



REDUCING CAR THEFT: HOW LOW CAN WE GO?

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SUMMARY

This paper discusses the implementation of Western Australia's compulsory immobiliser scheme.

INTRODUCTION

In the mid-1990's Western Australia had the highest vehicle theft rate in Australia. In fact, the incidence of car theft increased by 12.8% between 1996/97 and 1997/98. Following a series of crimes involving stolen cars including a tragic incident in which a stolen car ran a red light and killed an innocent bystander, the public demanded government action to curb the spiralling theft rate. Even the Governor, Major-General Michael Geoffrey, publicly urged the Premier to address the problem.

In 1997, on the basis of strong anecdotal evidence that immobilisers reduce the rate of car theft, and with the backing of the Western Australia Police Service and the Insurance Council of Australia, Western Australia introduced a subsidy to encourage vehicle owners to install immobilisers. Although a considerable number of vehicle owners opted to take part in that voluntary scheme, the Government decided that vehicle theft rates would not be significantly reduced unless a compulsory immobiliser installation scheme was introduced. As such, during 1999, legislative amendments were passed which made the installation of an immobiliser a pre-requisite for registration and transfer of the ownership of a vehicle.

Transport was assigned responsibility for the introduction and management of the compulsory scheme. Given the level of public concern over vehicle theft rates, the government made the implementation of the scheme a matter of urgency. Therefore, Transport had limited time to develop standards, policies and procedures to support the scheme. As a result, although around 60% of the fleet of family vehicles has now been immobilised, there were considerable teething problems involved in getting the scheme up and running and there are a number of issues that would have been addressed differently if time had permitted. This paper looks at the manner in which the scheme was set up and the problems that this approach has caused.

1. WHAT IS AN IMMOBILISER?

An immobiliser is an electronic device fitted to a vehicle to prevent it from being stolen. Immobilisers work by isolating two separate circuits that the vehicle requires to run (that is, the starter, ignition, fuel or engine management systems). This effect is achieved by 'inserting' a relay into each circuit and controlling the activation of the relays via 'intelligent' solid state circuitry.

The two basic states of an immobiliser are 'armed' and 'disarmed'. Immobilisers are usually self-arming 20 to 40 seconds after the ignition is switched off. They must not be capable of arming while the ignition is on. There are various means of disarming an immobiliser including:

- coded jack plug;
- coded close-proximity device;
- remote control device; and
- key pad PIN.

2. THE VOLUNTARY VEHICLE ENGINE IMMOBILISER SCHEME

Western Australia introduced its voluntary vehicle engine immobiliser scheme in 1997. It was designed to encourage the owners of privately registered passenger vehicles to have an approved immobiliser system fitted to their vehicle. The scheme was a law and order initiative managed jointly by the Government, the Insurance Council of Australia and the WA Police Service.

There are approximately 1.2 million vehicles in Western Australia - roughly half of which are classified as 'family' vehicles. The *Road Traffic Act 1974* defines 'family' vehicles as those which 'are used solely for social, domestic or pleasure purposes and not for the carriage of passengers or goods for hire or reward or in any business trade or profession'. The voluntary scheme was available only to vehicles registered for family purposes and was not available to privately registered vehicles with a tare weight in excess of 3,000 kilograms. The inducement to install an immobiliser offered by the scheme was a \$30 rebate that, in effect, provided a discount off the retail price of the unit.

The original objective of the program was to have the fleet of family vehicles immobilised within four years (150,000 per annum) and \$18 million was allocated to the scheme. However, in its first year of operation, only around 90,000 immobilisers were fitted to Western Australian vehicles under the scheme (the cost of the associated rebates was \$2.7M). The Government was still very mindful of the continued high incidence of vehicle theft and, therefore, developed an action plan to significantly increase the number of vehicles fitted with immobilisers by making the installation of an immobiliser compulsory. The Government forecast that the majority of vehicles in the target group would be fitted with immobilisers within five years, which was expected to play a major role in the Government's Safer WA program through a significant reduction in vehicle theft and associated crimes, such as ram-raids and high speed pursuits.

3. MAKING THE SCHEME COMPULSORY

Transport was assigned responsibility for the implementation and ongoing management of the compulsory scheme, now called the Immobiliser Incentive Scheme, in February 1999. Transport had only four months in which to develop and implement the Scheme which was introduced on 1 July 1999. From that date, an approved immobiliser was required to be installed to any motor car, motor wagon or omnibus with a tare weight not exceeding 3 tonnes or a manufacturer's gross vehicle mass not exceeding 4.5 tonnes, at the time of application for a registration or an application for the transfer of a licence. The person applying for the registration or the transfer (that is, the vehicle purchaser) was required to declare in their written application whether or not the vehicle had had an approved immobiliser installed.

