

traffic
research report

**the 50 mph
speed limit**

by

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THE 50 MPH SPEED LIMIT

ABSTRACT

This paper reviews the first year's operation of the 50 m.p.h. speed limit on New Zealand's roads. The limit was introduced on 4 December 1973 as part of the government's fuel conservation measures and was followed by a dramatic reduction in operating speeds of 8-10 m.p.h. Since that time speeds have gradually increased again but over the last few months have tended to stabilize at about 2-5 m.p.h. below pre-crisis levels.

The reduced operating speeds made a substantial contribution to the reduction in accidents and casualties that was recorded for 1974. Overall there were 9% fewer accidents in the year following the fuel crisis by comparison with the previous year. For all casualties the reduction was greater in 50 m.p.h. areas (11%) than in areas less than 50 m.p.h. (6%).

Other factors contributing to the reduced accident figures are discussed.

1. INTRODUCTION

The 50 m.p.h. speed limit was introduced on 4 December 1973 as part of the government's fuel conservation measures. It was applied to all roads which were at the time subject to either a 55 m.p.h. or 60 m.p.h. restriction.

At the time of its introduction and for some months after it was one of the most fervently discussed measures introduced in the transport field for many years. It served to reactivate the forever simmering speed limit debate which is likely to continue as long as we have cars.

The introduction of the government's fuel conservation package was accompanied by a substantial reduction in accidents and largely because of this it was decided to retain the 50 m.p.h. speed limit on all open roads.

This paper discusses the effects the limit has had on operating speeds and accidents and looks at some of the other factors and issues involved.

2. OPERATING SPEEDS

The changing of a speed limit made evident to motorists by the installation of appropriate signs, does not always have a significant effect on operating speeds, especially when the change is of small magnitude. Cleveland (1) indicates that there is a striking difference between European and American experience in this respect. Whereas American motorists have in many cases been shown to be insensitive to changes in speed limits European experience shows that, almost without exception, the speed of vehicles can be reduced by installing a speed limit.

One possible explanation is that European experience generally deals with the application of speed limits for the first time; studies of U.S. experience usually deal with revision of existing limits.

The New Zealand situation is similar to the U.S. and changes to speed limits in the past have produced no consistent change in operating speeds (2).

Under normal circumstances therefore the change from 55 m.p.h. (60 m.p.h. in a few cases) to 50 m.p.h. would have not been expected to produce any drastic changes in operating speeds.

In fact the reverse was the case and on the basis of speed checks conducted at selected locations throughout the country before and after its introduction it is clear that perhaps the greatest behaviour change in the history of New Zealand motoring was achieved. There was both a general reduction in average operating speeds of between 8 and 10 m.p.h. and a reduction in the spread or variation of speeds. The latter is normally regarded as having an important influence on accident occurrence.

There was also a substantial reduction in the proportion of vehicles travelling at the more excessive speeds.

This spectacular speed reduction appeared to be achieved largely through a radical change in attitude of motorists towards any driver who exceeded the limit. Even a person travelling 51 or 52 m.p.h. was labelled "greedy" or "anti-social" and liable to receive disapproving signs from other motorists he passed. It was almost as if every motorist became a hyper-critical traffic officer.

Regrettably, but predictably, as the need to conserve fuel receded in the eyes of the public, so too did the zealotry with which the 50 m.p.h. limit was regarded and there has been a gradual return towards previous travel speeds even though the 50 m.p.h. limit remains.

It is noteworthy however, that although the trends are not identical at all locations the Ministry's checks do suggest that over the last few months operating speeds have tended to stabilize, and at a lower level than before the crisis.

The results of the checks are summarized on Tables 1 and 2 and Graph 1. The checks were conducted on favourable sections of road and only free running vehicles were checked. The following points are of interest.

- (a) Prior to the 50 m.p.h. limit many drivers were travelling at excessive speeds. On State Highway 1 at Paraparaumu (55 m.p.h. limit) for example 41% of drivers were exceeding 60 m.p.h. and the 85%ile speed, a standard which has often been used for setting speed limits, was 67 m.p.h.

- (b) Immediately after the 50 m.p.h. limit was imposed
 - (i) average speeds reduced 8 - 10 m.p.h.
 - (ii) the standard deviation or variation in speeds also reduced.
 - (iii) the percentage of vehicles exceeding both 50 m.p.h. and 60 m.p.h. reduced dramatically.
- (c) Over the last 6 months speeds have tended to stabilize at about 2 - 5 m.p.h. below pre-crisis levels. In most locations the proportion of motorists exceeding 50 m.p.h. is 10-15% below pre-crisis levels and the proportion exceeding 60 m.p.h. is also greatly reduced.

3. ACCIDENTS

Tables 3 and 4 contain a summary of injury accidents reported to the Ministry of Transport in one year periods before and after the 50 m.p.h. limit was introduced.

