proceedings being instigated. This has resulted in a significant increase in the number of claims settled by these means with a corresponding reduction in the number of formal pre-trial conferences. Undoubtedly this is a part of the overall story. However, it seems difficult, even impossible to separate the effect of the two changes.

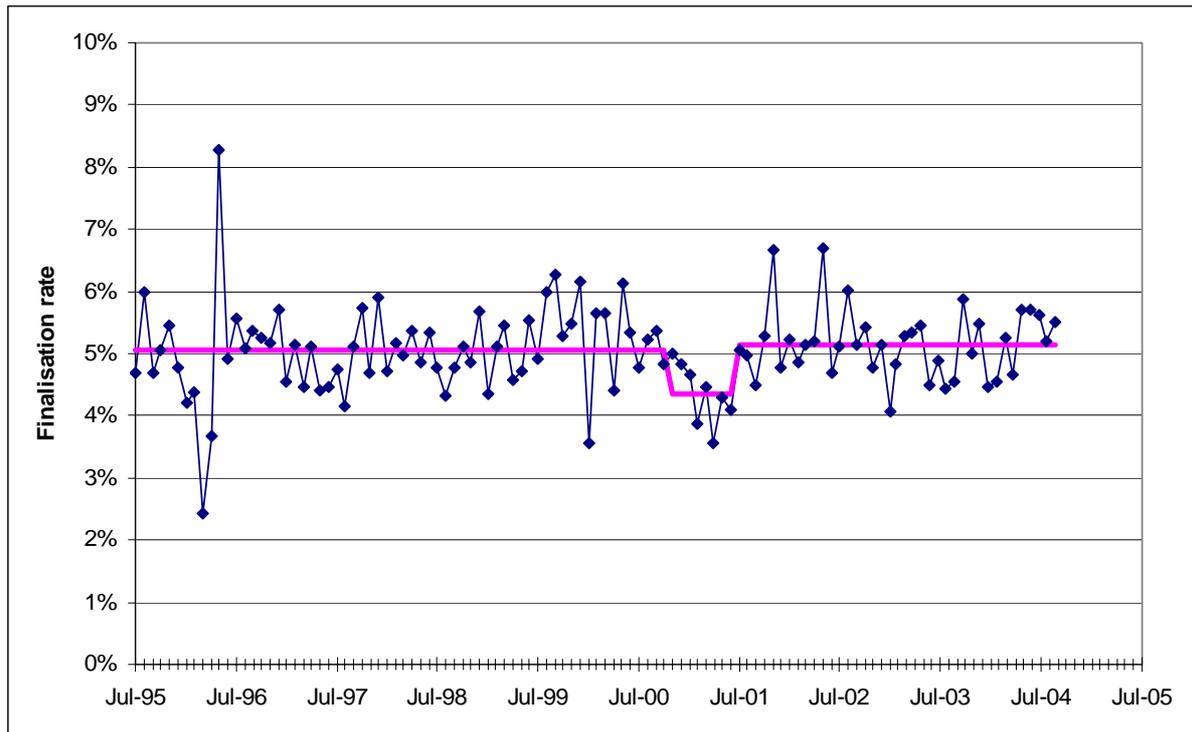
#### Overall conclusion

As discussed above the conclusions cannot be definitive as to the amount of change in experience that is due to workflow and imaging alone. Nevertheless, as shown in the sections below, there is a strong case for stating that **the implementation of workflow and imaging has caused a dramatic reduction in claim costs.** For the period since its introduction to September 2004, i.e. just over 3 years, there has been an estimated saving of approximately \$156M on claims finalised. It is likely that a large proportion of that saving is due to workflow and imaging.

## Finalisation rates

As would be expected the introduction of the new system had teething problems. This can be observed in the rates of claim finalisation during the implementation period. Figure 3.1 shows a basic measure of claim finalisation for each month in the period July 1995 to September 2004. The figure also shows the average finalisation rate for the periods before, during and after implementation.