When an approved immobiliser is fitted by an authorised installer, the Government gives the vehicle owner a \$40 rebate (increased from \$30 under the voluntary scheme). In the majority of cases, the rebate is provided through a \$40 discount off the retail price of the unit and is given to the vehicle owner by the authorised installer at the point of sale. The authorised installer in turn applies for a reimbursement of the rebate from Transport.

3.1 Legislative Amendments

To facilitate the achievement of the Government's objectives for the Scheme, Transport sought, and obtained, amendment to the *Road Traffic Act 1974* to empower the making of regulations:

prescribing the standards of, and equipment to be fitted to vehicles for the purposes of road safety, the security of vehicles or any related matter relating to road traffic and requiring vehicles or equipment to be maintained in the prescribed manner.

3.1.1 Approved Devices

Subsequently, the *Road Traffic (Vehicle Standard Regulations) 1977* were amended to specify the type of immobilisers vehicle owners were required to have installed. Approved devices for the purposes of the Scheme include those that are:

- installed by the vehicle manufacturer as original equipment;
- comply with Part III of ECE 97 *Vehicle Alarm Systems* or AS 3749.1 1997 *Intruder Alarm Systems*;
- if installed prior to 1 July 1999, are self-arming and immobilise the engine;
- if installed before January 2001, are approved under the *Vehicle Engine Immobiliser Scheme* (that is, the voluntary scheme);
- if installed after 31 December 2000 are:
 - installed by the vehicle manufacturer as original equipment; or
 - comply with AS/NZS 4601:1999 *Vehicle Immobilisers*, ECE 97 *Vehicle Alarm Systems*, or AS/NZS 3749.1 1997 *Intruder Alarm Systems*.

As at 31 January 2000, there were 390 approved immobiliser units.

Transport also developed *General Guidelines for Devices* that apply to all anti-theft devices and immobilisers fitted to registered vehicles. The *Guidelines* state that the device:

- or use of the device, must not cause the vehicle to contravene the Vehicle Standards Regulations or any ADR applicable to the vehicle;
- or its method of installation, must not be likely to cause a fire, or interfere with the operation of the vehicle in such a manner which is likely to compromise the safety of the vehicle or other road users; and
- must comply with any other emission standards required by any other laws with respect to noise and or radiation.

Although the option was considered, a decision was made not to establish prescriptive specifications for manufacturer installed devices. This decision was based on a variety of factors including the fact that installation by manufacturers poses little risk due to the high quality controls they generally have in place. The Government was also concerned that the development of specifications for manufacturer installed devices had the potential to stifle innovation, raise warranty issues and create barriers to trade. In addition, manufacturers agreed to fast track the implementation of the Australian Design Rule based on *ECE 97 Vehicle Alarm Systems*. The ADR is scheduled to apply to new passenger vehicles (MA), multi-purpose passenger cars (MB) and forward control passenger cars (MC) from 2002.

It is worth noting that, due to market demand, around 85% of all new vehicles now have manufacturer installed immobilisers as standard equipment.

3.1.2 Exemptions

The *Road Traffic (Vehicle Standard Regulations) 1977* were amended to prohibit the registration or transfer of vehicles that do not have an approved device installed. However, vehicles that are currently registered are not required to have an immobiliser installed until such time as they are sold and transferred to a different owner.

In addition, it was recognised that in certain circumstances, due to the particular design, use or location of a vehicle, it could be impracticable to require the installation of an immobiliser. Accordingly, exemptions from the requirement to have an immobiliser installed are available to vehicles that are:

- more than 25 years old (that is, veteran and vintage vehicles);
- registered as farm vehicles under regulation 21D of the *Road Traffic (Licensing) Regulations 1975*;
- transferred to used car dealers as stock intended for resale;
- transferred subject to an order of a Court;
- transferred as a consequence of a bequest from a deceased estate; and

- exempted either generally in the *Government Gazette* or specifically in writing to the owner. For example:
 - all vehicles used for emergency purposes as defined in the *Road Traffic Code 1975*; and
 - new vehicles of Australian Design Rule Category NA and NB1 (that is, motor wagons).

