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COMPULSORY SEAT BELTS: A SURVEY OF PUBLIC REACTION AND STATED USAGE

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The Traffic Accident Research Unit was established within the Department of Motor Transport, New South Wales, in May 1969 to provide a scientific approach to the traffic accident problem.

This paper is one of a number which report the results of research work undertaken by the Unit's team of medical, statistical, engineering and other scientists and is published for the information of all those interested in the prevention of traffic accidents and the amelioration of their effects.

A. H. Coleman

Commissioner.



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ABSTRACT

In March 1973, 18 months after seat belt use became mandatory in N.S.W., 1251 people were interviewed in Sydney on their seat belt usage and attitudes. This survey was a repeat of a survey taken prior to the law, in March 1970, with a comparable sample. The 1973 follow-up survey was designed to determine the extent to which the law had influenced wearing habits and attitudes.

Reported wearing rate had increased dramatically. In 1973, 3 out of 4 people reported always wearing a seat belt, compared to only 1 out of 4 in 1970. Only 1 in 10 people reported rarely or never wearing one in 1973, compared to 5 in 10 in 1970. This high level of compliance with the law was found in every sub group examined. Attitudes expressed by respondents indicated that seat belts are now fully accepted by the majority of the community. After the law, people were more likely to believe seat belts to be important to safety and negative attitudes were rare. In addition 8 out of 10 people were in favour of the law.

Reasons for the law's impact on behaviour and attitudes, the relevance of enforcement activity and the future role of propaganda are discussed in the light of these survey results.

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INTRODUCTION

The use of seat belts when fitted to motor vehicles has been mandatory in N.S.W. since October 1971. In March 1973, a survey was taken of seat belt usage and attitudes. This was essentially a repeat of a survey taken in March 1970, prior to the law.¹ The 1973 follow-up survey was designed to determine the extent to which wearing habits and attitudes have been influenced by the legislation.

METHOD

Prior to the introduction of the law, in March 1970, 995 people (aged 17 years and over) were interviewed at the Royal Easter Show, Sydney. They were asked questions on their wearing habits and attitudes. In March 1973, 18 months after seat belt use became mandatory, a repeat survey was taken, again at the Royal Easter Show, Sydney, and this time with 1251 people (aged 17 years and over) interviewed. In both surveys trained and experienced interviewers sought interviews over a period of 4 days with both afternoon and evening sessions for all days :. Wednesday, Thursday, Good Friday, Easter Saturday. By comparing the 'before' and 'after' results, one can assess the effect the legislation has had on people's behaviour and attitudes.

An assumption crucial to the comparison of the 'before' and 'after' samples is that they are both representative of the same population. In both surveys respondents were selected at random from people walking past a particular site at the Royal Easter Show. The sites in 1970 and 1973 were similar in that they were close to general interest displays. In 1970, the refusal rate was low for a survey of this kind (19%) and in 1973 it was negligible (1%).

The 'before' and 'after' samples are very similar in age distribution, but are different in sex distribution* . In 1970, three men were interviewed to every one woman, compared to a three to two ratio in 1973. The refusal rate in 1970 was higher for women than for men because of difficult interviewing conditions on several 'peak' days. Women with small children were often unwilling,

* See Appendix 1.

or even unable, to stop in the pushing crowds. In 1973 this problem did not arise because space had been allotted to the interviewers. The result of all this was that the 1970 sample had proportionally fewer women aged under 30 years. This means that 'before' and 'after' comparisons for females and for the total sample must be taken cautiously.

The 'before' and 'after' samples for males were practically identical in age distribution, and so can be treated as coming from the same population.

Results for the 1970 'before' survey have been reported in full elsewhere.¹ The present report documents the results of the 1973 'after' survey and relevant 'before-after' differences.

RESULTS

Wearing Frequency

Wearing seat belts was common practice in the 1973 sample (Table 1). Of the 1251 people interviewed 18 months after the law, 75% reported always wearing seat belts, and only 9% rarely or never wearing them. This represents a dramatic increase in the reported wearing rate. Of the 995 people interviewed before the law, only 25% reported always wearing seat belts, and 50% rarely or never.¹

The proportion of regular wearers has more than doubled since the 'before' survey. In March 1973 approximately 9 out of 10 people reported wearing seat belts 'always' or 'mostly', compared with only 4 out of 10 in March 1970.

