

NATIONAL TRANSPORT RESEARCH CENTRE

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ABSTRACT OF
RESEARCH/DESK STUDIES OF
NATIONAL TRANSPORT RESEARCH CENTRE

NTRC-39

MUHAMMAD KAZIM IDRIS
Assistant Chief

MARCH, 1980

RESEARCH/DESK STUDIES
OF
NATIONAL TRANSPORT RESEARCH CENTRE

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SERIAL NO:

NTRC - 1

T I T L E:

Economics of Electrification-Comparative Cost of Diesel and Electric Traction on Khanewal - Samasatta section of Pakistan Railways

AUTHOR/
CO-ORDINATOR:

Mr. Abdul Majeed, Deputy Chief

BRIEF
DESCRIPTION:

Electrification was introduced in Pakistan Railways over Lahore-Khanewal section in 1970. This paper has carried out an economic appraisal for the extension of electric traction from Khanewal to Samasatta bringing the total length of electrified section from 285 kilometers to 403 kilometers. The findings of the study are that cost of electric traction would be lower than diesel traction both in financial and economic terms. However, the Project would be sensitive to cost of capital works and a 36% increase on this item would eliminate the benefits. Although the results of the study are not independent of the 'time factor' and cannot be applied elsewhere without considering traffic volumes and firm cost estimates for each section, the methodology used can serve as a useful guide for the appraisal of similar other projects.

DATE OF
COMPLETION:

February, 1975.

SERIAL NO.:

NTRC - 2

T I T L E:

Inland Water Route - Port Qasim-Sukkur.

AUTHOR/
CO-ORDINATOR:

NESPAK Ltd

BRIEF
DESCRIPTION:

The idea of providing inland navigation on river Indus and main canals in Pakistan has remained under the consideration of the Government over the past three decades. A reconnaissance survey was therefore carried out from Port Qasim to Sukkur Barrage following routes along various creeks, canals, drains, etc. to get the first hand information about these courses and to assess the difficulties and problems to be faced on various possible alignments of the navigation channel. The survey has been able to identify the navigable channels but it has recommended that a detailed feasibility study may be undertaken before embarking upon the programme of inland water transport.

DATE OF
COMPLETION:

May, 1975.

SERIAL NO: NTRC - 3

T I T L E: Highway Improvement Priority Criteria

AUTHOR/
CO-ORDINATOR: Mr. M. Sadiq Swati, Deputy Chief.

BRIEF
DESCRIPTION: The Study proposes a criteria for determination of priorities in road development programmes which incorporates the relevant technical and economic features keeping in view the conditions prevailing in Pakistan. The criteria provides an easily understood and readily applicable tool for fixing the priority of road improvement. The criteria proposed by the author has been accepted by the various provincial road construction agencies and would be used in preparing development programmes to ensure optimum utilization of scarce resources for maximum benefits.

DATE OF
COMPLETION: January, 1976.

SERIAL NO: NTRC - 4

T I T L E: Pilot Origin and Destination Survey at Mile
11 Lahore- Multan Road on 21st October, 1975.

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief.

BRIEF
DESCRIPTION: The Origin-Destination Survey are the most versatile source of information of multipurpose use in transportation planning. For any large survey, a Pilot Study is an essential statistical requirement. A Pilot O-D survey was, therefore, carried out by the Centre at mile 11 of Lahore-Multan road on 21st October, 1975 in collaboration with the Highways Department and the Bureau of Statistics, Punjab, Lahore for developing a Questionnaire, tabulation Plans and procedures for carrying out an Origin-Destination Survey in the country. The Forms and procedures thus developed have proved to be very useful in the country-wide road traffic Origin-Destination survey undertaken by the National Transport Research Centre in August, 1979 (Ref. NTRC-47).

DATE OF
COMPLETION: January, 1976.

SERIAL NO: NTRC - 5

T I T L E: Inland Traffic Forecast 1980-81.

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief.