3.2 Authorised Installers

Given that the immobiliser rebate is generally paid direct to the installer of the immobiliser and not the vehicle owner, it has been necessary to ensure that only 'suitable' and experienced persons install immobilisers. Therefore, when the voluntary immobiliser scheme was established, the Insurance Council of Australia accepted responsibility for the certification of immobiliser installers on behalf of the Government. This system worked effectively and as Transport did not have the resources in place to certify installers itself, the method of authorisation in place under the voluntary scheme was continued when the compulsory scheme was introduced.

To become an authorised installer, an applicant must complete and submit a formal application form to the Insurance Council and demonstrate that they meet the following criteria:

- each installer (and each employee of the installer) must have a Federal Police Clearance Certificate;
- the applicant including partnerships and companies must be operating a business registered with the Ministry of Fair Trading from business premises with workshop facilities;
- the installer's business premises must be identifiable to the public as an Authorised Installer;
- the business must be open at least from 9:00am to 5:00pm Monday to Friday, excluding Public Holidays; and
- the installer must have a minimum of 12 months technical experience and practical expertise in vehicle security installation gained over the last two years. Employees of the authorised installer must work under the direct supervision of an experienced installer and all work must be checked by the installer's installation supervisor before the vehicle is returned to its owner. Successful completion of an accredited course in the installation of immobilisers may substitute for the requirement of 12 months experience in vehicle security installation.

It is also recommended that the installer has a minimum \$1 million public liability insurance to cover their liability and faulty workmanship that may arise as a result of the installation process.

There are currently over 600 authorised installers across the state.

4. IMPLEMENTATION ISSUES

Transport had only four months in which to establish policies, procedures and standards to govern the Immobiliser Incentive Scheme and to implement the Scheme itself. The urgency with which the Scheme was implemented coupled with the geographical issues that always complicate policy implementation in Western Australia, meant that the Scheme which is in place did not have the ideal beginning. Some of the key issues that have been addressed are discussed under the following headings:

- quality of installation;
- standards issues; and
- reduction in crime.

4.1 Quality of Installation

Given the compulsory nature of the Scheme it is imperative that the public views it as a reliable way to reduce the incidence of car theft. Therefore, it is critical to the success of the Scheme that installations are of a high quality. If the standard of installation is not high enough, immobilisers may not work which would undermine the Scheme as a crime prevention mechanism. Likewise, poor installation could lead to an increase in problems such as vehicle breakdowns, causing inconvenience to the public and thereby damaging its acceptance of the Scheme.

4.1.1 Installation Audit

To establish whether the subsidised immobilisers are being installed properly, both the voluntary and compulsory immobiliser schemes have been subject to audit. The voluntary scheme was audited by Russ Gracie & Co on behalf of the Western Australia Police Service. Estill & Associates conducted an audit of the compulsory scheme on Transport's behalf. The audits checked the performance of the immobilisers and the quality of the installers.

In both audits, the owners of random samples of vehicles that had received the subsidy agreed to make their vehicles available for the audit. Where defects that had the potential to compromise vehicle safety were identified, the vehicle owner was advised to return the vehicle to the authorised installer who had fitted the immobiliser. In those cases, Estill & Associates also gave the vehicle owner an audit summary detailing the defect(s) identified. The results of the audits are shown in Table 1.

There were three categories of result for the audit:

- Pass – whereby all aspects of the installation were considered to have been adequately completed;
- Fail (Minor Fault) - this category includes faults that have the potential to cause problems later, and minor technical problems such as the installation of a brand of immobiliser which differed from that recorded; and
- Fail (Recall and Repair) - this category of faults includes major problems in the installation of the immobiliser which could cause significant engine problems

such as a fire or malfunction and those in which the device itself could have fallen out and become wedged under the pedals.

It is obvious from the audit results that an unacceptably high percentage of immobilisers have not been correctly installed. Transport is currently developing a strategy to address the problems with installations.

Table 1: Audit Results

Audit Result	Voluntary Scheme		Compulsory Scheme		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
Pass	171	23%	96	24%	267	23%
Fail (Minor Fault)	344	46%	146	36%	490	43%
Fail (Recall and Repair)	227	31%	164	40%	391	34%
TOTAL	742	100%	406	100%	1,148	100%

When the scheme was first introduced, authorised installers often had to wait up to three weeks to receive their reimbursement cheques. As such, in many cases authorised installers chose to charge customers the full cost of the immobiliser and installation and to allow the customer to claim the rebate direct from Transport. These problems have now been alleviated and the majority of authorised installers now charge their customers the reduced rate and claim the rebate from Transport themselves.

