

CITY OF STIRLING CHILD CAR RESTRAINT FITTING, INSTALLING AND DEMONSTRATIONS

Author: Heidi Stewart
Road Safety Officer
Phone: 9345 8718
Fax: 9345 8572
City of Stirling
25 Cedric Street
STIRLING 6020
Western Australia

EXECUTIVE SUMMARY

The City of Stirling Child Car Restraint programme aims to contribute to a reduction in the number of children killed and seriously injured as a result of traffic crashes by increasing the number of parents and carers who use appropriate, safe and correctly fitted child car restraints through education and promotion strategies and a child car restraint fitting and checking service.

The City's Road Safety Officer has successfully attended the Child Car Restraint Type 1 Fitters Training Course conducted by RoadWise and is a registered Type 1 Fitter. The City formalised a child car restraint fitting and checking programme by holding twice monthly checking appointment days and conducting checking stations and education presentations at child services facilities and events. This resulted in devoted checking days and checking being made available as per demand for agencies involved with child care, health, socialisation and education.

The Department of Community Development funded a demonstration restraint for the City of Stirling's Road Safety Officer to conduct demonstration presentations on the importance of restraints and how a restraint works.

The City of Stirling, joined with the Town of Cambridge, City of Subiaco and the Town of Vincent to promote and run four annual free child car restraint fitting and checking events combining the four councils.

The objectives of such programmes were to;

- Increase community knowledge of the effectiveness of appropriate child restraints in preventing death and injury;
- Increase the ability of parents/guardians to choose restraints that are appropriate for the size and weight of their child;
- Improve the skills of parents and carers to correctly install their appropriate and safe child car restraint in their motor vehicle
- Provide a regular bi-monthly checking station to residents to ensure child car restraints are installed and fitted correctly

Through the programme it was shown that such a programme is in high demand. This was evident through the high amount of bookings, client satisfaction, 56% of the restraints being fitted and 36% of the restraints checked being unsafe.

Recommendations

- ❑ Replication of this programme is recommended in other areas to increase the safety of children
- ❑ Local government representatives, Child care centre staff, maternity hospital staff, child restraints retailers should be encouraged to become Type 1 Fitters and refer parents to Type 1 Fitters.
- ❑ Brochures and information leaflets on child car safety and age appropriate restraints should be available through local schools, kindergartens, playgroups, mothers groups, hospitals, anti-natal classes, child health centres, baby retail and hire stores and child care centres.
- ❑ Increase a focus on CaLD (Culturally and Linguistically Diverse) communities in education the importance of correctly fitted child car restraints.

ABSTRACT

Key words: infant and child safety; road safety; community knowledge;

In Western Australia, transport related injury is a leading cause of death and serious injury in children aged 0-14 years (Injury Control Program, 1997). In Western Australia between 1993 and 2003 an average of nine child passengers died each year, 186 were hospitalised and 200 presented at Princess Margaret Hospital for Children with injuries from vehicle crashes.

The effectiveness of restraints preventing death and injury of infants and children can be impaired if the use of restraints are not installed correctly, use of damaged restraints and not appropriate for the size and weight of the child. A survey by Kidsafe in Western Australia (1998) found that 62% of child car restraints were fitted incorrectly.

In 2006, the City of Stirling developed a Child Car Restraint Fitting and Checking programme to focus on enhancing road safety for infants and children. This project recognised and addressed the need to;

- Increase community knowledge of the effectiveness of appropriate child restraints in preventing death and injury;
- Increase the ability of parents/guardians to choose restraints that are appropriate for the size and weight of their child;
- Improve the skills of parents and carers to correctly install their appropriate and safe child car restraint in their motor vehicle
- Provide a regular bi-monthly checking station to residents to ensure child car restraints are installed and fitted correctly

This paper will examine the need for a Child Car Restraint Fitting and Checking Service, the evaluation of the project and discuss future plans for increasing the sustainability and reach of such a programme.