Table 3 shows the total injury accidents and the number of fatal, serious and minor casualties in Urban and rural areas.

Table 4 shows similar information for the different classes of road users.

It should be noted from Graph 3 that fatal accidents in New Zealand are notoriously unpredictable. 1973 was an unexpectedly bad year and this should be borne in mind when comparisons are made.

The main points of interest which came out of the tables are as follows:

- (a) Overall there were 9% fewer accidents in the after period. December 1973 was the only month to show an increase.
- (b) The reduction in casualties 9% was in 50 m.p.h. areas but only 6% in areas less than 50 m.p.h.
- (c) Fatal and serious casualties showed a greater reduction than minor casualties. Overall, fatalities were down 15% in areas less than 50 m.p.h. and 29% in 50 m.p.h. areas.
- (d) There was a small reduction (2%) in the number of casualties per accident.
- (e) All classes of road users showed reductions in casualties. The greatest reduction was to passengers in vehicles (-15.5%), followed by drivers (-12.1%) pedestrians and cyclists (-8.2%) and motor and power cyclists (-1.8%)
- (f) There was a small reduction from 0.48 to 0.46 in the proportion of fatal and serious casualties in 50 m.p.h. areas, and from 0.34 to 0.33 in under 50 m.p.h. areas.

Table 5 contains an analysis of multiple fatality accidents and shows that the number killed per accident was slightly lower in the after period again tending to confirm a reduction in the severity of accidents.

TABLE 5
MULTIPLE FATALITY ACCIDENTS - FREQUENCY DISTRIBUTION

	Before Period Dec.72 to Nov.73	After Period Dec.73 to Nov.74
No. Killed	No. Fatal Accidents	No. Fatal Accidents
1	617	515
2	58	48
3	23	4
4	5	
5	1	1
6	1	
Total No. Accs.	695	568
Total No. Killed	803	628
No. Killed/ Accident	1.155	1.106

No. Killed/Fatal Accident	1971 = 1.128
	1972 = 1.146
	1977 = 1.138
	1974 = 1.105

4. FACTORS INFLUENCING ACCIDENT REDUCTION

The fact that the accident reduction (only the 2nd in 30 years for N.Z.) coincided with the introduction of the 50 m.p.h. limit has led many to conclude that it was directly responsible. There can be little doubt that it did play a significant part but the fact that there was a substantial accident reduction in urban as well as rural areas would immediately suggest that there were other factors involved.

Indeed, for the period under review there were more major factors at work than for some considerable time and without doubt they have each made some contribution towards the improved safety.

The Ministry has identified 5 factors which are likely to have made contributions to the reduction in accidents. Efforts have been made to isolate the precise contribution of each factor but this has proved very difficult and results are so far inconclusive.

The five factors are discussed below:-

4.1 Fuel Consumption and Traffic Volumes

4.1.1 Fuel Consumption

For some time now fuel consumption has been steadily increasing each year. In fact up until 1973 it was necessary to go back as far as 1948 to find a year in which petrol consumption decreased. 1973 showed the greatest percentage increase in petrol consumption since 1951 (9.7%) and in actual volume the greatest increase ever.

In 1974 this trend was abruptly reversed and a small decrease in fuel consumption was recorded.

Past experience has shown that fuel consumption is perhaps the most accurate predictor of accidents.

On the basis of petrol consumed in three monthly intervals since 1970 an estimate was made of the number of fatalities that would have been expected in the 12 months December 1973 to November 1974. The figure arrived at was 809 which was 49 fewer than the number recorded in the previous year.

On the basis of fuel consumption then, fewer fatalities would have been expected in the December - November period 1973/74 than occurred in 1972/73.

4.1.2 Traffic Volume

Traffic volume data obtained from various locations throughout the country tends to confirm that the reduced fuel consumption has slowed, but not stopped, the growth of traffic. It also suggests that rural traffic growth has been less than urban growth and that weekend traffic growth has been less than weekday growth. In some locations weekend traffic has actually decreased.

For all counting stations traffic volume in 1974 was 5.1% higher in urban areas and 0.2% higher in rural areas.

Overall the indications are that recreational or non-essential traffic has reduced and other traffic has increased but at only about half the rate of the previous year.

The fact that traffic volume has increased when fuel consumption has reduced slightly indicates that motorists are driving more carefully and making genuine efforts to conserve fuel.

4.2 Motor Cycle Safety Helmets

Legislation was introduced in December 1973 to make the wearing of safety helmets by motor cyclists and power cyclists compulsory at all speeds. Previously the compulsory use law applied only at speeds in excess of 30 m.p.h.

On the basis of trends over the last few years it has been predicted that without the legislation motor cycle fatalities could have increased 25%. In actual fact there was a slight decrease in both fatalities and all accidents involving motor cycles and power cycles (3).

