NATIONAL TRANSPORT RESEARCH CENTRE

THE REAL PROBLEM OF HIGHWAY SAFETY IN PAKISTAN

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THE REAL PROBLEM OF HIGHWAY SAFETY IN PAKISTAN

The problem of highway safety in Pakistan has been deteriorating steadily during last three decades of the existance of the country as a soverign state. In 1978, Pakistan achieved the distinction of having 5th highest rate in the world, closely behind such countries as Niger, Ethopia, Malawi and Zambia. Loss of life, limb and property being a very sensitive matter, with serious economic and political repercussions, the successives Governments have been trying hard to bring the problem under control. A number of commissions of enquiries and committees of experts were appointed from time to time to advise in the matter. But nothing helped and the problem went on getting from bad to worse. The accident rate assumed dangerous proportion and traffic discipline reached its lowest ebb.

The reasons for in-effectiveness of the remedial measures suggested by various commissions and experts were three fold. Firstly, they were given a very limited time to complete their assignment which did not allow them to thoroughly investigate the problem and get at the root cause. Secondly, there was no follow-up to see as to why a particular recommendation failed to achieve the objective, hence no lessons were learnt. Thirdly, these commissions

and committees primarily comprised of the individuals who happened to be dealing with the problem of highway safety at the time and were not professional involved with the problem. As such, they did not have the benefit of sound professional background. As a consequence, the reports of these commissions and experts dealt with the symptoms rather than the causes of the problem. Some of the typical findings of these commissions and committees were:-

1. The root cause of traffic safety problem is lack of adequate traffic signs to guide the motorists with speed and safety.

2. The roads are too narrow for the traffic demand and hence responsible for high rate of accidents.

3. There are too few traffic police officials to cope with the traffic.

4. Root cause of the problem is the high proportion of mechanically defective vehicles on the road.

5. The problem of highway safety is aggravated by the presence of slow moving animal drawn vehicles on the roads.

6. Traffic violations are committed by young and inexperienced drivers only.

7. Persuit of monitary gains by the drivers of the public service vehicles is primarily responsible for high toll on road.

8. The users in the developing countries like Pakistan exhibit lack of traffic discipline due to socio-economic reasons.

9. The very high degree of fatalism is primarily responsible for the traffic accidents.

10. The traffic violations are generally committed by un-educated, low income drivers of public service vehicles.

There should be no two opinion about the fact that given the present state of technological development, the most crucial part of problem solving is the diagnosis. All efforts should, therefore, be directed toward proper diagnosis. Once the problem has been accurately diagnosed, the solution generally becomes simple as patent remedies are available in most cases to overcome the problem. The problem in Pakistan could not be solved because it was not properly and accurately diagnosed as is the case in most developing countries with serious road accident problems.

Fortunately, in Pakistan, the Government three years ago finally recognized the importance of dealing with the problem of highway safety on the basis of systematic and thorough research to reach at the bottom of the problem. As a result, during last three years a number of studies have been carried out with the objective of unrevelling the complex problem of highway safety in the country. The problem was looked into from the point of view of road-vehicle-driver system and Engg.-Education-Enforcement i.e. the three Es' of traffic safety. Comprehensive studies were undertaken into driver training, driver testing, enforcement, road user behaviour and motor

vehicle laws, etc. As a result of these studies, the root cause of the highway safety in the country has been brought into focus.

The present study is an attempt to present the finding of the research so far carried out and pin-point the real causes of the problem. It is hoped that the effort shall lead to a better understanding of the problem.

Accident Definition:- A road accident is defined as an error in Road-Vehicle-User System. As long as all the three elements of this system operate smoothly, there would be no accident. Accident would occur when anyone or more of these elements malfunction or fail to do their assigned task in the desired manner.

In order to get at the root cause of road safety in Pakistan, it would be necessary to study and analyse each of these elements, in detail separately, in the context of conditions prevailing in the country.

The Road

Let us look at the roads first and see what is the role of the roads in the accident problem in this country. Granted that our roads are not par excellence. We do not have motorways, freeways or autobhams. However, we should not lose sight of the fact that the roads are built to cater for a certain traffic demand, therefore, it would be necessary to look at the adequacy of the existing roads in the light of volume of traffic carried

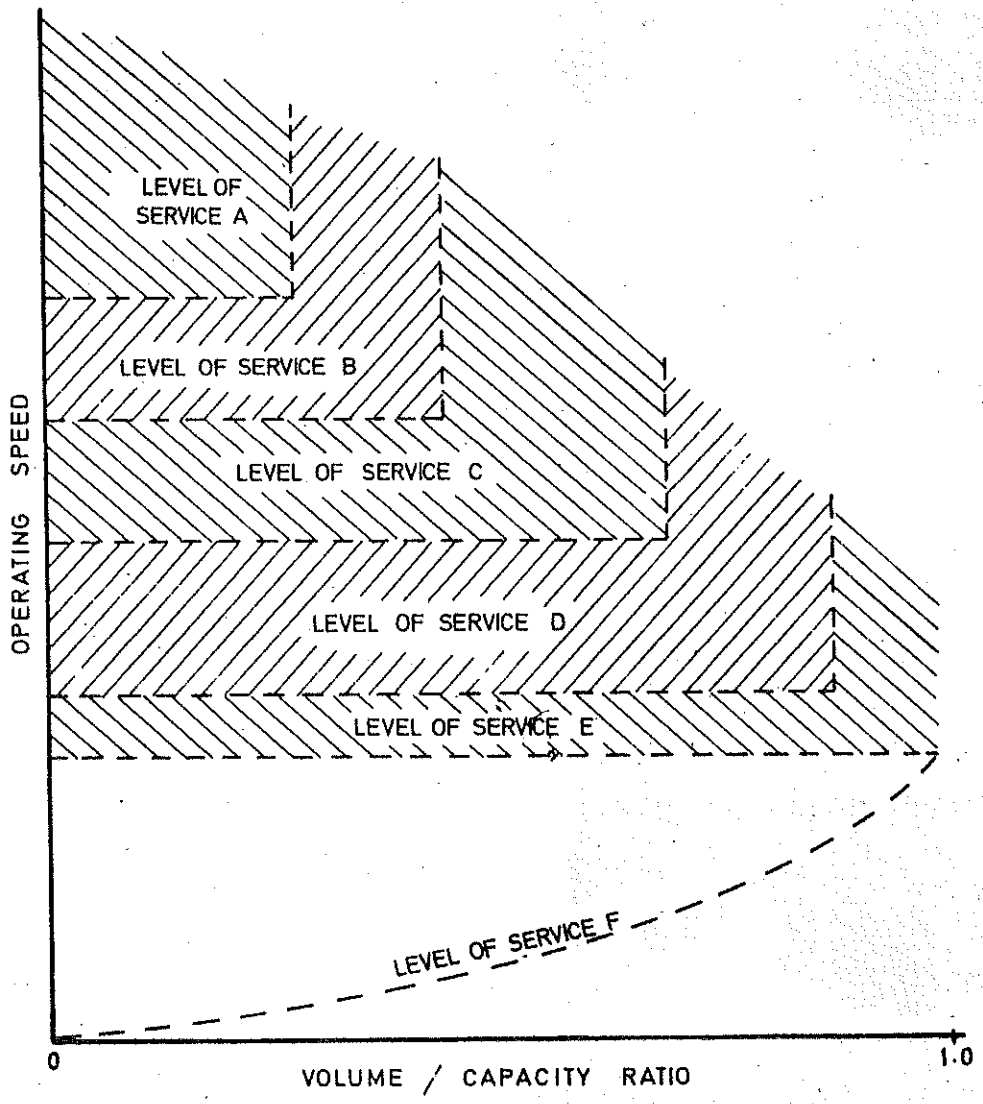
Level of Service

It may however be pointed out that transport facilities do not have one particular and fixed capacity. All transport facilities by nature are lumpy, which means that these capacities can be stretched to accommodate greater traffic volumes if necessary. Therefore, if resources do not permit, the same facility can be made to carry lot more traffic than its optimum capacity by accepting lower level of service i.e. greater constraints on driving freedom. As a matter of fact, the ultimate capacities of these facilities could be many times the ideal capacity. In the technical terms the level of service is defined as traffic operational freedom on a highway of a particular type when conditions regarding operating speed/average overall speed are equal to or greater than the standard value and the ratio of demand volume to capacity does not exceed the standard value for that level of service.

Six levels of services have been standardized to identify the conditions prevailing under various speed and volumes on any highway or stretch as indicated on page- 6.

Level of service A describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical road conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.

LEVEL OF SERVICE



Level of service B is in the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not un-reasonable, with a low probability of traffic flow being restricted. The lower limit (lowest speed, highest volume) of this level of service has been associated with service volumes used in the design of rural highways.

Level of service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained, with service volumes perhaps suitable for urban design practice.

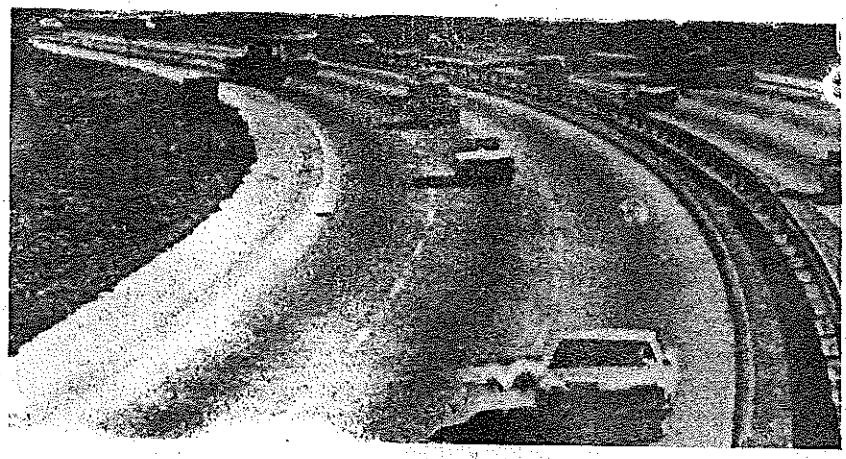
Level of service D approaches untable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low, but conditions can be tolerated for short periods of time.

Level of service E cannot be described by speed alone, but represents operations at even lower operating speeds than in level D, with volumes at or near the capacity of the highway. At capacity, speeds are typically, but not always, in the neighbourhood of 50 kph. Flow is unstable and there may be stoppages of momentary duration.

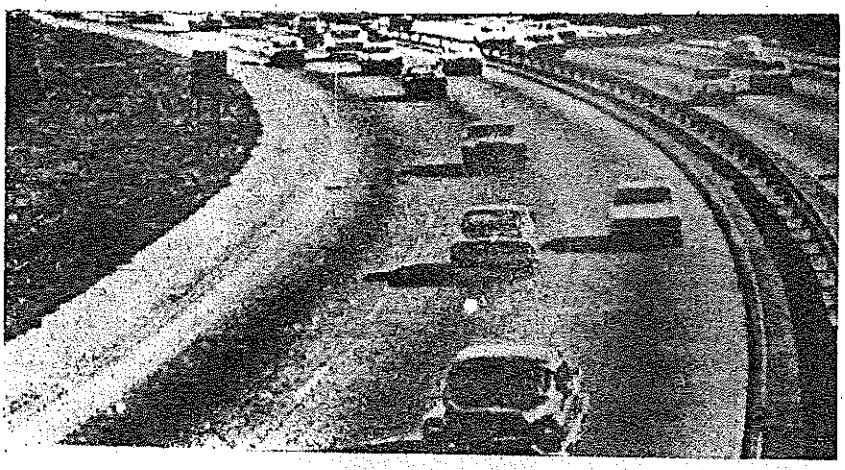
Level of service F describes forced flow operation at low speeds, where volumes are below capacity. These conditions usually result from queues of vehicles backing up from a restriction down-stream. The section under study will be serving as a storage area during parts or all of the peak hour. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of the downstream congestion. In the extreme, both speed and volume can drop to zero.

The illustrations at pages 9&10 depict the speed and volume conditions on an access controlled divided highway for various levels of service*.

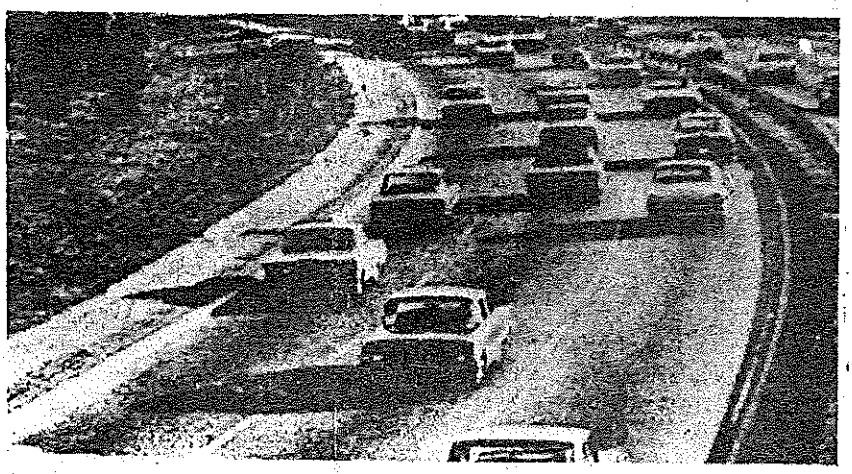
*Source:- Highway Capacity Manual - 1965 Published by Highway Research Board, U.S.A.



LEVEL OF SERVICE "A"

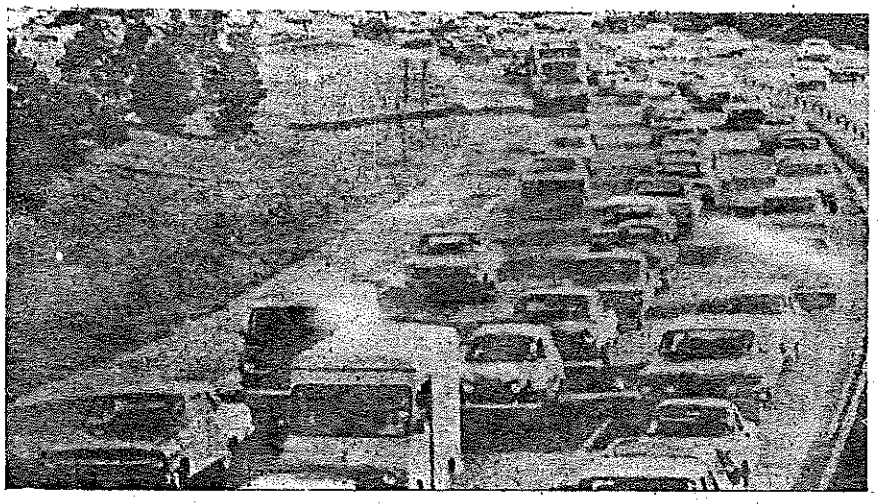


LEVEL OF SERVICE "B"

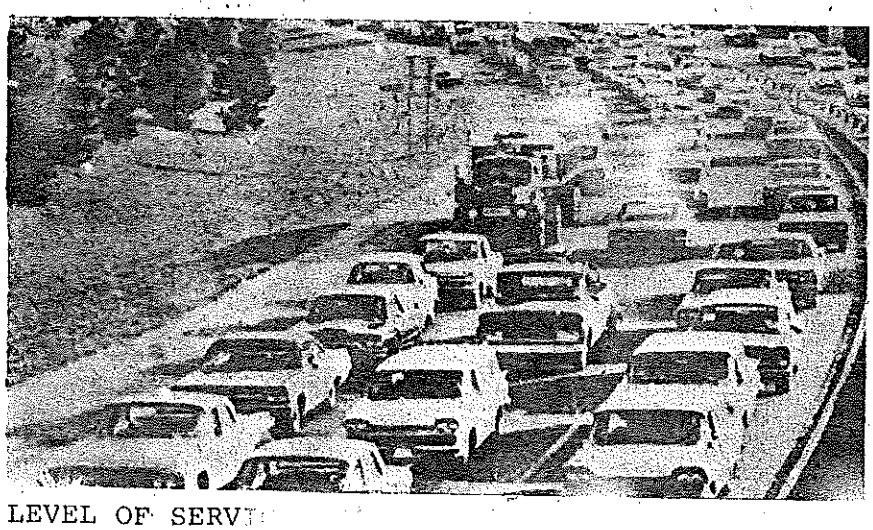


LEVEL OF SERVICE "C"

LEVEL OF SERVICE 'D'



LEVEL OF SERVICE 'E'



LEVEL OF SERVI

Level of Service of a Two Lane Road

Two-lane highway geometrics primarily affect operating speeds during the free flow representative of level of service A, their effects becoming less significant by the time the maximum volume in this level is reached. Average speeds are most influenced by speed limits in this level also. Within level A, operating speeds must be 100 km or higher. If passing sight distance is always available volumes may reach 20 percent of capacity. Under ideal conditions a service volume of 400 passenger cars per hour, total for both directions, may be achieved. Approximately 75 percent of the desired passing maneuvers can be made with little or no delay, the main deterrent, of course, being vehicles travelling in the opposite direction.

Level of service B marks the begining of stable flow. At the maximum volume limit of this level, most of the drivers must govern their speeds according to volume conditions. In terms of passing maneuvers, the average driver may wish to increase the number of passings, but cannot do so due to increased traffic densities. Therefore, most drivers are affected by other vehicles in the traffic stream, although this effect is not yet un-reasonable. Operating speeds are 80 km per hour or above, and volumes may reach 45 percent of capacity with continuous passing sight distance.

Volumes of 900 passenger cars per hour, total for both directions, are carried under ideal conditions.

Further increases in volume have a direct effect on operating speeds, independent of highway alignment features. In the limit of level of service C,still stable flow, operating speeds for uninterrupted flow on all 2-lane highways are 65 km or above, with total volume for both directions reaching 70 percent of capacity with continuous passing sight distance, or 1,400 passenger cars per hour, under ideal conditions.

Unstable flow is approached as operating speeds fall to 55 km per hour. Volumes carried, total for both directions, may reach 85 percent of capacity with continuous passing sight distance, or 1,700 passenger cars per hour, under ideal conditions. This represents the limiting conditions for level of service D, or the highest volume that can be maintained for short periods of time without a high probability of breakdown in flow.

At level of service E, or capacity, actual operating speeds will usually be in the neighbourhood of 50 km per hour, but may vary considerably. Volumes, will be 2,000 passenger cars per hour. Again, as with other highway types, level F represents forced, congested flow with relatively unpredictable characteristics. Operating speeds are less than 50 km per hour, and volumes are under 2,000 passenger cars total for both directions.Frequently, level E is never attained as volume builds up, instead, a transition into level F occurs directly from level D.

