

Evaluation of Competency Based Driver Training

Kloeden CN, McLean AJ

Road Accident Research Unit, Adelaide University 5005

ABSTRACT

This study set out to determine whether there is a meaningful difference between the two procedures by which a driver may obtain a Provisional Drivers Licence in South Australia: the Competency-Based Driver Training and Assessment scheme and the Vehicle on Road Test, in terms of the rate at which recently licensed drivers are involved in crashes and moving traffic offences. The general conclusion from this study is that Competency Based Training and Assessment appears to have little effect on the rate of crash involvement and traffic offences in the first 12 months of driving on a Provisional Licence, compared with drivers who took the Vehicle On Road Test.

KEYWORDS

driver training, crash rate, offence rate, evaluation

INTRODUCTION

The aim of this study was to determine whether there is a meaningful difference between the two procedures by which a driver may obtain a Provisional Driver's Licence in South Australia: the Competency-Based Driver Training and Assessment (CBTA) scheme and the Vehicle on Road Test (VORT), in terms of the rate at which recently licensed drivers are involved in crashes and moving traffic offences.

CBTA involves multiple training sessions spent by the learner driver with an Accredited Driving Instructor, with assessment proceeding on a cumulative basis. The tasks that a learner driver must be able to perform before obtaining a licence are "signed off" in a log book as the driver completes them. When all of the nominated tasks have been completed successfully, the driver is issued with a Certificate of Competency which enables him or her to obtain a Provisional Licence from a Transport SA Customer Service Centre. This method of assessment was introduced in South Australia in April, 1993.

The VORT is similar to the traditional approach to obtaining a Provisional Licence. It comprises a single practical test of the same skills tested for in the CBTA course. It is conducted mainly by Authorised Driving Instructors over a standard test route. The VORT was introduced in its present form in October, 1992.

Obtaining a Provisional Licence by CBTA or VORT is at the option of the driver. The minimum age for obtaining a Learner's Permit is 16 years, and the driver must be aged at least 16 years and six months before applying for a Provisional Licence.

A process level evaluation of the operation of CBTA has been conducted by Alan Drummond for AUSTRROADS with a view to its introduction into other Australian States. At present, the Australian Capital Territory is the only other jurisdiction in Australia to offer a form of CBTA, having introduced it in October, 1997.

METHOD

Transport SA registration and licensing databases were accessed to provide information on the population of drivers who obtained a Provisional Licence for the first time between 1995 and 1997 inclusive. This produced two groups of drivers: those who qualified for a Provisional Licence by means of the Vehicle On Road Test (VORT) and those who did so by completing a Competency Based Training and Assessment (CBTA) course.

These two groups were then compared with each other with regard to a number of variables. These included their subsequent history of traffic offences and crash involvement, and demographic factors (age and sex).

Data concerning the accident history of the drivers was drawn from the South Australian Traffic Accident Reporting System (TARS) database and matched using driver licence numbers.

RESULTS

Year and Method of Obtaining Provisional Licence

Table 1 shows the year and the method of obtaining a Provisional Licence for drivers who did so for the first time between 1995 and 1997 inclusive. Data for earlier years was not available in a readily accessible form. It is apparent that more drivers chose CBTA as a method of getting a Provisional Licence and that it increased in popularity during those years. Note that the VORT figures include all the Police testing used in remote areas where access to CBTA was not available.

Table 1
Year and method of obtaining Provisional Licence
South Australian drivers 1995-1997

Year	VORT	CBTA	Total	%CBTA
1995	8242	8854	17096	51.8
1996	8372	13926	22298	62.5
1997	7628	14022	21650	64.8
Total	24242	36802	61044	60.3

Sex and Age of Driver and Method of Obtaining Provisional Licence

Females drivers were more likely than male drivers to choose the CBTA scheme when obtaining a Provisional Licence, as shown in Table 2. The peak age for choosing CBTA was 17 for both males and females with CBTA use falling off for older drivers.