4.3 Seat Belts

As mentioned in section 3(e) the greatest reduction in road accident casualties occurred to passengers (-15.5%) and drivers (-12.1%). The reduction in fatalities was even greater as can be seen in Table 6.

TABLE 6

FATALITIES BY ROAD USER TYPE

	M/Cyds. and P/Cyds.		Peds. and Cyclists.		Passengers		Drivers		All * Rd-Users	
	Under 50	50 or more	Under 50	50 or more	Under 50	50 or more	Under 50	50 or more	Under 50	50 or more
Dec.72 to Nov.73	77	43	132	48	60	205	75	213	347	511
Dec.75 to Nov. 74	65	39	123	28	51	137	54	156	294	361
Difference	-12	-4	-9	-20	-9	-68	-21	-57	-53	-150
% Difference	-15.6	-9.3	-6.8	-41.7	-15.	-33.2	-28.0	-26.8	-15.3	-29.4
	-13.3		-16.1		-29.1		-27.1		-23.7	

* This includes 3 for the before period and 2 for the after period which do not appear in the previous four columns. These were road user types which could not be identified.

This reduction is considered to be largely due to a combination of more widespread use of seat belts, lower operating speeds which made the belts that were being worn more effective in preventing injury, and smoother and better disciplined driving.

4.4 Smoother Driving and Increased Enforcement

Numerous subjective observations have suggested that driving throughout the country has been smoother and more orderly. Some comments have been made to the effect that there has been more bunching of traffic and that this has led to frustration and recklessness on the part of some drivers. Although no measurements have been made it is the Ministry's view that this has not been a major problem.

The smoother driving could in part be due to increased enforcement. In the first 6 months of the 50 m.p.h. limit the number of motorists for breaches of the maximum speed limit was about double those in the previous year. Despite this intensification of enforcement effort it was not possible to keep rural speeds down to those recorded immediately after the

limit was introduced (see Graph 1 and Tables 1 and 2).

Since then enforcement has been increased further, more TR6 radar units have been brought into use and detected breaches of the speed limit have increased 3 fold (see Table 7) could well be as a result of this effort, together with a reactivation of publicity stressing the need for fuel conservation, that motorists' speeds have tended to stabilize over the last few months.

TABLE 7

OFFENCES FOR EXCEEDING SPEED LIMITS

MONTH	1972/73			1973/74			Difference in Totals 1972/73 to 1973/74	
	TONs*	SINS +	TOTAL	TONs	SINS	TOTAL	No.	%
December	655	619	1274	1261	596	1857	583	+ 45.8
January	653	631	1284	1290	714	2004	720	+ 56.1
February	471	414	885	804	478	1282	397	+ 44.9
March	514	412	926	1197	624	1821	895	+ 96.7
April	521	502	1023	1472	1591	3063	2 0 4 0	+199.4
May	420	451	871	1488	1841	3329	2 4 5 8	+165.2
June	498	479	949	1228	1540	2768	1 8 1 9	+191.7
July	549	514	1063	1451	1431	2882	1 8 1 9	+171.0
August	449	462	911	1463	1350	2813	1902	- 208
September	404	555	959	1053	1054	2107	1148	+120
October	500	638	1138	1898	1915	3813	2675	+235
November	303	390	693	1727	1568	3295	2602	+376
December	655	619	1274	2139	1871	4010	2 7 3 6	+215

* Traffic Offence Notices for exceeding maximum open speed limit

+ Speeding Infringement Notices for exceeding maximum open speed limit

4.5 The 50 m.p.h. Limit

Table 3 shows that for all road users the reduction in casualties was 6% where speed limits were less than 50 m.p.h. and 1% where the 50 m.p.h. limit applied.

It might be argued that the difference (13%) is the contribution of the 50 m.p.h. limit to the total reduction. It seems clear however that both the figure and the simple subtraction by which it was obtained cannot stand up to scrutiny. At March for example the reduction in rural and urban areas was about the same (10%). If the above logic was applied it would mean that the 50 limit had made no contribution to the reduction.

The reduction in rural areas is now 1% despite evidence from the speed checks that operating speeds have continued to increase. If there was a direct relationship between speed and casualties one would expect that with these increasing speeds casualties would also increase thus reducing the difference in before and after figures. The fact that this did not occur could well mean that many motorists are still driving more cautiously even though many are driving faster on the better sections of main highways, It is also a reflection on the differences in traffic growth between urban and rural areas (section 4.1.2.)

5. THE FUNCTIONS OF SPEED LIMITS

Before concluding this paper it is appropriate to make a few comments on the functions of speed limits and the difficulties involved in setting them at acceptable levels.