To analyse the significance of these changes in wearing frequency, the data have to be examined in the light of the differing age-sex distributions for the 'before' and 'after' samples, and also the association observed in 1970 between wearing frequency and age and sex. Thus the frequencies resulting in Table I were separated by age and sex, and for each sex separately, the change in wearing frequency conditional on age was tested for significance*. For both sexes, allowing for age effects, wearing frequency had increased significantly between 1970 and 1973 ($p < .001$).

* The technique used is described in Goodman's (1970)² discussion of analysis of hierarchial hypotheses in three-dimensional contingency tables.

TABLE 1: SEAT BELT WEARING FREQUENCY BY YEAR

YEAR	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
1970 ('BEFORE')	995	25	13	14	11	38
		38			48	
1973 ('AFTER')	1251	74	13	4	2	7
		87			9	

2x4 table analysed.*

Association found significant (p<.001).

TABLE 2: SEAT BELT WEARING FREQUENCY BY SEX (1973 SAMPLE)

SEX	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
MALES	735	74	14	4	2	7
		87			9	
FEMALES	516	74	13	5	2	7
		87			9	
TOTAL	1251	74	13	4	2	7
		87			9	

2x4 table analysed.

Association found not significant.

*For all tables, dotted lines indicate the structure of the contingency table analysed. For a two-dimensional table of size $r \times c$, association between the two marginal variables was tested, using χ^2 tests on $(r-1) \times (c-1)$ degrees of freedom.

Sex and Age.

There were no significant sex differences in wearing habits in the 1973 sample. In fact, wearing habits for men and women were virtually identical (Table 2).

This is in contrast to the 1970 sample in which seat belt wearing was far more common among men than women.

Wearing frequency was unrelated to age for men in 1973 (Table 3a). In contrast, in 1970, young men (under 25) were more likely to report wearing seat belts than older men.

There was a significant association between age and wearing frequency for women in 1973 (Table 3b) ($p < .01$). Women over 40 were more likely to report always wearing seatbelts than women under 40, with the youngest women (under 20) least likely of all to wear them always. There were similar, though not identical, age differences for women in the 1970 sample.

Driver status and motoring habits.

Among men in the 1973 sample, drivers were more likely than non-drivers to report always wearing seat belts (Table 4a) ($p < .001$) and wearing frequency was positively related to motoring habits (Table 5a) ($p < .01$). However in every group, at least 8 out of 10 men were regular wearers.

For women in 1973, seat belt wearing was independent of both driver status and motoring frequency (Tables 4b, 5b).

In 1970, for both sexes, driver status and motoring habits were significantly related to wearing frequency.

Place of Residence.

Conceivably, place of residence might now be an important determinant of seat belt use. Among men in the 1973 'after' sample, less country respondents were reported always wearing seat belts than those from Sydney and other cities in N.S.W. ($p < .001$) But again, this difference disappeared when regular wearing ('always' and 'mostly')

TABLE 3(a): SEAT BELT WEARING FREQUENCY BY AGE - MALES

AGE	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
UNDER 20	78	63	21	5	3	9
		83			12	
20-24	174	74	13	6	2	5
		87			7	
25-29	129	73	16	2	1	9
		88			10	
30-39	141	72	16	4	3	5
		88			8	
40-49	130	76	12	3	2	8
		88			9	
50-59	56	84	5	2	2	7
		89			9	
60+	25	76	8	4	-	12
		84			12	
TOTAL	733	74	14	4	2	7
		87			9	

7x4 table analysed.

Association found not significant.

TABLE 3(b): SEAT BELT WEARING FREQUENCY BY AGE - FEMALES

AGE	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
UNDER 20	92	61	24	9	2	4
		85			7	
20-24	100	77	17	2	1	3
		94			4	
25-29	76	71	9	7	-	13
		80			13	
30-39	98	72	10	7	4	6
		83			10	
40-49	73	81	7	4	3	6
		88			8	
50-59	51	82	8	-	-	10
		90			10	
60+	24	83	4	4	-	8
		88			8	
TOTAL	514	74	13	5	2	7
		87			9	

7x4 table analysed.

Association found significant ($p < .01$)

TABLE 4(a): SEAT BELT WEARING FREQUENCY BY DRIVER STATUS - MALES

DRIVER STATUS	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
DRIVER	652	76	12	3	2	7
		88			8	
NON-DRIVER	83	52	28	8	4	8
		80			12	
TOTAL	735	74	14	4	2	7
		87			9	

2x4 table analysed.

Association found significant ($p < .001$)

TABLE 4(b): SEAT BELT WEARING FREQUENCY BY DRIVER STATUS - FEMALES

DRIVER STATUS	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
DRIVER	330	76	11	5	2	6
		87			9	
NON-DRIVER	186	70	16	6	1	7
		86			8	
TOTAL	516	74	13	4	2	7
		87			9	

2.4 table analysed.

