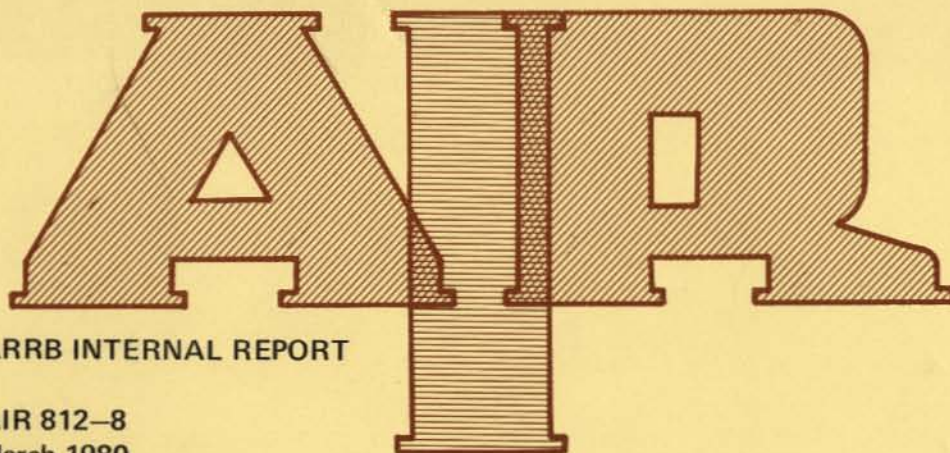


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ARRB INTERNAL REPORT

AIR 812-8
March 1980

ENFORCEMENT OF BICYCLE LAWS AND ORDINANCES

by

M.R. WIGAN

A812 : Motorcycle and bicycle safety

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AUSTRALIAN ROAD RESEARCH BOARD
INTERNAL REPORT

AUSTRALIAN ROAD RESEARCH BOARD
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REPORT SUMMARY

THE PURPOSE OF THIS REPORT

- to formally report to the Geelong Bike Plan who funded a 2 week extension to the author's 1979 private study tour on the report topic.
- is to summarise and place in context discussions held with U.S. bicycle specialists on the enforcement aspects of bicycle programs. The material collated has subsequently been expanded using further material identified. Only a limited analysis is included to facilitate discussion. The critical reduction and analysis of the subject matter is not an objective for this particular report.
- to provide a material basis for comment, discussion, and consideration, on the basis of which this document may be substantially revised. Such feedback is requested from the readers of this text.

THIS REPORT SHOULD INTEREST

- Geelong Bike Plan, Alton Industries, Milledge Bros. Pty. Ltd., Stanco Pty. Ltd., Peter Stevens Motorcycle Pty. Ltd., and ARRB.
- Safety Organisations - Police Departments - Bicycle Planners
- Education Departments - Ministries of Transport
- State Bicycle Committees, including the Victoria Minister of Transport's State Bicycle Committee

THE MAJOR CONCLUSIONS OF THE REPORT ARE

- bicycle law and ordinance enforcement programs require commitment *beyond* the 'pilot' project stage.
- bicycle education and enforcement *must* be considered (and executed) in concert.
- non-criminal categorisations of bicycle violations can be used effectively.
- non-police (and voluntary) enforcement officers may be used effectively,
- enforcement effort does not often match accident patterns, although suitable data may be identified.
- social attitudes towards cyclists (especially 'toy' and 'child' orientations) tend to condone certain traffic violations even when of high accident risk (e.g. wrong way riding).

AS A CONSEQUENCE OF THE WORK REPORTED, THE FOLLOWING ACTION IS RECOMMENDED

- specific investigation of patterns of bicycle law enforcement (both warnings and violations) and accident patterns with care to include presently unreported incidents.
- integration of bicycle enforcement and education programs of police and education bodies.
- investigation and evaluation of such joint efforts.
- final adoption of a non-criminal enforcement code in areas where integrated bicycle facilities, education, safety and enforcement programs are in hand (e.g. Geelong, Newcastle) or proposed (e.g. Melbourne).

RELATED ARRB RESEARCH

- A 812 Motorcycle and bicycle safety (incl. Victoria: State Bicycle Committee)
- P 349 Single track vehicle demand
- P 207 In depth accident studies: Adelaide

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KEYWORDS : Bicycle/accident/safety/traffic regulations/enforcement(law)/education/United States/Australia/Geelong*

ABSTRACT : A summary of discussions on enforcement issues with bicycle specialists in the U.S. during a two week study visit for, and assisted by, the Geelong Bike Plan. Education and enforcement plans appeared to be indissoluble, and social attitudes towards cyclists have a major influence on both aspects. Details of bicycle accident types (notably the work of K.C. Cross) has been swiftly taken up by educational planners, but similar analysis and application of enforcement efforts and their safety outcome has not yet gained the same support. Data from California, Montana and Michigan is compared with Geelong, and a number of similarities noted. The framework of bicycle laws and ordinances is not well coordinated between U.S. States. The use of non-criminal violation codes, peer courts, and parental warnings for bicycle enforcement are gaining support. The use of *non*-police (and sometimes also voluntary) enforcement officers offers a means of extending enforcement effort without greater demands on police resources. Integration of enforcement and education programs, with subsequent evaluation effort, is recommended for Australia.

*Non IRRD Keywords

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Accession # 549

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The use of non-criminal violation codes, peer courts, and parental warnings for bicycle enforcement are gaining support. The use of *non*-police (and sometimes also voluntary) enforcement officers offers a means of extending enforcement effort without greater demands on police resources.

Integration of enforcement and education programs, with subsequent evaluation effort, is recommended for Australia.

1. INTRODUCTION

During two weeks in June-July 1979 the author visited a number of places on the East and West coast of the U.S.A. to obtain data on enforcement of bicycle regulations and laws and establish contact with relevant individuals and agencies on behalf of the Geelong Bike Plan, which partly sponsored this journey. The number of successful enforcement programs has not been large, and in the course of numerous conversations it became clear that education and enforcement were indissoluble, and - further - that social attitudes towards bicycles and bicycle users had a major influence on both aspects. Little or no evaluation of either enforcement effectiveness itself, or the relationships between continued support for education and enforcement (i.e. other than 'pilot' programs) were identified.

Most of the discussions reported have been augmented by the results obtained from further investigations subsequently, but no attempt has been made at this stage to evaluate, criticise, or qualify the views expressed by the people visited, other than the addition of complementary data or further relevant material.

2. PALO ALTO

JOHN FORESTER:

The first visit in the U.S.A. was to Palo Alto to talk to the new President of the League of American Wheelmen, Member of the TRB Bicycle Committee, and prominent cycle education specialist, John Forester. His basic view is that social attitude is a crucial element of enforcement. John Forester's personal citations on mainland U.S.A. include riding on a road signed as a truck road and moving to the centre of the road to do a left hand turn. In practical terms the police on car patrol frequently meet bikes riding head on towards them on the wrong side of the road and take no action to enforce this illegal manoeuvre. Stop signs are sometimes observed to be enforced on bicycle riders. Forester concludes that actual police enforcement in the U.S.A. in practise matches neither the cyclist's views of proper conduct nor the law. In a few U.S. Cities sensible enforcement procedures are followed but presently the predominant attitude in American society is a low expectation (or desire) to see cyclists to ride 'properly' - i.e. as road vehicles rather than 'kids toys'. It is not generally appreciated that cyclists strongly desire to see vehicular traffic laws actively enforced on themselves and other cyclists.

The Californian Highway Patrol (CHP) has a good record as a highway patrol and California is the predominant bicycle State. The CHP assisted in the change of the law to "when cyclist is travelling less than the speed of traffic cyclists should proceed on one line". In this State bicycles are vehicles when being ridden but are *not* when they are being pushed. In most States bicycles are not vehicles and indeed nor are horses, but riders of both of these categories are *riders of vehicles*: this is a general rule in the U.S.A.

The new Uniform Vehicle Code for the United States has proper coverage of bicycles. One of Forester's major points on enforcement was that motor vehicle encroachment on bikelanes is desirable to keep the bikelanes clean and swept free of road debris and reciprocal encroachment outside the lane by the bicycle is sometimes necessary for overtaking within the bikeway. Forester is aware of no evidence that either such action leads to an increased risk of accidents.

Regulations that require bicycles to use bicycle facilities when provided and forbid motor vehicles from using them under all circumstances can therefore be counter-productive. Most of the road dirt tends to get thrown into the bicycle lanes when they are segregated from the main road by stripes only. This is a safety hazard. It is interesting to note that such bike-lanes - especially when the lanes are treated with a white aggregate in contrast to the dark surface of the main road - have been shown to work in Geelong itself in precisely the manner advocated by Forester.

The U.S. Consumer Product Safety Council has a Standard in effect whose enforcement was claimed to affect bicycle safety. Forester took CPSC to court on several of the clauses, while Flora *et al.* (1975, 1978) have demonstrated the deficiencies in the hazard rating indices used by CPSC for bicycle data. The enforcement of the CPSC Standard would seem to be of unproven advantage in safety terms.

Forester has closely examined the Lansing, Michigan Bicycle Patrol and noted that they effectively enforced the normal traffic rules upon cyclists, and that they had good community relations. Forester asserts that there is a very strong relationship between education and enforcement, but that the real need is for research on how to change police attitude and behaviour towards cyclists.

3. SACRAMENTO

3.1 DICK ROGERS

Dick Rogers (Chief of Bicycle Facilities, CALTRANS) considers that enforcement is generally working in California although there are comparatively few violation tickets. Not many law enforcement officers actually regard the bicycle as a vehicle. Bicycle registration was and is actively sought by law enforcement officers, but when it was brought in to California in the early 1970's the implementation had a number of loopholes. There is a Statewide method for bicycle registration, but it is not mandatory. If a City uses it, then they have to use the California DMV Standard procedures defined. Registration under this system can be done through fire stations and other public buildings. The effectiveness of this general approach has proved to be rather limited.