Table 2
Number of drivers obtaining a Provisional Licence
by method of obtaining that licence
South Australian drivers 1995-1997

Drivers	VORT	CBTA	Total	%CBTA
All	24242	36802	61044	60.3
Male	14024	16099	30123	53.4
Female	9865	20269	30134	67.3
Male 16	5960	7993	13953	57.3
Male 17	2170	3094	5264	58.8
Male 18	1202	1449	2651	54.7
Male 19+	4692	3563	8255	43.2
Female 16	3358	7439	10797	68.9
Female 17	1529	3619	5148	70.3
Female 18	875	1997	2872	69.5
Female 19+	4103	7214	11317	63.7

Crash Involvement and Method of Obtaining Provisional Licence

Data concerning the accident history of drivers who obtained a Provisional Licence in the period from 1995 to 1997 inclusive was drawn from the South Australian Traffic Accident Reporting System (TARS) database. Any accident reported to the police, including those that only resulted in property damage, was identified for the purpose of this study.

The number of crashes per driver during the first year after obtaining a Provisional Licence in the period from 1995 to 1997 did not differ according to the licensing procedure (Table 3).

Table 3
Number of crashes during first year after obtaining
Provisional Licence and method of obtaining that licence
South Australian drivers 1995-1997

Number of Crashes	VORT (N)	CBTA (N)	VORT (%)	CBTA (%)
0	21274	32239	87.76	87.60
1	2695	4148	11.12	11.27
2	251	383	1.04	1.04
3	22	30	0.09	0.08
4	0	1	0.00	0.00
5	0	1	0.00	0.00
Total	24242	36802	100.00	100.00

Crash rates based on the first crash, if any, experienced by a driver in their first year of driving on a Provisional Licence were calculated at various time intervals and are shown in Table 4. There was no statistically significant difference in the crash rates between the two groups of drivers (VORT and CBTA) at any time up to a year after obtaining a Provisional Licence. Males as a group had a statistically significantly greater rate of being involved in a crash at 6 and 12 months after obtaining a Provisional Licence via CBTA compared to VORT, however, this difference disappeared when the male group was broken down by age apart from the 19+ age group which may have been subject to further age effects that were not explored due to the low numbers of drivers in individual age groups above that age. Once the age and sex self selection effects are taken into account, there is no apparent difference in crash rates between drivers getting their Provisional Licence by CBTA or by VORT.

Table 4
Per cent of drivers involved in a crash by time after obtaining
Provisional Licence and method of obtaining that licence
South Australian drivers 1995-1997

Drivers	3 Months		6 Months		12 Months	
	VORT	CBTA	VORT	CBTA	VORT	CBTA
All	3.84	3.95	7.08	7.10	12.27	12.42
Male	4.46	4.80	8.05*	8.93*	13.73*	15.14*
Female	2.99	3.26	5.73	5.62	10.24	10.17
Male 16	5.25	5.19	8.86	9.72	14.87	16.04
Male 17	5.53	5.14	10.14	8.99	17.28	16.06
Male 18	5.49	5.24	10.48	9.94	15.22	16.98
Male 19+	2.69*	3.45*	5.43*	6.68*	10.27	11.59
Female 16	3.57	3.95	6.49	6.65	11.41	11.78
Female 17	3.34	3.70	6.67	6.38	12.16	11.41
Female 18	4.11	3.66	7.77	6.21	12.57	11.02
Female 19+	2.14	2.20	4.31	4.01	8.07	7.67

* statistically significant difference between VORT and CBTA rates

Offence Rate and Method of Obtaining Provisional Licence

Information on traffic offences was provided by the Transport SA Customer Service Centre from the Licensing File. This offence data contained very few offences for drivers who obtained their Provisional Licence in 1995 (Table 5). However, those cases form only a small proportion of the total and so the following comparisons are based on all of the data shown in Table 5.

Table 5
Per cent offending during first year after obtaining
Provisional Licence and method of obtaining that licence
South Australian drivers 1995-1997

Year P-Plate Obtained	Per Cent Offending within 1 Year of Obtaining P-Plate	
	VORT	CBT
1995	2.7	2.2
1996	14.0	9.8
1997	18.3	14.0
Total	11.6	9.6

The reason for the low rate of offences in the 1995 licensing year in Table 5 has not been determined. However, when examining the number of offences per driver in the first year of driving on a Provisional Licence it appears that those with multiple offences are over-represented in the 1995 licensing year. This may mean that records are retained for more than 3 years only if they are relevant to demerit points.