Association found not significant.

TABLE 5(a): SEAT BELT WEARING FREQUENCY BY MOTORING HABITS - MALES

MOTORING HABITS	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
EVERY DAY	545	77	12	3	2	6
		89			8	
3-4/WEEK	125	67	19	5	-	9
		86			9	
≤1/WEEK	65	59	20	8	-	11
		79			11	
TOTAL	735	74	14	4	2	7
		87			9	

3x4 table analysed.

Association found significant ($p < .01$)

TABLE 5(b): SEAT BELT WEARING FREQUENCY BY MOTORING HABITS - FEMALES

MOTORING HABITS	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
EVERY DAY	250	73	14	4	2	7
		87			9	
3-4/WEEK	146	76	12	7	-	5
		88			5	
≤1/WEEK	120	73	10	5	3	8
		83			12	
TOTAL	516	74	13	4	2	7
		87			9	

3x4 table analysed.

Association found not significant.

TABLE 6(a): SEAT BELT WEARING FREQUENCY BY PLACE OF RESIDENCE - MALES

PLACE OF RESIDENCE	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
SYDNEY	596	75	12	4	2	7
		87			9	
OTHER NSW CITY	42	76	10	2	5	7
		86			12	
COUNTRY	71	66	25	4	1	3
		91			4	
TOTAL	709	74	13	4	2	7
		87			9	

3x4 table analysed.

Association found significant ($p < .001$)

TABLE 6(b): SEAT BELT WEARING FREQUENCY BY PLACE OF RESIDENCE - FEMALES

PLACE OF RESIDENCE	N	SEAT BELT WEARING FREQUENCY (% of N)				
		ALWAYS	MOSTLY	OCCASIONALLY	RARELY	NEVER
SYDNEY	409	74	12	5	2	8
		86			10	
OTHER NSW CITY	30	70	20	3	3	3
		90			6	
COUNTRY	58	72	16	7	2	22
		88			4	
TOTAL	497	73	13	5	2	7
		85			9	

3x4 table analysed.

Association found not significant.

was considered. (Table 6a)

Women's wearing frequency was independent of place of residence.
(Table 6b)

Seat Belt Safety Value Rating

When asked to rate the safety value of seat belts on a scale from 1 to 5, where 1 was 'very important' and 5 'not very important', 86% of the 1973 sample gave a rating of 1 or 2 (Table 7a). In answer to the same question in the 1970 survey, 75% of respondents had given seat belts a safety rating of 1 or 2. In 1973, 68% of respondents felt that seat belts were very important, compared with 58% in 1970 ($p < .001$). {In the 'before' sample there were no sex differences in safety rating and no age differences for women. This means that the inclusion of more women under 30 in this sample would have had little effect on the proportion giving a high safety rating. Any 'before'- 'after' difference, therefore, can be taken as a valid estimate of change in beliefs.}

This increase is replicated when the 'before'- 'after' comparison is taken for males only (Tables 7b) ($p < .001$).

It is interesting to look at the opinions of those who were regular wearers. (Table 8) There has been a definite drop in the proportion of 'always' and 'mostly' wearers giving the highest 'very important' rating. In 1970, 89% of 'always' and 76% of 'mostly' wearers considered seat belts to be 'very important' to safety, compared to 73% and 58% respectively, in 1973. There was a corresponding rise in the proportion of regular wearers who think seat belts are relatively unimportant to safety.

It is possible to analyse the significance of these changes using the three-dimensional technique referred to before. The results were highly significant ($p < .001$) and showed that wearing frequency in 1973 had increased by far more than could be accounted for by the increase in safety value rating alone.

Thus the compulsory legislation appears to be associated with two separate effects in this area. First, there is an enhanced estimation by the community of the safety value of seat belts and second, there is an increase in wearing frequency not accountable for by this change in rating.

TABLE 7(a): SEAT BELT SAFETY VALUE RATING BY YEAR - Total Sample

YEAR	N	SEAT BELT SAFETY RATING (% of N)				
		1	2	3	4	5
1970 ('BEFORE')	491	58	18	13	4	7
		75			10	
1973 ('AFTER')	1251	68	18	10	2	2
		86			4	

2x4 table analysed.

