CARS
comprehensive auto-theft research system

Maximizing the use of data

Over the last 14 years the National Motor Vehicle Theft Reduction Council's (NMVTRC) Comprehensive Auto-theft Research System (CARS) has been working to continually improve the range and quality of vehicle theft data and analysis tools available to stakeholders in Australia. By providing a clearer and significantly more detailed picture of motor vehicle theft in Australia, CARS has become a valuable means for developing and evaluating vehicle theft reduction strategies. This article summarises some of the free products developed by CARS to help reduce motor vehicle theft.

Background

CARS is a statistical and research service funded by the NMVTRC. CARS integrates information from police, registration authorities, insurance companies and vehicle industry sources from across Australia. The NMVTRC's significant investment in CARS over time has produced a database and information service of national significance. Through the project's long-standing association with more than 40 data providers and its comprehensive data collation, cleansing, verification and value-adding processes, CARS integrates information into a single source that can be used to monitor trends, undertake research, and develop and evaluate effective vehicle theft reduction strategies.

Data held by CARS

- Police - Detailed theft incident, recovery and vehicle details from every Australian State and Territory Police service. Data from January 2000 onwards - 1.4 million theft records.
- Registration - Six monthly extracts from every registration authority of registered vehicle details and garaged postcode. Data from June 2000 onwards - 390 million records.
- Insurance - Policy and claim details from participating insurers. Data from July 2000 onwards - 328,000 records.
- Federal Chamber of Automotive Industries (FCAI) - Vehicle Identification Number (VIN) based data of every new Passenger/light commercial (PLC) vehicle sold in Australia since January 1993 - 16.5 million records.
- Vehicle immobiliser classifications from Insurance Australia Group (IAG).
- Glass' Guide - PLC vehicle value estimates.
- Australian Bureau of Statistics (ABS) demographic and spatial data.

Products and data tools

CARS utilises modern data warehouse technology to produce nationally consistent data classification across all data sources. The complexity in this should not be understated and it is a system that has taken years to develop. The result is that it allows for easy and meaningful comparisons between stolen vehicle data, the registered fleet and insured vehicles.

CARS produces a range of products to service the needs of a wide cross-section of stakeholders. These include quarterly and annual statistical reports, mapping tools, and tools to allow users to undertake their own more detailed analyses. CARS also provides an ad-hoc information service to answer the more specialised data requests that can't be serviced from the web-based tools.