Capacity under Pakistani Conditions

Based on the research carried out by foreign experts, Ministry of Communications as well as Planning Commission, the ideal capacity of various types of road in Pakistan under our conditions of traffic composition (75— 80% Commercial Vehicles, 10-12% Private Vehicles, 3-5% Animal Drawn Vehicles) is as follows:

8 Meter Shingle Roads	-	50 vehicle per day
4 Meter Black Top Road	-	100 " " "
8 Meter Black Top Road	-	7200 " " "
4 Lane Divided	-	48,000 " " "

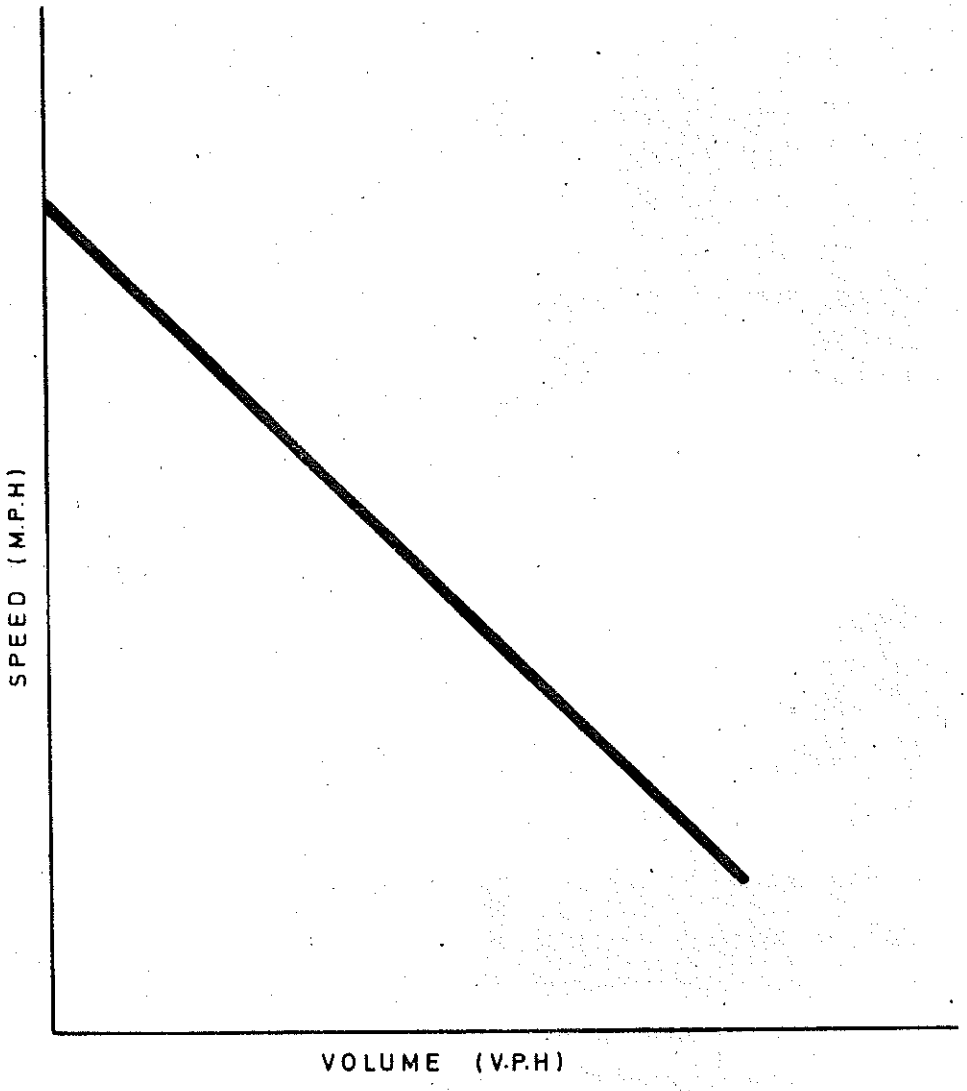
The comparable figures for the developed countries of the world, where the traffic consist of 70-75% private cars and 25-30% commercial vehicle with very little or no animal drawn traffic are much higher.

From the above, it is clear that if a road were to carry less than 50 vehicle per day, a 8 meter wide shingle road would be the most economical and appropriate solution. Any road having specifications higher than this shall be overly designed and uneconomical which not even the richest country can afford, what to speak of a poor country like Pakistan. Similarly, a two lane road in Pakistan should be able to provide very good level of service as long as the traffic volume is below 7200 vehicle per day.

In simple practical terms, it means that for a two lane road in Pakistan, the driving conditions are quite nice as long as the volume does not exceed 7200 vehicle per day. But it does not mean that if the traffic volume increases to 7201, you need one more lane or even one more meter of road width. All that it means is that the congestion begins to set in. The road-users would begin to experience a small degree of constraints. The speed would drop and overtaking becomes relatively restricted. With further increase in volume of traffic, the speeds would drop further and restrictions on overtaking increase considerably and congestion becomes more pronounced. With still further increase in traffic volume, the level of service deteriorates more, the speeds drop further and overtaking becomes very difficult as there is a constant stream of traffic approaching from the opposite direction which do not allow wide enough gap to complete overtaking maneuveour. In the extreme case when maximum possible volume has been accommodated, the speeds drop below 50 km per hour, overtaking becomes out of question and flow is in a very delicate equilibrium. A slight amount of disturbance can bring the entire traffic to a complete halt and a total congestion results where nothing moves. The relationship of volume with speed on level, tangent section of a rural two lane highway may be seen at page 15.

SPEED - VOLUME RELATIONSHIP

(TWO LANE RURAL ROAD)



From the preceding, it may be seen that with reduction in speed the road capacity increases. However, there is an optimum speed beyond which the capacity gains are more than offset by reduction in speed and the overall conditions become very undesirable. It is estimated that on a two lane road in Pakistan this condition can reach when volume exceeds 12,000 vehicle per day.

Now let us look at the traffic volume that we have in this country on our rural roads. The highest traffic link in Pakistan at present is Lahore-Kala Shah Kakoo, which is an 18 miles stretch and it is now touching 7,000 vehicles per day. But already two more lanes have been built and the facility has become a four lane divided highway. The capacity of a 4-lane divided highway being 48,000 vehicles per day, therefore, the question of reaching capacity of that road, in the near or even distant future would not arise.

The second highest traffic link in the country is Rawalpindi-Taxila which carries approximately 6,000 vehicles per day. Already the road has been upgraded to a four lane divided highway upto Turnol and the rest of the work shall be completed by June, 1981. Therefore, the question of traffic volume reaching the capacity of this section does not arise.

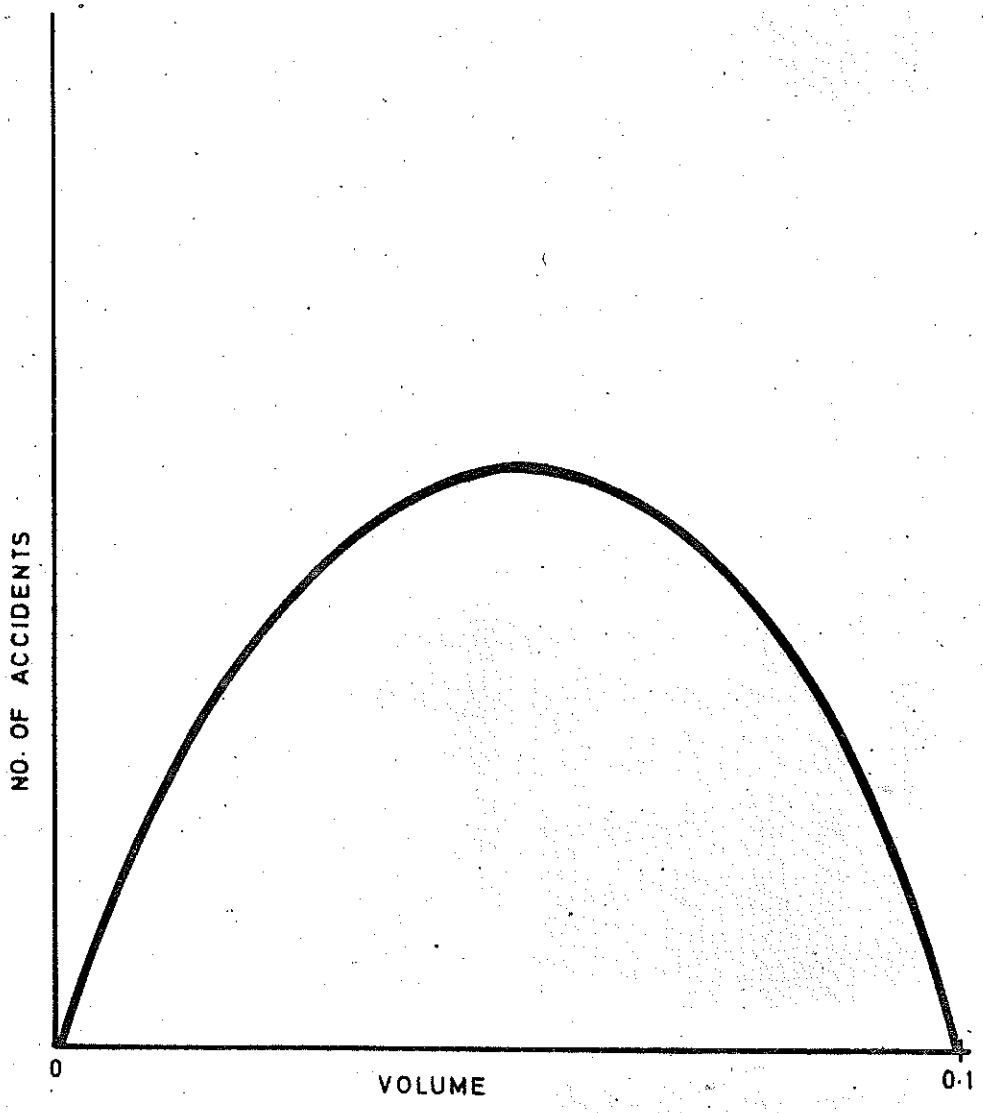
The third highest link in the country is between Peshawar and Nowshera with a traffic volume of about 4,500 to 5,000 vehicles per day. Even with the existing facility which is a two lane road, there is a long way to go there as well. Nevertheless, preparations are already underway to add another 2-lanes between Peshawar and Nowshera. So again the problem of traffic congestion on this road will not arise in our life time.

There are a number of mis-conceptions in the minds of general public in the country about the role of increase in traffic volume in traffic accidents. There is a general feeling that the greater traffic volume is bound to result in increased number of accidents. This is not true entirely. The relationship between volume and accidents may be seen on page 18.

From the above, it is clear that in the initial stages when there is smaller volume of traffic and ample capacity available, an increase in volume is accompanied by a corresponding increase in number of accidents. But reaching the optimum capacity(in our case 7200 vehicles per day for a two lane road) the accident rate begin to slow down. In the extreme case when there is a total congestion, since nothing moves, therefore, no accident can occur and the road becomes safest.

There is also no foundation to the belief that since number of vehicles in the country has increased manifold therefore they are bound to result in greater accidents. If it were true, then all the developed countries of the world,where every year millions of vehicles are added,should show considerable increase in accidents. But this is not so. In fact, many of those countries have experienced a decline in accidents.

VOLUME VERSUS ACCIDENTS



In Japan the motor vehicle more than trippled between 1968 and 1977 (from 13.60 million to 41.432 million) but the number of accidents of all types reduced by 50% (from 721,000 to 461,000) during the corresponding period. Similarly, in U.S. where approximate 10 million vehicles are added every year, the number of accidents fatalities is static at around 50,000 during last twenty years. In comparison, as of December, 1979 the total number of vehicles in the country totalled less than 700,000 which is very insignificant figure in relation to the mileage of the roads in the country.

Road Quality and Accidents:

Now let us look at the road from another angle i.e. the quality of road construction. If quality of road construction was a significant factor in our accident problem, then three things should happen. One, Karachi-Hyderabad Super Highway which has been built to the highest engineering standards which the technological state of the art permits should be the safest road in the country because from engineering point of view that road is second to none in its own class, when compared with any such road anywhere in the world. But it so happens that the Karachi and Hyderabad Super Highway has one of the highest accident rate in the country. Secondly, our bad quality and hilly roads should have the highest accident rate. But the fact remains that our these bad quality hilly and mountaineous roads are among the safest roads in the country. Thirdly, our narrow roads when improved should register a decline in accidents. Unfortunately all the roads including Lahore-Attock Highway after

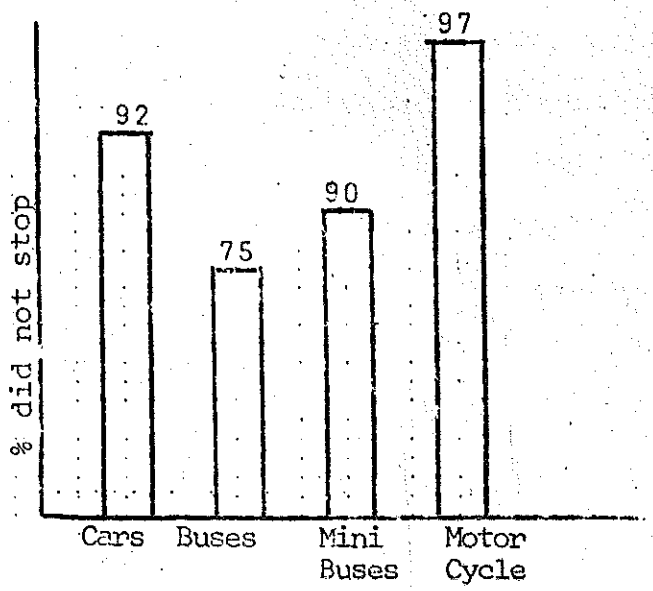
their widening to two lanes, strengthening and improving the alignment as well as road surface, registered a very sharp increase in road accidents. Therefore, it is obvious that the majority of accidents that happen in this country, certainly cannot be blammed on bad quality of our road.

Road Signs and Accidents

Another very common belief is that the cause of our very high accident rate is lack of adequate sign and road marking to guide the drivers and other road users with speed and safety. This is also not very true. The road marking and signs are primarily intended to guide strangers in the traffic stream. To those familiar with the route, these sign and marking do not give any additional information such as location of a bridge, curve, grade, populated areas, etc. that they already do not know. These signs etc. are necessary in countries like U.K., Europe, U.S.A., etc. where majority of the road users in the traffic stream at a given point are strangers and therefore depend on the signs for their orientation. In comparison, the traffic stream in Pakistan primarily consist of the individuals who are very familiar with the road being travelled by them and do not depend on any road signs to help them reach their destination. This is due to the fact that to begin with there are fewer roads in the country and secondly, the majority of the drivers belong to public service vehicle class which make regular

runs along that road on daily basis. They are therefore familiar with practically every inch of the road. Therefore, lack of road signs, etc. does not in any way put them in any disadvantage.

To further elaborate the role of Road Signs, etc. in our road safety problem, a survey was carried out to determine the effect of road marking and sign on traffic flow and safety. A location was selected which was very well marked and signed. The location was also very well engineered and had proper lane marking and was controlled by a very conspicuously placed stop sign. There was no deficiency of any kind. A total of 400 drivers were observed going through the intersection. The overwhelming majority of the drivers did not stop or even slow down as can be seen below:



Observance of Stop Sign

When asked as to why they did not stop, the majority (85%) of the drivers responded that there was no stop sign installed at the intersection. When their attention was drawn to the fact that a stop sign was very conspicuously placed, the normal response was that "somebody must have erected the sign yesterday". This is especially important when viewed in the light of the fact that the sign had been in that location for years and 96% of the drivers were very familiar with the area and had been going through the intersection on daily basis for years. In all those years, they never noticed the sign because they did not need it for their guidance. They knew exactly where they were going and were fully confident as to how to reach there, sign or no signs.

Lack of Motorways and Accidents

There is another very common mis-understanding in the minds of people in this country that the developed countries have lower accident rates because they have motorways. They generally believe that all roads in England, Europe and and U.S.A. are of motorway standards. This belief stems from the account of roads and road traffic given by the people who visit these countries for a very short time and only get to see the major cities and the roads linking these cities. They are duly impressed by the engineering aspects of these roads. They never get to see the secondary and tertiary roads in those countries and therefore come back with the belief that all roads in those countries are of motorway standards. Nothing is farthest from the truth. The fact of the matter is that our of 5.3 million km of roads in U.S.A., only 64,000

km are of motorway standards. The rest of the roads are ordinary, two lane, single lane, shingle and even earthen roads. The exact break down of various types of roads in U.S.A. is as follows:-

(i)	Dirt Roads	-	1,600,000 Kilometers
(ii)	Low grade surface	-	3,200,000 "
(iii)	High grade surface	-	960,000 "

The dirt roads are primarily farm roads, fifty percent of which are neither graded nor have any drainage facilities. The low grade roads include soil surfaced, slag, gravel or stone or bitumenous treated. The high grade roads include single lane, two lane and other multi-lane,divided/ undivided urban and rural roads, including 64,000 km of freeways.

In U.K., out of 332,000 km of all kinds of roads, only 2,400 km are of motorways. In Japan, out of a total road mileage of approx. 1,120,000 km, only 1,900 km are of motorway standards. Same is the case with other developed countries of Europe, North America, Asia and Africa.

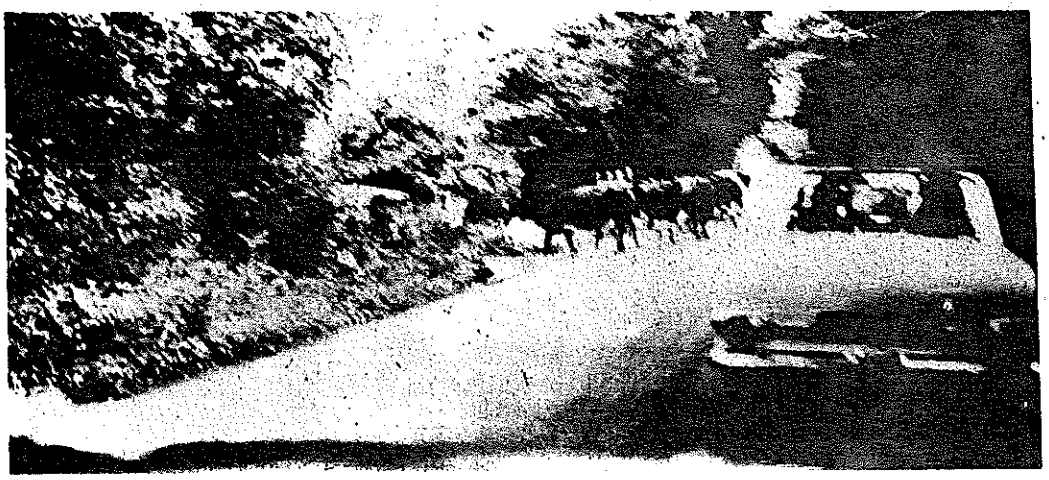
It would also be pertinent to point out that even in these countries of the developed world which have a substantial length of motorway type roads, not a single km of these roads was built primarily to achieve higher safety.The motorways are only built to cater for higher volume of traffic and not to minimize accidents. No engineer worth the salt would propose a motorway where an ordinary two lane road would do. No doubt the motorway type facilities are safer in

overall accident rate by about 30% as compared with non-divided highway but what most people do not know is the fact that the severity index of these motorways is approximately 600% hither than ordinary two lane roads. This means that if there are 100 accidents on a 2-lane highway, and five people die in those 100 accidents, in comparison on a motorway, 100 accidents would result in 30 accidents deaths.