BRIEF
DESCRIPTION: Traffic Forecasting is of paramount importance in the Planning process. Without forecasting appropriate Plan cannot be prepared. Traffic forecasts were made earlier by TRACO consultants in 1969 for the period 1970-75. These forecasts related to the main "System parts" which covered 35% of Rail Network and only 10% of Road Network. However, due to the delinking of East Pakistan, world inflationary trends, Oil crises, etc., TRACO forecasts needed revision. Accordingly, the inland traffic forecasts were prepared on global basis covering the whole country for the period 1976-81. As specific surveys and studies like those conducted by TRACO were not undertaken, the present forecasts lack detail for individual links and geographical areas. However, a definite methodology has been laid down for traffic forecasting which if followed, can give results in the range of acceptability.

DATE OF
COMPLETION: January, 1976.

SERIAL NO: NTRC - 8

T I T L E: Effects of Highway Design Elements on the Capacity of two-lane Roads.

AUTHOR/
CO-ORDINATOR: Malik Muhammad Saeed Khan,
Deputy Chief.

BRIEF
DESCRIPTION: The paper attempts to bring in focus the latest procedures of estimating the effect of highway design elements on the capacity of 2-lane highways, which constitute bulk of highways mileage in the country. The paper highlights the factors which influence capacity of such roads and may serve as a guide to our Highway and Traffic Engineers in determining the capacity of 2-lane highways, optimising traffic Plan and to develop a sound basis for the design of the 2-lane facilities.

DATE OF
COMPLETION: August, 1976.

SERIAL NO:

NTRC - 11

T I T L E:

Lowari Ropeway Study

AUTHOR/
CO-ORDINATOR:

Mr. Bernhard Burgi, Swiss Consultant

BRIEF
DESCRIPTION:

The services of Mr. Bernhard Burgi, a Swiss Consultant were acquired by the Government of Pakistan for studying the possibility of a Ropeway over the Lowari Pass situated at an elevation of about 3142 meters above sea-level so that year around un-interrupted traffic over the Pass could be made possible during the interim period before the construction of the Lowari Tunnel.

The Consultant has recommended two alternate proposals—one using an 18-tons capacity ropeway under the 'maximum solution' and the other using a 5-tons capacity ropeway under the 'minimum solution'.

The project could, however, not be undertaken in view of the phenomenally high costs involved both in its installation and operation besides considerable gestation time.

DATE OF
COMPLETION:

February, 1977.

SERIAL NO: NTRC - 13

T I T L E: Re-Organization of administrative control
of transport

AUTHOR/
CO-ORDINATOR: Mr. M. Sadiq Swati,
Chief

BRIEF/
DESCRIPTION: The paper has proposed creation
of a Ministry of Transport to deal with
the affairs pertaining to the different
modes of transport so that the desired
coordination among the various modes could
be achieved for comprehensive Planning and
Development.

DATE OF
COMPLETION: October, 1977.

SERIAL NO: NTRC - 14

T I T L E: Change in Passenger Class structure of
Pakistan Railways * Effect on revenues

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief

BRIEF
DESCRIPTION: Pakistan Railways changed their passenger class structure by reducing the number of classes from four to three, with effect from 14th August, 1977. The old First and Second Classes were changed to First Class sleeping and sleeping-cum-sitting, Third Class was changed to Second Class while the Air-conditioned Class remained unchanged. This paper estimated the distribution of traffic according to new class structure and its effect on revenue. The exercise showed that the change will have a healthy effect on Pakistan Railways Revenues in the long run.

DATE OF
COMPLETION: November, 1977.

SERIAL NO: NTRC - 15

T I T L E: Containerization in Pakistan-Interim Report.

AUTHOR/
CO-ORDINATOR: Dr. R.D. Osmers, Adviser Shipping.