Association found significant ($p < .001$)

TABLE 7(b): SEAT BELT SAFETY VALUE RATING BY YEAR - MALES

YEAR	N	SEAT BELT SAFETY RATING (% of N)				
		1	2	3	4	5
1970 ('BEFORE')	350	58	20	12	4	6
		77			10	
1973 ('AFTER')	735	68	18	10	2	2
		86			4	

2x4 table analysed.

Association found significant ($p < .001$)

**TABLE 8: SEAT BELT SAFETY VALUE RATING BY SEAT BELT WEARING FREQUENCY.
BY YEAR**

WEARING FREQUENCY	YEAR	N	SEAT BELT SAFETY RATING (% of N)				
			1	2	3	4	5
ALWAYS	1970	114	89	8	2	0	0
			97			0	
	1973	922	73	17	8	1	1
			90			2	
MOSTLY	1970	63	76	19	3	0	2
			95			2	
	1973	167	58	26	11	1	4
			84			5	
OCCASIONALLY	1970	58	52	22	22	2	0
			74			2	
	1973	54	50	20	22	4	4
			70			8	
RARELY/NEVER	1970	256	41	21	18	7	12
			61			20	
	1973	108	46	17	22	6	7
			63			13	
TOTAL	1970	491	58	18	13	4	7
			75			10	
	1973	1251	68	18	10	2	2
			86			4	

4x4x2 table analysed.

Association between wearing frequency and year, conditional on safety value rating, was found highly significant ($p < .001$).

Attitudes Toward Seat Belts

Reasons for wearing seat belts.

In the 1973 survey, regular wearers were asked: 'Why do you ('always' or 'mostly') wear seat belts?', with interviewers probing fully to elicit a complete answer. Up to three reasons were coded for each respondent, and as well his total response pattern was coded for 'motivational basis' for seat belt use according to the primary and secondary reasons given. For example: for some regular wearers the law was the only motivating force, for others it was the main but not the only one. For some it was only a secondary or reinforcing factor and for others it was not a factor at all.

By looking at these 'motivational bases' it becomes possible to determine more precisely the role of the law in maintaining the high community wearing rate.

The most frequently given reasons for wearing seat belts were as follows:

1. Safety: 75% (men), 71% (women). Example responses:
"I value my life"; "don't want my head to go smashing through the windscreen"; "the speed I drive, I need them!".
2. The law: 43% (men), 49% (women). Examples:
"because I have to"; "I don't want to pay \$20";
"I'd probably get booked if I didn't"; "its illegal not to".
3. Habit: 15% (men), 14% (women). Examples: "force of habit"; "just got used to it"; "put it on without thinking".
4. Emotional security: 10% (men), 17% (women).
Examples: "I feel secure with one on"; "when I can't wear them I feel vulnerable"; "makes you feel confident you're safe".

5. Physical comfort: 10% (men), 6% (women). Examples:
"it holds you upright"; "lessens fatigue"; "you
can relax without shifting around".
6. Pressure from others: 1% (men), 6% (women).
Examples: "because the driver insists"; "the
children remind us to"; "my husband makes me".

Motivational bases.

Of the men and women who wore seat belts regularly:

12% (men) and 11% (women) gave "the law" as their ONLY reason for wearing seat belts.

19% (men) and 23% (women) gave "the law" as their MAIN reason (but not the only one) for wearing seat belts. (Safety was by far the most frequently given 'secondary' reason for this group).

13% (men) and 17% (women) gave "the law" as a secondary or 'reinforcing' reason for wearing seat belts. (Safety was by far the most frequently given 'main' reason for this group).

55% (men) and 49% (women) made no mention of 'the law' as an influence but gave other reasons (mainly safety) for wearing seat belts.

Reasons for not wearing seat belts.

Low Frequency wearers.

In the 1973 sample, 162 people were low frequency wearers, that is, reported wearing seat belts only occasionally, rarely or never. Of these, 40% said that a seat belt was usually available to them. By not wearing an available seat belt, they are the people who are actually breaking the law. This represents a very small proportion (5%) of the total sample.

A seat belt was not usually available to 60% of low frequency wearers. In fact the most frequently given single reason for not wearing seat belts was that they were 'not fitted' to the car or seating position normally used. (58%) Of these people, some were in

favour of seat belts, some were clearly opposed to them, and some expressed no opinion.

Specifically, 24% of low frequency wearers said that although a seat belt was not usually available to them, they believed in them, and would wear one if fitted. 7% said that a seat belt was not available and that they had no intention of getting or wearing one because they did not like them or believe in them.

27% said that seat belts were not available and did not express any desire or lack of desire to wear one. "Seat belts are not fitted because they don't have to be" was a typical response here.