No speed limit can be accurate for all vehicles and drivers on all roads in all weather conditions. Nor can a limit vary every few miles or metres to adjust to varying road requirements. A speed limit is always, therefore, something of a compromise.

Extensive experience overseas, (4) however, has indicated that an arbitrary fixed speed limit does reduce traffic accidents if it is seen to be reasonable, It does not necessarily follow that the lower the limit the more accidents are reduced. In fact unreasonably low speed limits have been shown in some studies to be less effective than higher more acceptable ones. One theory to account for this is that an acceptable speed limit has fewer vehicles exceeding it and the whole traffic stream tends to travel at a uniform speed. This reduces the need for overtaking, driver frustration and abrupt changes of vehicle speed all of which are likely to lead to accidents.

A traffic stream tends to produce its own psychological pressure on drivers to "keep up" and not hold up other people, The wide acclamation of the 50 m.p.h. limit when it was first introduced may have come from drivers who enjoyed release from this pressure to travel more slowly and enjoy the scenery. Regular travellers, however, tire of the same scenery and many of these are becoming increasingly impatient with the present 50 m.p.h. limit.

Of course a driver forced to travel faster than he wants to or feels capable of is a safety hazard. A driver slowed down below the speed he wants to travel at may become:

- (i) Impatient - and take risks
- (ii) Drowsy or inattentive
- (iii) More relaxed, taking in a fuller and more detailed picture of the traffic conditions around him

Only if this last alternative occurs does he become a safer driver although his slower speed always provides some extra margin for reaction and reduced impact forces when an accident does occur.

Generally, open road speed limits seem to have a fairly small effect on the average speeds of rural traffic but they do tend to set a "ruling speed" which may reduce traffic friction. The main objective in setting this speed limit should be to keep it as low as possible without it appearing unreasonable to too many motorists (making it seem irrelevant and making enforcement arbitrary). A rule of thumb recommended by traffic engineers is to set the speed limit at that speed which is exceeded by only 15% of drivers. This criteria is now coming under scrutiny however particularly in New Zealand and other countries where accident rates are remaining lower than before despite large scale breaches of the ruling speed limit.

6. CONCLUSIONS

Without doubt the government's fuel conservation package and the 50 m.p.h. limit as its most notable aspect from the motorists point of view had a dramatic effect on vehicle operating speeds and made a substantial contribution to the reduced accident numbers.

Its precise contribution is most difficult to determine because of the number of other factors involved, some of which are interacting.

The setting of speed limits has always been shrouded in controversy and is unlikely to ever be any different, This most seemingly elementary of safety issues is for the law maker in a democratic society most complex. It involves a basic conflict between the desire for individual mobility and the need for promoting

community safety. Unlike most other laws, many individual motorists can see no reason to sacrifice their individual freedom to comply with an arbitrary speed limit which will give some safety benefit to what they see as a small minority.

Events of the last year have added a new dimension to the conflict and one which is probably all important - at least until a new source of cheap energy is discovered,

7. REFERENCES

1. Cleveland Donald E. (1970) Traffic Control and Roadway Elements - Their Relationship to Highway Safety (Chapter 6) Highway Users Federation for Safety and Mobility.
2. Ministry of Transport (1974) The 50 m.p.h. Limit, Traffic Research Circular No. 1.
3. C. Singh and J. B. Toomath (1975) Compulsory Safety Helmet Legislation and Motorcyclist Accidents, Traffic Research Report No. 8, Ministry of Transport, New Zealand.
4. Cuuming R. W. and Croft P. G. (1973) A Review of Speed Control in relation to road safety, Australian Government Publishing Service.
5. Sabey Barbara E. (1975) Experience of Speed Limits in Great Britain, Transport and Road Research Laboratory, Great Britain.
6. Per-Olov Roosmark and Goran Nilsson (1972) Different General Speed Limits in Sweden. Effects on Road Accidents and on Vehicle Speeds, National Swedish Road and Traffic Research Institute.