3.2 DICK RADEMACHER

Sergeant Dick Rademacher of the California Highway Patrol has an active concern with both bicycle and motorcycle enforcement and education. There are 2700 Californian Highway Patrol officers on the road in California mainly in metropolitan areas. Los Angeles, Sacramento, San Francisco and San Diego account for most of these officers. The attitude of car road user was reported to be "bicycles have no right on the roads". The acculturation process is, however, improving steadily with time. Only the Department of Motor Vehicles handles registration procedures in California. The main violation recorded by the CHP is driving on the wrong side of the road: Rademacher's view is that the bicyclists are therefore viewing themselves as pedestrians while riding. This is actually the exact opposite of the situation which exists in law. The bicycle being pushed is indeed being pushed by a pedestrian, the bicycle when ridden is indeed a vehicle and therefore not a pedestrian.

The Californian Highway Patrol maintains sufficient detail on its computer files of violations and verbal warnings to be able to correlate this information for the full range of categories of offenses in which bicycle riders are involved. This data had not previously been extracted from the CHP files and was done at my request. The results are given in Table I, and are presented with the total bicycle accidents reported in California for the same years. The CHP is essentially responsible for the rural and major roads in the State, and thus a substantial mileage of roads used by bicycles are not covered by the violations and warning statistics, although the total accident figures - also supplied by the CHP - cover the whole of California. The last column is, however, fully consistent with the rest of the CHP data and enables the accidents (where the CHP claims the bicyclist was at fault) and the offence descriptions to be examined directly on comparable grounds.

The major problem appears to be cycles in violation of a car's right-of-way, leading to numerous deaths, injuries - but few arrests or warnings. Turning offenses also led to many accidents, but to far more arrests and warnings.

Enforcement of stop signals, drunk driving, brakes, and wrong side of the road driving is substantial, but reckless driving, excessive speed, lane change and passing offenses were subject to far more accidents where the cycle was at fault than arrests or even verbal warnings.

In some cases arrests and verbal warnings far out weighed accident involvement; bicycle lights and pedestrian violations being particularly evident. For such events the enforcement effort is either excessive - or superbly successful. In any event the analysis of verbal warnings, accident, and arrests on these lines would appear to be a productive method for monitoring enforcement effort deployment, if not for judging its effectiveness.

Further investigation of this data, and other like it, would therefore be useful.

California Highway Patrol reacted to the vast rise in use and consequent accidents by education on the age group of under 18. The general philosophy is to use parental notification. The age break is due to the fact 18 distinguishes adults from infants in law. There is a provision on which the officers make limited use, namely of bike violations and a follow up. The follow up is three warnings in one year for those under age. When three warnings have been received then a conviction is sought from those of age 18+. The bike riding statistics are derived from police activity records, (i.e. Form 101). The computer system does not record the call backs for enforcement, but all entries are included by violation code: bicycles do have a vehicle type code (04). The enforcement difficulties faced by officers due mainly to social attitudes, as officers have difficulty in enforcement with infants. There is a strong correlation between officers' individual interest and the effectiveness of enforcement. Western Los Angeles carried out an enforcement program which gained the officers interest, and it worked well. Bicycles are actually used for police enforcement as a form of "neighbourhood cop" and slow speed patrol to reduce burglary and other similar offenses. The Los Angeles Police Department makes particular use of bicycles for night operations in the Long Beach area. The City of Irvine uses patrol bicycles for enforcement officers as also does the City of Davis.

Mopeds and bicycles are treated virtually as one in California at present, and Rademacher has produced educational safety materials for both (Wigan 1979b).

TABLE I

ARRESTS, ACCIDENTS AND VERBAL WARNINGS GIVEN TO BICYCLES FROM CALIFORNIA HIGHWAY PATROL RECORDS

(Source: California Highway Patrol 1979)

Related Group Categories	1973		1974		1975		1976		1977		1978		Total	1978 Accidents where bicycle at fault	
	Arrests	Verbal Warnings	Arrests	Verbal Warnings	Arrests	Verbal Warnings	Arrests	Verbal Warnings	Arrests	Verbal Warnings	Arrests	Verbal Warnings		Inj.	Fatal
Drunk in Public Place	10		13	1	4		1	1	8		2	1			
County ordinances	41	22	21		125	12	56	20	7	6	12	2			
City ordinances				2			1								
Business and Professions Code	4		3		3		5		3						
Felony Penal Code	6	1	6	1	4		3		5	1	6				
Felony Health and Safety Code	5		10	1	10		2		2						
Misdemeanour Health and Safety Code			1	1	4		4		4		4				
Misdemeanour Penal Code	16	3	11	7	15	5	17	4	9	1		1			
Street and Highways Code	7	6	7	10	17	3	5	11		8	1	2			
Welfare and Institutions Code	8		12	1	2	2	6	1	1	1					
Manslaughter			1				1				1				
Non-vehicle (not in 1-15)	920	1094	52	31	58	36	29	26	11	8	3	1			
Hit and Run	1		2		1		1		2						
Drunk Driving	41	1	76	3	62	1	47		98		83	1	24	23	1
Improper Lane	1	1	1	3	1	3	2		2	8	3	5			
Impeding Traffic	10	53	11	39	11	24	1	25	7	14	5	23			
Stop Signal	2638	1086	2652	1221	2258	1059	1993	984	1499	659	967	556	556	555	1
Stop Sign	7104	4378	6993	4244	6218	4217	5523	4041	3384	2857	1959	2401			
Excessive Speed	131	129	163	186	42	72	39	51	27	63	35	55	83	83	—
Reckless Driving	17		10	11	4	5	6	4	6	5	7	3	232	231	1
Wrong Side of Road	1611	3425	1026	2073	903	2108	665	1538	413	860	423	877	415	415	—
Lane Change	22	53	14	71	17	50	9	60	6	33	13	42	71	71	—
Passing	12	11	9	8	8	12	9	12	7	10	11	6	46	45	—
Following too closely	22	15	14	10	13	13	12	10	7	6	9	9	11	11	—
Turning	319	446	291	336	294	230	282	210	177	135	183	171	532	524	8
Veh. v. Veh.: Right of Way Car	328	264	307	208	240	195	218	170	166	132	131	101	1206	1186	18
Veh. v. Ped.: Right of Way Ped.	6	11	4	6	9	3	7	2	6	2	2	2	4	4	1
Pedestrian Violation	455	547	417	479	429	550	391	531	346	450	307	422	43	43	—
Drugs	1						1		3		2		2	2	—
Stopping, Standing, Parking	8	57	18	45	9	32	2	40	4	17	7	19			
Lights	8048	3944	7739	3625	5414	3254	4700	2481	2918	1806	1943	1536	73	72	1
Brakes	313	87	361	147	371	167	313	108	205	93	141	64	23	23	—
Other Equipment	145	122	97	61	1322	373	262	105	148	57	128	37	5	5	—
Other Driving Violations	20 684	18 724	17 485	15 568	14 067	14 237	11 622	11 533	7183	7581	4252	4838	1077	1065	12
Registration Violations	78	28	79	23	103	33	99	37	131	38	132	30			
Other Violations	206	58	925	871	752	676	544	556	464	421	378	313	160	160	—
Smoke	4		4	1	2	2	2	3	1	1	5	3			
Noise	30	11	39	7	22	7	22	3	30	3	18	4			
Weight		2					2	2							
Size	1	1		1		3				1					
Maximum Speed					109	106	108	98	79	76	114	51			
Unsafe Parking and Backing					3	5		4	2	3	2	4	23	23	—
Off-Highway Vehicle Violations									5		7	2			
TOTAL	43 253	34 580	38 874	29 309	32 927	27 497	27 012	22 671	17 376	15 356	11 296	11 582	4586	4543	43
TOTAL CALIFORNIA BICYCLE ACCIDENTS															
Fatal		120		107		81		93		78		81			(81)
Injury		10 415		10 610		9333		9645		9463		9114			(9114)
TOTAL		10 535		10 717		9414		9738		9541		9195			(9195)

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In 1978 the Californian Highway Patrol was allowed to use the motor vehicle stolen vehicles registration record for bicycles. However note the prior use of the stolen articles Statewide file. There was an extremely low recovery rate for bicycles through this motor vehicle system, i.e. under 1 per cent. However the input rate is over 250 stolen bicycles per month and the rate is now over 1000 per month. Earlier, in 1974, 43 000 bicycles listed as stolen on CHP records: this number is now less on the lists. However, it should be noted that this is less than 25 per cent of the real list on Rademacher's estimate. This is partly due to the fact that the serial numbers are marked in only some of the Counties operating the bicycle registration scheme and not all the Counties operate any scheme at all. The bicycle registration fee is typically \$3 U.S. Many local schemes have abandoned this under Proposition 13 cuts and in fact it can fairly be said that bicycle registration virtually does not exist from the CHP point of view. The recovery rate is near-zero and most of the desirable machines are stripped and sold for parts.

3.3 BOB TERRY

Bob Terry is a consultant in the California State Department of Education in Sacramento and highly commended the 1977 Californian Traffic Safety Education Task Force Report which covered education, research, and enforcement issues with CHP involvement by Dick Rademacher. In California funding is generally available for education in traffic safety but *not* for enforcement, thus sharply diluting the impact of the education undertaken. MAUDEP as a forum for bicycle interests is good for bicycle planners, but educators and safety administrators are severely under-represented leading to a real problem in balance.

The implementation of links between enforcement and education are crucial; one example being that for a right hand turn (in U.S.A.) off bikeways. Educational material and safe cycling sources give conflicting advice, and conflicts with legal provision are propagated at present.