Other reasons for not wearing seat belts were:

Seat belts are inconvenient/uncomfortable
(14% of low frequency wearers)

Seat belts are potentially dangerous
(8% of low frequency wearers)

Careful drivers don't need seat belts
(7% of low frequency wearers)

Seat belts are unnecessary, not as good as made out
to be. (7% of low frequency wearers)

The restraint causes emotional discomfort
4% of low frequency wearers)

Among low frequency wearers in the 1970 Survey, similar proportions gave these reasons for not wearing seat belts. However the big difference is that now people expressing these negative attitudes toward seat belts represent a very small proportion of the total sample. They formed a large proportion of the 1970 'before' sample.

Mostly Wearers.

In the 1973 survey, 167 people said that they mostly wore seat belts. The most frequently given reasons for not always wearing seat belts were:

Seat belts are not always necessary for short (or very short)

TABLE 9: ATTITUDE TO LAW BY SEAT BELT WEARING FREQUENCY.

WEARING FREQUENCY	N	ATTITUDE TO LAW (% of N)		
		IN FAVOUR	AGAINST	UNDECIDED
ALWAYS	922	84	11	5
MOSTLY	167	76	18	6
OCCASIONALLY	54	65	28	7
RARELY/NEVER	108	49	44	7
TOTAL	1251	79	16	5

Table not analysed

trips (29% of 'mostly' wearers).

Seat belts are sometimes not available (19% of 'mostly' wearers).

Occasionally forgets to put it on (12% of 'mostly' wearers).

Attitudes to the Law

Respondents in the 1973 survey were asked: "Are you in favour of the law making it compulsory to wear seat belts?" Of the 1251 people interviewed, 79% were in favour of the law, 16% were opposed to it and 4% were undecided. (Table 9)

As expected, the higher the reported wearing frequency the greater the acceptance of the law making them compulsory. But even among those who rarely or never wore seat belts, about 50% were in favour of the law.

DISCUSSION

Any examination of the effect of mandatory seat belt use in New South Wales must consider several separate but clearly related issues.

1. What effect has it had on people's behaviour?
That is, to what extent has it increased wearing rate?
2. Can any increase in wearing rate be sustained, and at what cost in terms of enforcement activity and public reaction?
3. How can the wearing rate be further increased?
4. How successful has the legislation been as a loss reduction measure, that is, what effect has it had on fatality and injury rates?

WHAT EFFECT HAS THE LEGISLATION HAD ON PEOPLE'S BEHAVIOUR?

Quite clearly, the legislation has had a dramatic effect on behaviour. From being a strictly minority activity before the law, wearing seat belts has now become normal practice.

In 1973, 3 out of 4 people reported always wearing seat belts compared to only 1 out of 4 in 1970. Even more dramatic is the decrease in the proportion reporting rarely or never wearing seat belts from 5 in 10 in 1970 to only 1 in 10 in 1973.

Controlled observations of the general motoring population around Sydney confirm that there is at present a high level of compliance with the law.⁵

It is of interest to look at the extent to which this high level of compliance is uniform over the whole community. Are there significant subgroup differences in wearing habits?

In 1970, before the law, seat belt usage varied considerably over different community subgroups. Regular wearing was particularly uncommon among women, especially those aged 17-24 years, non-drivers and people travelling by car once a week or less often.

A completely different picture existed in March 1973. Reported usage for men and women was virtually identical. Age differences were negligible in so far as in every age group for both sexes, 8 out of 10 people were regular wearers. Several group differences remained for men - drivers and those driving everyday were more likely to report always wearing seat belts but the differences were negligible when regular wearing was considered.

Quite clearly then, 18 months after the law was introduced, there was no significant resistance to it. There was a high level of compliance throughout the entire community. In every subgroup examined, between 70% and 94% of people stated that they wore seat belts regularly. When this fact is combined with field observations it can be concluded that in New South Wales the legislation has been very effective in changing people's wearing habits.

CAN THE WEARING RATE BE SUSTAINED?

The important question now to consider is can this high wearing rate be sustained, and at what cost, in terms of enforcement activity and public reaction at the erosion of individual freedom?

To a large extent, the answer to this depends on why people are now wearing seat belts. Is it purely to comply with the law and so escape a fine? Or has there been a more fundamental change in community attitudes?

The relevance of enforcement activity

A number of findings from the 1970 and 1973 surveys should be looked at here: belief in the safety value of seat belts and reasons given for wearing seat belts regularly.