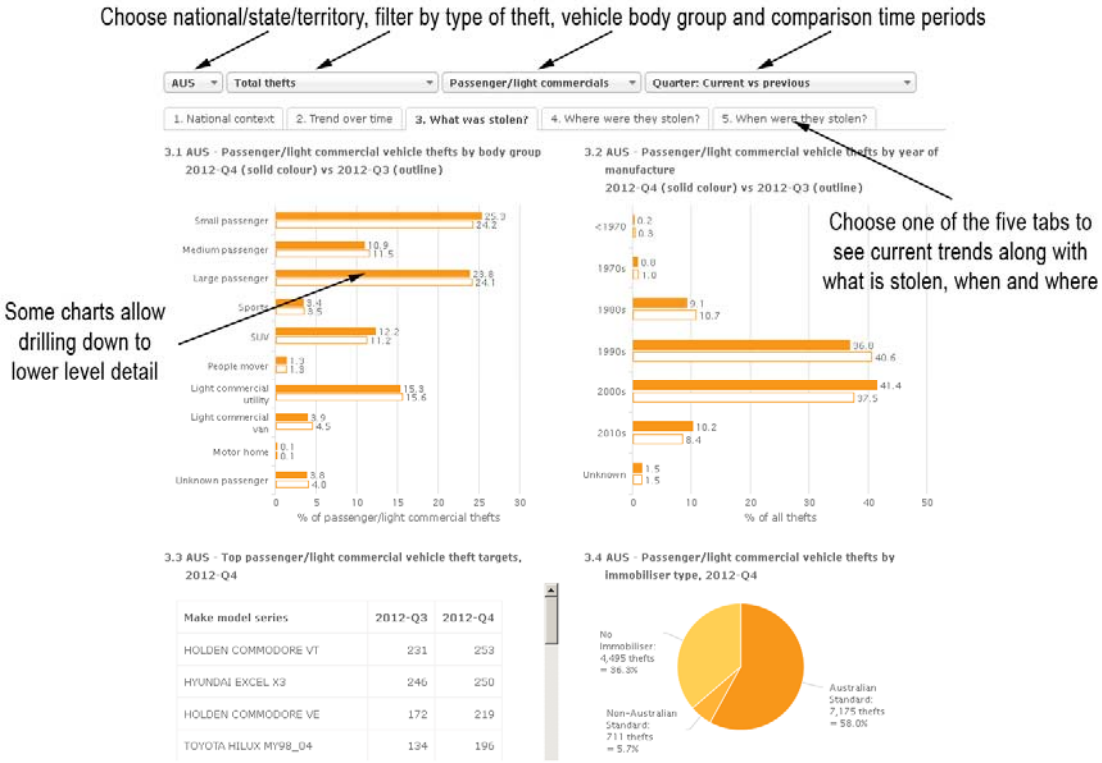
1. CARS Dashboard

The CARS Dashboard is our latest free online tool that allows users to quickly visualise key national and state/territory statistics through a range of interactive tables and drilldown charts. Use it to understand current trends, what is stolen, when and where.

When using the Dashboard you can:

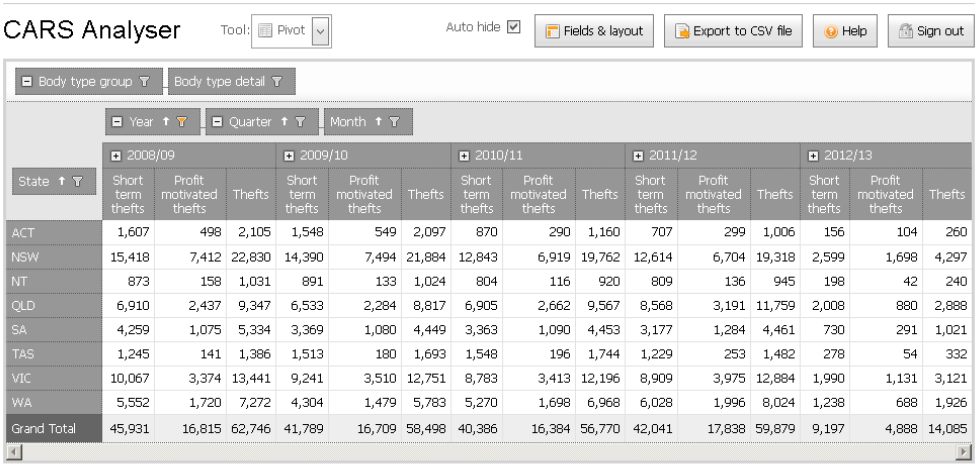
- View national statistics or select a particular jurisdiction,
- Select a theft measure (total thefts, raw or adjusted short term or profit-motivated thefts)
- Select vehicle type (All vehicles, passenger/light commercial vehicles, motorcycles, other motor vehicles)
- Select a time frame for comparison

CARS Dashboard is updated quarterly and can be accessed anytime at www.ncars.on.net/dashboard.aspx



2. CARS Analyser

CARS Analyser is another free web-based tool that provides stakeholders with the flexibility and power to answer a wider range of questions. While the CARS Dashboard allows access to a set of predefined analyses, CARS Analyser allows stakeholders to customise their online queries of CARS data through an easy to use pivot table interface. The data is updated quarterly and is particularly useful if you wish to analyse theft data either side of a particular operation or crime prevention initiative and wish to use a tailored theft range. Alternatively you can filter your analyses for a particular local government, for a specific make or model of vehicle or any of the 25 included variables from the year 2000 onwards. More advanced users can download the Analyser data cube file for offline use with Microsoft Excel 2007+, which is recommended as the features in Excel allow even more in depth data analyses.