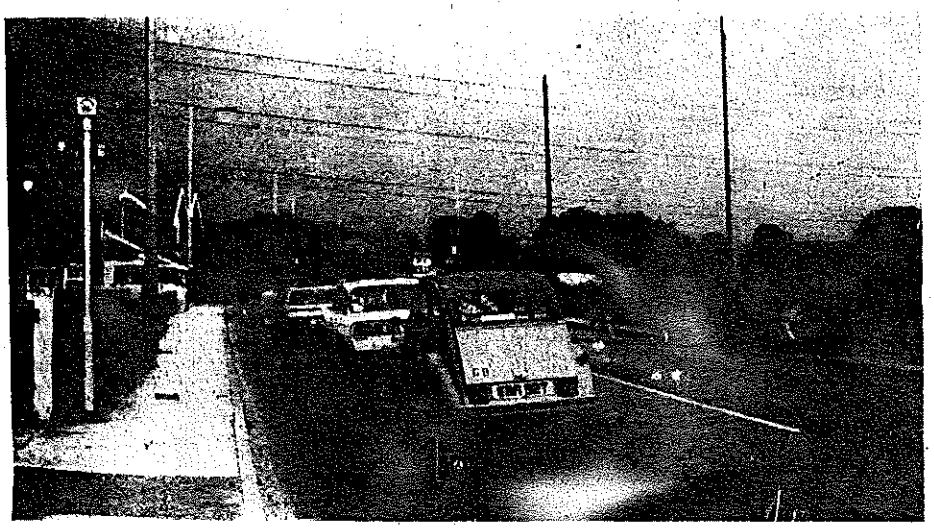
To further elaborate the road system/network of the developed countries of the West and Asia, it is common knowledge that excluding a very limited length of motorway type facilities in these countries, the remaining system is indeed very ordinary. Take the case of U.K., where after motorway the next highest type of road is called "A Route". A typical "A Route" is an ordinary two lane road at the most 7-8 meters wide, with smoothly carpetted surface with proper road marking and sign/signals but with no shoulders and having quite winding horizontal geometry with sharp curves and steep grades, floating up/down with the natural contours of the area through which it passes. It typically carries traffic volumes around 10,000—12,000 vehicles per day, operating at average speeds of 65-85 km per hour.

To give the readers a better idea of these roads the pictures at pages 26 & 27 taken during a recent trip(April 1980) to England depict some of A & B Routes in Southern England.

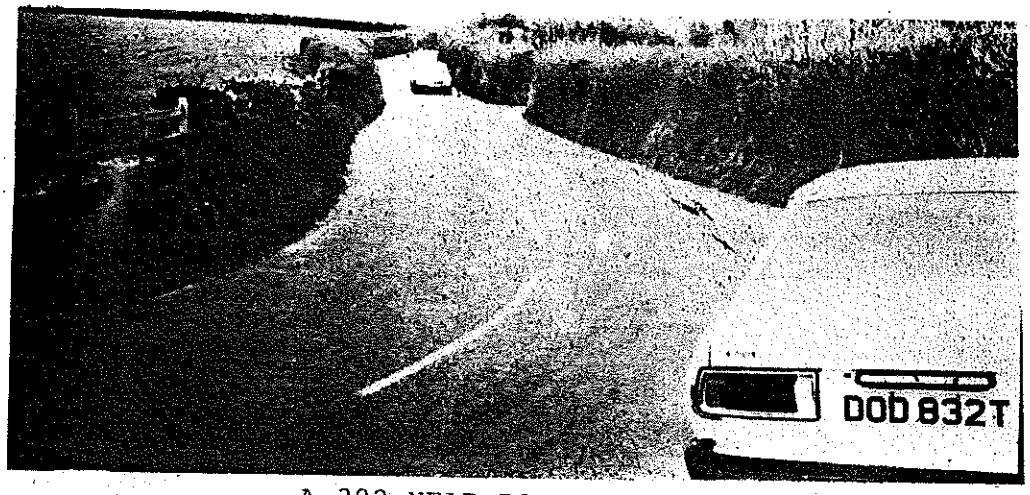
DART VALEY ROAD - DEVON
TOO NARROW FOR TWO CARS TO PASS



ANIMALS CROSSING A - 390 DEVON

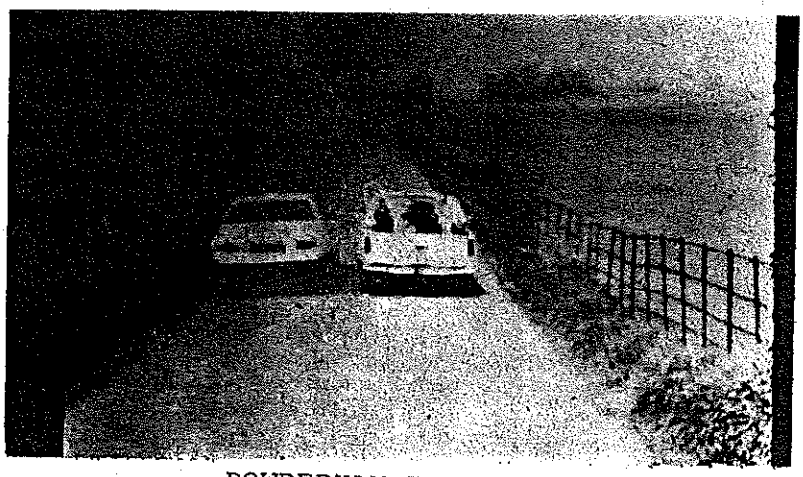


ANIMALS CROSSING SUB-URBAN ROAD



A-382 NEAR BOVEY TRACEY—
DEVON TOO NARROW TO STRIPE

A-379 NEAR STAR CROSS—
DEVON TOO NARROW TO STRIPE



POWDERHAM ROAD— DEVON

Similar is the case with secondary and tertiary roads in Europe, U.S.A. and Japan. In comparison, the similar roads in Pakistan have mucl better geometrical features. They are much wider, have wide shoulders and easy horizontal geometry and vertical geometry. The only area they are inferior to the roads in the developed countries is that their surface is not very smooth and they do not carry as many sign and road markings. But this deficiency is no way should be held responsible for higher accidents. As a matter of fact our roads are so much wider than necessary (when compared with the traffic volume carried by them) that they give ample opportunity for the drivers to drive recklessly and get away with it, because the ample width of the road give enough time and space to other drivers to take evasive action and avoid accident. In the develcped countries of the world where the roads operate almost near capacity, only a very lucky driver driving recklessly would get a second chance.

According to studies, carried out by the author and the senior officers of the traffic police clearly establish that at the most 5% (the comparable figure for the developed countries is 3%) accidents can be attributed to roads which is a very insignificant figure compared to other causes such as rash and negligent driving which is responsible for 90-95% of the accident. Unfortunately, people tend to compare our roads with the roads of the developed countries of today. This is not a fair comparison. There is no point in comparing ours roads with say English roads of today because of the technological head start enjoyed by

these countries. A better comparison would be the roads of these developed countries of 50 to 60 years ago, which they were perhaps at the same stage that we are today as regards the composition of the traffic and its volume is concerned. It is common knowledge that at that time they used to have a lot of animal drawn vehicles on their roads. There were no motorways and the roads were in worst physical conditions than we have today in Pakistan. At the top of that they did not have the benefit of technological development in traffic management to guide them as we do. It would not be fair to compare the quality of our roads with English Roads of today when they are carrying 1/10th the traffic volume and condition vary so much between the two.

In view of the preceding it can be said with great deal of certainty that majority of accidents that occur in this country can not be blamed on the roads. The roads are generally adequate for the amount of traffic being carried by them and our better quality roads have worse accident record as compared with poorer quality roads.

The Vehicle

Let us see role of vehicles in road accidents in Pakistan. Now again granted that our vehicles are not always in very good mechanical condition because we do not manufacture any vehicle locally. All the vehicles are imported at very high cost and hence difficult to maintain in tip top conditions. But that does not mean that all our vehicles are so old and mechanically so defective that they should not be on the road. A survey of the age distribution and mechanical conditions of vehicles

in the country shall give very favourable results,which is very good considering the socio-economic conditions of the country. It may be useful to point out that even in the developed countries of the world, contrary to the general impression, not every vehicle is in best of the physical or mechanical condition. Even in those countries there are a lot of Jalopies of all sort running around. Not every vehicle in U.K. is a Roll Royce or every vehicle in U.S. either a Cadillac or Buick. This is because, even in those countries, there are a lot of poor people who can only afford very old vehicles.

It may also be imperative to point out that research has clearly established that even in Pakistan at the most 3.5% vehicles are alledgly involved in accidents due to mechanical failures. There is inspite of very high tendency of putting the blame on mechanical fault such as break and tie rod failure, to escape prosecution. Even then it is too insignificant to have any profound effect on road accident remedial measures.

It would not be out of place to point out the experience of those countries which have a very strict mechanical test. Take the case of England, where they have a test called M.O.T.(Ministry of Transport Test), whereby every private vehicle is rigorously tested for mechanical fitness once a year and every transport vehicle twice a year. Before the introduction of the test, the mechanical failures in U.K. were responsible for approximate 2.5% of the accidents. Evaluation of the test has clearly shown that

it has made no difference what-so-ever towards the reduction in number of accidents due to mechanical failure. As a result, the authorities in U.K. are seriously contemplating dis-continuing the test.

The studies have revealed that the vehicles especially buses which are involved in accident on our highways are mainly those which are relatively new, rather very new and overloading is responsible for only 1.5% of the accidents. Another popular belief is that our high accident is because of animal drawn or slow moving vehicles in the traffic stream. If the assertion was true, then the Karachi-Hyderabad Super Highway which is closed to all kind of animal drawn vehicle, should be the safest road in the country which it is not. In view of the preceding, it can be said that the majority of the accidents occuring in the country, cannot in any way be blamed on the vehicles.

The Road User

Does it not automatically points towards the third element namely the road user as the real culprit. Let us look at the role of road user in the road accident in detail.

Supposing a driver had to drive a vehicle not in good mechanical condition along a very bad road, then if he drove it slowly and carefully realizing

the limitations of the vehicle and the road, no accident would occur. On the other hand, if a driver drove brand new car recklessly on a motorway, it is bound to have an accident and accidents do happen on motorways also, primarily for the same reasons. Therefore, there should be no doubt that 90-95% of the accidents which occur in the country can be directly or indirectly attributed to the driver. This is also the case with the developed countries of the world where 95% of the accident are caused directly or indirectly by the driver.

Now if real culprit is the driver or the road user, then a fair question would be, "How do we control the driver". The research has revealed that there are two ways to bring the road user under control. One is education and second one is enforcement.

No doubt the education is the basic pre-requisite because before anybody could be expected to obey any law, he ought to know the law. Every road user must therefore be informed of his rights and obligations on road. Unless this is done he cannot be held responsible for any action of his which is in contravention of the law. The maxim, "Ignorance of law is no excuse", can only be applicable if there was a sufficient chance for the individual to get acquainted with the law but he deliberately did not do so. However, once the person is informed of the law, and he attempts to violate it, then the enforcement comes into motion and the person is prosecuted.

Let us see the relative effect of education and enforcement on road user behaviour in a public place. Let us look at Education first.

Education:- A large number of people attribute the lower accident rate in the developed countries of the world to very good traffic safety education in their schools. However, the research has revealed that there is no truth in the common belief that one can brain wash the road users into being truly rule observing individuals. It is now accepted that one cannot modify the behaviour of road users by intensive traffic safety education in schools alone. It has been very clearly established that the role of education in overcoming traffic safety problem is very limited. It is useful and necessary only to point that the person is informed of his rights and obligation, when he is on the road in a public place.

The following facts throw light on the role of education in road safety:-

(i) First of all contrary to the general impression, not every school in England or other developed countries of the world has traffic safety education programme. Some of them do, some of them do not. As a matter of fact, the only compulsory education in England is "Religion". Beside religion every school system is free to teach any subject it wants.

(ii) Secondly, the research in U.S.A., U.K. and Japan has proved that the quality or even absence of traffic safety education in schools do not seem to have any effect whatso-ever on road user behaviour in later life. To prove this, two school systems, one with

a very good standard of traffic safety education in their curriculum and another where no traffic safety education was taught, were selected in U.K., Japan and U.S.A. The students from the both the schools, graduating(Secondary School Level) and becoming eligible to drive motor cycles were observed,without their knowledge, with regard to two aspects, namely the violations of traffic rules and accident involvement over a period of time. The results of the study show that both the group were completely identical in both respects, which clearly prove the limitation of influence of education. As a result, the old theory that if you want to have good driver behaviour, then you must have good traffic safety education in schools, has been discarded.

Nevertheless, in the developed countries of the world the level of the knowledge of traffic safety rules on the part of the drivers is normaly around 95-100%. The drivers when tested for driving license are expected to score at least 95%. This might appear very harsh, but considering that the ignorance of even one single rule might result in tragedy for a number of innocent road users, even 1% ignorance is intolerable. The 5% allowance is therefore for human error in giving correct answer and not for ignorance of the rules. It may also be pointed out that approximate 80% of the road users in these countries derive their knowledge of the traffic rules from Highway Code.

Now let us look at these two factors in the context of condition prevailing in this country. Let us look at the education first i.e. how many people actually know traffic rules. Let us see either or not

every driver before acquiring the licence to drive knows all the rules. The extent of ignorance of traffic rules on the part of road user is appalling. The following are the results of the survey:

A systematic effort was made to gauge the extent of ignorance of traffic safety rules on the part of the road users. A sample of 400 drivers were thoroughly tested with regard to the possession and reading of the code, confidence level of the subjects ranging knowledge of the rules and actual level of the knowledge of the rules. Three months prior to the survey, possession of the personal copy the Highway Code by the drivers in the whole of the country was made mandatory by law. The survey revealed that 92% of the public service drivers, 94% of the private or government organization drivers, 67% of the army officers, 88% of the civilian servants, 98% of the semi-public fficials, 90% of the businessmen and 89% of the students possessed the Pakistan Highway Code.

Possession of Highway Code

Type of drivers	% Possessed
Professional drivers:	
Public Service	92
Private or Govt.Orgn:	94
Non-Professional drivers:	
Army Officers	67
Civil Servants	88
Semi-public or Private Orgn:	98
Businessmen	90
Landlords	100
Students	89

In order to determine whether driver complied with the spirit of the law and read the code after purchasing it or merely completed the requirement of mandatory possession. The survey revealed that very few drivers actually read the code. Full 60% never read the code and 22% read it only partially. The remaining 18% claimed reading the code in total as detailed below:-

Reading of the Highway Code

Type of drivers	Percent Reading			
	All	Some	None	Total
Professional drivers:				
Public Service	18	49	33	100
Private or Govt.Orgn:	40	37	23	100
Non-Professional drivers:				
Army Officers	50	17	33	100
Civil Servants	42	35	23	100
Semi-Public or Private Orgn:	29	53	18	100
Businessmen	24	43	33	100
Landlords	0	100	0	100
Students	33	11	56	100

To determine the reasons for not reading the code, the subjects were asked if they thought thay already knew the contents of the Code. The majority (67.-100%)of the subjects said with confidence that they knew all the rules contained in the code as detailed below:

Confidence of Rules Knowledge

Type of Drivers	Percent
Professional drivers:	
Public Service	75
Private or Govt.Orgn:	71
Non-Professional drivers:	
Army Officers	67
Civil Servants	66
Semi-Public or Private Orgn:	82
Businessmen	67
Landlords	100

The subjects were also asked if they believed that they knew all the rules a driver ought to know. 83-100% of the subjects replied in affirmative with confidence as detailed below:-

Driving Confidence

Type of drivers	Percent
Professional drivers:	
Public Service	94
Private or Govt.Orgn:	100
Non-Professional drivers:	
Army Officers	83
Civil Servants	100
Semi-Public or Private Corp.	100
Businessmen	90
Landlords	100

With this background and preliminaries, they were asked the following 20 specific questions from the Highway Code:-

1. Should you use your horn while going through an intersection?
2. Who has the right of way at a roundabout?
3. Is it necessary to come to a complete stop before crossing a major road even if there is no traffic on the major road?
4. What would you do when you are overtaking a vehicle and suddenly see another vehicle approaching from opposite direction?
5. Are you supposed to dip your head-lights when approaching behind another vehicle at night?
6. What is the minimum safe following distance at 80 kph?
7. When there is a continuous line along the middle of the road what does it indicate?
8. In case of an accident betwen rail and motor vehicle at a level crossing with open gate, whose fault is it?
9. If you see in your rear-view mirrow a vehicle approaching at high speed behind you, should you help him in overtaking?
10. If you are approaching behind another vehicle on a Highway and the vehicle in front gives a right indicator what does it mean?
11. Can you pass a school bus if you blow your horn to warn the children.
12. When you hear the siren of an emergency vehicle what does the law require you to do?
13. If you are approaching an intersection with green signal and notice an emergency vehicle approach from right, can you cross the intersection.
14. While waiting at a red signal, you are ordered by a traffic policeman to proceed, would you obey his order?
15. How will you turn-right if another vehicle is following you?
16. Can you turn right on red signal?
17. Can you turn left on red light?
18. Can you turn left on red light at signalized crossing by overtaking on the right if your lane is blocked by another vehicle waiting to go straight?
19. In case of a rear-end collision due to sudden stoppage of vehicle in front, who is at fault.
20. In what lane of traffic should you drive when you intend to make a right-hand turn?