BACKGROUND

Road transport injury is the leading cause of death in Western Australia for children aged 0-14 years. It is also the second largest cause of hospitalisation for this age group (Injury Control Program, 1998). From 1993-2003, an average of nine children vehicle passengers died each year, 186 were hospitalised in Western Australia and about 200 presented to the Emergency Department of Princess Margaret Hospital with injuries received in vehicle crashes. Many child injuries and fatalities in vehicle crashes could be prevented through the appropriate use of child restraints. A major risk factor for children is the incorrect fitting of a child car restraint (Henderson, 1994). A survey undertaken by Kidsafe WA (1998) indicated that 62% of child car restraints were fitted incorrectly. This supports US studies where they found that a large number of children were occupying car seats that were not installed correctly (e.g. Anonymous, 1995, 1998; Decin & Knoebel, 1997). It is therefore seen that any intervention to increase the use of child car restraints must also consider increasing the incidence of correct fitting.

Studies indicate that there are several primary reasons for non-use of child car restraints. These include inadequate access to child restraints (Injury Control Program, Health Department of WA, 1998), lack of knowledge about which child car restraint to use, parents being forgetful or are in a hurry to get somewhere, too many passengers in a car, and short journeys (Gielen et al., 1984; Margolis et al., 1992; Webb et al., 1988). Children aged from 3-14 years have the lowest restraint use (Webb et al., 1988) and children at 4-6 years of age are likely to find car restraints uncomfortable (Road and Traffic Authority Road Safety Bureau, 1991). Significant increases in child car restraint use and in adult seatbelt use have been observed when children are rewarded when their parents are reminded to restrain them in vehicles (Bowman et al., 1987, Roberts & Fanurik, 1986, Roberts & Layfield, 1987). Non-use of restraints is a major contributor to road trauma, although it is recognised to be very effective in reducing death and severe injuries in a crash. In WA in 2002, 22% of vehicle occupants who were killed in a police attended road crash were known not to be wearing a seatbelt.

The Western Australian Road Safety Strategy "Arriving Safely" focuses on those issues and actions with the greatest potential to reduce road trauma as proven by significant research. It has identified that "not using seat belts and child restraint is a major contributor to road trauma despite their proven effectiveness in preventing deaths and serious injuries" (Road Safety Council of Western Australia, 2003, p. 16).

The strategy states that public education about the importance of correct fitting of child restraints, the implementation of state-wide education and checking system for the use of fitted child restraint and encouragement of local communities to have regular child restraint fitting checks will contribute to a reduction in road trauma on WA Roads by increasing restraint use by the population (Road Safety Council of Western Australia 2003, p.16).

A report by Turner et al (2005) found in a systematic review of the literature that there was some evidence that community-based programmes for increasing child safety restraints and or reducing motor vehicle occupant protection are effective. Of the eight programmes evaluated, three reported considerable improvements with either injury outcomes or increased use of car restraints. Another study found the same reduction in injury rates in the intervention community and limitations in the evaluation methodology

of the other four programmes required their results to be interpreted with caution (Turner et al 2005)

Kidsafe WA first piloted Child Car Restraint Checking in 1998 which led to the development of the BankWest Rural Child Restraint Programme and periodic Free Child Car Restraint Checking Stations conducted by RoadWise Committee's. In 2001 periodic free checking stations ceased whilst the establishment of the training for Type 1 fitters was developed, however community demand for the service was so strong that Kidsafe developed a centre based child car restraint fitting and checking service. Kidsafe WA recommended that a state-wide network of authorised fitting stations were required to meet community demand for child restraint checking and fitting, but there is a need for appropriate training of fitters, quality assurance of authorised fitting services and overall co-ordination by a body that holds knowledge, expertise and skills in the content area (Wicks & Leeds).