BRIEF
DESCRIPTION: This is a working Paper on Containerization by Dr. R.D. Osmers, Adviser Shipping whose services were provided by the Government of Netherlands under their Technical Assistance Programme from July, 1976 to July, 1979. In this paper, the Doctor has given a detailed outline of the work as is involved in the adaptation of Pakistan's transport system to the new transport method viz 'Containerization'. In order to reap full benefits of containerization, a phased system of developing the infrastructure to cope with the "Container-age" has been suggested for its consideration by the "Working Group". Moreover, the actions as are warranted to be undertaken by the various executing agencies have been clearly spelt out.

DATE OF
COMPLETION: November, 1977.

SERIAL NO: NTRC - 16

T I T L E: Economics of Pipeline Versus Rail.

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief.

BRIEF
DESCRIPTION: The economics of the Pipeline proposed to be laid for The Pak Arab Refinery located near Multan has been worked out. Multan, which is at a distance of about 885 Kilometers from Karachi, / ^{had been proposed} to be connected by a Pipeline for the transportation of crude and products. The paper examines the costs of transportation by Pipeline and Rail. However, much against the common belief that the cost of transport by Pipeline is lower than rail, the study concludes that on the basis of capital and operating costs of the Pipeline and for the level of output indicated in the PRACO report, the pipeline would not cost less than the existing rail.

DATE OF
COMPLETION: December, 1977.

SERIAL NO: NTRC - 17

T I T L E: Pakistan Highway Code.

AUTHOR/
CO-ORDINATOR: Mr. M. Sadiq Swati, Chief

BRIEF
DESCRIPTION:

The first ever Highway Code was prepared in Pakistan by Ministry of Communication in 1965. Although it was a good attempt to provide access to an average road user with regard to the rules of the road, it failed to have any impact what so ever for two reasons - firstly, it did not cover the entire range of safe driving rules and secondly it did not find much favour with driver testing agencies. The author, on becoming Adviser Highway Safety to Govt. of Pakistan, undertook preparation of a new Highway code where in all the traffic safety rules as per modern practices have been compiled for different types of road-users. In all there are 140 safety rules, followed by 8 useful instructions for 'First aid' and 40 safety hints for Drivers. There is a different section on various types/signs/signal s (numbering 141) alongwith their description as are normally encountered on our highway system. To ensure maximum circulation of the code, its possession has been made obligatory on the part of motor vehicle drivers.

DATE OF
COMPLETION:

December, 1977.

SERIAL NO: NTRC - 19

T I T L E: Draft Motor Vehicle Ordinance, 1978

AUTHOR/
CO-ORDINATOR: Mr. M. Sadiq Swati, Chief

BRIEF
DESCRIPTION: The existing motor vehicle laws date back to 1965. Unfortunately the existing laws, especially pertaining to control of traffic i.e. rules-of-the-road are very out-moded. The author has proposed comprehensive motor vehicle laws to bring them upto date. The draft of the new laws is in the final stages and is expected to be implemented in the near future.

DATE OF
COMPLETION: January, 1978.

SERIAL NO: NTRC - 20

T I T L E: Traffic Survey of Islamabad Highway (Dual Carriageway)

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief.

BRIEF
DESCRIPTION: The Survey provides information on composition of traffic hourly variation and operating speeds of different types of vehicles on dual carriageway of Islamabad Highway. The data was collected as a part of the Highway Travel Speed Survey carried out on 56 road sections in various parts of the country to provide information for investment of Highway Projects. The Islamabad Highway is the only road of its kind in the country with dual carriageway, limited access and excellent riding quality. For this reason results of survey on this section have been presented separately in this paper.

DATE OF
COMPLETION: June, 1978.