One of the major relevant projects currently under way in California is being led by Dr. Margaret Hubbard Jones, an educational psychologist at the University of Southern California, and is called "AB 1386: Comprehensive Traffic Safety Education Program". It has a substantial evaluation process integral to the whole program.

3.4 BILL COLE

Bill Cole (Health and Safety Department, California State University) was fortuitously present at meetings with the Californian Education Department and was involved with the Temple City, Los Angeles project quite some considerable number of years ago. Cole was on the City Traffic Commission and observed a marked up surge of bicycle accidents in the late 1960's. The usual response at that time was appeal to essentially engineering solutions of signs, etc., and sometimes enforcement - almost never education. Cole's primary aim in this work was to obtain a change in social climate and attitude. Cole obtained funding of around \$50 000 from the Traffic Committee at Temple City in 1968 and succeeded in getting the cooperation of the appropriate school district. This proposal had to be developed as a bicycle plus pedestrian program with dual enforcement (this being 1968 there was no bicycle category in the State legal code to which to attach the funding). It was carried out as a joint City and school project. Cole was the education consultant, and had a slow careful task obtaining the full cooperation of the enforcement bodies: at least in part due to difficulties concerned with the self-image of the enforcement parties where the enforcement on child cyclists is involved.

The Sheriff's Department was used for enforcement with an "Adopted Deputy" appointment. The Sheriff sought for volunteers to work with kids, found one or two extremely committed people, one of whom was the Bike Safety Officer. Cole's primary hypothesis derived from this experience was that education alone could not change behaviour, consequently he developed an education program with in-service teachers, then taught these to be the lead-teachers in their schools. He then obtained video-tapes of the children's actual behaviour *near* schools before the program started as base-line data. First of all he pre-tested the children (who proved to have a very high level of initial knowledge) and then mounted the education program. The post-education program tests showed an improved level of knowledge after the training. The video-tape equipment was then set up and used again in the area near the school. No changes in behaviour were observed. The enforcement phase was then initiated with very heavy publicity in order to emphasise "what we are about to do" and the Sheriffs went into the schools and told the children about this active program of enforcement, and told them that any violations would lead to their parents becoming involved. From the first day of genuine and visible enforcement - checked using video-tapes - there was a sudden change in behaviour due to this feedback. Not *one* repeat offender was recorded throughout this enforcement scheme: parents were very reluctant to use up another Saturday to accompany their children to education or remedial warning classes.

Cole's general conclusions were that it *is* effectively impossible to enforce without education. In 1979 the City still has a Bicycle Officer, but 1970 saw the end of this specific project funding and the Education Department promptly withdrew support for the education component to meet other funding priorities. The evaluation was only level 1 (i.e. no sampling, etc.), but even so it did demonstrate the need for planning to obtain the joint effect obtainable only by complementing enforcement and education.

3.5 RAY PECK

Ray Peck (Office of Research, Department of Motor Vehicles, State of California). Peck reported excellent results from the motorcycle safety, training, and licencing, experiment being carried out in cooperation with the NHTSA: both tougher testing and remedial training were showing significant improvements in subsequent accident record at a level that is undoubtedly statistically significant. I suggested that Forester's Effective Cycling Course could be considered for evaluation on the same basis and proposed that Peck raise this with the Office of Traffic Safety in NHTSA. A copy of the Geelong report is to be sent to him. The primary present activity in the DMV research group is to complete Roger Hagan's report on licence suspension versus rehabilitation for drunken drivers. Initial results suggest licence suspension is preferable but the results have not yet been adjusted for all biases. There is possibly some evidence of corrective training for enforcement improving driver performance. This may not survive final analysis. One item picked up in conversation with Jim McKnight of the NPSRI in Washington was that Ray Peck is now the Chairman of the TRB Committee on Operator Regulation A3B10 (and has been now for three years).

3.6 DONALD TILLMAN

Donald Tillman, the City Engineer of Los Angeles addressed the MAUDEP* Conference closing session and reported on very severe bikeway/sidewalk conflicts in Venice, Los Angeles. Skateboard and roller skate users are now conflicting heavily with bicycle riders on bicycle ways. There has been one fatality of a young boy with a car on impact on a skateboard, and since then an old lady has been killed by a bicycle, the pedestrian conflicts are also becoming significant. Once the bikeway had been opened Venice initially became a carpet of bicycles with just a few joggers and skateboard riders, but when the new roller skates with skateboard wheels came in, skaters and bicyclists began to clash seriously. Roller skaters have substantially taken over the bikeways especially those near the coast and family clusters of skaters have tended to push bikes off the bikeroads. There is now a major conflict in Venice between the different groups, and the police - on bicycles - are handing out very large numbers of violations. It is a genuine major problem which they hope will now be solved by building a new area specifically for skaters. Bike routes are signed by boards put up as small maps on signposts. Some of the crossings lead to steep ramps, which are handled by bicyclists - but are most unpopular with roller skaters.

4. SANTA BARBARA

4.1 KEN CROSS

Ken Cross (Anacapa Sciences) has done a considerable amount of work on accident analysis and countermeasures, and applied this to education and enforcement issues. In his view effective enforcement would be highly effective in accident terms especially for bicycle riding in the direction opposing the traffic stream. The second category of accidents which would be affected would be young riders riding straight out of driveways without any warning or scan for main road traffic flows. The third category would be picking up and handling - not necessarily with simple enforcement means - the traps in signalised intersections for bicycles caught between phases. Cross has been involved in programs to motivate police officers to actively enforce the laws for vehicular movement on the bicycles. This gained several orders of magnitude increase in citation numbers and worked very well for two to three months. Then the pressure was removed and within a very short time fell back to the original level. It is presently virtually non-existent in Santa Barbara. This is in Cross' experience typical of U.S. communities. Cross considers that good enforcement will need bicycle specific enforcement staff (e.g. committed students, etc.) and points out that crucial difficulties have been found in providing adequate enforcement on quiet streets, pointing out that a familiar stop sign is frequently run through without any warning or precautionary scan by the rider. Clearly such irregular and widely dispersed behavioural failures will not be readily corrected by any realistic level of enforcement in such low density areas. See further in Cross and Fisher (1977).

* International Conference on the Planning Design and Implementation of Bicycle, Pedestrian and Moped Facilities, San Diego. July, 1979.

4.2 ED AASTED

Ed Aasted of the Santa Barbara Police Department has carried through one of the few successful enforcement programs. The working material for his program is documented in SBPD (1973). Arrangements made to meet with him fell through due to airline delays and his unavailability throughout the day following, although this was then spent in Santa Barbara specifically for this purpose. A brief summary of his approach may be condensed from this source and a summary from DeLeuw Cather (1978) as follows:

"Aasted feels there should be equal enforcement of the laws. In his view the Santa Barbara enforcement program worked because one ticket per week was required from each officer. The program is based on education, warning, and enforcement. The media and bike rodeos were used as well as programs in schools to educate the public.

First offenders were issued a warning and asked questions from a small questionnaire about themselves and the reason for the violation. The youth signed the form; a copy of the warning went in the police file, and the original was sent to the parent along with a letter and bicycle information.

If the child committed a second offense, a summons was sent for him to appear in juvenile court. At first, the courts thought the violations were a joke and let the kids off, but Aasted educated the courts to be more punitive. Aasted stated that he had support from the top; one of the most important ingredients of the program."

4.3 KIRBY DUNCAN

Lt. Kirby Duncan (Santa Barbara Police Department). An enforcement film 10 minutes long, was made for the police themselves as a result of low enthusiasm in enforcement. The results were excellent, and up to 3000 violation records for the year were then produced. But as soon as the \$25 000 p.a. grant used for the enforcement was suspended by the Proposition 13 cuts, the whole of the program was cut.

4.4 MARY HARTER

Mary Harter (Public Works Department). The current involvement in bicycle planning education and safety within Santa Barbara City is now represented solely by Mary Harter, who has recently been appointed to this role.

5. WASHINGTON D.C.

5.1 AL FARINA

Al Farina of NHTSA is responsible for both the Cross and the Dunlap studies. Dunlap and Cross are jointly involved in a project on the evaluation of existing pedestrian and bicycle regulations and Farina will send a copy of the 1976 RFP (Request for Proposal) brief. For the Cross study on bicycle and motor vehicle accidents Farina wanted to pursue pedestrian style of in-depth analysis and get at the human factors with a more behavioural description and away from epidemiological demography. The pedestrian model of scan and critical effect for driver errors was his initial model. The exposure and stratification issues were not covered either for pedestrians or for bicycles, but this does not affect the typing and classification schema of the accident patterns concerned. The bicycle accident studies are too recent for a similar development to have been reached, but in a total of 13 cities (i.e. 2000 accidents) studied in the pedestrian program, NHTSA were able to develop accident types *and* now frequencies as well: it is expected that these 13 cities provided a representative national picture. When before and after histories for countermeasures appraisal were subsequently carried out, very stable frequency rankings were found, although there *are* some true regional differences. For example, multiple hazard accidents - screening by a stopped car which represents 2 per cent of pedestrian accidents outside California, but 6 per cent within the State: many countermeasures are in effect in California yet the law is the same everywhere. It is hoped that similar broad stability of representation will also apply to bicycles. Farina agreed that the sampling in the Cross study *was* rather less than rigorous for national representation of bicycle/motor vehicle incidents. Consequently, there is further work on the movement classifications, countermeasures, and the Dunlap project. Countermeasures being grouped as -

1. Training;
2. Information and education material; and,
3. Regulation - enforcement - (i.e. check the countermeasure areas as evaluated from accident frequencies under the categories of changes in information, in perception and in performance).