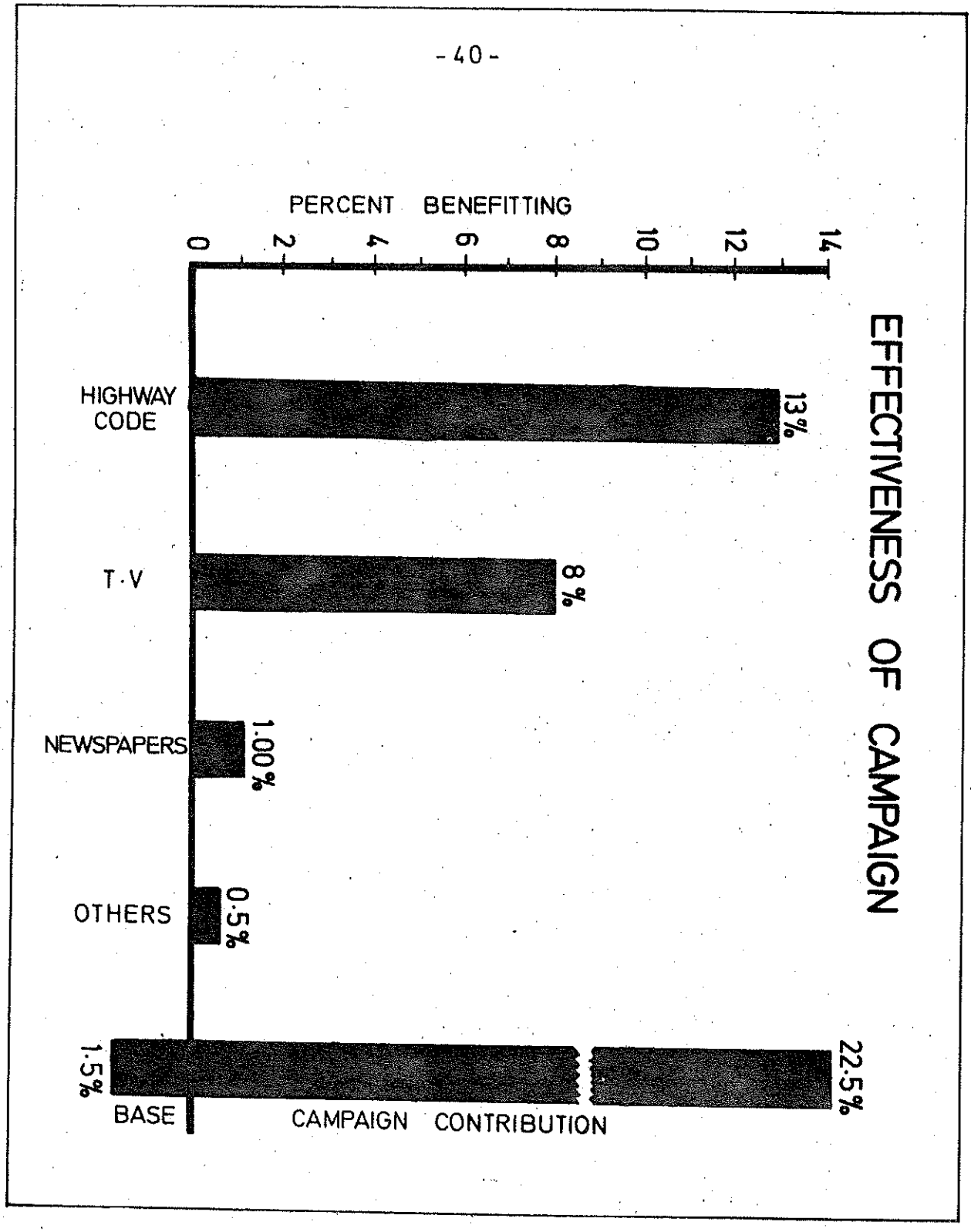
On the average, only 24% drivers could give correct answers. Those giving right answer to any question was further asked to state the correct source of his knowledge. 22.5% admitted that they had learnt the rule by the Highway Safety Education Campaign launched by the Government through the media during January-May, 1978. Only 1.5% maintained that they knew the rule prior to that and these, when cross-checked, were mainly those individuals who had acquired their driving licence either in Europe or North America. The table on Page 39 gives summary of the source of knowledge of the traffic rules as stated by the respondents. It is obvious that prior to the traffic safety education campaign of January-May 1978, the ignorance of even the most basic and fundamental rules was total as may be seen in the table on Page 40. The result clearly show that a graduate or a person with 40 years experience was no better off as compared with a totally un-educated or a person with only one year driving experience, respectively.

Although the driver safety education campaign of January-May 1978 was able to raise the driver rules knowledge to 24%, nevertheless it still is very dismally low as compared with the desired level of 95-100%.

Given the prevailing total ignorance of the traffic rules, the question arises as to how did every driver in the country manage to remain so ignorant of even the basic traffic safety rules. To get the answer, we have to look into the driver training and drivers testing practices

KNOWLEDGE OF TRAFFIC RULES

Item	Right of way at Round-about	Is stop sign a manda-tory sign	Safe follow-ing dis-tance	Mean-ing of contin-uous line	Use of indicators for over-taking	Can Traffic Police over-ride a traffic signal	Is right turn on red per-missible	Responsi-bility for Rear end collision
1.	2.	3.	4.	5.	6.	7.	8.	9.
KNOWLEDGE VERSUS DRIVING EXPERIENCE								
1 - 5	3	11	2	15	15	11	21	19
6 -10	2	15	6	13	18	8	18	37
11-15	2	8	2	9	5	16	6	31
16-20	3	12	3	17	8	2	19	25
21-25	0	16	0	3	3	6	9	28
26-30	5	10	0	10	15	10	20	30
31-35	8	23	15	23	8	0	15	15
36-40	0	11	0	22	0	0	22	33
KNOWLEDGE VERSUS EDUCATION								
Nil	7	10	2	11	6	5	19	9
Primary	0	13	6	13	10	12	23	13
Secondary	9	14	5	10	9	10	17	5
Graduates	14	17	4	16	14	17	15	14


EFFECTIVENESS OF CAMPAIGN
PERCENT BENEFITTING
0
2
4
6
8
10
12
14
HIGHWAY CODE
13%
T·V
8%
NEWSPAPERS
1.00%
OTHERS
0.5%
1.5%
BASE
CAMPAIGN CONTRIBUTION
22.5%

prevailing in the country. Let us examine the driver training first.

Driver Training:- Driver training has two parts namely, teaching of driving skills and teaching of rules of the road. The driver training in this country primarily comprises of the former only. The entire emphasis is on how to enable the trainee to control the vehicle while on road. As regard the rules only very elementary rules such as "Drive on the left"and "Overtake on the right" are taught. This was how each one us was trained as driver.

Driver Testing:- Leaving aside the number of people who usually get their licences without any test, let us take only those who try to obtain the license legally. In such cases, the primary test given is a road test which is basically aimed at determining the driving skill i.e. competence of the person with regard to his ability to control the vehicle on the road only. The reason for this can be found by a close look into the statute book which would reveal that even the laws in force do not require any rule test and therefore none is given.

Since in both cases the emphasis is on driving skills, an average driver in the country becomes very accomplished as regards driving skills are concerned in which they are perhaps second to none in the world.

On the other hand, the driver is neither taught nor he is tested in the knowledge of the rules,as a result an average driver learns very little about the"Dos" and"Donts" of driving and hence the reasons for total ignorance.

Enforcement:- Now let us look at the enforcement aspect of the matter.It may be recognized that the enforcement holds the pivotal position in the whole gamut of traffic safety. Without proper and effective enforcement even the best and most modern highway facilities would be helpless to cope with the traffic safety problems. The respect for law comes only if it is enforced fairly and strictly. A modern traffic police officer has therefore varied responsibilities. Besides, issuing tickets to the erring drivers, he has to be an examplery driver, should be adept in the art of providing first-aid to the injured in an accident; should be able to investigate and analyse an accident methodically and systematically; and should be skillful mechanic to provide necessary.aid to the strandard drivers. Above all he should be firm, courteous, pleasant and well versed in the rules of the road.

Unfortunately, traffic police in this country is in every respect, one of the most ill-equipped enforcement agency relative to the task entrusted to them. Neither are they imparted sufficient training in the art of traffic control nor do they enjoy adequate powers to carry out speedy enforcement. As a matter of fact, the traffic police

as constituted at present can hardly be called professional traffic police. At the top of it, the enforcement carried out by the traffic police is generally negative in nature and they are totally ineffective in their job.

The ineffectiveness of the traffic police is manifest in many ways. It may be recalled that in 1950's it was impossible for a bicyclist or an animal drawn vehicle driver to ply on the road without proper lights at night time. Now-a-days the lights on cycles or animal drawn vehicles is a very rare exception in deed as can be seen from the survey of bicycle without lights carried out at important junctions like the Mall Rawalpindi in all the major cities of Pakistan during April, 1978. The result of the survey are re-produced below:-

Bicycle Lighting Survey

City	without proper light (Percent)
Rawalpindi	100
Lahore	100
Karachi	100
Quetta	93
Peshawar	100

The traffic enforcement in the country has degenerated to such levels that hardly any body pays any attention to them, as can be seen from the table on page 44 which represents the survey of the traffic police effectiveness at four important intersections in Islamabad, which are usually manned by a contingent of traffic police

EFFECTIVENESS OF TRAFFIC POLICE

TRAFFIC UNITS	TRAFFIC RULE VIOLATIONS — PERCENT							
	SUPER MARKET		AABPARA		ZERO POINT		FAIZABAD	
	MANNED	UNMANNED	MANNED	UNMANNED	MANNED	UNMANNED	MANNED	UNMANNED
PEDESTRIAN	17	20	20	20	11	12	15	15
BICYCLE	52	44	11	10	10	11	13	9
TWO WHEELERS	31	30	38	24	11	10	16	12
C A R S	19	15	25	21	6	7	10	9
MINI-BUS	36	22	49	31	19	19	27	22
B U S E S	36	30	30	44	8	9	16	9
T R U C K S	-	-	25	25	8	5	21	1
A V E R A G E	26	21	28	22	9	10	17	12

officials. The total number of vehicles approaching these intersections from any one given approach and percent of these which committed some kind of traffic violations were counted. The survey was carried out when these intersections were heavily and visibly manned and repeated. The result clearly prove that presence or absence of traffic police officials had no effect on the number of traffic violations committed by the road users.

The majority of the accidents are undoubtedly caused by over-speeding and reckless driving. The extent of speeding can be judged from the following table presenting the result of a survey on Islamabad Highway between Faizabad Chowk and Zero Point, taken during the month of April, 1978. The speed limit on this road is 80 KPH for cars, 65 KPH for wagons and buses, etc.

Speed Study - Islamabad Highway

Speed (KPH)	Percent		
	Cars	Wagons	Buses
100 and over	15.2	2.8	-
80 - 99	41.3	38.3	29.8
65 - 79	32.1	46.1	55.3
50 - 64	11.1	12.7	14.9
30 - 49	0.3	0.1	-

From the table, it can be seen that 56.5% of the cars, 87.2% of the wagons and 85.1% of the buses exceeded the speed limit with impunity. On the other hand, the traffic police continues to spend their total energies on checking of the documents as may evident from the statistics for a typical month given in the table on page 46.

TRAFFIC ENFORCEMENT

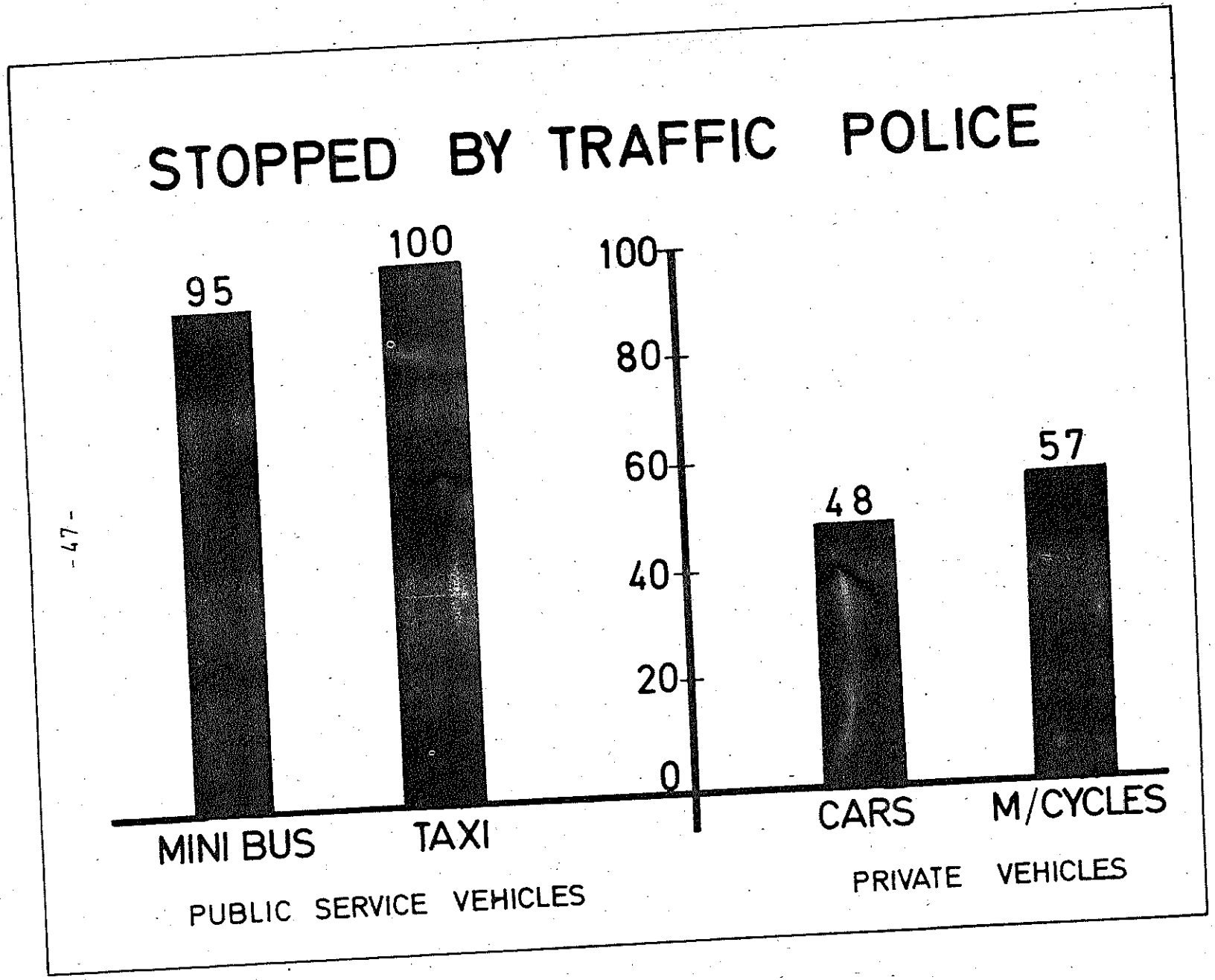
Province	Month	Total	Speeding & Reckless Driving	Others
Punjab	Sep.1978	24,351 (100%)	1,714 (7%)	22,637 (93%)
S i n d	Oct.1978	19,355 (100%)	1,770 (9%)	17,385 (91%)

The challans for speeding and reckless driving also include those issued to drivers involved in accidents which is approximately 40% of the indicated number. The number of challans therefore issued for genuine speeding and reckless driving offences is negligible as compared to total number of challans. The "Other" primarily consists of challans issued for "Insufficient documents, overloading, smoking vehicles and improper registration plates".

Also the traffic challans are issued to public service vehicles drivers only and hardly any motor car driver is ever checked as can be seen from the standing order of MMPI's in Punjab which stipulates that:

> "MMPI's would not stop private cars unless glarding offences come to notice or the cars are required to be checked under special orders".

This is reflected in traffic enforcement actually carried out by the traffic as can be seen from the result of a survey. The respondents were asked if they were ever stopped by traffic police for any reasons whatsoever. The figure on page 47 clearly shows that the basic thrust of the traffic police was aimed at public service vehicles. Less than 50% of the private car drivers admitted to being ever stopped by the traffic police. When cross checked, these happended to be the chauffers of the private cars and not the owner drivers.

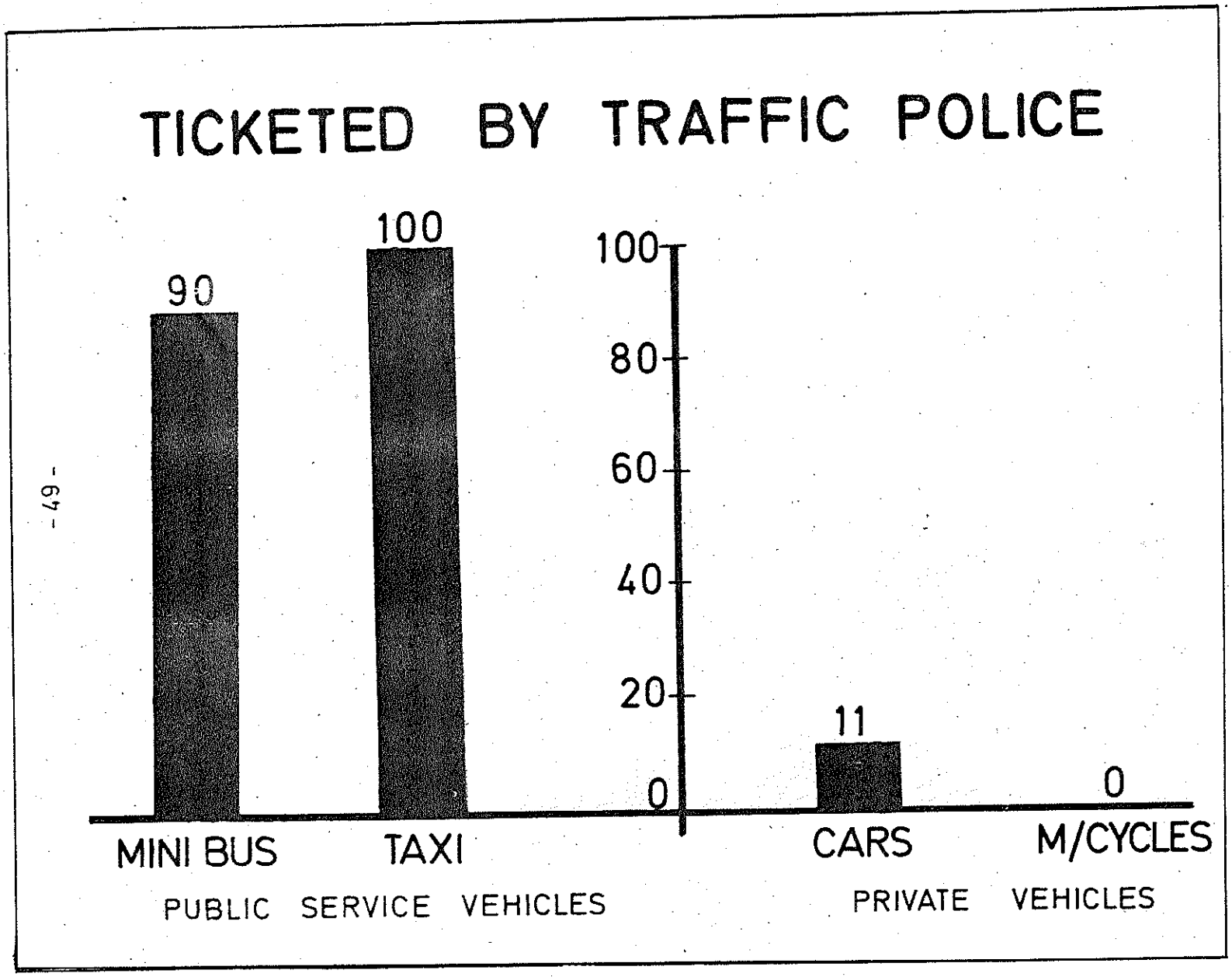

STOPPED BY TRAFFIC POLICE
95
100
100
80
60
40
20
0
48
57
MINI BUS
TAXI
CARS
M/CYCLES
PUBLIC SERVICE VEHICLES
PRIVATE VEHICLES

When asked further, if they ever received any citation for driving violation, hardly any private car driver ever was prosecuted as can be seen from figure at page 49. This is inspite of the fact that studies show that the private car traffic rules violations rate is much higher than public service vehicles.

This may be compared with enforcement priorities and emphasis in Singapore, a developing country with similar socio-economic and cultural background who have successfully overcome their traffic safety problems. The table below shows that break-down of traffic violation checked by the traffic police during 1978:-

Speeding	...	70%
Reckless driving	...	14%
Careless driving	...	11%
Others	...	5%
Total	...	100%

This is a sad commentary on the quality of traffic enforcement in the country. A number of reasons are put forward to explain the in-effectiveness of traffic police. Some of these are namely general erosion of respect for authority; inadequate police strength; lack of mobility and speed checking devices; bad roads; proliferation of vehicles and prevailing socio-economic conditions. Whereas all these have some influence on the highway safety, the real reasons for the total ineffectiveness of the traffic police are due


TICKETED BY TRAFFIC POLICE
100
90
100
80
60
40
20
11
0
0
MINI BUS
TAXI
CARS
M/CYCLES
PUBLIC SERVICE VEHICLES
PRIVATE VEHICLES

to very serious organizational, operational and career planning deficiencies suffered by the force as a result of which the desired professionalism has not developed. A brief summary of the organizational, operational and career planning short comings of the traffic police is illustrated in the following paragraphs.