SERIAL NO: NTRC - 21

T I T L E: Organization of N.T.R.C-Final Report

AUTHOR/
CO-ORDINATOR: Professor B.T. Bayliss, Consultant, NTRC

BRIEF
DESCRIPTION: The services of Professor B.T Bayliss, Director of the Centre for European Industrial Studies at the University of Bath, United Kingdom were acquired by the National Transport Research Centre under the Technical Assistance Programme of the U.K Ministry of Overseas Development. Professor Bayliss visited the Centre again in April, 1978 and has rendered useful advice regarding organization and staffing of the National Transport Research Centre, identifying areas of research and formulation of a work programme for the Centre besides advising on the implementation of various recommendations to achieve full benefits of his findings.

DATE OF
COMPLETION: July, 1978.

SERIAL NO: NTRC - 22

T I T L E: Effect of increase in Bus fares on common man's budget

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief

BRIEF
DESCRIPTION: Bus fares have been increased a number of times in the recent past. One such increase occurred on 11th July, 1978 both for urban and inter-city routes. The paper examines the extent of increase and effect of such an increase on low income groups. It was estimated that for a family with average income of Rs. 500/-per month the increase in fares will raise the proportion of expenditure on travelling from 9.2% to 13.0% of income. However, when considered in conjunction with increase in prices of other commodities the impact on consumer's budget would be quite considerable in the view of the Author.

DATE OF
COMPLETION: July, 1978.

SERIAL NO: NTRC - 23

T I T L E: Highway Operating Speeds of Government and
Private Bus Drivers

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief

BRIEF
DESCRIPTION: The investigation covered speeds of Govern-
ment and private Bus drivers only. These
two groups were selected as the Government
Transport Service is a large organization,
they have only a few makes of vehicles and
the management/worker relations are impers-
onal. On the other hand, the road passenger
transport in private sector is characterized
by individual ownership or multiple owners-
hips of a single vehicle. There is a great-
er diversification of vehicles and their
work schedule are also different. One would,
therefore, expect significant difference in
road behaviour of two groups of operators.
The study has however, revealed that there
is no significant difference in the operati-
ng speeds of two groups of drivers. This
suggests need for further research on facto-
rs affecting vehicle operating speeds and
also on effects of training, working and
service conditions on driver behaviour.

DATE OF
COMPLETION: August, 1978.

SERIAL NO: NTRC - 24

T I T L E: Transport requirements-shortage of Buses

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief

BRIEF
DESCRIPTION: The Paper examines in detail the position regarding the availability of buses for urban and inter-city operations both in the public and the private sector. The problematic areas have been pin-pointed and suitable recommendations have been made to circumvent the problem. The Paper has recommended that for urban operations, the Government may have to rely on public sector road transport. However, the performance of public sector corporations may have to be improved by administrative measures rather than price incentives.

DATE OF
COMPLETION: October, 1978.

SERIAL NO: NTRC - 25

T I T L E: Modern Transportation

AUTHOR/
CO-ORDINATOR: i) Mr. M. Sadiq Swati, Chief.
ii) Mr. M. Kazim Idris, Assistant Chief

BRIEF
DESCRIPTION: This is a Degree Level Course Material on Modern Transportation which has been prepared by the National Transport Research Centre on the request of the Allama Iqbal Open University. The evolutionary stages of development in the various modes of transportation have been explained and the most recent developments have been given in detail to acquaint the students with the latest development trends in transportation.

DATE OF
COMPLETION: December, 1978.

SERIAL NO: NTRC - 26

T I T L E: Survey of Bus services for Islamabad.
Secretariat.

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief

BRIEF
DESCRIPTION: As very little information has been documented on the availability of Urban Transport Services, a survey was undertaken by the Centre in Rawalpindi-Islamabad area to assess the availability and regularity of bus services.

The study has made a beginning in the documentation of Urban Transport operation which is of significant concern for planners, operators and users equally. It has brought into sharper focus such important aspects of Urban Transport as lack of operational efficiency and proper scheduling, etc.

The study will provide basis for changes in operating policies in the future.

DATE OF
COMPLETION: December, 1978.

SERIAL NO: NTRC - 27

T I T L E: Accident Study for Punjab.