The BankWest Rural Car Restraint Project was implemented in 1999 and aimed to reduce the mortality rate and severity of injury due to non-restraint use in rural WA drivers and passengers. Specific to child car restraints the project aimed to increase the compliance of parents with restraint use, increase parents knowledge about appropriate restraints, increase use of child car restraints and increase the number of child restraint in cars that are installed correctly. Strategies used to meet these objectives included parent education and the provision of information in appropriate locations, implementation of a child car restraint checking service and an incentive campaign that rewarded adults and children for wearing a restraints. These strategies were based on evidence that information and education strategies would be seen as supporting those strategies shown to be more effective at increasing restraint use such as enforcements, incentives and child restraint checking services. Whilst outcome measures have not been reported the project was effective in that it achieved positive self-reported behaviour change in parents reached (Coastal & Wheatbelt Public Health & Injury Control Program 2000)

In 2005 the establishment of accredited training for Type 1 fitters was finalised and implementation began. The City's Road Safety Advisory Committee identifies the fitting of child car restraints as a priority area for action and has included the activity in their 2005/06 Action Plan. As a result the committee has designed the current programme for implementation during 05/06 (City of Stirling 2004).

A survey commissioned by Kidsafe NSW, identified incorrect fitting of restraints as a major risk factor for injury involved in road crashes. In 1997 a survey by Kidsafe Act, found that 80% of child restraints incorrectly fitted to the car and in 1998 a survey by Kidsafe WA found that 62% of child restraint were fitted incorrectly.

In 1997 the Health Department of WA conducted an observational survey of child restraint use in 33 sites in both rural and metropolitan WA. The study showed that although 80% were wearing restraints correctly 20% were not.

In the event of a vehicle crash, the poorly fitted or adjusted restraints is likely to result in the infant/child impacting with parts of the vehicle interior with resulting impact injuries. There is also the possibility that the infant/child may slide down through the seatbelt which can result in strangulation injuries and in injuries to the head, spinal cord and

body. The infant/child may also be completely ejected from the restraint. (Child Car Restraint Manual, 2005)

INTRODUCTION

The City of Stirling have conducted their own programmes on combating road safety for infants and children. A series of programmes have been run and are increasing to meet demand and new objectives. In 2005 the establishment of accredited training for Type 1 fitters was finalised and implementation began and the City of Stirling's Road Safety Officer became an accredited Type 1 Fitter.

The City of Stirling then established their first formalized Child Car Restraint Fitting and Checking programme, running bi-monthly for the City of Stirling residents. The programme, a year on, can now run on word of mouth and in-house produced flyers to surrounding hospitals, anti-natal classes and baby retail and hire stores.

Demonstration workshops are also conducted for mothers groups, playgroups and at kindergartens. These are particularly successful in highlighting the importance of a correctly installed child car restraint.

Joining with surrounding councils has also been successful in providing additional checking and fitting events, joining the councils, and allowing longer events to occur. Four councils, including the City of Stirling have joined together to conduct annual checking events in each respective council.

Child Car Restraint programmes are incredibly effective and needed, and can continue to be increased in sustainability and reach.

OBJECTIVES

- ❑ To increase knowledge in parents and carers about appropriate use of child car restraints for their children's weight and size.
- ❑ To improve the skills of parents and carers so that they are able to correctly install their appropriate and safe child car restraint in their motor vehicle
- ❑ To increase the use of safe child car restraints which are attached to safe anchorage points by parents and carers.

The objective of the project is to increase the number of parents and carers who use appropriate, safe and correctly fitted child car restraints, by holding regular fitting activities for residents of the City of Stirling. This meets the WA State Road Safety Strategy "Arriving Safely" in a number of areas in Increasing Restraint Use.

TARGET PUBLIC

- ❑ Parents and careers of young children under 32kg who need to be in a restraint
- ❑ Children Service Provider Employees Managers and Owners
- ❑ Expecting parents

METHODS USED

ACRS Conference: Infants, Children and Young People and Road Safety 2007

- Bi-monthly fitting and installing programme

The City holds twice monthly checking and installing appointment days. Additional checking and installing is available as per demand for agencies involved with child care, health, socialisation and education. All services were conducted to meet the requirements outlined in the Type 1 Child Car Restraint Fitting Manual and as such a copy of the checklist completed with all restraints checked was sent to the Child Car Restraints Project Officer at RoadWise, WA Local Government Association.