TABLE 1

SPEED CHECKS 1- WELLINGTON AND CHRISTCHURCH AREAS

LOCATION	DATE	MEAN	STD.DEV	85%ile	% Ex 50	% Ex 60
Porirua-J'ville M/way (old limit 60 mph)	Nov 73	59.5 mph	8.0 mph	67 mph	86.0	46.1
	Dec 73	48.8	4.6	53	33.0	3.4
	Jan 74	52.3	5.1	58	61.0	7.6
	Mar 74	52.0	5.1	58	62.0	7.0
	May 74	51.5	5.5	56	54.1	6.5
	Jun 74	53.3	6.2	58	74.5	10.6
	Oct 74	54.9	6.3	62	78.7	17.7
	Feb 75	54.1	4.9	59	79.2	9.8
	May 75	53.4	5.9	59	71.6	10.0
Paraparaumu (S.H.1) (old limit 55 mph)	Nov 73	58.9	8.9	67.0	82.0	41.6
	Dec 73	48.0	5.4	54	35.0	3.5
	Jan 74	50.1	5.9	56	44.0	6.7
	Mar 74	52.0	6.3	58	58.2	14.5
	May 74	52.6	7.3	59	58.4	13.4
	Jun 74	54.0	8.1	62	67.7	17.6
	Oct 74	52.2	6.9	59	56.0	11.1
	Feb 75	54.1	5.7	58	70.8	11.5
	May 75	53.8	6.7	60	71.8	10.9
Tauherenikau Rd(S.H.2) (old limit 60 mph)	Nov 73	57.0	7.8	65	81.0	38.6
	Dec 73	48.5	4.6	52	28.0	4.2
	Jan 74	50.5	6.6	56	50.0	7.1
	Mar 74	51.8	7.3	58	53.3	11.0
	May 74	52.5	7.9	59	56.3	13.6
	Jun 74	53.7	7.6	60	70.3	14.5
	Oct 74	53.2	6.7	60	56.3	14.4
	Feb 75	53.6	5.1	60	69.4	12.8
	May 75	52.4	5.5	58	65.2	8.8
Dunsandel S.H.1. Christchurch (old limit 60 mph)	Nov 73	55.2	8.1	64	71.0	29.1
	Dec 73	48.0	5.9	52	29.0	2.9
	Jan 74	48.7	5.7	54	43.3	3.2
	May 74	49.8	7.0	57	47.1	5.8
	Oct 74	56.6	6.9	63	83.8	23.9
	Feb 75	53.2	6.9	59	65.0	12.0

TABLE 2

SPEED CHECKS - AUCKLAND SOUTHERN MOTORWAY

LOCATION	DATE	MEAN	STD.DEV	85%ile	% Ex 50	% Ex 60
Panama Rd int. (old limit 60 mph) (Lane 1 slow)	Nov 73	52.4	6.2	58	58.5	9.6
	Dec 73	47.9	4.1	51	20.5	1.1
	Jan 74	45.5	4.0	49	8.7	0
	Apr 74	48.7	4.4	52	29.7	0.5
	Jun 74	50.5	5.6	56	47.1	4.0
	Oct 14	49.3	4.9	54	38.1	1.9
	Feb 75	49.7	4.4	54	43.8	1.2
	May 75	50.0	6.8	54	35.7	1.7
Panama Rd int. (old limit 60 mph) (Lane 2 fast)	Nov 73	57.7	4.8	62	92.4	24.1
	Dec 73	50.7	4.1	55	43.5	2.3
	Jan 74	47.7	4.3	51	22.4	0.8
	Apr 74	51.9	4.3	56	56.5	2.0
	Jun 74	55.8	4.9	59	93.3	11.5
	Oct 74	53.7	3.7	57	78.4	2.9
	Feb 75	54.5	4.3	58	71.4	8.5
	May 75	53.0	4.1	57	79.4	4.5
Redoubt Rd int. (old limit 60 mph) Lane 1 (Slow)	Nov 73	52.6	6.2	58	62.1	10.1
	Dec 73	46.3	4.0	49	11.7	0.4
	Jan 74	47.1	4.0	50	17.7	0.4
	Apr 74	46.6	4.1	51	17.4	0.0
	Jun 74	52.0	5.8	58	60.5	4.3
	Oct 74	49.7	4.5	54	37.7	1.2
	Feb 75	50.0	6.1	56	47.2	4.3
	May 75	49.3	5.4	53	34.4	2.5
Redoubt Rd int. (old limit 60 mph) Lane 2 (Fast)	Nov 73	58.0	5.7	64	89.1	34.3
	Dec 73	50.1	4.7	53	42.1	1.8
	Jan 74	48.4	4.4	52	30.1	0.0
	Apr 74	50.8	4.2	54	50.4	1.4
	Jun 74	55.8	5.9	60	88.3	16.8
	Oct 74	53.7	4.3	58	15.7	5.2
	Feb 75	54.7	5.8	61	76.7	17.1
	May 75	53.3	4.6	58	76.8	1.1