To gain some time in this program Dunlap and Associates were asked to review all areas and to find the best ten countermeasures in each (i.e. 30). The final result of this project will be to have many countermeasures which have survived several filters. The team comprises Cross and Dunlap, and a general periodic review process has been followed throughout the project. The first review held at Belmont used a group mutual criticism conference to find ideas. Over 100 of these related to accident types and communications survived. Dunlap then evaluated and packaged them in a codified format. At the second review meeting now being written up as an interim report due to be sent to the author these were refined. Farina could see no problem in permitting access to Cross' bicycle/motor vehicle accident tapes if it would help Australian work. Following on from the Cross study a further contract was let to produce a procedure to match accident classifications to accidents held on other accident tapes to match bicycle incidents on the ground in greater detail. Richard Duker of Applied Science Associates Inc. is developing these classification procedures to get retotyping in the field. A draft manual for retotyping of pedestrian accidents by R.M. Thackery has already been produced by Applied Science Associates in May, 1977 with a final report by the end of 1979 (on NHTSA project DOT-HS06-0145 3). This being the background to this work on bicycles.

5.2 ED KEARNEY

Ed Kearney is the Executive Director of the National Committee on Traffic Laws and Ordinances, and is responsible for the Uniform Vehicle Traffic Code. The issue of the Code published in 1974 refers to 1973, and there have been some substantial changes to this since. The current supplementary update scheme covers 1974, 1975 and 1976 laws and is entitled 'Traffic Laws Annotated 1972 with the 1977 Supplement': published by National Committee on Uniform Traffic Laws and Ordinances (at \$21 U.S.). Currently this reference book is being revised to cover 1977 and 1978 as the supplementary volume has grown too big. This next issue was due out in late 1979 - although it may run over to 1980 - and will have a U.S. Government Printing Office imprint. The regulations covering bicycle registration are essentially local ordinances, in the area of responsibility of individual Cities. There are three major exceptions:

1. The State of Maryland has a voluntary registration within the State which has not worked at all well.
2. The State of Minnesota has a general State system and it seems to be working: it is however not more than two years old.
3. The District of Columbia used to register bicycles, discontinued the practise and has recently started again on a compulsory basis.

Bicycle licencing is very rarely a matter called up by other regulations. However, a couple of Cities have a minimum age limit for riding at around 12 years of age. One National anomaly is that the Uniform Vehicle Code (para. 1-105) defines a bicycle as:

"Every device propelled by human power upon which any person may ride, having two tandem wheels either of which is not less than 14 inches in diameter".

So that small wheeled bicycle riders are exempt from being held to be "vehicle controllers": this was probably intended to cover children's cycles, rather than the modern Moulton, Bickerton, or similar cycles.

A contract is held by Alan Hale and Richard Blombery of Dunlap and Associates to evaluate bicycle law: they are presently undertaking a country-wide search for unusual ordinances. One West Coast City has been found to require a demonstration of riding capability before registration. Dunlap have compiled two massive loose-leaf books for the National Traffic Code and all of the less-common current ordinances: Cross is involved in the evaluation aspects of this project.

Puerto Rico has had a law for bicycle helmets use on the books since 1976 although this has on occasion proved to be unknown not only to the public but also to senior Police Officers.

Laws of Puerto Rico 1976, Section 1181, Sub-Section 11b -

"It shall be illegal to ride a bicycle upon public highway of high vehicular density without being equipped with a protective helmet meeting requirements established by the Secretary in accordance with the ANSI Standard for Protective Helmets published".

The extremely strong Washington Area Bicycle Association (WABA) is politically active on enforcement issues and provides lawyers to defend bicyclists charged with violating traffic laws. It has been frequently found that in such cases wrongful prosecutions have been brought as a result of police and court misunderstandings of the laws that presently apply to bicycles and their riders.

The review of bicycle laws carried out in 1974 and later reported in Traffic Laws Commentary was extremely difficult. As one example, the ordinances of the District of Columbia are not even listed in the D.C. Traffic Code's Section on Laws. Kearney recently cooperated with Eileen Kadesh (Bicycle Coordinator, D.C. Department of Transportation) on her "Officer Friendly" program with the Community Relations Department of the D.C. Police in order to inform them in detail of the regulations.

5.3 EILEEN KADESH

Eileen Kadesh is presently Bicycle Coordinator, District of Columbia Department of Transport. Kadesh uses the Milner-Fenwick Incorporated (3800 Liberty Heights Avenue, Baltimore Maryland, 2125. Telephone 301 664 2600 David Milner) Course as a basis for the encouragement of enforcement by police. The D.C. Police have recently allocated officers to the usual "Officer Friendly" duties, and Kadesh has taught them using the Milner-Fenwick kits. These kits cover the 4th - 8th grades (i.e. 9-13 years) and identify 'hazards in sight', 'accident analysis' and 'owning a bicycle' using cassettes, films and printed briefs. After this course had been given to the Officer Friendlies, they became extremely keen on the education aspects. The implications for enforcement are evident.

Kadesh organised a conference over a whole day in October 1977 for the D.C. Police. It was led and taught by those few people who have actually done enforcement on any scale in the U.S.A. The key names are Aasted of the Santa Barbara Police Department, Dettmar at Mt. Prospect Illinois and Holt at Richfield, Minnesota. A summary of the Santa Barbara approach has already been given here, but a precis of the views of the other two officers follows, derived from DeLeuw, Cather (1978) and Mt. Prospect Police Department (1978).

"Ernest Dettmar is "Officer Friendly" and Bicycle Safety Officer for Mt. Prospect and started a bicycle safety education program after attending a bicycle safety seminar in his police department. The program centers around enforcement, education, evaluation, and registration. U.S. Department of Transportation grant funds are used for his registration program, while funds from financial institutions are used for bike safety rodeos, etc.

Violators are tried by peer courts. Dettmar explained that "the regular courts do not have time for these small offenses. The peer courts are chosen by peers 13-15 years of age from Explorer Boy Scouts who are in good standing."

There were at first few citations by police. But during the second year the police were shown a film about bicycle fatalities,

and participation jumped to 75 per cent. In 1977, 471 citations were given in a three-month period, and there was a 32 per cent reduction in accidents. The similarities to Santa Barbara are worth noting in the need to motivate the police themselves.

Ron Holt regards his program as having 3 essential elements: education, enforcement, and judicial. "The first things a community must do is recognize that there is a bicycle safety problem and the police department must accept the responsibility for it. Bicycle violations are in the trillions." By using only a \$600 budget educating the public and enforcing the laws a drastic reduction in accidents was obtained.

In the first year of the program, volunteers were used to enforce bicycle laws. In 1976, five young people were hired full-time at minimum wage to patrol on bicycles and give out tickets. The candidates were carefully screened by the police department for proper attitudes. Then, at minimum expense, they were put through a bicycle enforcement training course by the police department, covering for example, safety, first aid, and regulations. The young people worked closely with the police department. Bicyclist violators were sent to seminars on bike safety and were tried by a youth court.

Since police are hesitant to write tickets for children for many obvious reasons, the first year only five tickets were written. However, policemen were then indoctrinated with the philosophy that it is better to write a ticket now and save the child's life. Over 400 tickets have been written this year and thefts have been reduced.

A movie about the program demonstrates that 9-16 year old children are not only future car owners, but are also very impressionable. If they get the proper traffic safety training when they are young while riding their bikes, it will probably carry over in traffic safety for the rest of their lives. The program is regarded in Richfield as being singularly and uses existing resources whenever possible."

The police in the Traffic Division of the D.C. force are not generally interested in bicycles and consequently appear to be unsympathetic: this is understandable as crime is of primary concern in D.C. and only 3 per cent of the road accidents in D.C. are on bicycles. The Traffic Division priorities are therefore readily understandable. There are now, as a new and recent development, 40 designated Officer Friendlies from the Community Relations Division and a dip in their commitment profile occurs in Summer when 80 per cent of bicycle accidents occur in D.C. This provided the opportunity for the use of the Milton-Fenwick basic course. The Barton-Aschmann (1975) report to the D.C. Department of Transport devoted a full memorandum (Number 6 in the Barton-Aschmann report) to the pros and cons of bicycle operator licencing and its enforcement.

Some of the P.R. Actions undertaken by Kadash in order to improve enforcement include those directed at:

1. Motorists - a leaflet is sent out with all D.C. licence renewals
2. The Public - "bicycles are vehicles - respect cyclists' right of way" mounted on the back of 300 D.D. buses.

3. Education for adults - with two workshop series for adult and use at both senior and junior high level.
4. Officer Friendlies - in the Police Department to give them a specialised course.

The adult and youth courses are given a pack of contact materials including Sprocket Man and bicycle magazines with the specific documents "Brush up on Bikes" and "Avoiding Bike Accidents".

5. Kadesh is thinking of passing information or advice on bicycle laws and the problems of bicycle users to taxi drivers as part of their regular relicencing procedure.
6. Kadesh has a specialised slide and cassette show on buses problems with bicyclists. A set of the bus kit and scripts for a Bike Ed kit may be sent to us.

5.4 NINA DOUGHERTY ROWE

Nina Dougherty Rowe of the Environmental Protection Agency and Bicycling magazine has been active in reviewing bicycle activities in the U.S. over some years. Education enforcement evaluation in the U.S. is extremely limited. The general trend is now to use the recently published K.C. Cross data as a basis for most studies and education plans. The enforcement program in Washington D.C. has run into problems as it is not a 'quiet' area (one young person stealing a bicycle had actually been shot accidentally). There are general difficulties with police self image in enforcement on children: no officer likes to be regarded as the 'bad guy'. At one time violators' bicycles were impounded, and the police gave public education. Neither measure worked too well, and at present the police are checking bicycles for proper registration, and giving out occasional citations (DeLew Cather, 1978).