**Figure 3.1 Claim finalisation rates**



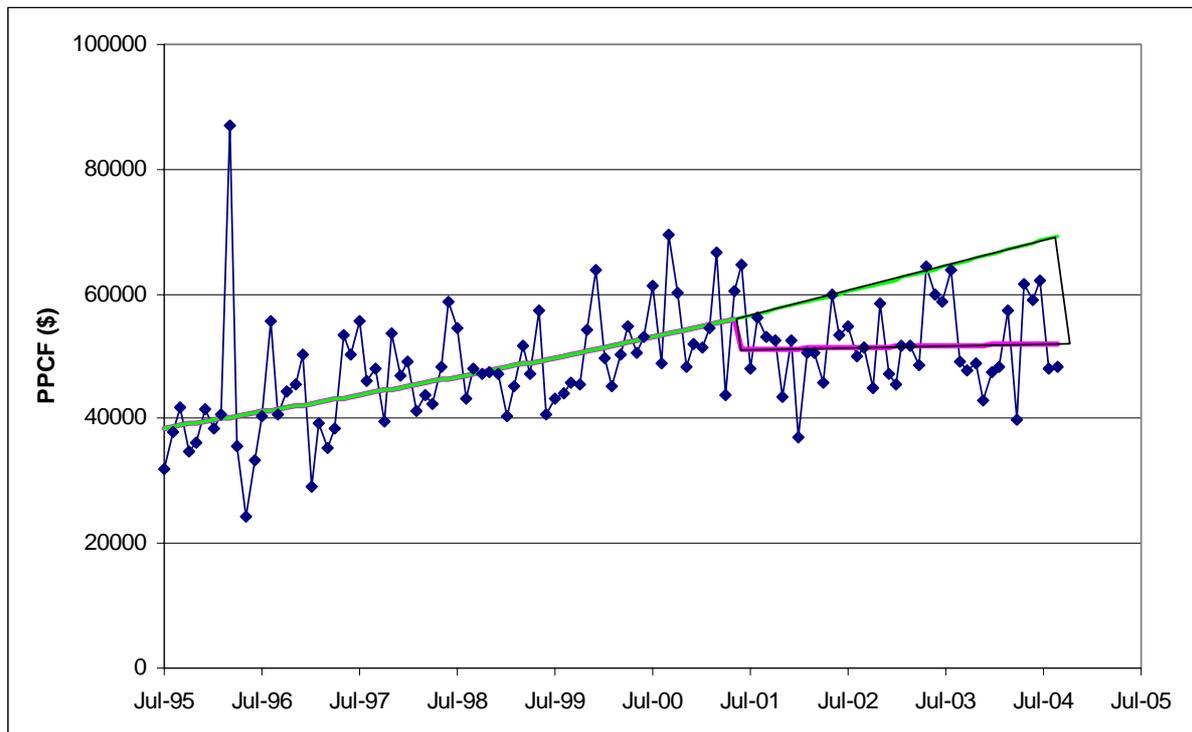
- Notes:
1. The monthly finalisation rate in the figure is defined as the number of claims finalised in the period divided by the number outstanding at the beginning of the period.
  2. The averages shown are for the periods July 1995 to October 2000, November 2000 to June 2001 and July 2001 to September 2004.

The average claim finalisation rates shown in the graph above are 5.1% and 5.2% per month for the periods before and after implementation respectively. For the period during implementation the claim finalisation rate fell significantly to 4.3%.

### Payments per claim finalised

Figure 3.2 shows the monthly experience of payments per claim finalised (“PPCF”) since July 1995. There is a distinct difference in the experience since the end of the implementation period compared to the experience prior to that date. The figure shows two trend lines. The main trend line is fitted based on all experience up to June 2001. The second and lower trend line is fitted based on the experience since June 2001. Note that the data shown has been adjusted for average weekly earnings inflation.