- Demonstrations and Workshops

Educational presentations at child services facilities, events, community groups and playgroups to demonstrate the safety points and the correct fitting of child car restraints, through using a physical restraint and educational tools. This enables the workshop to be interactive and hands on, allowing a wider understanding by using verbal and demonstration as communication tools. The method in physically demonstrating a correct child car restraint is effective with groups that are culturally diverse, and parents who are more task/action orientated rather than audio. The diversity is reflected, as the workshop can be adapted to each target audience. Through the practical workshops families gain an increased understanding on correct restraint usage and installation to ensure the wellbeing of children working with residents in the City of Stirling.

- Joint child car restraint project

This project promotes and run four annual free child car restraint fitting and checking events combining the four councils. The checking runs from 9-12pm for four days in the year, each council supplying a location each year.

The four councils are working together to contribute to a reduction in the number of children killed and seriously injured as a result of traffic crashes. Through checking child car restraints we are increasing the number of parents and carers who use appropriate, safe and correctly fitted child car restraints.

PROMOTION

Promotional resources included newspaper advertising in three community newspapers, which are distributed in over 30 suburbs in the metropolitan area. (Appendix 1). Council websites media releases for respective local newspapers, in-house promotion and public relations activities were utilized.

Posters and Flyers for both the localised programme and joint council events were used and distributed to surrounding child car restraint businesses, hospitals, baby retail stores, child health nurses, recreation centres, libraries, council admin officers and child care centres. (Appendix – 2 and 3, 4 and 5)

Corflute signage was used as directional and promotional signage (Appendix - 6)
Brochures and Litter bags were also produced as promotional items (Appendix – 7 and 8)

A tool kit was purchased to aid our checking and installation at the checking events, including spanners, anchorage fittings, extension straps and a H harness.

Flyers for the Demonstration workshops were produced in-house and distributed to all relevant contacts (Appendix 9)

EVALUATION

Appropriate evaluation is an essential requirement of any road safety project, an evaluation linking directly to the objectives was developed in the early planning stages. The evaluation plan is as follows:

Process Evaluation

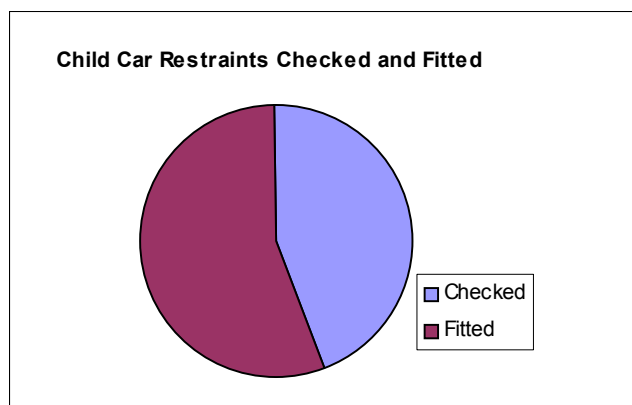
- Record the number of parents and carers attending the events including number of child car restraints fitted and checked at the events
- To record the title and number of educational materials that are distributed to parents and carers
- Record copies of advertising in local newspapers
- Record for each appointment how they were made aware of the service
- Record the number of posters distributed and their locations
- Record the number of promotional material distributed
- Keep copies of the information placed on the councils websites
- To record the total number of restraints checked over 12 month period
- Record the of referrals to the Child Restraints Information Line
- Keep a hard copy record of the Child Car Restraint Fitting Service Checklist and record the faults found
- Record the number of faults found
- Record the number of unsafe restraints and anchorage points identified during fitting activities.