5.5 LARRY PAVLINSKI

Larry Pavlinski of the NHTSA is presently deeply concerned with mopeds as the recent NHTSA draft definition has now attracted considerable response to the draft issued late in 1978. There is not much bicycle law enforcement carried out in the U.S.A. Perhaps the most important aspect that there is as yet *no* firm policy adopted by the International Association of Chiefs of Police: this being the most effective body in the enforcement area (a point also made by Ed Kearney). Consequently enforcement has so far achieved only a very low priority and scant interest within NHTSA. The data available on the subject is very thin, the reports available far from adequate, as are the evaluations that have been applied to date. Minimal attention has been paid to accident effects and little reliable response to the surveys on enforcement effects so far carried out.

When bicycle safety became a matter of significant concern, the U.S. Highway Safety Act of 1973 (Section 214) required a detailed review of pedestrian and bicycle safety. This was carried out in part by the International Association of Chiefs of Police under sub-contract to NHTSA, and was published in 1975 (U.S.A.: NHTSA, 1975). The U.S. Uniform Vehicle Code as it then stood permitted some potentially hazardous behaviour:

- "
- Bicyclists may not ride the wrong way on a one-way roadway but may do so if on the shoulder or sidewalk (Section 11-308).
 - Bicycles may be prohibited from using controlled access roadways, but no Code provision authorizes their exclusion from the shoulders or other parts of the right-of-way of a controlled access highway (Section 11-313)."

" Another serious deficiency is that many problems of bicycle movement in traffic are not adequately covered or are not covered at all by the Code's rules of the road. The right-of-way problem between the bicyclist who is proceeding straight through an intersection and the vehicle driver turning right is an example. Another example can be cited when a bicycle path crosses a highway. Vagueness of the Code adds to the uncertainty of rights and responsibilities. In addition, the Code does not directly address the question of whether a bicyclist should be allowed to pass a line of vehicles stopped in traffic or should be required to wait in line with them."
(Source: USA: NHTSA (1975)).

These observations may profitably be compared with the violations and associated accident patterns discussed earlier. The 'deficient (or absent) brakes' category may be related to the Uniform Vehicle Code Section 11-1207(C):

"Every bicycle shall be equipped with a brake which will enable the operator to make the braked wheels skid on dry, level, clean pavement.

Thirty-nine States (See Table II) and 28 municipalities require bicycles to be equipped with brakes. Almost all of these follow the Code requirement that brakes be capable of causing the wheels to skid; only one State Massachusetts specifies a stopping distance requirement (30 feet from an initial speed of 15 mph)."

(Source: USA: NHTSA 1975).

The requirement to make the bicycle skid must be difficult to enforce, as the centre of gravity of bicycle and rider means that it is usually possible to cause the bicycle to pivot vertically over the front tyre contact point and cause the rear end wheel to not only leave the ground, but in extreme cases go right over the front. Rear brake *only* will lead to skidding, but also to vastly reduced braking performance due to the omission of the crucial front brake. Early work by CPSC (O'Connor 1973) showed that caliper brakes on bicycle rims are subject to the same type of failure in wet weather as motorcycle disc brakes (Wigan 1978); however Forester (1979a) reports that for bicycle rim brakes the use of aluminium rims instead of steel alleviates this problem.

The problems of dealing with bicycles in their resurgent 'transport' function was noted by the Chiefs of Police as follows:

"Bicycles have changed rapidly from a child's toy to a mode of transportation. A problem closely related to funding is the low priority commonly assigned to bicycle programs. Transportation officials generally resist transferring funds from traditional highway projects to bicycle safety projects. This attitude applies to all types of bicycle programs: construction, education, planning, RD&E, and enforcement."

STATES	Nighttime use requires front light	Night use requires rear reflector	Rear red light allowed in addition to rear reflector	Bicycle pedals must be equipped with reflectors	Provisions relating to audible warning device	Horns	Authorize local governments to require bicycle registration
Alabama	X	X	X			X	
Alaska	X	X	X				
Arizona	X	X	X		X ^c	X	X
Arkansas	X	X	X ^a				
California	X ^a	X	X ^a	X		X	
Colorado	X	X	X		X	X	X
Connecticut	X ^a	X			X ^b	X	X
Delaware	X	X	X		X ^b	X	
Florida	X	X	X ^a				
Georgia	X ^a	X	X ^a	X		X	X
Hawaii	X	X	X		X	X	
Idaho	X	X	X		X	X	X
Illinois	X	X	X ^a	X	X	X	X
Indiana	X	X	X ^a		X ^c	X	X
Iowa	X ^a	X	X ^a		X ^c		X
Kansas	X	X	X ^a	X		X	X
Kentucky	X ^a				X ^b		
Louisiana	X	X	X			X	X
Maine	X ^a	X		X		X	
Maryland	X	X	X		X	X	X
Massachusetts	X ^a	X	X ^a	X	X ^c	X	
Michigan	X	X	X		X	X	X
Minnesota	X	X	X			X	
Mississippi	X	X			X ^c		
Missouri							X
Montana	X	X	X			X	X
Nebraska	X	X	X			X	X
Nevada	X	X	X ^a		X	X	X
New Hampshire	X ^a	X	X ^a	X	X ^b	X	X
New Jersey	X	X			X	X	
New Mexico	X	X	X		X	X	X
New York	X	X	X ^a		X	X	X
North Carolina	X ^a	X					
North Dakota	X	X	X			X	
Ohio					X ^b		X
Oklahoma	X	X	X			X	X
Oregon	X	X	X		X ^c	X	
Pennsylvania	X ^a	X					X
Rhode Island	X	X	X	X	X	X	X
South Carolina	X	X	X		X	X	X
South Dakota	X ^a	X			X	X	
Tennessee	X	X	X		X	X	
Texas	X	X	X			X	X
Utah	X	X	X		X	X	
Vermont	X	X	X ^a		X ^b	X	
Virginia	X	X					X
Washington	X	X	X			X	X
West Virginia	X	X	X		X	X	X
Wisconsin	X	X	X ^a		X	X	X
Wyoming	X	X	X		X	X	X

^aSpecific visibility varies from Code

^bRequire audible warning device but do not specifically prohibit siren or whistle

^cDo not specifically require warning device but prohibit siren or whistle

TABLE II - BICYCLE EQUIPMENT REQUIREMENTS IN DIFFERENT STATES IN THE U.S.A.

(Source: USA: NHTSA (1975)).

"Seven States reported funds spent on traffic law enforcement - all less than 2 percent. Police officers indicated that public opinion inhibited enforcement of bicycle regulations and until the situation is changed, few violators would be cited. Localities issuing pedestrian-bicycle citations believe such action helps reduce accidents. One city claimed that a 27-percent increase in enforcement was followed by a 26-percent decrease in accidents. Most community officials are dissatisfied with the concept of giving bicyclists (especially school-age children) citations. Instead, they are considering violator schools, letters to parents, and judgment by peers."

The summary section of the Chiefs of Police report concisely covers the general U.S. picture of enforcement:

- " • Little data exist on the frequency, type, location, etc., of accidents and the effects of enforcement on frequency of violations and accidents.
- With the exception of some west coast area police departments, enforcement actions against bicyclist violators are infrequent.
- Bicycle safety activities by police agencies are mainly directed toward traffic safety education of school children rather than enforcement for the safety regulations.
- Data suggests that accident-involved bicyclists either did not know or willfully disregarded safety regulations and practices.
- Enforcement of bicycle safety regulations is one of several ways in which the number of bicycle accidents might be reduced."

There has recently been an improvement in the first entry of the list, with the Cross report, but enforcement effects are still very poorly correlated or understood. The first recommendations show the balanced and careful approach of this report, and endorse the complementary roles of enforcement and education.

- " • New laws specifically defining rights and responsibilities of bicyclists in crosswalks and in bicycle paths crossing the roadway should be enacted, and existing rules of the road should be made applicable to bicycles operating not just on the roadway, but also on the highway.
- Either conveyances such as mopeds should be included in the definition of "bicycle," or separate regulations specifically applicable to them should be enacted.
- The police department and the municipal court should jointly agree upon important issues pertaining to bicycle accidents and enforcement of regulations.
- Programs appropriate to the rehabilitation of violators of bicyclist regulations should include information directed toward adult bicyclist violators, and such education and rehabilitation should be directed toward appropriate defendants.
- A traffic school, appropriate for attendance by both juvenile and adult offenders, should be developed and made operational.
- Officers must be made aware of the importance of taking appropriate countermeasures against bicyclist violators and/or against motorists who violate the rights of bicyclists."

The lack of national coordination in the treatment of bicycles is dominated by the summary Table III.

The moped questions now (1979) of considerable practical importance in both U.S.A. and Australia (e.g. Wigan 1979b) were clearly anticipated in 1973 by the International Association of Chiefs of Police, well before the moped boom. This report not only gives a sound coverage of bicycle issues, but also of pedestrian issues and concludes that new legislation is not needed as the necessary powers were already in the hands of NHTSA, who have subsequently been issuing them.