4.1.2 Possible Causes of Poor Quality Installations

Geographical Distribution

Transport had to balance the need for high quality installations and the requirement to have adequate levels of authorised installers across the state. Western Australia has a population of 1.6 million people and covers an area of 2,525,500 square kilometres. More than 75% of Western Australia's population lives in the Perth metropolitan region or the south-western corner of the state. This means that 25% of the population lives in the state's more remote areas – often in isolated towns with small populations. This unique geographical dispersion always causes difficulties for policy makers when policies need to be implemented on a state-wide basis.

In this case, the key issue was how to ensure that there were authorised installers in all locations across the state. While it would have been relatively easy to find sufficient numbers of high quality installers in the metropolitan region, it would not have been so in regional WA. As it was not appropriate to lower the standard of installation expected, the only option was to set the eligibility criteria for becoming an authorised installer at a level that would be able to be met in remote locations.

Unrealistic Publicity Materials

Given the results of the audits discussed above, it is not surprising that in the three months from June to August 2000, the Royal Automobile Club of WA answered nearly 3,000 calls to immobiliser related breakdowns (that is, 2.7% of all breakdowns attended by the RAC were the result of faults with immobilisers). The RAC considers that a number of these immobiliser malfunctions may be due to authorised installers cutting corners when installing immobilisers in order to meet the advertised price.

The advertising campaign developed to support the introduction of the compulsory immobiliser scheme stated that vehicle owners could have an immobiliser installed from as little as \$79 (after the \$40 Government rebate). There has been a suggestion that this has put pressure on authorised installers to install immobilisers for that price. Unfortunately with inflation and the cost of the GST, this price is no longer a realistic reflection of the cost of purchasing and installing an immobiliser.

Inability to Rectify Problems

An additional issue impacting on the quality of installations is the fact that the installation of immobilisers is the primary business of many authorised installers. That is, many authorised installers are small one-man businesses with limited financial resources. Where those installers have not fitted immobilisers properly for whatever reason, they may not have the capacity to repair or rectify faulty installations. Therefore, many cases in which there is faulty workmanship are not repaired by the installer because they cannot afford to do so. The frustration of not being able to have faulty workmanship fixed has reportedly led some vehicle owners to simply disconnect an improperly fitted immobiliser, undermining the effectiveness of the Scheme. Transport has given consideration to getting industry to contribute to an insurance fund to ensure funds are available to repair faulty installation.

4.2 Standards Issues

When the voluntary engine immobiliser scheme was established, the Insurance Council, RAC and immobiliser manufacturers worked together to develop a standard to identify the types of immobilisers that were eligible for the Government rebate. While this standard worked well for the voluntary scheme, a more rigorous standard, with a high level of validity was required when the scheme was made compulsory. Unfortunately, the Australian Standard on immobilisers was in the early stages of development when the Government decided to make the scheme compulsory. Given the urgency the Government placed on the introduction of the compulsory scheme Transport could not wait for the Australian Standard to be finalised. Therefore, in the absence of a national standard, Transport's technical personnel had to develop a standard internally.

The *Road Traffic (Vehicle Standard Regulations) 1977 (VSR)* were developed from the voluntary scheme and included additional standards to ensure it more closely aligned with the proposed Australian Design Rule (ADR). Although the VSR were developed in parallel to the development of the Australian Standard, it

took our technical team over twelve months of background work to finalise the VSR which specify the type of immobilisers vehicle owners are required to have installed. As there are only limited resources within our technical branch, working on the development of the VSR effectively took the branch away from its day-to-day work. It was particularly frustrating because the Australian Standard was being developed at the same time and was finalised in November 1999 – merely five months after the compulsory scheme was launched.

4.3 Reduction in Crime?

Due to the urgency the Government placed on the introduction of the compulsory Immobiliser Incentive Scheme, Transport did not have time to establish appropriate processes through which the effectiveness of the Scheme could be evaluated. For example, Transport does not maintain statistics on the total number of vehicles fitted with immobilisers. Transport only records whether a vehicle has an immobiliser fitted when it is transferred, and then only if it has been installed after manufacture. This makes the evaluation of the effectiveness of the scheme as a crime prevention mechanism problematic.