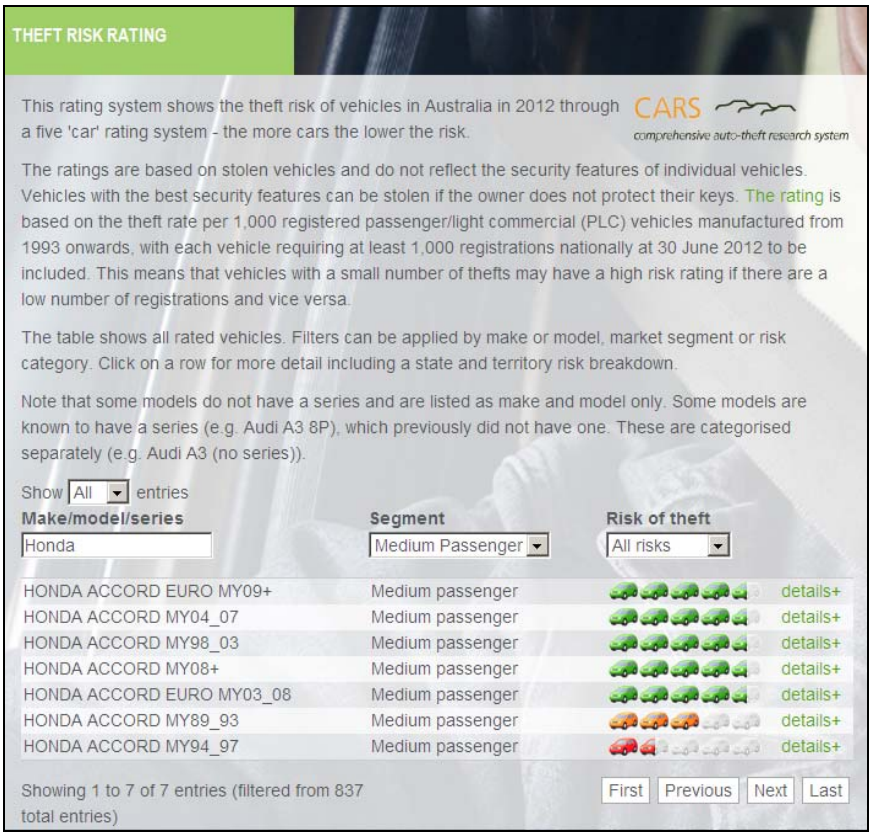
State	2008/09			2009/10			2010/11			2011/12			2012/13		
	Short term thefts	Profit motivated thefts	Thefts	Short term thefts	Profit motivated thefts	Thefts	Short term thefts	Profit motivated thefts	Thefts	Short term thefts	Profit motivated thefts	Thefts	Short term thefts	Profit motivated thefts	Thefts
ACT	1,607	498	2,105	1,548	549	2,097	870	290	1,160	707	299	1,006	156	104	260
NSW	15,418	7,412	22,830	14,390	7,494	21,884	12,843	6,919	19,762	12,614	6,704	19,318	2,599	1,698	4,297
NT	873	158	1,031	891	133	1,024	804	116	920	809	136	945	198	42	240
QLD	6,910	2,437	9,347	6,533	2,284	8,817	6,905	2,662	9,567	8,568	3,191	11,759	2,008	880	2,888
SA	4,259	1,075	5,334	3,369	1,080	4,449	3,363	1,090	4,453	3,177	1,284	4,461	730	291	1,021
TAS	1,245	141	1,386	1,513	180	1,693	1,548	196	1,744	1,229	253	1,482	278	54	332
VIC	10,067	3,374	13,441	9,241	3,510	12,751	8,783	3,413	12,196	8,909	3,975	12,884	1,990	1,131	3,121
WA	5,552	1,720	7,272	4,304	1,479	5,783	5,270	1,698	6,968	6,028	1,996	8,024	1,238	688	1,926
Grand Total	45,931	16,815	62,746	41,789	16,709	58,498	40,386	16,384	56,770	42,041	17,838	59,879	9,197	4,888	14,085

*Short term thefts are defined as motor vehicles that were stolen and recovered, profit motivated thefts were those stolen and not recovered.
Recovery status is as at 30 September 2012 for TAS and WA and 31 October 2012 for all other states and territories.