STATES	Definition of "bicycle" in conformity with UVC	No definition of "bicycle" in the vehicle code	Bicycle excluded from definition of vehicle	Traffic laws applicable to bicycles on highway exclude sidewalks and bike paths	Traffic laws apply to highway to include sidewalks and bike paths	Traffic laws apply to roadway to include shoulders	Rules of the road applying to drivers of a vehicle apply to bicycles anywhere on a highway	Rules applicable to a driver apply to bicyclists on a roadway portion of highway	All or some accident laws required apply to bicyclists	Special rules for operation of bicycles in conformity with UVC
Alabama	X			X					X	X
Alaska	X				X				X ^b	
Arizona	X		X						X ^c	X
Arkansas		X	X		X	X		X	X ^c	
California	X		X	X		X		X	X ^c	
Colorado	X		X		X			X		
Connecticut	X		X					X		
Delaware	X		X	X						
Florida	X		X					X	X ^c	X
Georgia	X		X		X	X	X		X ^b	
Hawaii	X		X		X			X	X ^c	X
Idaho	X		X		X			X	X ^c	X
Illinois	X		X		X			X	X ^c	X
Indiana	X		X		X	X		X	X ^c	X
Iowa		X	X		X	X		X	X ^c	X
Kansas	X		X		X			X	X ^c	
Kentucky		X		X			X		X ^b	
Louisiana	X			X			X		X	X
Maine	X		X		X			X	X ^c	
Maryland	X			X			X		X	X
Massachusetts	X			X			X		X	
Michigan	X		X		X			X	X	X
Minnesota	X		X		X	X		X	X ^c	
Mississippi		X	X		X	X		X	X ^c	
Missouri		X	X	X				X		
Montana	X		X	X				X		X
Nebraska	X		X		X			X		X
Nevada	X		X		X			X	X ^c	X
New Hampshire		X	X	X			X			X
New Jersey		X	X		X			X	X ^c	X
New Mexico	X		X		X			X	X ^c	X
New York	X		X		X			X		
North Carolina		X			X		X		X ^a	
North Dakota	X	X			X		X		X ^a	
Ohio	X			X			X			X
Oklahoma	X		X		X		X		X ^c	X
Oregon	X		X	X		X		X	X ^c	X
Pennsylvania		X		X			X		X	
Rhode Island	X						X		X ^a	X
South Carolina	X		X		X			X	X ^c	X
South Dakota		X			X		X		X ^a	
Tennessee	X		X		X		X		X ^c	X
Texas			X		X		X		X ^c	X
Utah	X		X		X		X		X ^c	X
Vermont		X		X			X			X
Virginia		X	X	X			X		X ^c	
Washington	X		X		X	X		X		X
West Virginia	X		X		X		X		X ^c	X
Wisconsin	X			X			X		X	X
Wyoming	X		X		X		X		X ^c	X

^a Applies anywhere in State

^b Applies only on highway

^c Applies only on roadway

UVC = Universal Vehicle Code of the U.S.A.

TABLE III - LEGAL STATUS OF BICYCLE/TRAFFIC LAWS APPLICABLE TO BICYCLISTS

(Source: USA: NHTSA (1975))

5.6 PHIL BURKE

Phil Burke is the Director of Information of the Bicycle Manufacturers Association which was established 17 years ago. For the last 2½ years the BMA has been distributing safety material, but the current policy is now more to send out model Bills to different State legislatures and this is proving to be highly effective. Almost all States now have a vehicle lighting requirement for bicycles, but unfortunately it is almost equally unenforced. The BMA is not the only body putting forward model legislation, as is exemplified by the Model Bicycle Ordinance of the U.S. AAA (1979).

5.7 VINCE DURANGO

A series of nationwide regional workshops run by NHTSA and CPSC in 1978 (Darango 1978) raised a number of points on the state of knowledge of enforcement. Cranford, New Jersey is an example of another apparently effective enforcement program. 800 citations a year are issued, and 80 bicycles are impounded as unsafe. The population of Cranford is 2700, giving a citation rate of 3 per cent/per annum. Cranford bicycle violators may be subject to a juvenile conference committee which can sentence a violator to a week of labour at a local recycling centre, or to traffic safety schools.

Cranford therefore integrates enforcement with other safety programs, and notes that cyclists who get citations in Cranford tend to be from out of town. As Cross and Fisher (1977) so clearly show, bicycle accidents in the U.S.A. tend to be associated with breaking the rules of the road (often knowingly), so it would appear that, without enforcement, riders ignore the rules of the road in educational or classroom instruction, and continue to ride in an unsafe way. Table IV taken from Darango (1978) is a summary of enforcement priorities developed by one such workshop based on Cross and Fisher (1977) accident findings.

The City of Concord in California (Straughn 1973) had a bicycle enforcement program since the early 1970's. Any child between 3 and 10 who violates the rule of the road has his parents informed of this act by a form letter (much the same as the current California Highway Patrol procedure), with a brochure. The form letter recommends that they sit down and go over the safety rules of riding with their child. For children of 10 to 17, a summons is issued to a special bicycle court made up of three high school students in good standing. The penalties range from essays to verbal reprimands, with suspension of riding as a sentence available for repeat offenders. Straughn emphasises bicycle registration as a good measure for reducing bicycle theft but spends much space listing the difficult problems intrinsic to a registration scheme, which would seem to nullify his advocacy.

6. MASSACHUSETTS

WILLIAM SALTONSHALL

An innovative State legislature (Massachusetts) has recently enacted a fine for bicycle violation similar to a parking ticket. This permits the police to give bicycle tickets without a high chance of being later required to attend court, thereby reducing the court workload and avoiding (the otherwise necessity) of finding a judge prepared to enforce bicycle law. The Senator concerned is no longer in office, but reported only a mild support for this legislation. This non-criminal Bill (see Appendix) has been used by few towns.

VIOLATION	TYPICAL INVOLVEMENT
Reckless driving and failure to yield right of way.	Involves young riders exiting driveway or alleyway without looking.
Wrong way riding.	Involves riders of all ages.
Failure to stop at stop sign or slow at yield sign.	Although youthful cyclists are more likely to be hurt this way, adults must be stopped also as they are serving as poor role models for younger cyclists.
Failure to make proper left turn signal.	Especially at midblock locations, unannounced left turns lead to accidents.
Reckless driving at night. (May not be a ticketable offense since a rear light is not required in each state).	Involves riding with a legal reflector but no tail light on a high speed road at night.
Failure to yield right of way. (Motorist)	Involves motorist right turn across the bicycle line of travel, or a motorist left turn into a bicycle coming towards the motorist and going straight.

TABLE IV - ENFORCEMENT PRIORITIES BASED ON ACCIDENT DATA

(Source: Darango 1978).

7. MISSOULA, MONTANA

ROGER DIBRITO

Roger Dibrito of the City of Missoula, Montana (a City of 30 000 population) is a teacher of physical education and bicycling for the age groups of 5-14 years and also undertakes some bicycle consulting work. Having just finished a literature search on relevant material will now be going on to develop programs for the 14+ year group. In the Fall of 1979 Dan Burden in association with Dibrito will teach *teachers on school time* to be good bicyclists as well as good teachers of bicycling. The education program for the public has made extensive use of television spots and local paper advertisements, etc. Dibrito has met with all of the student bodies to discuss education programs and advertise imminent police enforcement with retroactive effect on bicycle violations. At this stage the police are now issuing verbal warnings. Bicycle registration is used to back up enforcement and is done by Retired Citizen Voluntary Policemen (RSVP's). The cooperation with the police is excellent and even copies of the bicycle accident forms produced and used by the police go to the RSVP bicycle policemen. Missoula have just completed a two year period gaining experience with this form of enforcement. The only tickets (i.e. citations or summonses) issued are to adults who are riding at night without working bicycle headlights. Dibrito proposed to send us a request to exchange bicycle education materials, comments on their effectiveness in application, and the finer details of the enforcement systems and records kept by the City of Missoula.

8. LANSING, MICHIGAN

BONITA DOSTAL NEFF

Dr. Bonita Neff reported on the original 4-H voluntary group study concept, and on a subsequent 4-H pilot project covering 10 Counties in Michigan where special emphasis is being placed on evaluation. Dr. Neff's current positions include State Bicyclist Specialist in Michigan State, the TRB (A3B07) Bicycle Committee, Sub-Committee on future proposed research and communications, and also currently the National Education Chairman of the nationwide League of American Wheelmen. The Californian Office of Traffic Safety recently awarded a small \$13 000 contract to the Santa Barbara Police Department for a study of non-motor vehicle involved bicycle accidents to be carried out by Ken Cross. The execution involved a postcard questionnaire to every eighth such accident. This survey obtained a very high response rate and was followed up with census data and therefore well validated. Known bicycle users were followed up specifically with a special questionnaire on the types of accidents that they themselves had. This was used to adjust the biases in population response. Telephone follow up was used to investigate these accidents. The plan is now to try to produce a typology of age groups and accident types similar to the earlier Cross study of motor vehicle involved bicycle studies. Typical categories that are emerging include, for example, downhill accidents with children involved. The data are not yet available (as of July 1979). Dr. Neff is doing a very similar study with some additional features in Michigan. She is including a special follow up with all those who get violation notices and matching the distribution of these to total population. Neff also trains Bike Patrollers and police officers for bicycle enforcement, and set up the police academy in Lansing, Michigan, for this purpose. Further details are taken here from detailed materials on regulation, enforcement and education in Michigan supplied by Dr. Neff -

"The Capital Area Bicycle Patrol is a multi-jurisdiction program, with 12 patrollers in Lansing, 5 in East Lansing and 5 in Meridian Township. Each jurisdiction adopted the Model Ordinance developed by the Tri-County area (Clinton, Eaton, Ingham).

The patrollers were sworn officers patrolling 40 hours a week on bicycles. The patrols were the first of a kind since they received 80 hours of training in Effective Cycling and enforcement. These were inexperienced people who were taught to cycle in a variety of traffic conditions. The impact of these patrols is being studied now in a survey of those who received violation notices."

"The positive feedback on having a patrol indicates that the training of the patrols established a basic rapport with the communities. Helmets served not only to protect the patrollers from potential head injury, but also served as the chief means for identifying someone as a patroller. The influence of a patroller as a model in the community would be beneficial in terms of the encouraging usage of helmets.

One major weakness revealed was that need for a greater effort in terms of follow up. The program must establish a better procedure for providing information and assistance to the violator after the written warnings were issued. This may be particularly important for those who were repeating violations.

One of the chief sources of information was to identify the strengths and weaknesses of the training techniques. The survey evaluated the training given. Responses established that the patrollers communicated clearly and were able to educate the violator in a positive, helpful manner." (Neff, undated).