Since the law came in there has been an overall increase in the number of people who believe seat belts to be important to safety. However the proportion of regular wearers giving seat belts the highest safety rating has clearly fallen. Conversely, there has been an increase in the proportion of regular wearers who consider seat belts to be relatively unimportant to safety. Obviously some people are wearing seat belts purely to comply with the law and not because they believe in them.

When one looks at the reasons people give for wearing seat belts it becomes clear that enforcement activity is irrelevant to the continued use of seat belts for about half of the regular wearers. These are the people who made no mention of the law as an influence but gave other reasons, mainly safety, for wearing seat belts. These are the people who are now wearing seat belts not because they have to, but because they have been convinced of their safety value.

But there is a group for whom enforcement activity is highly relevant: Of the regular wearers, 31% of men and 34% of women gave 'the law' as their only or main reason for wearing seat belts. That is, about one out of three regular wearers are at present being strongly influenced by the law, and the group includes people who may continue to wear seat belts only if they perceive enforcement of the law to be vigorous.

At present, arrest is considered to be a very real possibility. The actual figures are that in the period January 1 to September 28, 1973, 23,936 individuals in New South Wales were cited for the offence, "not wearing a seat belt". This represents some 2,660 citations each month for the offence (among a registered passenger-automobile population of some 1.3 million), and compares with about 12,700 citations monthly for exceeding posted speed limits, and some 1,500 citations monthly for exceeding the prescribed limit of blood alcohol (0.08 gm/100 ml). Disobeying the seat-belt law, therefore, is now a relatively commonly-reported offence, but unfortunately police statistics do not discriminate between individuals charged with this offence alone and those charged with a combination of offences including non-wearing.

If it becomes apparent that there is actually little risk of being caught, there could well be a fall off in wearing rate for this group. Naturally, however, the group contains those who give "the law" as a reason for wearing belts when in fact the law simply removes for them any social pressures which would discourage wearing: fearing to be seen as a "cissy" driver, or a driver who is not confident of his own ability to avoid crashing, for instance. For these people the level of enforcement activity is not important, as the mere existence of the law is sufficient "excuse" to do something they felt inclined to anyway. Nevertheless, the law is still the reason they wear belts.

The importance of the law as an influence on people's seat belt use is likely to decrease as time passes, and this will tend to sustain a high wearing rate regardless of the level of enforcement activity. Quite clearly, a large proportion of those who now give "safety" as their ~~only~~ reason for wearing seat belts, must have begun regular wearing because of the law. They must have initially passed through the stage where fear of arrest was the main motive for their behaviour, to their present position where the law plays no part.

There are several possible reasons for this trend. First, the wearing of seat belts is a self-reinforcing habit: the longer a motorist wears a seat belt, the less the adjustment and fastening of it is an irksome and inconvenient procedure, and the greater is the likelihood of a personal, practical demonstration of its safety

value. Second, as seat belt wearing becomes accepted practice in the community, people begin exerting social pressure on others to conform and therefore social controls take over from legal controls as an important influence. Third, there was a great deal of publicity surrounding what was reported as a dramatic drop in fatality and injury rates following introduction of the law, which convinced a number of previously sceptical wearers that seat belts actually do work. "They've been proved to work - there's been a big drop in the road toll since the law came in" was a frequently given explanation for regular use of seat belts by respondents in the 1973 survey.

Public reaction to the law

Public reaction to the law is, of course, an extremely important factor in establishing its success or otherwise. If public reaction to the law is negative, then a high level of compliance can be maintained only at the cost of growing public hostility. It therefore becomes very important to look at community attitudes to the law.

Clearly there is a high level of acceptance of the law in the community. Many people referred to the loss of freedom of choice. In the 1973 sample, 8 out of 10 people were in favour of the law. But most of these said that they felt the law had "proved itself" by the reduction in fatalities, that the saving of lives justified this loss of individual freedom. This does suggest that the high level of public acceptance of the law is dependent to a large extent on fatality and injury rates remaining low. If the benefits of the law are not easily perceived, then more people may begin to resent it.

CAN THE WEARING RATE BE INCREASED?

There is room for further promoting seat belt use among those who are now low frequency wearers. Clearly, the reasons given for not wearing seat belts are relevant here.

The 1973 survey showed that dislike of seat belts is rarely the reason given for not wearing them. Very often failure to wear a seat belt is purely because one is not available. Six out of ten people who said they only occasionally, rarely or never wore a seat belt said that a belt was not fitted to their usual seating position. A popular reason among 'mostly' wearers for not always wearing a seat belt was that one was not always available. And most of these people were either in favour of, or at least not opposed to seat belts. Presumably many people who are now low frequency wearers would become regular wearers if a seat belt were available to them. And so any expansion of the retrofitting programme would certainly increase the already high community wearing rate.