Traffic offence rates based on the first traffic offence, if any, experienced by a driver in their first year of driving on a Provisional Licence were calculated at various time intervals and are shown in Table 6. While a statistically significant difference in the traffic offence rates between the two groups of drivers (CBTA and VORT) was found at 3, 6 and 12 months after obtaining a Provisional Licence, this difference disappeared after breaking down the groups by age and sex apart from the 19+ age groups which may have been subject to further age effects that were not explored due to the low numbers of drivers in individual age groups above that age. Once the age and sex self selection effects are taken into account, there is no apparent difference in traffic offence rates between drivers getting their Provisional Licence by CBTA or by VORT.

Table 6
Per cent of drivers committing a traffic offence by time after obtaining
Provisional Licence and method of obtaining that licence
South Australian drivers 1995-1997

Drivers	3 Months		6 Months		12 Months	
	VORT	CBTA	VORT	CBTA	VORT	CBTA
All	2.67*	2.14*	5.62*	4.42*	11.58*	9.57*
Male	3.79	3.59	7.86*	7.17*	16.07*	15.11*
Female	1.03	0.99	2.33	2.26	5.01	5.15
Male 16	3.71	3.57	7.58	7.31	15.67	15.75
Male 17	3.73	3.72	7.97	7.95	17.65	16.71
Male 18	4.49	5.94	9.48	9.66	18.72	17.25
Male 19+	3.75*	2.58*	7.74*	5.19*	15.15*	11.42*
Female 16	1.07	1.24	2.26	2.73	5.06	5.86
Female 17	1.18	1.22	2.68	2.43	5.23	5.89
Female 18	1.03	0.95	2.86	2.60	5.71	5.71
Female 19+	0.95	0.64	2.14*	1.59*	4.73*	3.88*

* statistically significant difference between VORT and CBTA rates

CONCLUSIONS AND RECOMMENDATIONS

Competency Based Training and Assessment (CBTA) became increasingly popular as a method of obtaining a Provisional Driver's Licence in South Australia from 1995 to 1997. Females were more likely to choose CBTA than were males but older drivers were more likely to choose VORT.

Overall, there was no meaningful difference in crash involvement in the first year of driving between drivers who obtained a Provisional Licence by Competency Based Training and Assessment (CBTA) and those who took the Vehicle On Road Test (VORT).

A small difference was apparent among male drivers where those who obtained a Provisional Licence by means of CBTA had a higher rate of crashes than those who chose to take the VORT. This difference disappeared after age was also taken into account suggesting that there is little difference between the crash experience of comparable groups of CBTA and VORT drivers.

Overall, drivers who qualified for a Provisional Licence by CBTA had fewer first offences during their first year of driving than those who did so by the VORT. On further examination it was found that this difference was probably due to an artefact based on sex and age biases in the choice of licensing method and offence rates.

There may be confounding factors related to both CBTA selection and crash and traffic offence rates other than sex and age that is masking an underlying difference between CBTA and VORT. For example, some rural drivers do not have access to CBTA and may have different exposures to driving and to traffic offence detection. Socio-economic factors may also play a role. However, these effects are probably minimal and any large difference between CBTA and VORT should still be apparent after controlling for the sex and age of drivers.

Therefore, the general conclusion from this study is that CBTA appeared to have little effect on the rate of crash involvement or traffic offences in the first 12 months of driving on a Provisional Licence, compared with drivers who took the VORT.

Based on this, we recommend that further research is needed in the area before committing large sums of money to CBTA schemes that appear to have little effect.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the assistance of the following individuals and organisations:

Safety Strategy Section of Transport SA for providing funding for the project, and Trevor Bailey, Project Manager in the Safety Strategy Section of Transport SA, for overseeing the conduct of the project.

Angela Slagter, User Support Officer, Transport SA Customer Service Centre, who supplied the licensing data.