9. SOME ENFORCEMENT COMPARISONS

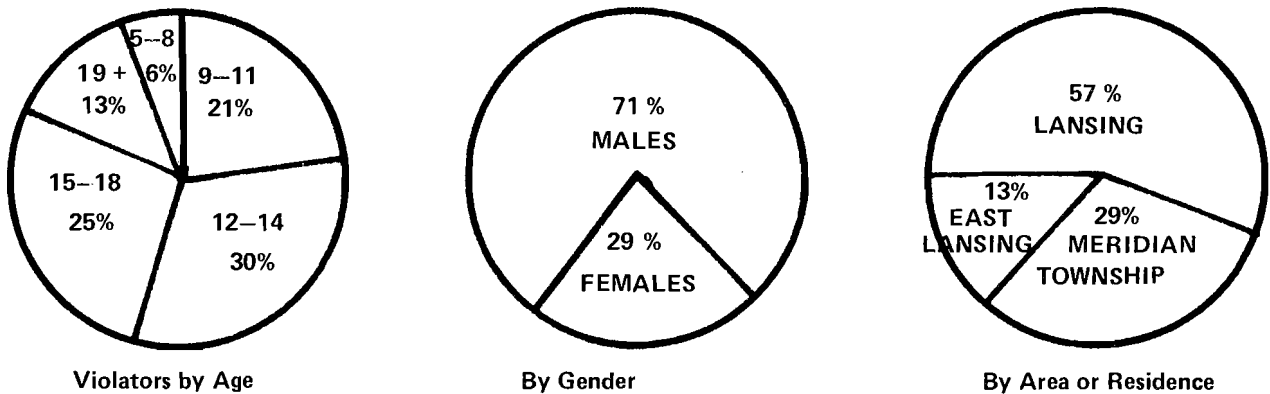


FIGURE 1: 2514 BICYCLE ORDINANCE VIOLATORS IN LANSING, MICHIGAN

(Source: Neff (undated)).

The heavy emphasis on licencing violations reduces the value of the data, and distribution of equipment and operational violations are tabled in decreasing order of importance for both Lansing (U.S.A.) and Geelong (Geelong Bike Plan, 1979a) (Australia). Riding on the wrong side of the street is very important in both countries, and Cross and Fisher's (1977) major study on bicycle/motor vehicle accidents showed that this violation in the U.S.A. leads to 30 per cent of all such accidents. Defective brakes, lighting deficiencies, and running traffic signs and lights also show up as single items worth specific enforcement attention.

No Rear Reflector	674	(39%)
No Side Reflector	495	(29%)
Other (no pedal, no seat, etc.)	224	(13%)
No Brakes	105	(6%)
No Pedal Reflector	95	(5%)
Defective Brakes	70	(4%)
No Headlamp	41	(2%)
Defective Headlamp	24	(1%)
	1728	(100%)

TABLE V - EQUIPMENT VIOLATIONS: LANSING MICHIGAN

(Derived from Neff (undated))

No Licence			1862
Wrong Side of Street	461	(22%)	
Illegal Passenger	283	(14%)	
Careless or Reckless Riding	262	(13%)	
Riding on Sidewalks	261	(13%)	
Running a Traffic Light or Signal	235	(11%)	
Failure to use Designated Path	149	(7%)	
Other (improper parking, 3-4 abreast, etc.)	124	(6%)	
Riding with no hands	79	(4%)	
Improper Signal	79	(4%)	
Improper Turn	68	(3%)	
Carrying Things	33	(2%)	
Riding Double	20	(1%)	
Sub-total	2054	(100%)	1862 =
	(52%)		(48%)
TOTAL	3916	(100%)	

TABLE VI - OPERATIONAL VIOLATIONS: LANSING MICHIGAN

(Derived from Neff (undated)).

Ride on Sidewalk	163	(31%)
Other (failure to give turn signal, disobey road sign, 2+ abreast, etc.)	67	(13%)
Wrong Side of the Street	60	(11%)
Improper (turn) (lane usage)	56	(11%)
Failure to Signal	39	(7%)
Careless Riding	35	(7%)
Illegal Passenger	33	(6%)
Unroadworthy Bicycle	29	(6%)
Failure to Obey Traffic Signal	27	(5%)
No Front or Rear Light	16	(3%)
	525	(100%)

TABLE VII - OPERATIONAL VIOLATIONS: GEELONG

(Derived from Geelong Bike Plan, 1979)

The importance of improper riding, behaviour (improper turn and lane usage, riding on sidewalks/failure to use designated paths, and careless riding) is not greatly different in the two countries. Once again, the association of such behaviours with accidents can be picked up from Cross and de Mille (1973), Cross and Fisher (1977).

The ratio of 39% verbal warnings, 60% written safety notices to 0.7% citations over the 1978 segment of the Lansing Study (which is a three-year exercise funded by CPSC and the U.S. DOT, and coordinated by the 4-H State Office) may be compared with the 0.3% possession of a stolen bicycle when stopped.

A 15% sample of violations yielded interviews and gave some surprising results: 83% were in favour of a Bicycle Patrol continuing, 98% considered that the violation had been clearly explained, and 83% felt that those receiving written warnings deserved them.

The best identifiers for the Bicycle Patrol reported by the sample was (58%) helmets and (49%) uniforms: an interesting comment on the attitudes towards helmet usage.

The associations between enforcement and accidents are very poorly documented: the figures in Table VIII are calculated from data in MPPD (1978), and are one of the few such data sets available. The importance of the two major categories is diluted by the range of issues covered by the first, but the single issue of riding on the wrong side of the road shows up yet again in Mt. Prospect.

	1974		1975		1976		1977	
	Accidents	Citations	Accidents	Citations	Accidents	Citations	Accidents	Citations
Failure to obey signs and signals	20 (67%)	-	15 (60%)	56 (30%)	12 (46%)	197 (57%)	0	234 (63%)
Riding on wrong side of the road	7 (23%)	-	5 (20%)	70 (45%)	0	64 (18%)	0	67 (18%)
Other	3 (1%)	-	5 (20%)	29 (19%)	14 (53%)	80 (23%)	18 (100%)	70 (19%)
	30 (100%)	-	25 (100%)	155 (100%)	26 (100%)	347 (100%)	18 (100%)	371 (100%)

TABLE VIII - ACCIDENTS AND CITATIONS IN SIMILAR CATEGORIES IN
MT. PROSPECT, ILLINOIS 1974-77

(Derived from MPPD (1978))

Perhaps the most comprehensive summary of violations, warnings, and accidents is that produced by the CHP (Section 3.2 : Table I), and comparisons between the different approaches of the CHP in its daily work, and the more specialised exercises reported for Concord, Lansing, Mt. Prospect, and Geelong are instructive. All of these data sources are bedevilled with the endemic problem of unreported accidents, varying levels of enforcement, and differing priorities in the attention part to different offences.

10. CONCLUSIONS

The setting and enforcement of regulations on bicycle riders may in some areas tread the fine line between safety and unreasonable reductions in the mobility for which safety is a (partial) price. Although only two Cities in the U.S.A. have local ordinances requiring bicyclists to be at least 12 years of age, elsewhere this is more general, Portugal requires licences from *all* road users in conjunction with the same minimum age of 12 years (ECMT, 1975). Austria requires bicycle riders to be 12 years old or more (OECD, 1978). This measure seems to have given good results. ECMT (1975) moves - mildly - that a general adoption of the Danish minimum age limit of 6 years (unless accompanied by a person over 15 years of age) could be desirable.

Whatever such measures are taken to cut down the population at risk by debarring access to bicycles, enforcement of bicycle regulations is clearly necessary to reinforce road user education, although no effective evaluation of the enforcement methods or expenditures could be located. The recommendations of the IACP is a clear endorsement of the informal police view developed over recent years, although as yet they do not seem to have been adopted and association formal policy.

"Recommendations of the International Association of Chiefs of Police - 1977 Resolution on Bicycle Safety"

Whereas, There are mounting numbers of accidents and traffic violations by bicycle riders; and

Whereas, There is a reluctance on the part of traffic officers and courts to deal with this problem; and

Whereas, There needs to be developed positive programs for the proper enforcement and adjudication of traffic offenses among a wide diversity of bicycle riders; therefore be it

Resolved, That the International Association of Chiefs of Police urge its membership to take positive and innovative action to reduce bicycle accidents through enforcement, adjudicative and educational efforts directed at all rider groups; and, be it

Further resolved, That the International Association of Chiefs of Police seek the cooperation of the National Highway Traffic Safety Administration in developing positive plans of action for dealing with the problem of bicycle traffic offenses."

Although the number of enforcement programs in U.S. Cities is still small, the variety of the experiments undertaken provides a practical basis for a more controlled model city experiment. In Australia the 5 year Geelong Bike Plan program is well equipped for this innovative role, and the author of this report strongly recommends that this opportunity to evaluate enforcement over several years in an integrated bicycle planning environment be taken.

This report is simply an initial correlation of available data and materials, and contains many (sometimes conflicting) reported views without critical comment and analysis by the author. Some simple analyses have been added by the author to illustrate possible future courses of action.

General points which emerge are that whatever efforts are spent on enforcement programs, the 'pilot project' syndrome is likely to occur as the earmarked funds dry up after the initial stage. The objectives of education, police and community bodies, while in accord for trial experiments, seem to be sufficiently far apart that when education or police support falters the program is at risk due to quite different priorities. The pattern of responses to such questions as registration demonstrate this clearly.