TABLE 3

TOTAL INJURY ACCIDENTS

Period	Number of Accidents	Areas less than 50 mph				50 mph areas				Total F+inj	Total F+inj per accident
		F	S	M	Total	F	S	M	Total		
Dec '72	1,270	20	406	808	1,243	50	370	416	836	2,070	1.63
Jan '73	1,091	22	300	689	1,011	36	340	414	790	1,801	1.65
Feb '73	1,187	35	400	765	1,200	50	265	351	666	1,866	1.57
March '73	1,393	38	474	959	1,471	32	323	329	684	2,155	1.55
April '73	1,286	21	388	821	1,230	46	318	427	791	2,021	1.57
May '73	1,416	29	418	937	1,384	51	327	410	788	2,172	1.53
June '73	1,381	37	469	882	1,388	42	268	373	683	2,071	1.50
July '73	1,324	30	413	956	1,399	32	271	351	654	2,053	1.55
Aug '73	1,330	34	417	871	1,322	42	284	381	707	2,029	1.53
Sept '73	1,312	32	446	868	1,346	45	356	302	703	2,049	1.56
Oct '73	1,269	21	387	840	1,248	35	305	437	777	2,025	1.60
Nov '73	1,361	28	402	932	1,362	50	291	397	738	2,100	1.54
Total. 'Before'	15,620	347	4,920	0,328	15,595	511	3,718	4,588	8,817	24,412	1.56
Dec '73	1,354	18	414	845	1,277	37	335	455	827	2,104	1.55
Jan '74	952	18	255	561	834	30	290	336	656	1,490	1.57
Feb '74	1,027	19	329	691	1,039	27	237	291	555	1,594	1.55
March '74	1,271	31	381	896	1,308	38	266	306	610	1,918	1.51
April '74	1,224	20	374	896	1,290	37	249	336	616	1,906	1.56
May '74	1,249	32	411	875	1,318	31	238	269	544	1,862	1.49
June '74	1,249	33	381	880	1,294	41	230	290	561	1,855	1.49
July '74	1,284	20	414	926	1,360	24	209	260	493	1,853	1.44
Aug '74	1,197	36	393	917	1,346	26	199	284	509	1,855	1.55
Sept '74	1,106	17	345	810	1,146	24	204	296	524	1,696	1.53
Oct '74	1,228	26	404	844	1,274	21	260	353	634	1,908	1.55
Nov '74	1,128	24	361	727	1,112	25	224	385	634	1,746	1.55
Total 'After'	14,269	294	4,462	9,868	14,624	361	2,941	3,861	7,163	21,787	1.53
Nr. Difference	-1,351	-53	-458	-460	-971	-150	-777	-727	-1,654	-2,625	0 .03
%Change	-9%	-15%	-9%	-4%	-6%	-29%	-21%	-16%	-19%	-11%	-2%