3. CARS Theft Risk Rating tool

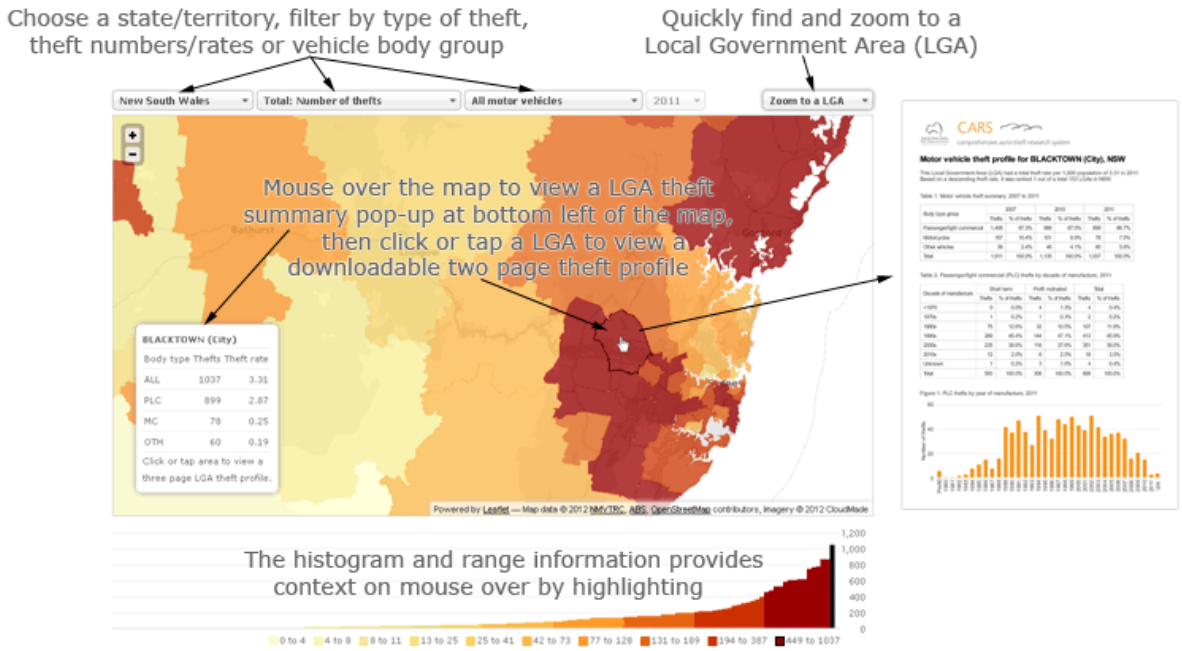
The CARS Theft Risk Rating tool shows which passenger/light commercial (PLC) vehicles are most at risk of being stolen in Australia in the past year, thereby assisting consumers looking into purchasing a used vehicle. The application rates vehicles out of five and the data is updated biannually. The theft risk rating tool is very simple to use and allows users to search by make, model, vehicle segment or risk level.

While other security rating tools such as IAG's Anti-Theft Security Rating are available for new vehicles, these ratings are based on a vehicle's security features (i.e. entry resistance, ignition strength, immobiliser integrity, alarm features, stereo security) and an expert assessment of the perceived risk when the model is first released. By contrast the CARS Theft Risk Rating uses actual theft and registration data from across Australia to calculate a 'real world' risk rating for each make and model.