Nonetheless, since the introduction of its immobiliser scheme, Western Australia has been the only state that has recorded a significant decrease in the volume of car thefts. In fact in 1998/99, Western Australia's vehicle theft rate decreased by 12% in contrast to the upward trend experienced in the previous decade. However, discussions with the Western Australia Police Service suggest that there has been a slight increase in the number of thefts from homes and other public places such as gyms. In most of these cases, the victims' keys were stolen. There has also been a shift in the type of vehicles being stolen. Previously, later model cars were the most often stolen however, since the introduction of the Scheme, there has been an increase in the number of 1982-1985 model vehicles being stolen. This is likely to be because those older vehicles have not transferred ownership and as such do not have an immobiliser fitted. To overcome this problem, Transport is currently considering distributing a brochure aimed at increasing the public's awareness of the benefits of installing an immobiliser even if they are not eligible for the rebate.

5. BEFORE YOU IMPLEMENT AN IMMOBILISER SCHEME

As the first and only state to make the installation of an immobiliser compulsory, Western Australia has learnt a number of lessons about how to go about introducing such a scheme. While Western Australia's compulsory immobiliser scheme is on target to achieve its primary goal of reducing the incidence of car theft through immobilising the fleet of vehicles, it is possible that we could have achieved similar results without making the installation of immobilisers compulsory. Additionally, as the new ADR will ensure that all new vehicles have an immobiliser installed, only 'older' vehicles won't be fitted with immobilisers. Therefore, rather than considering adopting a compulsory scheme, it is strongly suggested that you consider implementing a voluntary scheme.

A well-planned voluntary rebate scheme with a higher financial incentive (say, a \$60 rebate) and a complementary, well-targeted advertising campaign would have the added benefit of avoiding the need for legislative amendment. Additionally,

with the rebate set at an appropriate level, a voluntary scheme is likely to have a high level of public acceptance and take-up as well as being relatively inexpensive and straightforward to implement. It would also reduce the potential for the Government to be held liable in relation to any future problems with immobilisers.

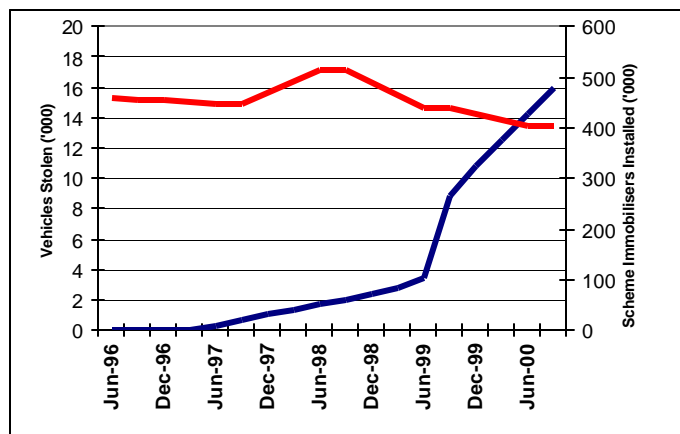
However, if you do decide to implement a compulsory scheme, it is recommended that you undertake a thorough cost-benefit analysis before doing so. This process will raise many implementation issues thereby allowing you to be fully prepared before starting the implementation process. By calculating the full cost of the scheme (including the cost of communication, rebates, staffing and audits) and the potential benefits to the community through reduced vehicle theft, you will be able to support any claims for additional resources to support the scheme. Completing a Regulatory Impact Statement will assist you in identifying any legislative issues and potential liability implications of the proposed scheme. It is suggested that you also consider the level of professionalism and integrity of your state's immobiliser installation industry and the best means of certifying installers. As far as possible, you should consider aligning your immobiliser installation policy with the ADR.

CONCLUSIONS

In the first year of its operation, the Immobiliser Incentive Scheme has seen 150,000 immobilisers installed. The associated rebates cost the Government of \$6M. In total since the introduction of the voluntary scheme, around 500,000 vehicles have had immobilisers installed and the rebates provided by the Government have cost \$8.7M. The Government initially hoped that the fleet of 600,000 family vehicles would be immobilised within five years – based on the rate of take-up achieved during the first three years of operation, this objective will be exceeded. In the same time frame Western Australia's vehicle theft rate has dropped 12% - contrary to the national trend. It is clear that despite its limitations and the problems associated with its implementation, the Immobiliser Incentive Scheme has achieved the objectives Government set for it.

Figure 1 compares the Western Australian vehicle theft rate with the number of scheme immobilisers installed in this state since 1996.

Figure 1: Comparison of Vehicle Theft Rates and Number of Scheme Immobilisers Installed**



*These figures are indicative only.

Although given the limitations of the records that have been maintained it is not possible to definitively state the proportion of Western Australia's fleet that has had an immobiliser fitted, the figure is estimated to be around 60%. This compares well with the national average which is 30%.

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