F - Fatal injury

S - Serious injury

M - Minor injury

M - Serious & Minor injuries

TABLE 4

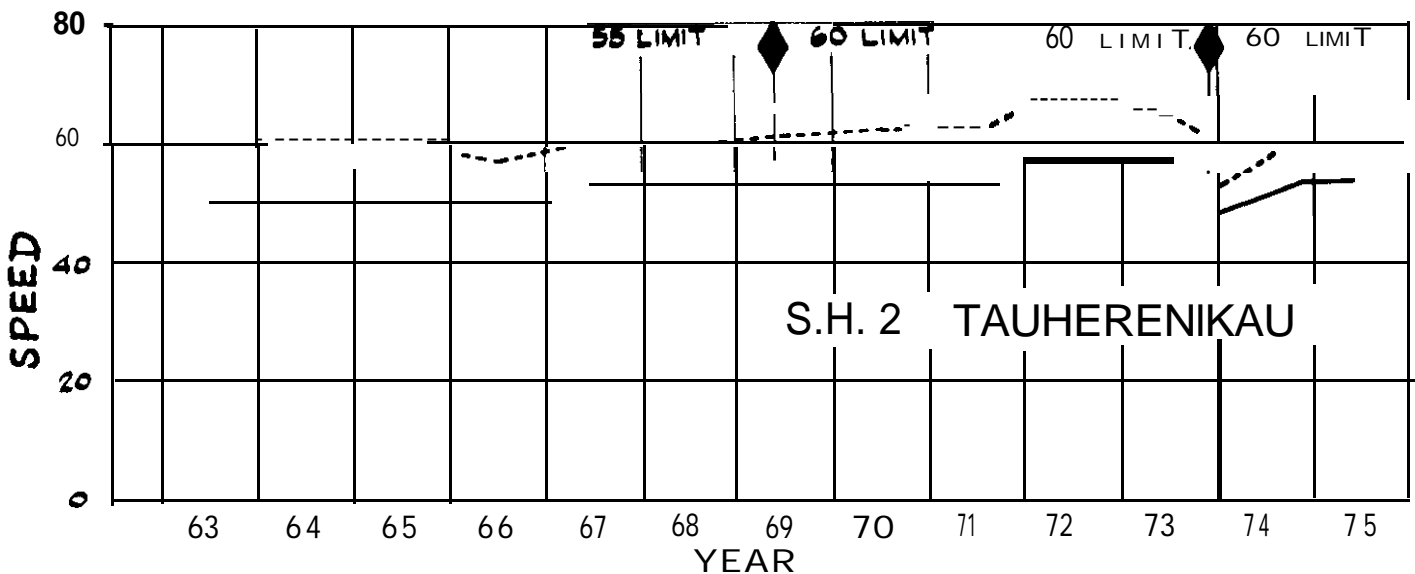
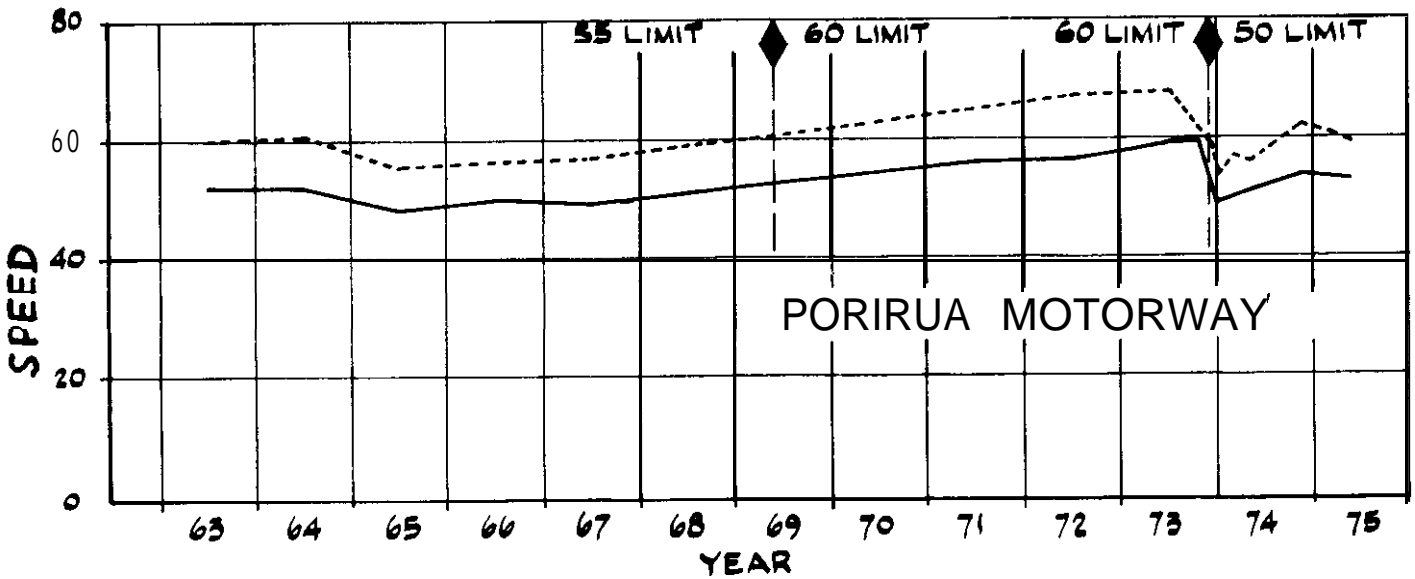
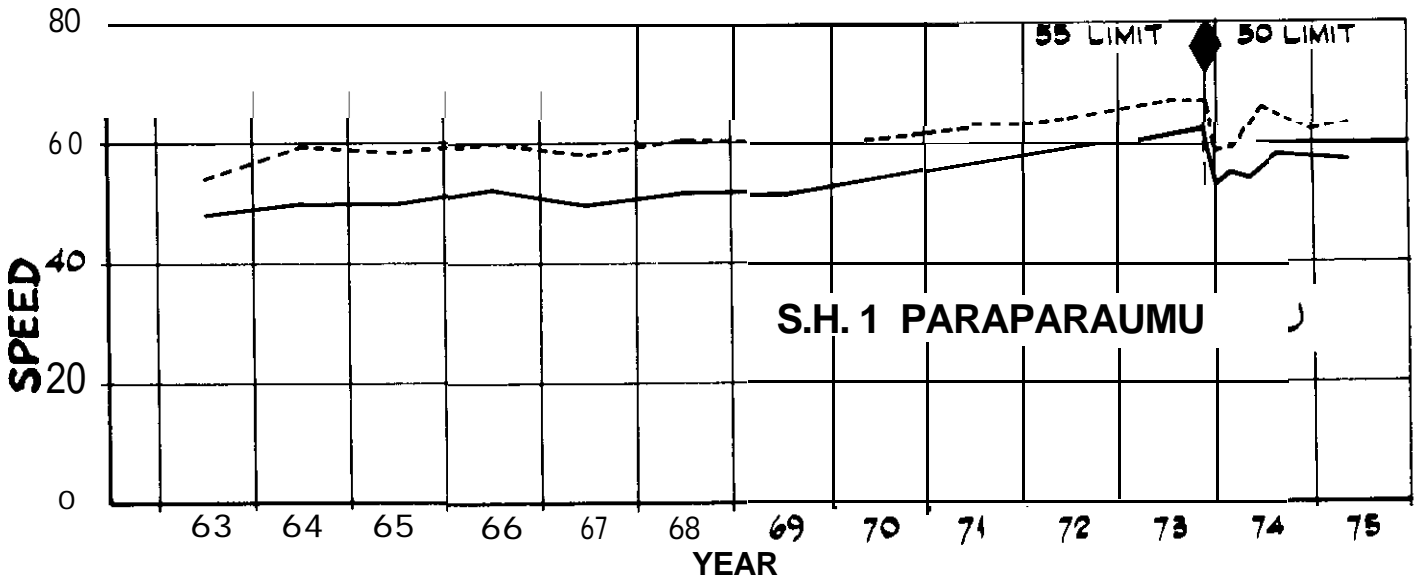
ROAD USERS KILLED & INJURED BY SPEED LIMIT AREA