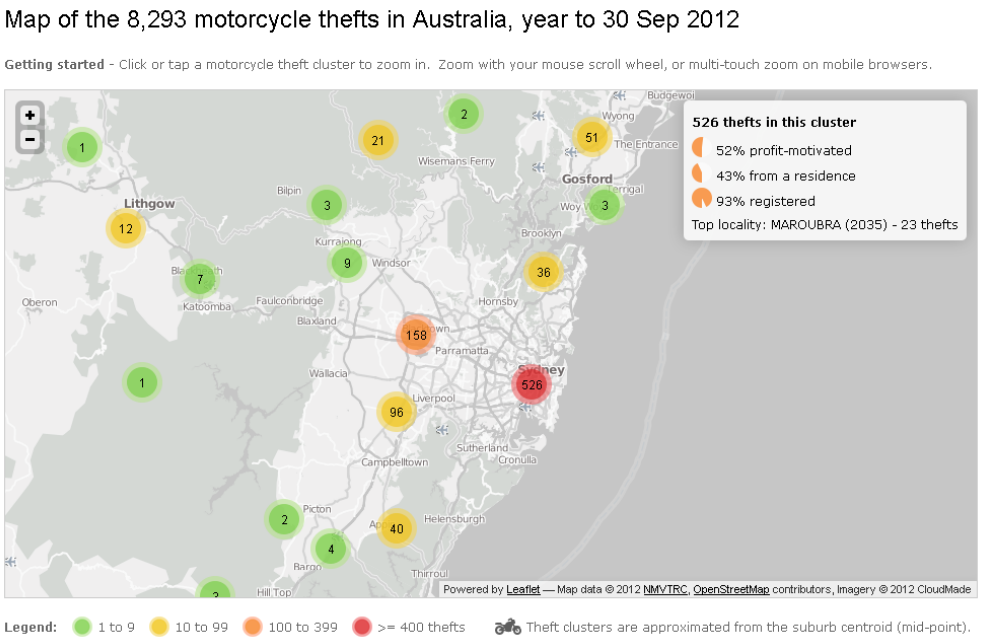
4. CARS Mapper

The CARS Mapper is a free interactive mapping tool by Local Government Area (LGA) across Australia. Visualising theft data on a map is a powerful way to show where various types of theft are a problem. This web-based product allows data selection based on state/territory, type of theft, theft numbers/rates and vehicle body group. It quickly generates two page profiles of motor vehicle theft for every LGA which can be downloaded as a PDF document.



5. Motorcycle Cluster Map

As part of the NMVTRC's strategy to communicate simple steps that riders can take to help reduce their risk of theft, CARS have developed various interactive maps of motorcycle theft suburb clusters across Australia. By better understanding the theft risk in their local area, riders can take action to protect their motorcycle.



6. Statistical reports and ad-hoc information service

CARS also produces freely available quarterly and annual statistical reports for those who wish to read a summary of the short term and profit motivated theft trends. The quarterly summary, 'Theft Watch', can be downloaded from the NMVTRC website (www.carsafe.com.au) while the more detailed Annual statistical report can be found at http://ncars.on.net/products.html.

7. Ad-hoc Information Service

CARS provides a free ad-hoc data request and information service for stakeholders who may have a specialised request or require access to additional information that is not accessible via the standard tools This service is provided to NMVTRC stakeholders in the motor industry, law enforcement, insurance industry and registration or other government agencies that have a legitimate interest in reducing motor vehicle theft.

Conclusion

Many organisations and countries throughout the world are trying hard to develop and implement strategies to reduce vehicle theft and related vehicle crime. In general, those who are achieving the greatest results are making the greatest use of the available theft data to analyse their problem.

Maximising the value of data requires more than a few high level theft and recovery statistics and a bit of computer power. To develop truly effective theft reduction strategies one also needs:

- **The right type of data** - includes data from multiple sources, and while law enforcement, registration authorities, manufacturers, insurers each collect valuable information, combining and integrating data from these sources develops a more complete and detailed picture. The right type of data also includes more than the basic data fields, additional detailed information is crucial, such as information about the extent and type of parts stripping of recovered vehicles or whether the offender had access to the vehicle's keys etc.
- **Timely and high quality data** - important data fields should be mandatory and have predefined response options that users can choose from when recording the data. There is no point collecting data if its completion rates are low, the data is not recorded in a consistent way, or can't be linked to other datasets.
- **The right tools** to facilitate the interrogation and interpretation of the data
- **Skilled individuals** with the ability to use the data and tools to help develop, evaluate and continually refine the strategies.

CARS aims to assist stakeholders by providing the right type of data, timely and high quality data. Our suite of tools assist novice data users through to experienced intelligence analysts and insurance underwriters. CARS tools are not the only options for analysts, researchers and policy makers but they are an excellent starting point and demonstrate many benefits that can be achieved when government and commercial organisations work together and share their data.

CARS, helping you find the right solutions.

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