(i) Organizational:-The traffic police continues to be integral part of the general police force and is thus handicaped due to the following factors:-

(a) The DIG/AIG (Traffic) in the provinces are mere staff officers to the police chiefs and have no real say in the actual traffic operation and control, which is the responsibility of the local DIG's and SSP's. Considering that for a DIG of a range or SSP incharge of a district, the primary concern is maintenance of law and order and control of crime, Highway Safety figures as an item of secondary importance.

(b) The local DIG/SSP's though very competent in their local general police matters, do not have proper exposure to modern traffic operation and control techniques and hence do not have adequate in-sight into the problem. They do not consider traffic enforcement a specialized job and believe that just about anybody could do the task provided he wears a traffic police uniform.

(c) Even within traffic enforcement matters, the checking of over-loading, vehicle documents, etc. receives the primary emphasis. Traffic indiscipline which is the primary cause of high accident rate and total chaos on our roads, is treated as a matter of secondary concern.

(ii) Operational:- Majority of the serious accidents are happening on the intercity arterial roads but most

of the traffic police personnel are deployed in the urban areas (177 Vs 2897). Even the figure of 177 is misleading as the total number of Mobile Inspectors who actually do the checking on highways are only 33 as may be seen from the table on 52. This is due to sharp distinction between highway traffic (MMPI's) and the district traffic police primarily engaged in few large cities. It is impossible for 33 individuals to patrol 50,000 kilometers of rural roads. On the other hand, 2897 district traffic police is way too much for the few selected urban centres. As the top of it some very important sections of highways in the country are not being patrolled at all. Even in the urban areas majority of the traffic personnels are deployed at traffic control on intersection signalized at huge cost rather than traffic enforcement. At such intersection the officials merely watch the traffic go-bye and play no positive role at all.

(iii) Career Planning:- There is no systematic career planning arrangements for the traffic police. As a result, the professionalism required for the job has not developed. The U.K. experts whose services were acquired during 1978 have also noted this and have observed that:-

> "Many of the officers posted to traffic deptt. have had no previous traffic experience of training other than a brief attachment during their first two years of service.....They will have received little or no instruction to traffic law, accident investigation or other traffic duties.....Posting to traffic are normally for a period of two years only and returned to general police duties to be replaced by in-experienced policemen..... Adopted policy has been calculated to prevent traffic specialization with limited exception by its regular transference of man out of and into the department usually after 2 years".

DEPLOYMENT OF TRAFFIC POLICE

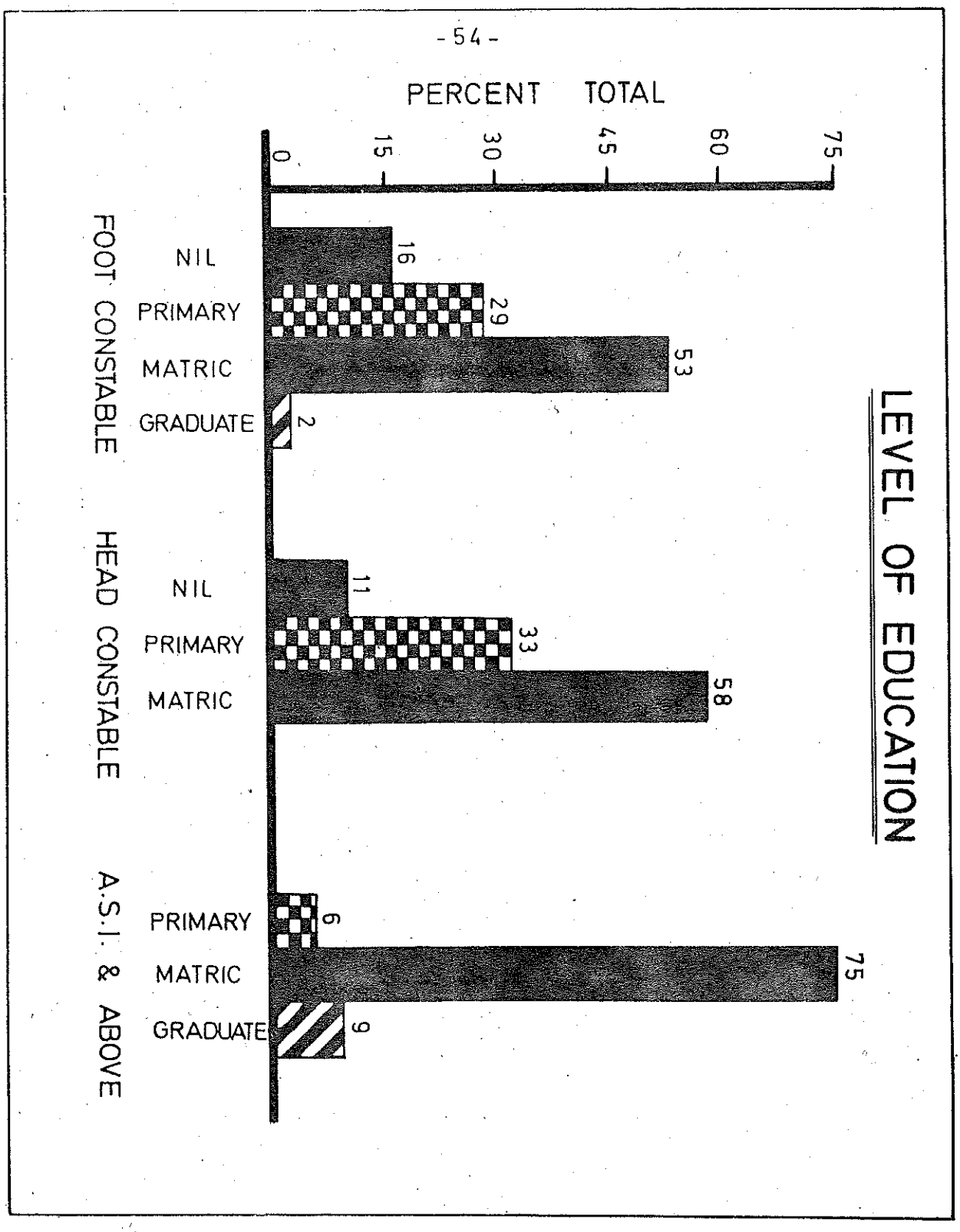
PROVINCE	HIGHWAY TRAFFIC POLICE TOTAL	MMPI	DISTRICT POLICE	TOTAL	REMARKS
1.	2.	3.	4.	5.	6.
PUNJAB	90	18	1246	1336	LAHORE - 480 R.PINDI - 180
SIND	7	2	1245	1252	KARACHI - 941
N.W.F.P.	19	11	353	372	PESHAWAR - 99
BALUCHISTAN	12	2	84	96	QUETTA - 68
T O T A L:	128	33	2928	3056	

In order to determine the real reasons behind the existing state of the affairs, it would be necessary to carry out a detailed analysis of the traffic enforcement as practiced in the country. The analysis is divided into two parts namely the Lower Level and the Upper Level.

Lower Level:

The lower level of traffic which include Foot-Constable, Head-Constable, Sub-Inspector and the Inspector who are considered the king-pin of traffic enforcement suffer from the following difficulties:-

(i) Educational Level: The educational level, particularly at the foot-constable level which is considered as the kingpin of traffic enforcement, is very low. Generally he is either uneducated or has very little education. As a result, he is unable to write even simple parking violation ticket much less properly handle other complex matters such as investigate an accident. This situation has resulted primarily due to lack of appreciation on the part of senior traffic officer regarding the fact that traffic enforcement is a complex operation & should not be entrusted to un-educated or semi-literate persons. This is certainly not due to lack of availability of educated individuals. There is so much unemployment problem for person with eucation upto Matric or even F.A. and B.A.,that hundreds of matriculates work as Peons in offices and thousands of F.A's and B.A's start their careers as Lower Division Clerks. The table at page 54 show the educational level of traffic


PERCENT TOTAL
0
15
30
45
60
75
LEVEL OF EDUCATION
FOOT CONSTABLE
NIL
16
PRIMARY
29
MATRIC
53
GRADUATE
2
HEAD CONSTABLE
NIL
11
PRIMARY
33
MATRIC
58
A.S.I. & ABOVE
PRIMARY
6
MATRIC
75
GRADUATE
9

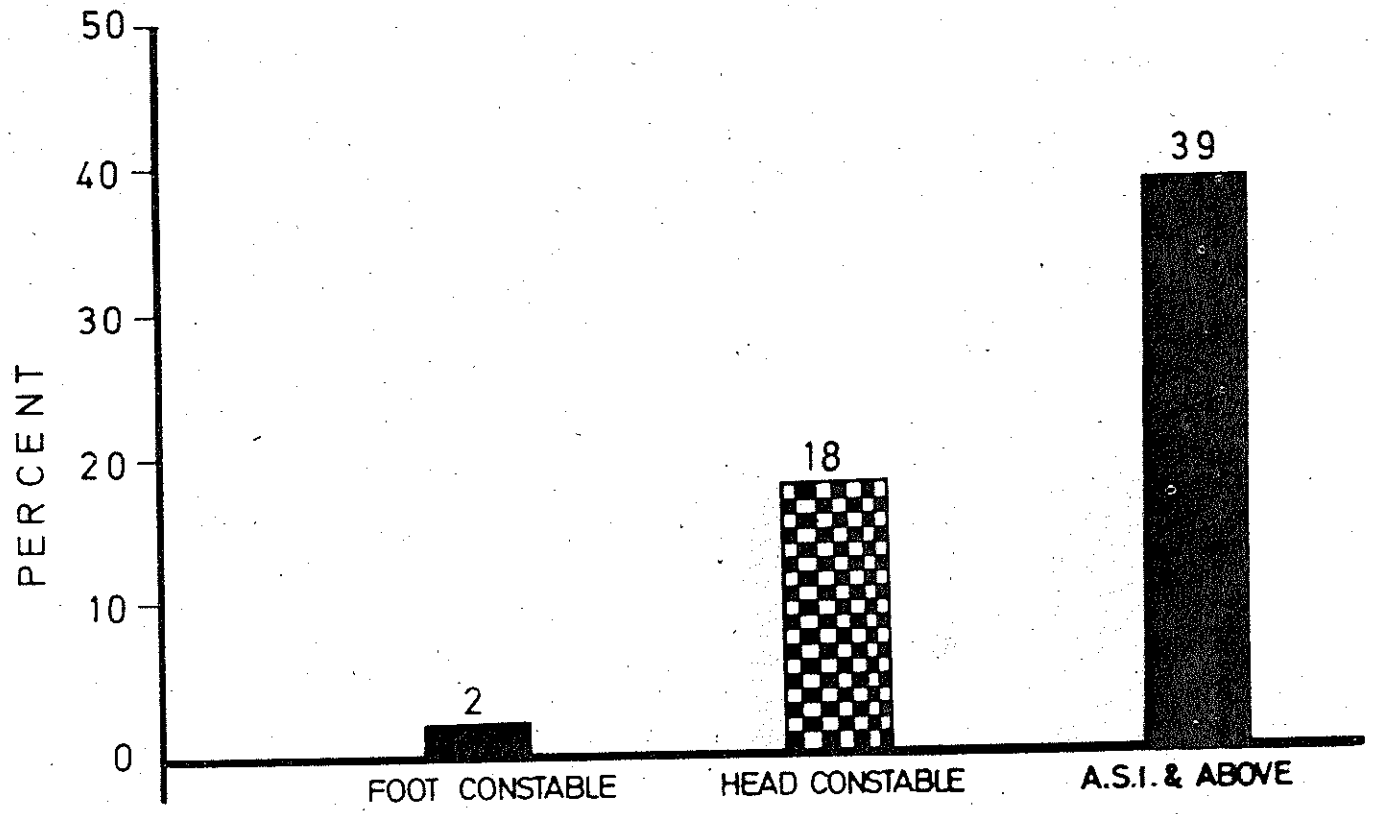
Police in Punjab during March, 1973.

(ii) Training:- Even nominal training in the art of traffic control which a lower staff of traffic police used to receive in the past, has been completely dispensed with. The posting in traffic police is done mainly by indescreminate transfers from the regular police who had not received even the nominal training in traffic control. As a matter of fact, it is common knowledge that posting in traffic police being very lucrative, the senior police officials come under all kind of pressures which result in posting a person in traffic for reasons other than his merit or suitability for the job. As a result, the majority of the traffic staff are unaware of even the basic traffic laws and regulations.

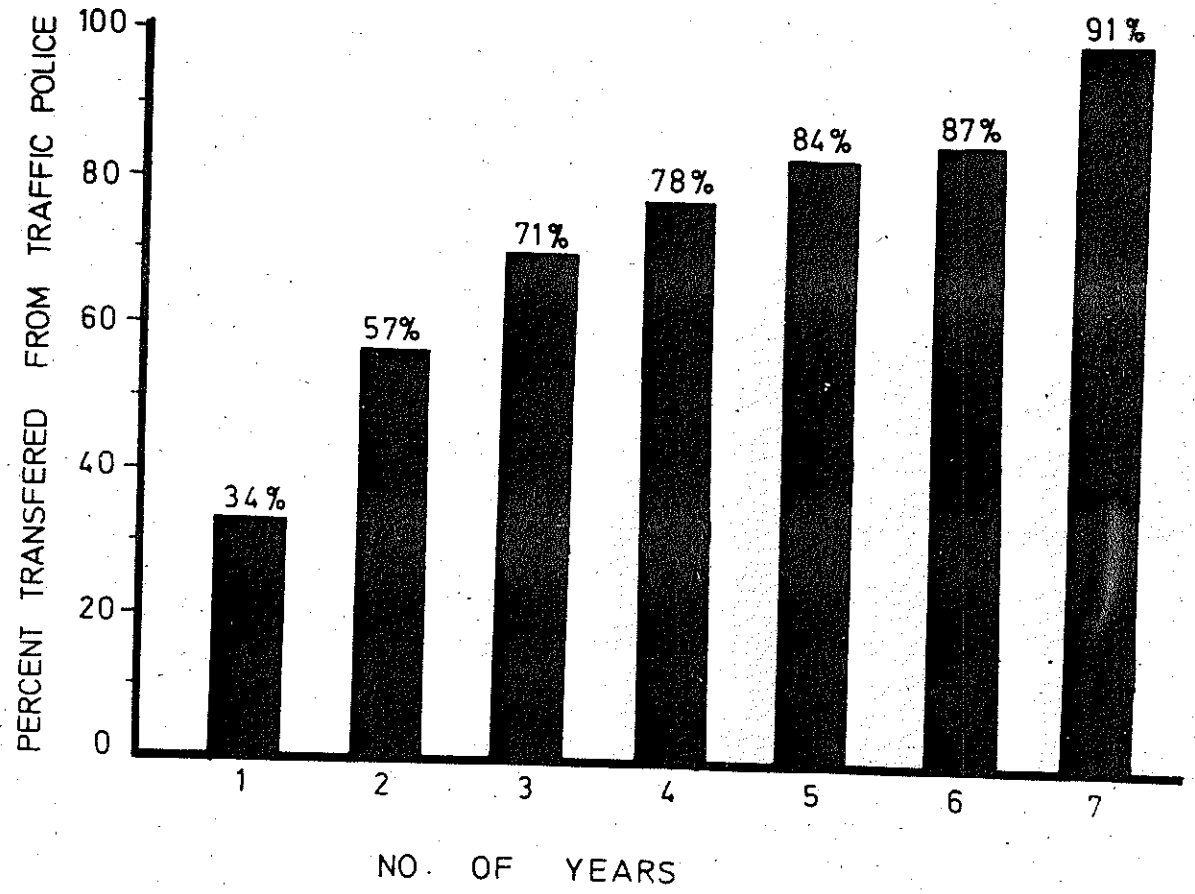
As far being an examplery driver, one hundred percent of foot constables and head-constables are unable to drive and only a very negligible percentage of Assistant Sub-Inspectors and Sub-Inspectors know how to drive a motor vehicle other than a motor cycle, and thus generally ignorant of motor vehicle dynamics or practical problems of motor vehicle driving, as can be seen from the table on page 56.

At the top of it, the senior officers of traffic police have been following the deliberate policy of limiting the stay of any official on traffic duty to a certain maximum period, as can be seen from the table on page 57. This has resulted in depriving the traffic police completely of all those who had been given some nominal training in the art of

KNOW DRIVING (MOTOR CYCLE)



TRAFFIC POLICE POSTING - PUNJAB

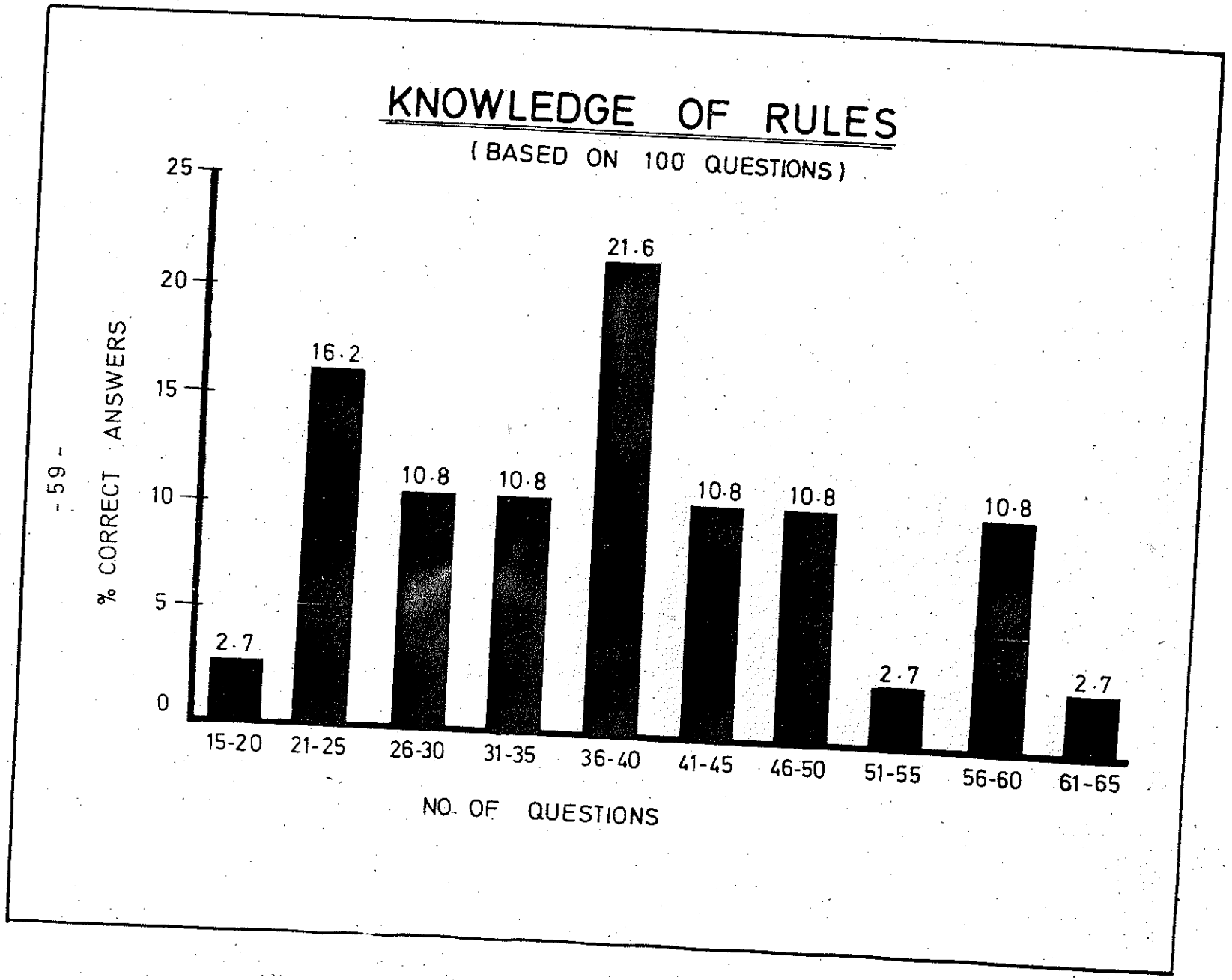


traffic control or had acquired practical experience. This has been primarily due to commonly held belief on the part of higher police officials that no special training or skill or education is required for controlling the traffic and all one needs is a person in police uniform to be standing around at an intersection.