The differences between social and police objectives (or perhaps the differences between citations, warnings and accidents) do not seem to lead to an entirely appropriate balance of enforcement effort. The Geelong data on the first trial enforcement period does not seem to be very different from the U.S. data quoted. The support of the community for enforcement is necessary, and even when it does not appear to be there the enforcement bodies tend to use parental pressure, peer groups, and the decriminalisation of bicycle violations to reduce the load on them and increase that on the offenders. The behavioural failures so apparent in the in-depth accident data analysed by Cross show evidence of recognition in the educational aspect of enforcement programs, but with some exceptions, are not yet an intrinsic part of enforcement behaviour by the enforcers. The use of non-police enforcers has gained significant support in some areas, but the most widespread support for enforcement comes from "Officer Friends" dedicated to the social interaction - almost PR - aspects of the Police role. The widespread tolerance of road traffic law violations by bicycles by the community (and by reflection the police in turn) is an issue of real concern to the 'club' or 'committed' cyclists.

Close coordination of goals and evaluation criteria between education and enforcement parties would appear to be essential if long lasting gains are to be expected. More detailed examination is recommended of the relationships between warnings and citations with accidents, with special attention paid to unreported incidents.

Report written by: *M. R. W. J. m.*

Report reviewed by: *Ray B. S. de*

11. REFERENCES

- BARTON-ASCHMAN INC. (1975). District of Columbia Bikeway Planning Study for District of Columbia, Department of Transportation, Washington D.C. U.S.A.
- CROSS, K.C. and FISHER, J. (1977). A study of bicycle-motor vehicle accidents: identification of problem types and countermeasure approaches. Report to NHTSA by Anaca Sciences, Santa Barbara, U.S.A.
- DARANGO, V. (1978). Regional workshops on bicycle safety: presentations, participant problems, program and ideas, and recommendations. NHTSA Report DOT-HS-7-01798, Washington D.C., U.S.A. (203 p.)
- DeLEUW CATHER INC. (1978). Bikeway design evaluation. Accident reporting Technical Memorandum. Spokeswomen for DeLeuw Cather, District of Columbia Department of Transportation, Washington D.C. U.S.A. (45 p.)
- ECMT (1975). Report on the recent trend concerning road accidents and breakdown of casualties - year 1974. Report CM (75) 30: Revision *IV*: 22nd Annual Report. European Conference of Ministers of Transport, Paris, France, pp. 257-90.
- FLORA, J.D., KAPLAN, R.J., MARGOSHES, E. and WARD, P.D. (1975). The National Injury Surveillance System and bicycle-associated accidents. Michigan University Report UM-HSRI-SA-75-18, Ann Arbor, Michigan, USA. (158p)
- FLORA, J.D., BEITLER, P. and KAPLAN, R.J. (1978). The National Electronic Injury Surveillance System and bicycle-associated accidents. (Final Report). Michigan University Report UM-HSRI-78-64, Ann Arbor, U.S.A. (42 p.)
- FORESTER, J. (1976). Effective cycling. 3rd Ed. Custom Cycle Fitments. Palo Alto, California, U.S.A.
- GEE LONG REGIONAL COMMISSION (1979). Geelong Bike Plan: Enforcement program (1978-79). Geelong Regional Commission, Geelong, Victoria.
- MT. PROSPECT POLICE DEPARTMENT (1978). The Mt. Prospect plan of bicycle safety. Mt. Prospect, Illinois, U.S.A.
- NEFF, B.D. (Undated). Bicycle Safety Program. 4-H State Offices, Lansing, Michigan, U.S.A.
- O'CONNOR, J.K. (1973). Safe Vehicle Design - The Development of Federal Standards *IV*: Conference Proceedings: Bicycles, U.S.A. Department of Transport Report, Washington D.C. U.S.A. pp. 24-25; 79.
- OECD (1978). Safety of two wheelers. OECD, Paris, France (125 p.)
- SANTA BARBARA POLICE DEPARTMENT (1973). Bicycle Enforcement Program. Prepared for the California Office of Traffic Safety. Santa Barbara, California, U.S.A.
- STRAUGHN, L.J. (1973). The Concord Enforcement Program: overview of police interests. *IV*: Conference Proceedings: Bicycles U.S.A. Department of Transport Report, Washington D.C. pp.61-64.
- U.S.A.: AUTOMOBILE ASSOCIATION OF AMERICA (1979). Model Bicycle Ordinance (13 p.)

U.S.A. NHTSA (1975). Pedestrian and bicycle safety study: Highway Safety Act of 1973 (Section 214). NHTSA, Washington D.C., U.S.A. 101 p.

WIGAN, M.R. (1978). Motorcycle disc brake performance: a review of amelioratory measures and test procedures. Australian Road Research Board, Internal Report AIR 812-4.

WIGAN, M.R. (1979_a) Mopeds: Legal and technical requirements for Australia. Australian Road REsearch Board, Research Report ARR 95.

_____ (1979_b). Mopeds in Australia. Australian Road research Board. Internal Report AIR 918-1. Vermont, Victoria. 7 p.

_____ (1979_c). UCSD Pascal softwear and microcomputer applications:status report, July 1979. Australian Road Research Board. Internal Report AIR 918-1 Vermont, Victoria. 7 p.

_____ (1979_d). Moped, Bicycle and Residential planning :Audiovisual Materials obtained in the US and Europe, July 1979. Australian Road Research Board. Internal Report AIR 349-1. 40 p.

THE COMMONWEALTH OF MASSACHUSETTS

In the Year One Thousand Nine Hundred and Seventy-three

AN ACT PROVIDING FOR THE NON-CRIMINAL DISPOSITION OF BICYCLE LAW VIOLATIONS.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

Chapter 85 of the General Laws is hereby amended by inserting after section 11B the following sections:-

Section 11C. Every city and town shall provide a non-criminal ticketing procedure against violators of the provisions of sections eleven A and eleven B and of any rule, regulation, ordinance or by-law of the city or town regulating the registration, equipment and operation of bicycles.

A police officer taking cognizance of any such violation may request the offender to state his true name and address. However, upon such request, refuse to state his name and address, or states a false name and address or a name and address which is not his name and address in ordinary use, shall be punished by a fine of not less than twenty nor more than fifty dollars. Any such offender so refusing to state his name and address may be arrested without a warrant, but no person shall be arrested without a warrant for any other such violation. Every police officer who takes cognizance of such violations may give the offender a notice, which shall be in tag form, as provided in this section, to appear before the clerk of the district court having jurisdiction, at any time during office hours, not later than twenty-one days after the date of such violation. If the offender is under sixteen years of age, the officer may give such notice to the parent or guardian of the offender. All tags shall be prepared to appear in triplicate and shall be prenumbered.

Said tag shall contain but shall not be limited to the following information: provided herein, may appear before such clerk and confess the offense charged, the registration number of the bicycle, if any, the name and address of the offender, if served with notice in hand at the time of such violation; the date, time, place and nature of the violation; the amount of the fine; instructions for the return of the tag; and a notice which reads as follows:- This notice may court be returned by mail, personally, or by an authorized person, and if properly returned shall be deemed non-criminal. A court hearing may be obtained upon the written request of the offender. Failure to obey this notice within twenty-one days after the date of the violation will result in the offender's appearance in court on a criminal complaint. Such notice shall be signed by the officer, and shall be signed by the offender whenever practicable in acknowledgment that the notice has been received. The officer shall, if possible, deliver to the offender at the time and place of the violation a copy of said notice. Whenever it is not possible to deliver a copy of said notice to the offender at the time and place of violation, said copy shall be mailed or delivered by the officer, or by his commanding officer or any person authorized by said commanding officer to the offender's last known address. The mailing of such notice by the officer, his commanding officer or the person so authorized, to the said offender shall be deemed a sufficient notice, and a certificate of the officer or person stating that such notice has been mailed in accordance with this section shall be deemed prima facie evidence thereof, and shall be admissible in any court of the commonwealth as to the facts contained therein.

At or before the completion of each tour of duty, the officer shall give to his commanding officer those copies of each notice of such a violation taken cognizance of during such tour. Said commanding officer shall retain and safely preserve one of such copies and shall at a time no later than the beginning of the next court day after receipt of such notice deliver another of such copies to the clerk of the court before whom the offender has been notified to appear. The clerk of each district court shall maintain a separate docket of all such notices given to the clerk of each district court shall maintain a separate docket of all such notices given to the clerk of a district court, as

Any person notified to appear before the clerk of a district court, either personally or through an agent duly authorized in writing, or by mailing

to such clerk the notice accompanied by the fine provided therein, such payment to be made only by postal note, money order or check made out to the clerk of the court. Returning the notice to the clerk of court and payment of the fine established shall operate as a final disposition of the case. Proceedings under this section shall not be deemed criminal; and no person notified to appear before the clerk of a district court as provided herein shall be required to report to any probation officer, and no record of the case shall be entered in the probation records.

If any person notified to appear before the clerk of the district court of the procedure established by this section, the clerk shall, as soon as may be, notify the officer concerned, who shall forthwith make a complaint against the offender and follow the procedure established for criminal cases. If any person fails to appear in accordance with the summons issued upon such complaint, the clerk shall send such person by registered mail, return receipt requested, a notice that the complaint is pending and that if the person fails to appear within twenty-one days from the mailing of such notice, a warrant for his arrest will be issued. If any person fails to appear within twenty-one days from the mailing of such notice the court shall issue a warrant for his arrest to appear, provided herein, shall be printed in such form as the chief justice of the municipal court of the city of Boston may prescribe for said courts, and as the chief justice of the district courts may prescribe for district courts other than said municipal courts; provided however that any city or town may request that the notice prepared for said city or town pursuant to section twenty A or section twenty C of chapter ninety be so revised or adapted that said notice may also be used for the notice provided for in this section.

All forms collected pursuant to this section shall be used by the respective cities and towns for the development and implementation of bicycle programs.

House of Representatives, July 30, 1973.

The text of the Saltonshall Bicycle Bill enacted in Massachusetts in 1973



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