Impact Evaluation

- Questionnaire distributed to all parents and carers who have their child car restraint checked with a true and false section to measure parents knowledge about appropriate child car restraint use.
- Collate details collected in the Child Car Restraint Fitting Service Checklist regarding appropriate restraint use
- Questionnaire distributed to all parents and carers who have their child car restraint checked that measures the benefits of the service and event and satisfaction of the client

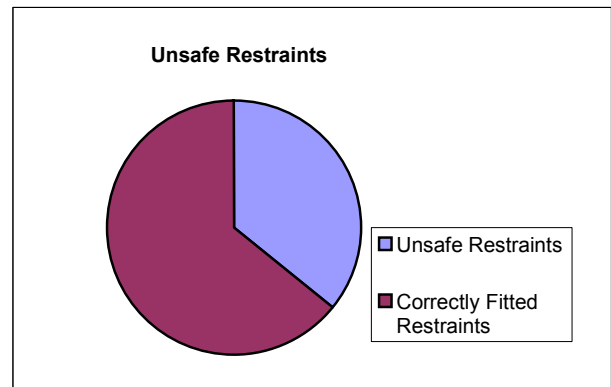
RESULTS

Results as follows are to date, and will alter as the programmes continue. The programme has been running for over a year allowing concurrent results.



Of the total amount of child car restraints checked, 36% of child car restraints were unsafe. This included, incorrect anchorage point used, restraint over 10 years old, restraint not of Australian Standards, wrong seat belt path, top tether and harness strap twists.

Of the total amount of child car restraints fitted and checked in the localised child car restraint programme, 56% of child car restraints were installed by the City of Stirling Type 1 Fitter with the remaining 44% checked.



The most effective form of promotion for the campaign was newspaper advertising, initially. Once the programme has been running for a year, in-house produced flyers distributed to baby retail stores, hospitals and anti-natal classes are the best form of advertising.

DISCUSSION

56% of parents would rather their child car restraint fitted by a professional, demonstrating the need for a child car restraint fitting and checking programme. Of the 44% of child car restraints that were installed by parents and checked through the programme, 36% of restraints were recorded as unsafe.

The cost of child car restraints is also an issue and is likely to be a constraint in buying them. The issue of affordability of child car restraints and resultant lower usage of child car restraints in the age group 4 – 6 has been raised in previous research (Health Department Report, 1997).

Continuing the current programmes and increasing to improve and research new projects to focus on infant safety is imperative.

NEXT STEPS

The City of Stirling is seeking to acquire funding for a project to allow child car restraints available to those from low socio-economic areas in the council; Increase the amount of Type 1 Fitters in the City of Stirling, including experts from CaLD (Culturally and Linguistically Diverse) backgrounds; and Create demonstration cards, translated into various languages for installing restraints.

Increasing restraint use is a key priority outlined in the WA Road Safety Strategy. The City of Stirling has been running a successful child car restraint programme for a year. Every first and third Monday of every month the City's Road Safety Officer checks and installs child car restraints. These days are fully booked at least two weeks in advance and the catchment of the parents attending are from selected areas of the City of Stirling from affluent backgrounds. This project aims to improve access to child car restraints in the remote areas of the City of Stirling and increase knowledge on the importance on correct fitting of child restraints.

We also wish to improve the sustainability of a child car restraint education and checking system by increasing the number of certified Type 1 Fitters in the City of Stirling, including those working with CaLD communities and effectively reach local communities.

The project is needed in our community to improve the knowledge of parents and carers installing a child car restraint. Education must be provided to parents on how to correctly install and to provide confidence and assurance to re-install their child car restraint. The City of Stirling holds a high amount of parents from CaLD backgrounds and this education will be provided to these parents also, through culturally specific demonstration cards. The demonstration cards will help parents with step-by-step instructions to follow the correct installation of their child car restraint.

By increasing the amount of certified Type 1 Fitters in the City of Stirling the population will be effectively be reached by both increasing the amount of certified fitters and including fitters from a range of cultural backgrounds. By increasing the availability of child car restraints to parents will address the issue of incorrectly or unused restraints for children for those with lower incomes.

Acknowledgments

Funding for the City of Stirling Child Car Restraint Project project was provided by the Community Road Safety Grants Programme, administered by RoadWise on behalf of the Road Safety Council and the National Safety Council of WA Trust Fund (administered by the RAC). Funding for purchase of demonstration restraint was provided by the Department for Community Development.