**Figure 3.2 Trends in payments per claim finalised**



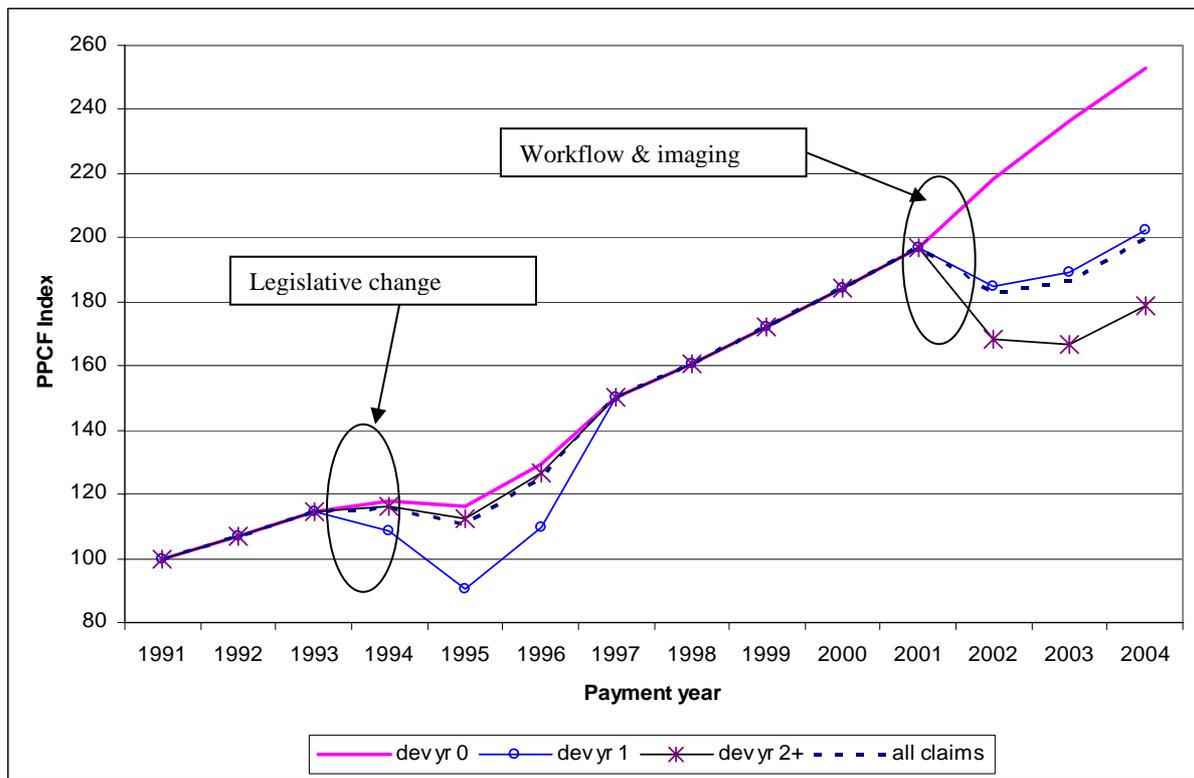
Notes: 1. The monthly payments have been adjusted to September 2004 quarter values using a WA AWE index.

The graph shows that since the end of the implementation period the average claim sizes lie significantly below what would have been expected based on the prior experience. The claim payments are estimated to have been approximately \$150M less than would have been expected had the prior trend continued. This saving is represented by the shaded area in the graph.

### Actuarial model from outstanding claims analysis

The analysis shown in the previous sections relies on simple monthly measures of claim finalisation and average claim payments. Such measures make no allowance for variations between accident years, changing numbers of claims outstanding, numbers of claims reported, varying rates of claims finalised according to age of claim etc. The six monthly actuarial analysis of estimates of outstanding claims includes the construction of a payment per claim finalised model that takes all such factors into account. Figure 3.3 shows the trend in PPCF over payment year according to the fitted actuarial model. It can be seen that the fitted model exhibits the same overall trend. This provides confirmation of the results observed in the previous sections.

**Figure 3.3 Actuarial model of PPCF trends**



Notes: 1. PPCF trend according to payment year as derived from generalised linear model fitted in actuarial analysis as at 30 June 2004.

Figure 3.3 also shows that although the overall trend has been consistent with the simple results shown above, there is some variation according to the development year of claim finalisation. For example, claims closed in the year of accident (i.e. development year 0) have in fact exhibited a poorer trend than prior to workflow and imaging. The remaining claims have all exhibited the improved experience as shown in the previous sections.

## **Summary**

A workflow and imaging system was implemented in the period November 2000 to May 2001. As shown above the claim finalisation experience during its implementation was significantly below the experience prior to that time. Subsequent experience has been in line with the long term average. Average claim payment experience since the introduction of the system has been significantly less than would have been predicted based on prior trends.

It is estimated that the introduction of workflow and imaging (probably in conjunction with a greater emphasis on informal settlement conferences) has resulted in savings in the period June 2001 to September 2004 of approximately \$150M on claims closed in that period.

Although it is possible that other factors have resulted in the estimated cost reductions it is extremely likely that a significant proportion of the reduction is due to workflow and imaging and the disciplined approach it brings to claim management.