Road User	Motor cyclists power cyclists & pillion		Pedestrians and push cyclists		Passengers		Drivers		All Road Users	
	Under 50	50 mph	Under 50	50 mph	Under 50	50 mph	Under 50	50 mph	Under 50	50 mph
Speed-Limit Area	F + S F+inj F+inj	F + S F+inj F+inj	F + S F+inj F+inj	F + S F+inj F+inj	F + S F+inj F+inj	F + S F+inj F+inj	F + S F+inj F+inj	F + S F+inj F+inj	F + S F+inj F+inj	F + S F+inj F+inj
December '72	291	78	197		375	400	369	324	1234	836
January '73	248	83	175	2	301	401	282	278	1011	790
February '73	285	67	255	17	329	317	323	262	1200	666
March '73	387	58	322	18	386	327	372	280	1471	684
April '73	306	66	255	8	325	408	340	309	1230	791
May '73	335	52	273	28	349	401	425	306	1384	788
June '73	321	26	298	25	360	329	406	303	1388	683
July '73	303	38	276	37	389	312	426	267	1399	654
August '73	274	35	287	20	353	328	408	324	1322	707
September '73	291	42	274	18	379	348	401	295	1346	703
October '73	284	67	255	18	344	403	361	289	1248	777
November '73	322	73	275	13	372	354	390	297	1362	738
Total "Before" Period	3647 0.40	685 0.56	3142 0.37	261 0.66	4262 0.27	4328 0.41	4503 0.33	3534 0.50	15595 0.34	0817 0.48
December '73	324	98	215	14	348	408	389	307	1277	827
January '74	220	73	157	22	234	332	220	229	834	656
February '74	286	72	199	14	271	274		195	1039	555
March '74	347	47	288	20	316	301	357	242	1308	610
April '74	301	87	237	17	370	298	380	214	1290	616
May '74	293	66	272	16	337	247	413	215	1313	544
June '74	274	48	296	20	329	247	394	246	1294	561
July '74	329	48	298	23	322	193	407	229	1360	493
August '74	304	34	262	17	374	250	404	208	1346	509
September '74	281	47	199	5	318	252	371	219	1172	524
October '74	267	71	262	16	360	292	380	255	1274	634
November '74	291	44	234	21	266	318	316	251	1112	634
Total "After" Period	3517 0.39	735 0.52	2919 0.38	205 0.65	3845 0.265	3412 0.4:	4313 0.30	2810 0.47	14624 0.3:	7163 0.46
Difference	-130	+50	-223	-56	-417	-916	-190	-724	-971	.1654
% Change			-7.1%	-21.5%				-20.5%		
All areas before	4332		34		8590		8037		24,41	
All areas after	4254		31		7257		7123		21,791	
Difference	-78		-279		-1333		-914		-2,621	
% Change	-1.8%		-8.2%		-15.5%		-12.1%		-10.7%	

GRAPH - 1

SPEEDS ON STATE HIGHWAYS

85th PERCENTILE -----
MEAN _____



ABSTRACT

the 50 mph Speed Limit : J.B. TOOMATH : Ministry of Transport, NEW ZEALAND This paper reviews the first year's operation of the 50 m.p.h. speed limit on New Zealand's roads. The limit was introduced on 4 December 1973 as part of the government's fuel conservation measures and was followed by a dramatic reduction in operating speeds of 8-10 m.p.h. Since that time speeds have gradually increased again but over the last few months have tended to stabilize at about 2-5 m.p.h. below pre-crisis levels.

The reduced operating speeds made a substantial contribution to the reduction in accidents and casualties that was recorded for 1974. Overall there were 9% fewer accidents in the year following the fuel crisis by comparison with the previous year. For all casualties the reduction was greater in 50 m.p.h. areas (1%) than in areas less than 50 m.p.h. (7%).

Other factors contributing to the reduced accident figures are discussed.