The use of propaganda is less likely to be effective in boosting the wearing rate.

Conventional propaganda has been notoriously unsuccessful in changing people's behaviour, especially seat belt wearing habits. Even where persuasive campaigns have changed public attitudes to seat belts, there has been a negligible effect on wearing rates.

The 1973 survey showed that although negative attitudes to seat belts are uncommon there remain small pockets of opposition. Continued seat belt propaganda may change the beliefs and attitudes of some of these people, but is extremely unlikely to change their behaviour. Even if it were possible to persuade these people to wear seat belts by changing their attitudes, the small increase in wearing rate involved could never justify the expense of mounting a campaign in an attempt to reach them.

Nevertheless propaganda does have a function in the community now that seat belt use is mandatory. It can be used to sustain the wearing rate and public acceptance of the law at their present high level. And it can be used to educate people on how to wear seat belts properly, and so improve the quality of wearing.

Publicity surrounding the fall in the fatality rate since the law has fostered belief in the safety value of seat belts. Many respondents in the 1973 survey were explicit that this had affected

their attitudes to seat belts and to the law itself. If fatality and injury rates are seen to remain low, then compliance with the law will be increasingly based on belief in seat belts rather than fear of arrest. And it has been shown earlier that this shift is necessary to sustaining a high wearing rate in the community.

However, propaganda and public comment on road deaths are often uninformed. It is very easy for the layman to misinterpret statistics presented to him, and it is demonstrably difficult to present him a case based on rates rather than gross numbers. This is especially so when the true picture of what is happening is nearly always submerged in a flurry of hysteria over any sudden increase in the "road toll".

There is a danger therefore, that as road deaths increase with the growth in mobility each year, public belief in the value of seat belts, and in the benefit of the law, may be undermined. The wearing rate may fall off among those whose wearing habits are not entrenched.

One way to guard against this happening is to ensure that publicity on traffic deaths and injuries frequently include some informed comment which puts any increase in perspective. Special emphasis could be given to the role of seat belt use in maintaining fatality and injury rates at a low level.

Once people have been persuaded or made to wear seat belts the question of how they wear them becomes important in considering suitable subjects for public education. The quality of protection afforded by a seat belt can vary considerably depending on how it is worn. Controlled observations of motorists in two Australian cities showed that the majority of seat belts worn were adjusted incorrectly, and a nationwide television campaign was undertaken and carefully evaluated. The Australian (Federal) Department of Transport, which co-ordinated this study has not yet reported the findings, but early results indicate that the standard of adjustment did rise to an extent which was statistically significant.

At times correct adjustment can be achieved only at considerable cost to the wearer in terms of inconvenience and discomfort, and hinder once in the normal tasks of driving. The standard of installation

and seat belt design is of fundamental importance in minimising these costs.

Regrettably, however, the standard of installation of seat belts in many cars - including those designed and built in Australia - remains generally low, deplorably low in many individual instances. Installation requirements are soon to be considerably tightened in Australia by application of more stringent Australian Design Rules. By increasing the comfort and convenience of seat belts, this upgrading of standards should discourage the tendency for people to gradually lose the habit of wearing seat belts. But incorrect adjustment is not only a function of discomfort and inconvenience. It is also a loss-related factor in that it decreases the chance of survival in a crash, and therefore the Australian Design Rules now make compulsory the fitment of seat belts with emergency locking retractor reels which insure correct adjustment of the fastened belt.

WHAT EFFECT HAS THE LEGISLATION HAD ON CRASH LOSS RATES?

The effect of the law as a loss reduction measure has been evaluated fully elsewhere and will be referred to only briefly here. Clearly it has been highly successful. The law has changed wearing behaviour in sufficient cases to markedly affect loss rates.

Henderson & Wood (1973)³ reported that the observed number of deaths of vehicle occupants in the first full year of the regulation in New South Wales, at 701, was some 25% below the number which might have been predicted from the previous trend over a 10-year period. They attributed this decrease to the introduction of the legislation since none of the other appropriate population or mobility statistic examining dropped to an extent which could have affected occupant deaths.

An evaluation of the effect on 1973 fatalities has been reported in Henderson & Freedman (1974).⁴ The authors conclude: "The number of road users being killed as the occupants of motor vehicles is now, and looks like continuing to be, some 20% below figures which over any given period, might confidently have been expected had

not this legislation been brought into effect".