I would also like to acknowledge the strong support and active participation of Dianella Child Health Centre, Mirrabooka Community Health Centre, Hamersley Child Health Centre, Inglewood Child Health Centre, Happy Days Playgroup Inc., BabyWest Balcatta, DL CaLD Ref Group, Toys R US, City of Stirling Road Safety Advisory Committee, St John of God Hospital, Osborne Park Hospital, Scarborough Child Health Centre, Kidz Kingdom, Smith's Lake Precinct, Department of Health, Pram City's Baby Discount Centre, Scarborough Primary School, Mirrabooka Police Station, City of Stirling Women's Refuge, Granny Apples Child Care Centre, Edmund Rice, Mirrabooka, Balga Primary School, Wanslea Family Centre, Mirrabooka Migrant Resource Centre, Centrelink, RoadAware, Town of Cambridge, City of Subiaco, Town of Vincent and many more people and organizations that have committed their time and effort this project.

REFERENCES

Anonymous. (1995). Child safety seat changes. *Consumers Research Magazine*, 78, 6.

Anonymous. (1998). Kentucky mirrors national trend in misuse of child safety seats. *Nations Health*, 28, 7.

Anonymous. (2003) Type 1 Child Car Restraint Fitting Manual

Bowman, J. A., Sanson-Fisher, R. W. & Webb, G. R. (1987). Interventions I pre-schools to increase the use of safety restraints by pre-school children. *Pediatrics*, 79, 103-109.

Coastal & Wheatbelt Public Health & Injury Control Program Health Department of WA (2000). *BankWest Rural Car Restraint Project*. September. Health Department of WA

Decina, L. E. Knoebel, K. Y. (1997). Child safety seat misuse patterns in four states. *Accident Analysis & Prevention*, 29, 125-132.

Gielen, A. C., Eriksen, M. P., Daltroy, L. H. & Rost, R. (1984). Factors associated with the use of child restraint devices. *Health Education Quarterly*, 11, 195-205.

Henderson, M. (1994). Children in car crashes: An in-depth study of car crashes in which occupants were injured. *Child Accident Prevention Foundation of Australia* (New South Wales).

Injury Control Program (1997). *Child car restraint use in W.A.* December. Disease Control, Health Department of Western Australia.

Injury Control Program (1998). *Report on the Kimberley child car restraint project. Phase 1 - Retail and community availability.* Disease Control, Health Department of Western Australia.

Kidsafe WA (1998). *Free child restraint checking service: Report of findings.* September.

Margolis, L. H. Wegenaar, A. C. & Molnar, L. J. (1992). Use and misuse of automobile child restraint devices. *American Journal of Disease of Children*, 146,361-366.

Road and Traffic Authority Road Safety Bureau (1991). *A study of Non-English speaking background attitudes and knowledge about seat belts and child restraints.* Consultant report CR2/91.

Road Safety Advisory Committee, (2004) City of Stirling Road Safety Advisory Committee 2005/06 Action Plan.

Turner C, McClure, Nixon J, Spinks Anneliese (2005). Community based programs to promote car seat restraints in children 0-16 years – a systematic review. *Accident Analysis and Prevention*, 37, 77-83.

Webb, G. R., Sanson-Fisher, R. W. & Bowman, J. A. (1988). Psychosocial factors related to parental restraint of pre-school children in motor vehicles. *Accident Analysis and Prevention*, 20, 87-94.

Road Safety Council of Western Australia. 2003, *Arriving Safely: Road Safety Strategy for Western Australia 2003-2007*, Office of Road Safety, Perth, Western Australia.

Wicks & Leeds (2003) Operating a Child Car Restraint Fitting Service in Perth Western Australia, Paper presented at the 2003 Road Safety Research, Policing and Education Conference, Darling Harbour, Sydney, Australia.

APPENICES

ACRS Conference: Infants, Children and Young People and Road Safety 2007

1. Newspaper Advertising
2. Poster for localised events
3. Poster for joint event
4. Flyer for localised events
5. Flyer for joint event
6. Corflute signage
7. Brochures
8. Litter bags
9. Flyers for Demonstration workshops