The net result has been that not even the traffic police officials themselves know the rules of traffic safety as can be seen from the results of a test given to 150 Constables, Head Constables and A.S.I. on page 59 .

(iii) Mobility:- Another serious dis-advantage suffered by the lower staff especially the foot constables and head-constables is that they are not properly equipped to do the job. Invariably they are immobile and cannot persue and apprehend the offender who decides to ignore their order to stop. It must be recognized that the traffic is a mobile phenomenon and only those can keep up with it who are themselves mobile. It does no good to be able to only blow a whistle at those who violate traffic safety rules. It is unfair to order a person to do certain job without providing him with the means to carry out the job.

At the level of sub-Inspector and Inspectors, motor cycles are generally provided, but these are too few to have any significant effect. At the top of it, the motor cycles are very sparingly utilized. The official is issued the mtoro cycle permanently but he is given mobile duty only for a very few hours per day. After that he


KNOWLEDGE OF RULES
(BASED ON 100 QUESTIONS)
% CORRECT ANSWERS
25
20
15
10
5
0
2.7
16.2
10.8
10.8
21.6
10.8
10.8
2.7
10.8
2.7
15-20
21-25
26-30
31-35
36-40
41-45
46-50
51-55
56-60
61-65
NO. OF QUESTIONS

is given other duties and so the motor cycle comes off the road too. This is extremely inefficient and unsatisfactory utilization of the motor cycles which a poor country like Pakistan can ill afford.

(iv) Power:- Previously even a traffic foot constable had the authority to challan the traffic offender but these powers have been gradually withdrawn by executive orders of the senior police officials. Now the traffic foot-constables are mainly engaged in watching traffic at intersections, as spectator. The detailed investigations into the circumstances which led to withdrawal of the power from the foot-constables has revealed the following:-

The story behind the withdrawal of powers from foot-constables to issue ticket makes very interesting reading. The reason invariably given is that they misuse their authority and therefore cannot be entrusted with this type of authority. According to those who deprived these officials of their rightful authority was necessary to eliminate harrassing of the road-users by these individuals.

Since this is one of the most common mistake committed by the senior official of the traffic police and has become one of the root cause of traffic chaos on our roads today, I shall discuss the pros and cons of this are discussed below in detail:

It is asserted that the misuse of the authority was rampant. How wide spread the problem of misuse of authority actually was cannot be quantified, since no reliable data is available on this account. Obviously the misuse of authority was not committed by every foot-constable in traffic police. Nobody has been able to prove that one to all of foot constables were guilty of the fault and also they misused the

authority at all times and at no time did they properly use the authority vested in them and one hundred percent of the motorists challaned by them were innocent. The problem then boils down to misuse of authority by some of the foot-constables at certain times.

First of all, let us assume that the misuse of authority on the part of the foot-constables was in fact very wide spread and they were harrassing every innocent motorists they could lay their hands on. If we accept this as sufficient justification for withdrawing their powers, then the regular police force themselves should be the first to surrender the power given to them as they probably misuse it more than anybody. As against the misuse of authority by the traffic foot-constable, which at the most could amount to giving somebody a ticket/challan or take money in lieu thereof, the misuse of power by the regular police force is of very serious nature. Who has not heard of people dying in police custody during interrogation by use of force or so called being killed in police encounter. And if this logic is carried further, then all public servants should give up the authority vested in them because who can say that he has never misused the authority given to him, no matter in how small ways. Can anybody say that all the traffic police officials of the developed countries of the world are angels and never misuse their authority. But in those countries, the solution adopted is to prosecute the official guilty of misuse of his power and not make it an excuse or justification to withdraw powers from every body and leave it free for all and hope that everybody would obey the rules voluntarily.

However, the detailed investigation in this matter have led to quite different reasons for withdrawal of power from the foot constable. The sceneries goes something like this.

An educated person or a high official of government parks his vehicle where he should not or violates a one-way prohibition. The traffic foot-constable on duty checks the violation. The person feels greatly insulted that a very lowly functionery of traffic police could order him to do this or that. He threatens to sort this constable out. The constable holds firm and gives the ticket anyway. Next day, the gentleman complains to the superior officer who because of his acquaintance with the gentleman or belief that the foot-constable has infact been rude to the senior public servant, takes notice of indescretion on the part of the foot-constable and has the challan quashed and in most cases removes the constable from traffic duty.

Now keeping in mind the characteristics of the population of developing countries, anybody who is somebody knows either directly or through somebody, somebody who is in a position to help. One should also keep in mind the fact that all such persons believe that the only way they could prove to the people that they are somebody is to act above the law by ignoring or disobeying the rules. As far they are concerned the rules are to be followed by people who are nobody. Since such so called complains of misuse of authority became so frequent that the higher officers were forced to take the decision to withdraw the powers of giving challan from the foot-constables.

The pros and cons of withdrawing the powers of the traffic constables are as follows:-

In the first place, let us assume that the traffic foot-constable have the authority to issue challan to motorist but are likely to misuse it. If we observe the situation closely, the liklihood of somebody who did not commit any traffic violation but was slapped with a ticket is pretty remote and far fetched for two reasons. First, keeping in view the nature of our

people who would not admit even a genuine charge knowing fully well that they were actually guilty, now would they accept a false charge calmly is un-imaginable. Secondly, there being no dearth of people who actually violate the traffic rules quite openly, why the traffic constable ignore those and try to slab the ticket on those who have not committed any violation is beyond comprehension.

The only time, the problem of misuse of authority of the sort could become possible is if 100% of motor vehicle drivers obeyed the rule by the book and the foot-constable was required to come up with a certain numbers of challans everyday knowking fully well that the first pre-requirement would never be met and the traffic foot-constables were under no such pressures. On the other hand, if by some miracle, the motorists do become angles and obey all traffic laws faithfully, it would be safe to assume that the rest of the nation including the police would also become law abiding. In that case the question of misuse of authority as feared would not arise. This is only hypothetical situation and can never be achieved. It may also be remembered that even in the most advanced and moral society, a certain percentage of evil people exist. Even the traffic police officers in those societies are not complete angles.

Now let us assume that the misuse of authority was in fact very wide spread and the majority of the constables for some psychological reasons liked to harras innocent people and turn their backs on the real culprits. In such cases one or the other can happen. Either the accused pleads guilty to something he did not do and the policeman would be able to get away with it or he can always plead "not-guilty" and clear himself in a court.

Now let us suppose that the man has not courage, or will to fight the charge or believes that the court would not listen to him any way, he pays some money to the policeman and saves himself from all the bother. However, the net result would be that he would be extremely careful on the road in future so that he does not get caught by the traffic police again. If that happens, the purpose of traffic control would be served. The traffic would become discipline and would obey the orders of the traffic police without let or hinderance. That is how the developed countries of the world who have successfully overcome their problem of highway safety has brought it under control. In those countries the traffic police officer is a terror incarnate. The motorists and other road users alike are scared of him to embarrassing limits. Nobody, no matter how highly placed dare argue with even the lowest traffic police officer. We have to make a choice between the present free for all and certain degree of misuse of authority on the part of traffic police but having the traffic problem within manageable limits.

(v) Strength:- There are approximately 3000 traqfic police officials in the country for 40,000 Km. of metalled roads and approximately 700,000 vehicles in the country. This averages approximately one traffic police official for 12 Km of road and 200 vehicles, which is very high when compared with the developed countries of the world and certainly can not be blamed for the inability to bring the traffic problem under control. The real problem is however with quality of traffic personnel and their deployment as explained earlier.

It is obvious that the strength of the traffic police is far beyond our requirement and should not be further increased. Instead, the emphasis should be on quality. It must be recognized that increasing the body count alone by even another 100% would not make any differance.

It is obvious from the fact that instead of helping the matter, the increase in strength has hurt the traffic safety effort. Now on every street intersection one sees half a dozen traffic foot-constables with no education, no training and completely immobile just watching the traffic go. Because of no education they are liable to be intimidated by uppish drivers as they cannot argue with them. Having no proper training in the art of traffic control, he is ignorant of authentic traffic safety rules and tend to mis-enterpret the rules and direct or encourage others to do the same. Due to his immobility he cannot persue and apprehend the drivers who violate the rule and ignore his orders to stop.

The net result is that the motorists treat him with contempt as they are well aware of his lack of authority, un-familiarity with rules and regulation and general helplessness on his part to cope with the situation.

This is in sharp contrast with the picture of the quality and practices of traffic enforcement in the developed countries of the world who have successfully brought under control their problem of highway safety. Hence the reasons for our failure to achieve the desired results.

Higher Level:-

The higher levels of traffic police are not much better off, but their problem is of different nature. These officers are properly trained in police matters and have long experience of police service and know how to use their authority effectively. But they also, with the exception of a very few, did not receive any special training in the art of traffic control. The only thing they could go by was Motor Vehicle Act, 1939 upto 1965 and Motor Vehicle Ordinance, 1965 at present. Unfortunately, Motor Vehicle Ordinance, 1965, though very comprehensive in many way is very outmoded, as far as control of Motor Vehicle is concerned, as is based primarily on Motor Vehicle Act of 1939, which in-turn was the copy of U.K. Motor Vehicle Act of 1932.

Considering that the science of traffic operation and control has come a long way since 1932, the Motor Vehicle Ordinance - 1965, does not provide adequate coverage for entire range of traffic situations. To give an idea of how out-moded and inadequate the ordinance is, can be judged from Section 91 re-produced below:-

91. Railway Crossing: (1) The driver of a transport vehicle who desires to pass over a Railway level-crossing shall cause the vehicle to stop before the crossing and shall not attempt to pass over the crossing unless the conductor of the vehicle, or where the vehicle has no conductor, a person authorized in his behalf by the owner of the vehicle in writing other than the driver of the vehicle, walks before the vehicle until it has cleared the railway lines.

(2) The name and particulars of the persons authorized by the owner under sub-section (1) shall be reported by the owner to the Registration Authority.

(3) A person shall not be deemed to have been authorized by the owner of the vehicle for the purpose of sub-section(1) unless he has in his possession at the time of performing the act required to be done under that sub-section the written authority of the owner in this behalf.

This was based on U.K. law around the turn of the century which required every driver of motor vehicle to have a person with red flag during day time and a red lantern during night time to run in front of the vehicle to warn the other road users.

Apart from this and numerous other such rediculous provisions, the ordinance also suffers from the following deficiencies:-

(i) The test of competence for issuing licence under the ordinance does not require a Rule Test.

(ii) The Motor Vehicle Ordinance - 1965 minor traffic violations such as improper parking as criminal offence and requires court appearance as mandatory.

(iii) Main roads could only be identified by a notification in the official gazette.

(iv) The driving regulations as laid down in the Tenth Schedule consisted of only the following nine provisions:-

1. The driver of a motor vehicle shall drive the vehicle as close to the left hand side of the road as may be expedient, and shall allow all traffic which is proceeding in the opposite direction to pass him on his right hand side.

2. Except as provided in regulation 3, the driver of a motor vehicle shall pass to the right of all traffic proceeding in the same direction as himself.

3. The driver of a motor vehicle may pass to the left of a vehicle the driver of which having indicated an intention to turn to the right has drawn to the centre of the road and may pass a tram-car or other vehicle running on fixed rails, whether travelling in the same direction as himself or otherwise, on either side.

Provided that in no case shall he pass a tram-car at a time or in a manner likely to cause danger or inconvenience to other users of the road or pass on the left hand side of a tram-car, which, when in motion would be

travelling in the same direction as himself, while the tram-car is at rest for the purpose of setting down or taking up passengers.

4. The driver of a motor vehicle shall not pass a vehicle travelling in the same direction as himself:-

(a) if his passing is likely to cause inconvenience or danger to other traffic proceeding in any direction; or

(b) where a point or corner or a hill or an obstruction of any kind renders the road ahead not clearly visible.

5. The driver of a motor vehicle shall not, when being overtake or being passed by another vehicle, increase speed or do anything in any way to prevent the other vehicle from passing him.

6. The driver of a motor vehicle shall slow down when approaching a road intersection, a road corner, and shall not enter any such intersections or junction, until he has become aware that he may do so without endangering the safety of persons thereon.

7. The driver of a motor vehicle shall on entering a road intersection if the road entered is a main road designated as such, give way to the vehicles proceeding along that road, and in any other case give way to all traffic approaching the intersection on his right hand.

8. The driver of a motor vehicle shall, when passing or meeting a procession or a body of troops or police on the march or when passing workmen engaged on road repair, drive at a speed not greater than fifteennmiles an hour.

9. The driver of a motor vehicle shall:

(a) when turning to the left, drive as close as may be to the left hand side of the road from which he is making the turn and of the road which he is making the turn and of the road which is entering;

(b) when turning to the right, draw as near as may be to the centre of the road along which he is travelling, and cause the vehicle to move in such a manner that:

(i) as far as may be practiceable, it passes beyond, and so to leave on the driver's right hand, a point formed by the intersection of the centre lines of the intersection roads, and

(ii) it arrives as near as may be at the left hand side of the road which the driver is entering.

The ordinance did not consider more than two hundred other driving regulation identified and accepted by the highway safety engineers as important enough to merit inclusion in the schedule. The full extent of inadequacy of the Tenth Schedule of Motor Vehicle Ordinance - 1965 can only be gauged by making a comparison with what has been included in the Tenth Schedule of the proposed Road Safety Ordinance - 1980.

Since the senior traffic police officer could only go by the law of the land, and not being trained properly in the science of traffic control, they were not aware of the deficiencies of the law. They genuinely felt that every traffic safety rule worth anything was either specifically included in the Motor Vehicle Ordinance - 1965 or accounted for in rules framed thereunder. Even very very senior traffic police believed that:-

(i) stop sign was not a mandatory sign;

(ii) one could overtake by flashing on vehide approaching from opposite direction;

(iii) one could turn right on red signal;

(iv) on red signal, left turning vehicle has the right-of-way;

(v) red flashing sign does not mean the same thing as a stop sign.

(vi) in case of rear end collosion the responsibility for accident lies on the vehicle ahead if it had stopped suddenly

(vii) the right-of-way at a roundabout belongs to vehicle on the main road.

(viii) did not know the rule of safe following distance or understood the meaning of combination of solid and continuous lines marked on the road.

It is not implied that these senior traffic police officers were not intelligent people. Even with all their talent, it was not possible for them to know all these rules since the law which governed the motor vehicle was silent about these matters. Ministry of Communications, no doubt, made an effort in 1965 to prepare a Highway Code, which was a commendible task as it attempted to identify the traffic safety rules left out of the Motor Vehicle Ordinance - 1965 or rules framed thereunder, but unfortunately the provision of the Code did not receive the protection of law and hence nobody took it very seriously.

The lack of appreciation of safety rules on the part of the senior officers also hurt in many other ways. They believed that all the traffic safety rules comprised of those nine listed in Tenth Schedule and there were no other rules. Since most of these rules being of general nature, they rightly thought everybody was aware of them, but did not

obey them because of sociological factors. This is further borne out by the fact that they devoted their maximum efforts in checking the drivers of trucks, buses, taxis, rickshaws and mini-wagons, while the car drivers were free and un-touched. No doubt they made concerted effort to bring the problem of highway safety under control but did not achieve the desired results as they did not apply the right remeddial measures.

One could imagine the frustration of a number of devoted senior officers of traffic police when their best efforts did not bring any positive result. They then generally blamed it on our social and cultural factors and bad roads.

The problems of senior traffic police officials were further compounded by a very archiac system of adjudication process of traffic poffences. The existing system of adjudication of traffic offences does not recognize the fact that majority of traffic violations are not criminal act but are only minor infractions of law and hence do not need to follow criminal procedure of justice. Unfortunately, the law required court appearance even in case of a minor parking violation. As a result, even a minor increase in enforcement activity on the part of the traffic police resulted in inundation of courts which got completely bogged down with relatively minor matters as far safe traffic operations and control problems are concerned.

To overcome this, a system of on the spot fines by the traffic magistrate was introduced. But obviously one magistrate could not take upon himself the task of policing all the vehicles on all the highways even under most favourable circumstances with a super human effort. The system proved to be equally ineffective and unsatisfactory.

All the developed countries of the world recognize the difference and have devised standard penalties for most of the traffic violations. The fine for those

infractions can be paid without appearing before a court. The court appearance is necessary only for major offences such as involvement in an accident; leaving the scene of an accident ; for habitual offenders; driving with a revoked licence; exceeding speed limits by 30 Kph; ignoring the traffic officer's signal to stop and those pleading "Not Guilty". Besides, relaxing the requirement of court appearance for minor traffic violations would ensure prompt and proper disposal of the more serious cases.

To gauge the extent of effectiveness of enforcement on orderly traffic flow, two studies namely "Effectiveness of Traffic Police Training" and"Effect of Enforcement on Road User's Behaviour" were carried out. The results of the studies are summarized below:-

(a) Effectiveness of Traffic Police Training:- There are no two opinions that our traffic police as constituted at present are totally ineffective in their job. There are, however, varying opinions as to what is the real reason for it. A great majority of the people attribute it to lack of strength, equipment and transport on the part of traffic police. The hypothesis of the study, however, was that the real reason of effectiveness of traffic police is the fact that they are not trained for the job.

Accordingly, 30 traffic police officials (10 Constable, 10 Head Constable and 10 Upper Sub-ordinates) were selected

at random and comprehensively tested with regard to their performance and effectiveness to control the traffic violations. They were then thoroughly trained in the modern techniques of traffic enforcement and retested to see if any improvement had occurred. The results of their performance and effectiveness before and after the training is given below:-

(i) Knowledge of the Traffic Rules:-

Before the training the general level of the knowledge of traffic rules varied from 60% to 70% with an average of 75%. After the training the level ranged from 93% to 100% with an average of 97%. The training therefore had a significant effect on the level of knowledge of traffic police, as tabulated below:-

Improvement in Knowledge of Traffic Rules

(Percent)

	Before	After	Improvement
Minimum	60	93	55
Average	65	97	49
Maximum	75	100	33

(ii) Attitude Towards Job:- Prior to training the traffic police officials were generally found standing lazily in the middle of the intersections, paying no attention to the violations taking place in their full view. Frequently to

overcome their boredom they would wander away from the place of the duty and spend time chatting with other colleagues or road users or smoking.