SUMMARY AND CONCLUSIONS

Three years ago wearing a seat belt was an uncommon activity. Now it is normal practice, with a large majority of motorists doing so regularly. This dramatic change in behaviour can be attributed to the introduction of the mandatory-use legislation in New South Wales and the publicity surrounding it. This increase in wearing rate has in turn been responsible for a marked decrease in loss rates.

It is of interest to consider why the law has been so successful in changing behaviour.

It was concluded from the 1970 survey of seat belts use and attitudes that the widespread public resistance to seat belt use resulted from the fact that, for most people, the perceived costs outweighed the benefits to be gained. People generally believed in the safety value of seat belts in the event of a crash. But they also believed that their risk of crashing was small. This meant that knowledge of the benefits of seat belts was not a powerful motivating force. On the other hand the costs were very concrete: seat belts were felt to be uncomfortable, a nuisance to put on and adjust, a cause of claustrophobia, costly to install, and so on.

The legislation has in some way swung the balance. Now, most people feel that the benefits of seat belt use outweigh the costs. But the costs have not really changed, since seat belts themselves remained basically the same design. So the benefits must have taken on added strength. There are probably three contributing factors.

The first is that avoidance of a likely fine has become one easily perceived benefit of seat belt use. Motorists do not feel vulnerable to death and injury under normal driving conditions, but they do feel vulnerable to arrest for infringement of certain traffic rules. Whether this is based on an accurate assessment of the risks involved is not relevant. Apprehension and being fined for not wearing a seat belt is considered a very real possibility,

in a way that being killed for not wearing a seat belt never has.

Second, avoidance of social sanctions and the feeling of being "different" have become other benefits of seat belt use. Once something becomes accepted practice in a community, people experience a desire, and social pressure, to conform. It is more comfortable to conform.

Third, belief in the safety benefits of seat belts has been reinforced. The reduction in fatality and injury rates following the legislation has been taken by many people as convincing proof that seat belts do work.

It is therefore important for the future that the perceived benefits of seat belt wearing are kept high. To do this needs careful public education and informed handling of relevant crash statistics. The costs, on the other hand, must be kept low: seat belt wearing must not be a cause of unnecessary discomfort and inconvenience. We may hope that the community continues to comply with this legislation, but we cannot assume that it will.

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APPENDIX 1

THE AGE AND SEX DISTRIBUTIONS OF THE BEFORE (1970) AND
AFTER (1973) SAMPLES

YEAR	SEX	N	AGE (% of N)					
			<20	20-24	25-29	30-39	40-49	50+
1973	MALES	735	11	24	18	19	18	11
	FEMALES	516	18	19	15	19	14	15
	TOTAL	1251	14	22	16	19	16	12
1970	MALES	751	14	22	16	15	18	14
	FEMALES	244	14	16	10	24	24	12
	TOTAL	995	14	21	15	17	20	14

APPENDIX 2

Seat Belt Questionnaire

Introduction:- "I'm from the Traffic Accident Research Unit of the Department of Motor Transport, and we are doing some research on seat belts".

1. Sex.

Male ()

Female ()

2. "Are you a driver?"

Yes ()

No ()

3. "Which of the following most closely describes your motoring habits?"

Do you drive/travel in a car: "

every day ()

once a month ()

3-4 times a week ()

once a year ()

once a week ()

4. "With regard to wearing seat belts, do you do so"

always ()

rarely ()

mostly ()

never ()

occasionally ()

5(a) "Can you tell me why you (e.g. always, rarely) wear one?"

(PROBE FULLY HERE)

(b) "Is a seat belt available to you in the car you usually travel in?"

Yes ()

No ()

6. "Now, do you wear a seat belt more than ()
less than () when
about the ()
same as ()
they were not compulsory?"
7. "How would you rate the safety value of seat belts on a scale
from 1 to 5 where '1' is 'very important' and '5' is 'not very
important'?"
8. "Are you in favour of the law making it compulsory to wear seat
belts?"
Yes () No () Yes and No ()
9. "To which of the following age groups do you belong?"
Under 20 () 40-49 ()
20-24 () 50-59 ()
25-29 () 60+ ()
30-39 ()
- 10(a) "Do you live in Sydney?"
Yes () TERMINATE No () GO TO (b)
- (b) "Where are you from?" _____
Interstate () }
Other city in N.S.W. () } TERMINATE
Country Area in N.S.W. () GO TO (c)
- (c) "Are you on the land?"
Yes () No ()