After the training there was significant improvement in the involvement level of the officials with their job. They gave un-divided attention to the task of regulating the traffic and check the erring road users. They seemed occupied fully with the task and did not give any indication of boredom. They also did not wander about aimlessly or spent any time in chatting with their colleagues.

(iii) Effect on Prosecution Output:- Prior to the training, the traffic police officials used to merely stand around and watch the traffic go by. They were playing no positive role in regulating the traffic. Hardly ever any violators were prosecuted. After the training, there was a significant increase in the number of prosecutions of various traffic violations committed by the road users, as tabulated below:-

PROSECUTIONS

S. No.	Offences	Before training	After training
1.	Turning right from left land	Nil	54
2.	Turning left from right lane	Nil	Nil
3.	Turning left on red light without stopping.	Nil	51
4.	Violating stop line	Nil	50
5.	Proceeding against red light	Nil	47
6.	Illegal parking	Nil	130
7.	Improper queueing	Nil	56

Contd....p/76

S. No.	Offences	Before training	After training
8.	Not yielding to pedestrians	Nil	7
9.	Speeding	Nil	2
10.	Reckless driving	Nil	17
11.	Following too closely	Nil	18
12.	Cutting too sharply	Nil	15
13.	Without proper lights	Nil	297
14.	Obstructing traffic	Nil	30
15.	Jay walking	Nil	538

(iv) Reduction in Violations:- Due to increased prosecutions, the number of various types of violations committed by the road users decreased significantly as detailed below:

Reductions in Violations

Violations	Before trg.	After trg.	Reduction	% Age
1. Turning right from left lane	5039	1542	3496	69%
2. Turning left from right lane	1697	30	1667	98%
3. Turning left on red light without stopping	3832	565	3267	85%
4. Violating stop line	5272	1123	4149	78%
5. Proceeding against red light.	6568	958	5610	85%
6. Illegal parking	3415	1586	1829	53%
7. Improper queueing	3948	776	3172	80%
8. Not yielding to pedestrians	2711	327	2384	87%
9. Speeding	644	29	615	95%
10. Reckless driving	1125	102	1023	90%
11. Following too closely	2272	149	2123	93%
12. Cutting too sharply	335	257	78	23%
13. Without proper lights	1073	8039	2694	25%
14. Obstructing traffic	4583	1187	3396	74%
15. Jay walking	10177	5278	5278	51%

There was also significant decrease in the number of violations committed by various types of road users as detailed below:-

Decrease in Traffic Violations

Traffic Units	Violations Before trg.	Violations After trg.	Reduction in violations	Percentage of reduction
1.Pedestrians	15161	5383	9778	64%
2.Pedal Cycle	10955	7278	3677	33%
3.An.Dr.vehicles	4197	3262	1835	43%
4.Hand Carts	984	846	138	14%
5.M/cycle/Scooter	3396	1822	3547	65%
6.Rickshaw	1151	330	821	71%
7.Car,Jeep,Mini-wagon	10828	1994	8834	81%
8.St.Wagon/Pick-Up	7859	817	4042	89%
9.Buses	1392	481	911	65%
10.Truck,Trailer Tanker	470	146	324	68%

(b) Effect of Enforcement on Road User Behaviour:-The study was necessitated due to the general feeling among the concerned quarters, that due to prevailing socio-economic conditions, the enforcement can play a very small role in bringing the traffic safety situation under control. In the support of the theory, the traffic prosecution figures are cited which averages around 22,000 for Punjab and 20,000 for Sind but inspite of it the accident rate has kept on increasing in boty the provinces

for last few years.

These are indeed very high rate of traffic enforcement by any standard. However, unfortunately, the primary emphasis of present day traffic enforcement is on checking of documents, overloading and overcharging. Hardly any enforcement of those violations namely speeding, reckless driving, etc. is done which are likely to result in accidents. The study therefore attempted to gauge the response of the road users to various traffic enforcement emphasis.

The study was restricted to Rawalpindi-Islamabad. To carry out the study, the operations of traffic police in the twin cities were re-designed and specific parties were raised to do the following:-

(a) Speed chedking

(b) Beat patrolling:

- Mobile
- On foot

(c) Point duty

Each individual was permanently assigned a specific duty in a specific area/point and trained thoroughly for the job and asked to strictly enforce the law. The performance of each official was closely monitored to ensure that they do in fact carry out their assigned task faithfully. The result of the survey of the conditions prevailing before and one month after the scheme was in force are produced below:-

(i) Speed Violations:- Prior to the study, the extent of speed violation was very wide spread in and around the twin cities of Rawalpindi and Islamabad. The speed check carried out under the study resulted in significant reduction in operating speeds and the percentage of the drivers who violated the speed limits as detailed on pages - 79 and 80.

OPERATING SPEEDS

S. No.	Traffic Units	Kashmir Highway Average Speed		Sir Syed Road Average Speed		Islamabad Highway Average Speed		Murree Road Average Speed		Airport Average Speed	
		Before	After	Before	After	Before	After	Before	After	Before	After
1.	Bus	41	35	41	38	43	35	40	32	47	42
2.	Truck	41	30	37	32	39	33	36	31	37	35
3.	Mini-Bus	39	35	38	36	41	32	38	34	42	38
4.	Taxi	36	34	35	34	42	31	42	34	42	38
5.	Pick-Up	55	33	48	37	41	39	43	35	43	38
6.	Car	48	43	42	36	41	40	41	36	55	43
7.	Jeep	40	37	41	36	44	33	44	35	42	37
8.	M/Cycle	40	31	32	30	39	26	33	32	38	37

EXCEEDING SPEED LIMITS(PERCENT)

S. No.	Traffic Units	Kashmir Highway		Sir Syed Road		Islamabad Highway		Murree Road		Airport Road	
		Before	After	Before	After	Before	After	Before	After	Before	After
1.	Bus	-	-	33	12	100	35	11	-	56	53
2.	Truck	50	-	50	-	-	-	-	-	100	-
3.	Mini Bus	40	-	10	-	100	10	30	-	10	-
4.	Taxi	-	-	-	-	100	13	50	-	38	-
5.	Pick-Up	-	-	5	-	29	-	67	-	-	-
6.	Car	62	30	2	-	14	8	8	-	48	23
7.	Jeep	100	-	-	-	-	-	100	-	-	-
8.	M/Cycle	90	33	-	-	100	67	10	-	-	-

(ii) Turning Violation:-Before the study hardly anybody paid any heed to road marking and other signs erected to regulate the traffic. All kinds of violations were committed while making a turn. The most of common violation was turning from the wrong lane i.e.right turn from the left lane and vice-versa on a dual carriageway in complete disregard of the law and also the lane markings.

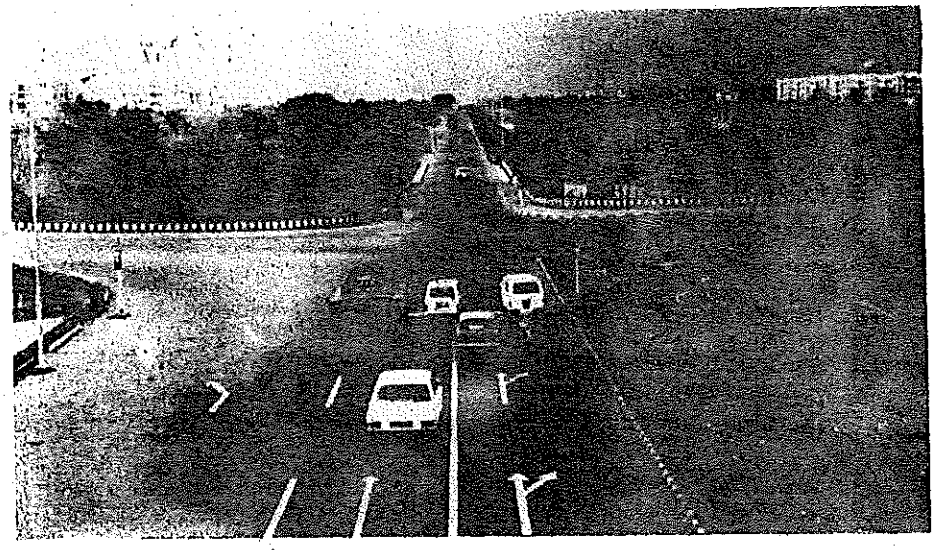
After the study, a significant decrease in turning violations was noticed as can be seen from the photos on pages 82 & 83 of one of the intersections. The Summary of the results of the turning violations before & after the study at four selected intersections is given in the following table:-

Turning Violations

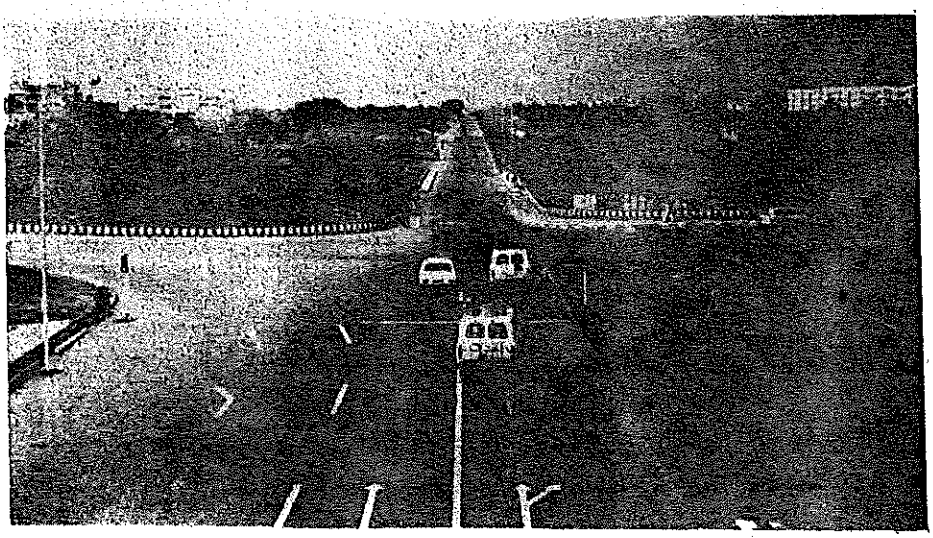
Traffic Units	Percentage of Violations	
	Before training	After training
1. Buses	55%	7%
2. Trucks	41%	8%
3. Mini buses	50%	7%
4. Car	28%	5%
5. Taxis	48%	11%
6. Motor cycle	28%	13%
7. Pedal Cycles	78%	55%

(iii) One-way Violations:-In Islamabad, there are a number of divided highways but hardly anybody pays any attention to oneway regulations and uses the facility in any way suited to his convenience as can be seen from the photos at pages 84 & 85 .

COMMON SIGHTS
PRIOR TO STUDY

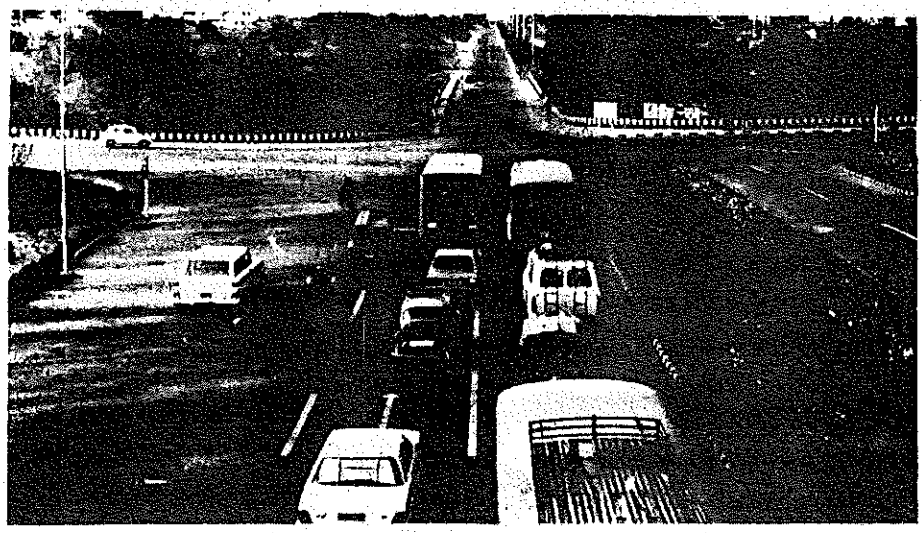


A WELL DESIGNED STRIPED ROAD JUNCTION WITH ONLY FIVE VEHICLES, THE TRAFFIC INDISCIPLINE CAN ONLY BE BLAMED ON BAD ROAD BEHAVIOUR

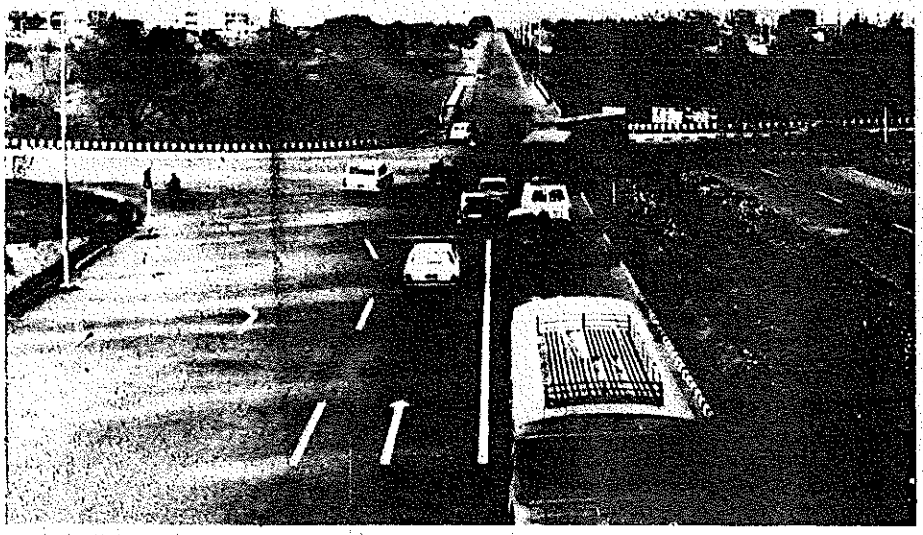


THE TRUCK IN THE PICTURE HAPPENS TO BE POLICE TRUCK,WHICH IS ATTEMPTING TO TURN RIGHT FROM FOURTH LANE. IS IT ANY FAULT OF THE ROAD?

COMMON SIGHTS
PRIOR TO STUDY

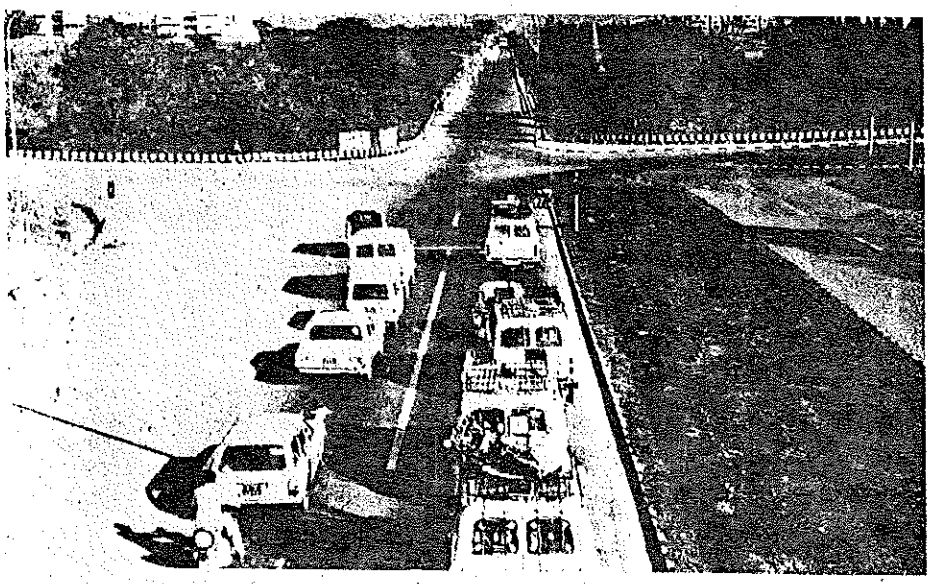


THE SAME INTERSECTION WITH LITTLE MORE
TRAFFIC IS THIS TRAFFIC BEHAVIOUR JUSTIFIED?

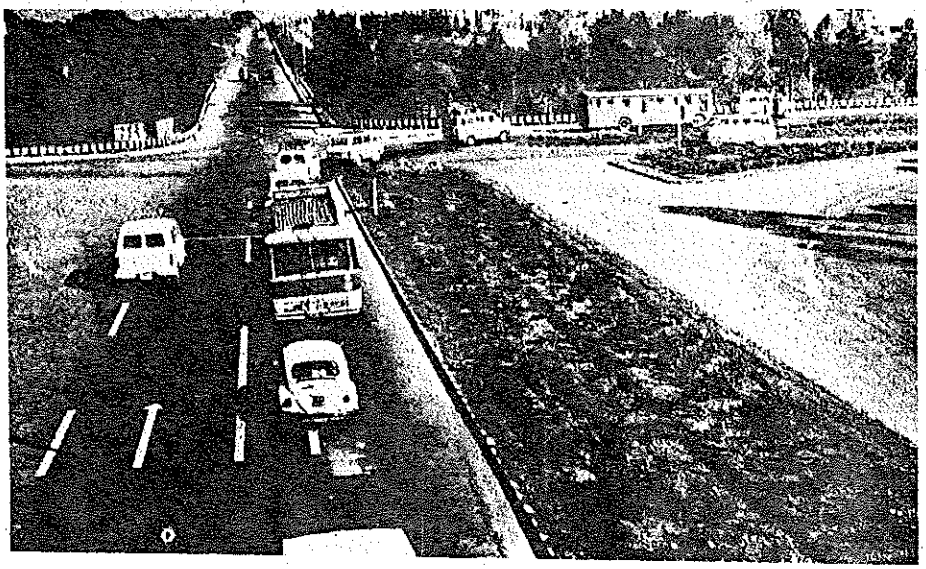


SECOND SEQUENCE OF ABOVE. THE STATION WAGON
ON THE EXTREME LEFT IS TRYING TO GO STRAIGHT

AFTER THE STUDY

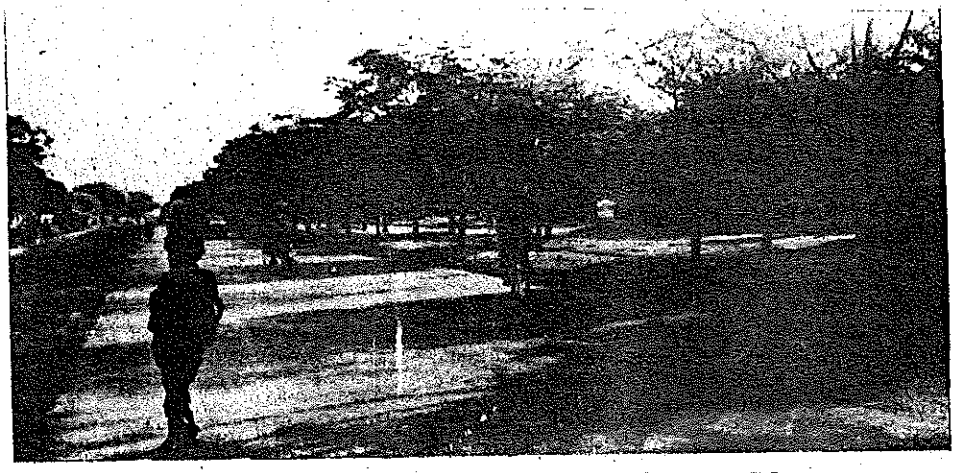


THE ABOVE DISCIPLINE WAS BROUGHT
ABOUT BY ENFORCEMENT ALONE

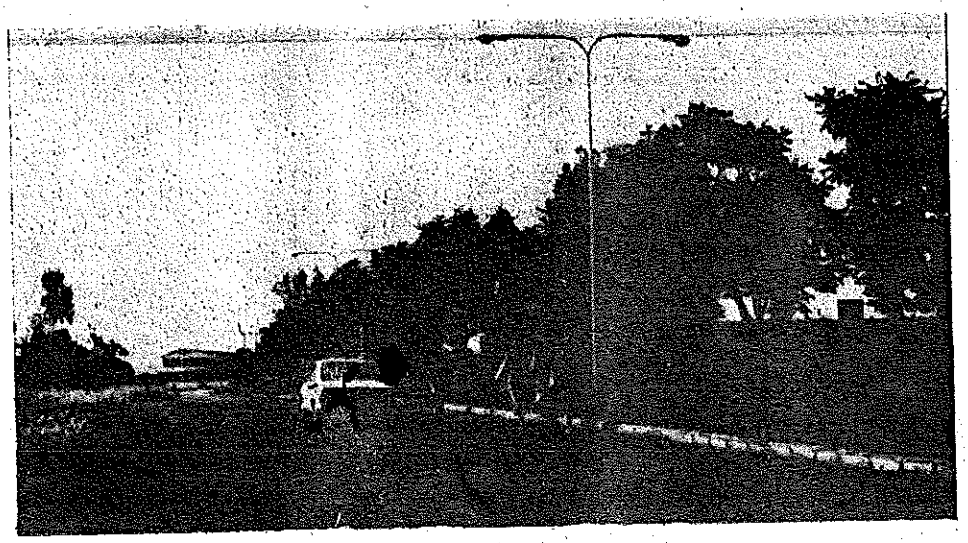


EFFECT OF ENFORCEMENT THE NO ONE
DATE TURN RIGHT FROM LEFT LANE

ONE WAY VIOLATIONS ON DUAL CARRIAGEWAY



LACK OF ENFORCEMENT OR FACILITIES



NO RULES FOR PEDESTRIAN

ONE WAY OR ANY WAY!

The table below show the reduction in one way violations achieved on one of the Main Roads around Markaz Shalamar-8 facing F-8/3 by constantly patrolling and checking/prosecution of offenders:

One-Way Violations (Percent)

S. No.	Traffic Units	Before	After
1.	Buses	100	-
2.	Trucks	40	-
3.	Mini-buses	39	-
4.	Taxis	43	5
5.	Cars	25	15
6.	M/Cycles	50	10

(iv) Stop Sign Violations:- Two locations were selected which were controlled by a very conspicuously placed stop sign giving right-of-way to a major road carrying substantial amount of traffic. A number of sections accidents had also occurred on these locations. The locations were closely monitored and the road users failing to observe the stop sign were checked/prosecuted.

Before the study, hardly anybody bothered to stop at these intersections while at the end of the study a significant improvement took place in observance of stop sign at both locations:

Observance of Stop Sign (Percent)

S. No.	Vehicle Type	Kashmir Highway at Zero Point		7th Avenue and Nazimuddin Road	
		Before	After	Before	After
1.	Buses	33	67	-	-
2.	Trucks	41	91	7	100
3.	Mini buses	28	78	12	88
4.	Taxis	27	83	9	55
5.	Cars	37	89	24	74
6.	M/Cycles	32	81	21	70

(v) Effect on Pedestrians:- In Pakistan, the pedestrians generally consider themselves not subject to any traffic rules as road users. They cross the road at any time and place they liked to and pay no attention to traffic signals. During the study, special attention was given to jay walking by the pedestrians at selected road intersections carrying heavy pedestrian traffic. The effort resulted in appreciable reduction of 51% in 'Jay walking' on the part of the pedestrians.

To further illustrate the effect of enforcement on pedestrian, two photographs are shown on page 88 depecting the passenger waiting at the bus stops. The two locations are hardly 500 meters apart. Both the stops are part of public transport network spread all over the town. They are used by the people with similar socio-economic background. There is, however, one difference. Whereas the one is just like any other stop, the other is located at the entrance to Naval Colony and is controlled by the soldiers of Pakistan Navy. There is striking difference in public behaviour of the passengers at the two stops. Whereas the traffic police does not consider ensuring discipline at bus stop as their duty, the naval soldier on his own initiative has organized the waiting passengers to form a queue for boarding the buses. As a result, all boarding and alighting is very orderly. On the other bus stop, every-body rushes to board the bus and results in lot of pushing and showing. The difference between the two is the enforcement. In the one case, the naval soldier exercises the powers which he does not even have as he has no business to be controlling traffic on a public road. But the public responses quite well. In the other case the traffic police officials do not invoke the authority given to them to enable them to do their duty i.e.ensure proper traffic discipline on the part of all road users.

DISCIPLINE AT BUS STOP

WAITING AT BUS STOP WITH ~~PROPER~~ OUT
ENFORCEMENT INTERVENTION

WAITING ON BUS STOP WITH~~OUT~~ PROPER
ENFORCEMENT INTERVENTION

C O N C L U S I O N

The facts as unearthed by the extensive research findings enumerated in this report, reveals the following as the real problem of highway safety in Pakistan:-

(a) The road users are tot[illegible]gnorant of traffic safety rules

(b) The enforcement is totally ineffective

(c) The laws a[illegible]tremely outdated.

In view of the above, the problem of highway safety can only be solved and brought under control by taking the following measures:-

(a) The problem of ignorance of traffic rules can be overcome by extensive campaign of traffic safety education aimed at various classes and categories of road users on a sustained basis. There are two broad areas of traffic safety education. In first category fall, approximately 1.2 million licenced and perhaps one quarter a million un-licensed drivers who drive on our roads at present but are totally unaware of the rules-of-the road. In the second category come those drivers who would be driving in the future. The first category is the most difficult to educate as they have already formed wrong driving habits. Any effort in this direction would have to be aimed at making them unlearn the wrong practice and learn the correct method of safe driving. The second category is relatively easier to handle and can be taken care of by upgrading and bringing our driver licensing upto international level by making suitable modifications in the laws.

(b) The effective enforcement of traffic laws can only be assured by re-organizing the traffic police into a fully professional enforcement agency by giving them thorough training and equipment and authority to enforce the law.

(c) The deficiencies in laws can be removed by updating them and bringing them at par with international level.

Past diagonosis:

This may be compared with what was universally advocated as the real problem of highway safety. In the past the primary blame for very high accident rate in the country was laid on:-

(a) Bad roads
(b) Mechanically defective vehicle
(c) Lack of traffic police strength
(d) Lack of adequate equipment with police
(e) Linient punishment for traffic offences
(f) Illiteracy
(g) Other socio-economic factors.

The following were implemented by way of solution to accident problem:-

(a) The traffic police strength was increased manifold without any regard to quality and whether or not the officials thus hired had any authority to enforce the law. No effort was made to give them any training in the art of traffic control.

(b) Huge amount of funds were spent on widening all arterial roads in the country, some of them to the divided highways standards irrespective of traffic densities.

(c) The penalties for traffic offences were made very very stiff, to give deterring punishment to offending drivers, without regard to the fact that it is effectiveness of enforcement rather than the severity of punishments which has proved successful in overcoming traffic problem everywhere in the world.

(d) Stricter checking of overloading, overcharging and driving without proper documents was carried out and thousands of tickets issued without doing anything about making the adjudication process more efficient.

(e) Huge amount of funds and efforts were spent to motivate the road users to obey the rules without informing them as to what were those rules which they were expected to observe.

How could any measure which is so off the target could prove successful. No wonder the past measures did not bear any fruit and the problem kept on getting from bad to worse. The problem lied somewhere-else.

Present Efforts:- During last three years, the following measures have been initiated:-

(i) Traffic Safety Education Campaign: The efforts in this direction have been concentrated on traffic safety education, in which the road users and general public was informed of the rules-of-the roads. For this purpose 45 traffic safety documentaries have been made and telecast from T.V. and shown in the cinema houses all over the country. Similarly, sixty pictorials were prepared depicting the most important traffic rules and placed in all major national and regional newspapers. Five million

posters were also printed and distributed all over the country. The Highway Code was also thoroughly revised and its possession by all licensed drivers made mandatory by law.

(ii) Effective Enforcement:- To overcome the inadequacy of traffic enforcement, a complete re-organization of traffic police was proposed. The most important recommendation in this regard pertained to separation of the cadre of the traffic police personnel upto the level of the DIG in all the provinces under the overall control of Provincial Police Chiefs was proposed; giving the traffic police constable, who is the kingpin of traffic enforcement, full powers to enforce all laws on all road users; change emphasis from documents check to checking of moving violation and ensuring extensive training for all ranks of traffic police in matters relating to traffic enforcement, traffic control, detensive driving, first aid and motor vehicle mechanics. Summary of the recommendations made with a view to develop the traffic police into a full-fledged professional enforcement agency is as follows:-

(i) The traffic police should be separated from the regular police upto the level of D.I.G. and made into a separate cadre under the overall charge of I.G. Police of the respective province.

(ii) A Traffic Police Academy should be created by the Federal Government at Islamabad to extensively train the existing and future members of the traffic police right from the level of foot-constable to D.I.G. in the art of traffic operation and control. The academy should also organize refresher courses, for the benefit of in service members.

(iii) The traffic duties, even at the level of foot-constable, should be entrusted to individual with education at least upto matriculation. The remaining foot-constables working in the traffic police should be gradually sent to the general police force.

(iv) The traffic police should be made mobile by providing them with motor cycles to enable them to carry out speedy enforcement. The number of motor cycles in any unit should be at least 55% of the total strength of lower ranks i.e. foot-constable to Sub-Inspector.

(v) A crash motor cycle driving course should be started to teach each and every member of traffic police from foot-constable to Sub-Inspector, how to drive a motor cycle.

(vi) The present practice of issuing a motor cycle to any one individual permanently should be discontinued. All motor cycles should be placed in a pool and issued to those on mobile duty, to ensure maximum utilization of available motor cycles.

(vii) The patrolling should be done round the clock. The deployment of traffic police should be such that at least 50% of the total force should be on mobile duty during peak hour. The off peak hours should be patrolled by at least 20% of the total strength allowing 10% leave reserve.

(viii) All those police officials who have received any training in traffic control/are working on jobs other than traffic, should be posted back to the traffic police immediately.

(ix) The powers of the foot-constables to issue tickets for traffic violations should be restored forthwith.

(x) Checking of documents un-accompanied by a moving violation should be stopped forthwith to ensure that the public is not un-necessarily harrassed by the traffic police. Only those persons should be stopped for checking their documents who have committed a moving violation. Failure to possess the required documents should be additional citation.

(xi) Every traffic police official on duty should be required to come up with at least 10 challans for moving violation every day. This would check the charges of corruption in the traffic police but would put them under pressure to increase their efficiency and productivity. It would also have a very positive effect on the traffic. As the traffic comes under control, the number of challans required per day may be reduced. All those who can not meet the standards may be put on office jobs.

(xii) The traffic police should be provided with Tow-Trucks to remove the vehicle obstructing the traffic.

(xiii) The traffic police official on duty should be equipped with small calibre pistols to enhance their authority. This would be necessary in view of their past image and the type of people they normally deal with i.e. truck and bus drivers.

(xiv) Every member of traffic police should be required to own a copy of the Highway Code to provide him with authentic source of rules and avoid misinterpretation of the rules as in the past.

(xv) The complaints from public against the traffic police should be processed on the same lines as in case of any other functionery of the government and present practice of sending every traffic police official against whom any complaint is made to the police lines or transferring him to office job without first establishing the merit of the complaint should be stopped forthwith.

(xvi) The posting of the traffic police at signalized inter-sections should be stopped. Instead they should be asked to observe the traffic from a vintage point and anybody violating the rules should be persued and challaned. Deployment of foot-constables for directing traffic should be restricted to only those intersections which are not signalized. Even the foot-constable till they are provided with motor cycles should be made to walk along the beat for checking parking violations, etc.

(xvii) The record of all the licences issued or convictions ordered should be centralized at the federal level to eliminate the drivers whose licences have been revoked.

(iii) Updating of Laws:- A comprehensive revision of the motor vehicle laws has also been proposed with a view to remove all the deficiencies of the existing law and bring it at par with international standards. Salient features of the proposed laws are as follows:-

(a) The scope of laws has been enlarged to cover all road users and not just the motor vehicles. Hence the title of the Ordinance has been changed to "Road Safety Ordinance, 1980".

(b) The driver testing has been made very strict. The proposed test would consist of Sign test, Rule test, Physical fitness test, Parking test and Road test. Specific procedures have been laid down for conducting each test. Issuing licence without the prescribed test has been made a cognizable offence.

(c) The rules and regulations pertaining to control of motor vehicles have been increased from the existing nine provisions to seventy-eight. In addition, specific rules have been proposed for pedestrians, persons herding animals on roads, bicycle riders and animal drawn vehicles for which no provision existed in the existing Motor Vehicle Ordinance.

(d) As far as possible, standard penalties have been provided to eliminate discretionery powers of the Traffic Magistrate in dealing with traffic offences which now-a-days are generally awarded nominal punishments.

(e) All traffic violations have been divided in two categories. In one category 20 major violations have been included (listed in the Fifth Schedule) for which court appearance has been made mandatory. Even for these offences, the punishments have been standardized as far as possible. In the second category fall 58 violations (listed in the Twelfth Schedule) for which court appearance would not be necessary provided the accused person pleads guilty and agrees to pay the prescribed fine to the designated authorities.

(f) A "POINT SYSTEM" for traffic violations has been proposed to eliminate the habitual offenders. Every conviction for infringement of traffic rules would carry certain minimum number of points. Any person who accumulates more than 10 points, over a period of two years, would be issued a warning enlisting the violations committed. When the points exceed 20, over a period of two years, the licence of such person would be suspended for a period of six months.

(g) The scope of compensation for accident victims has been made wider to also include persons other than those travelling as passengers in the vehicle. This would now include all road-users.

(h) To expedite the payment of accident compensation claims, every motor vehicle is required to carry a "No-Fault" Compensation coverage provided either

by an insurance company or by Transporters Mutual Cooperative Assistance Society or by Automobile Association of Pakistan. This would give adequate incentive to the transporters to join these societies and also help remove a number of other ills of the road transport system.

(i) The yearly premium for this type of insurance, if provided by the Insurance Companies would vary from Rs. 300 for car to Rs. 3,000 for buses. The rate of premium charged by Automobile Association of Pakistan for cars and Pakistan Transporters Mutual Assistance Society for buses would be Rs. 150 and Rs. 1,000 respectively. However, whereas the premium of the last mentioned two agencies would be constant, the Insurance Companies would also give "No-Claim Bonus" at the rate of 15% per year and hence the net average premium would be the same.

(j) To effectively curb over-speeding and reckless driving, all transport vehicles are proposed to be fitted with a continuous speed recording device called "Tacho-graph". The device is now a standard feature on all public service vehicles in the developed countries of the world (E.C.C., Japan, etc.) and costs only around Rs. 2,000.

(k) Drivers of animal drawn vehicles while plying on public roads are also required to possess a proper driving licence, entitling him to drive a animal drawn vehicle in a public place.

(l) Medical examination of public service vehicle drivers has been made very stiff to eliminate the drivers addicted to drugs, etc.

Evaluation of Past Efforts:- The efforts so far made have been scientifically evaluated and have yielded the following results:-

(a) Highway Safety Campaign:-A survey carried out to determine the effectiveness of the campaign, revealed that prior to the campaign only 1.5% of the drivers mainly comprising those who had acquired their licences abroad knew the traffic safety rules to some extent. The campaign raised this level to 24%. Relative contribution of various modes of education is as follows:-

- Highway Code - 13%
- T.V. - 8%
- Newspaper - 1%
- Others -0.5%

Considering that traffic safety education is a very slow process, 22½% improvement in the knowledge of traffic safety rules on the part of drivers, during a limited period of five months, was a considerable achievement. However, the overall level of knowledge of rules, is still dismally low. Even now there is wide spread ignorance with regard to most fundamental rules.

But unfortunately the tempo of the campaign could not be continued because of the lack of finances. Perhaps there is as yet no recognition of the fact that Traffic Safety Education is a continuing process and cannot be achieved in few months. or a year. If it was possible, then the countries like U.K., U.S.A. and Japan would have done it long time ago. But they still continue spending huge amount of money on traffic safety education because every day new drivers enter the driving population and need education. In Pakistan, there are more than 1.2 million licenced drivers at present (the %age of people driving without licences is also considerable) and an average of one hundred thousand new licences are issued every year. Hence the need for carrying out the campaign on continuing basis, not only for the benefit of the new entrants but also for the older drivers.

In Pakistan, the task is even more difficult because of the low literacy level and limited ownership of T.V., which is the most effective means of traffic safety education. This especially handicapped our efforts in reaching the hard core drivers namely trucks, bus, taxi and reckshaw drivers who constitute

80% of the driving population but either do not possess the T.V. or do not have the time to watch it. There are other costlier ways of educating these drivers provided sufficient funds could be made available.

Even with such small efforts the effect on accidents was remarkable. Immediately after the campaign, the accident trend registered an appreciable decline in all the three provinces namely Punjab, Sind and NWFP for which statistics are available. As against less than two million rupees invested in the campaign during first quarter, the saving to the national economy on account of avoided accidents alone, even according to the most conservative estimates amount of approximately twenty four million which clearly proves the viability of the campaign.

(b) Enforcement:- As regards the enforcement, it has continued to be the weakest link. This was primarily due to the fact that the most important and basic recommendation i.e. separation of traffic police cadre was not accepted by the Government. The posting in and out of traffic are as frequent as before. As a result, the professionalism required of the traffic police for an effective enforcement of traffic rules has not developed. The emphasis continues to be on document check and the traffic police foot constable and head constables do not have any powers to carry out traffic enforcement. The traffic police in general continues to be totally ignorant of modern traffic enforcement techniques.

(c) Updating of Laws:- The revisions in laws though proposed in January 1978, still remain to be implemented due to procedural difficulties. As a result, the traffic continues to be governed by outdated and outmoded laws.

It may however be clearly stated that the preceding three deficiencies are not the only factors in the way of bringing our traffic safety problem under control. No doubt there are many more such as roads, vehicles, socio-economic and environmental conditions. However, the above three are the most critical and needs to be tackled first. Since they are most basic prerequisite, and have direct and profound bearing on highway safety, any improvement in these would have a significant and healthy effect on the accident situation, whereas the other factors mentioned above have only marginal influence on the highway safety. It would therefore be desirable to attend to them only after the most basic needs have been met.