AUTHOR/
CO-ORDINATOR: i) Mr. M.Sadiq Swati, Chief
ii) Mr. M. Kazim Idris Assistant Chief

BRIEF
DESCRIPTION: The Accident Study has been carried out to identify the pre-dominant causes of accident and hazardous locations in the Study Area and to suggest remedial measures for alleviating the problem. The Study has been limited to the Province of Punjab. Only the accidents on rural roads have been considered.

DATE OF
COMPLETION: December, 1978.

SERIAL NO: NTRC - 28

T I T L E: Containerization in Pakistan-Final Report.

AUTHOR/
CO-ORDINATOR: Dr. R.D. Osmers, Adviser Shipping.

BRIEF
DESCRIPTION: This is a Final Report on 'Containerization in Pakistan' prepared by Dr. R.D.Osmers, Adviser Shipping. Some useful suggestions regarding the transitional arrangements as are required while entering into the "Container era" have been propounded by the Adviser.

DATE OF
COMPLETION: January, 1979.

SERIAL NO: NTRC - 29

T I T L E: Feasibility Study for the Operation of a passenger/ro-ro ferry service to the Gulf by P.N.S.C.

AUTHOR/
CO-ORDINATOR: Dr. R.D.Osmers, Adviser Shipping

BRIEF
DESCRIPTION: Dr. R.D.Osmers, Adviser Shipping has examined the prospects of introducing a passenger/ro-ro ferry service to the Gulf by the Pakistan National Shipping Corporation. In the opinion of the adviser, such an undertaking would be economically viable and the service would open up a completely new export market for Pakistan's fruits, vegetables, meat and fish to the Gulf area besides promoting Karachi's position as a transshipment port.

DATE OF
COMPLETION: March, 1979.

SERIAL NO: NTRC - 30

T I T L E: Transport Data Collection, Storage and Retrieval System

AUTHOR/
CO-ORDINATOR: Mr. M. Asaf Khan, Deputy Chief

BRIEF
DESCRIPTION: This is a 'Desk Study' wherein the role of statistics, the type of statistics and the methods that may be used for the collection storage and ready retrieval of transport sector information with specific reference to Pakistan has been discussed in detail. The Study has identified the type of information as is vital to be collected for Transport Planning.

DATE OF
COMPLETION: March, 1979.

SERIAL NO: NTRC - 31

T I T L E: Highway Transportation Studies and Surveys.

AUTHOR/
CO-ORDINATOR: Mr. M. Aslam Farouk, Deputy Chief.

BRIEF
DESCRIPTION: This is a 'Desk Study' wherein various types of surveys and studies as are used in highway transportation, their methodology with recommendations for deviation from standard methods so as to suit local conditions in Pakistan have been explained. The Study has clearly spelt out the need and objectives of a particular type of survey for Transportation Planning.

DATE OF
COMPLETION: April, 1979.

SERIAL NO: NTRC-32

T I T L E: National Port Policy

AUTHOR/
CO-ORDINATOR: Dr. R.D. Osmers, Adviser Shipping

BRIEF
DESCRIPTION: Dr. R.D. Osmers, Adviser Shipping has proposed the setting up of a Pakistan Port Authority for the coordination of activities and formulation of policy decisions for the two Port Operations. KPT and PQA would, however, continue to work as separate organizations for the daily operation of the two ports. Although there is general consensus regarding coordination but there is difference of opinion regarding the degree of cooperation. Dr. Osmers has pin-pointed the areas where coordination is essential for overall economic operation. In the view of the Doctor, un-economical competition between the two ports should be avoided by adopting a related port tariff structure.

DATE OF
COMPLETION: May, 1979.

SERIAL NO.: NTRC - 33

T I T L E: Bus Passenger Loads and Mileage - A Survey
of inter - city bus operations

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief

BRIEF
DESCRIPTION: Planning and Development of road transport services require information on utilization of vehicles (loads and mileages performed) for assessment of demand and supply conditions to ensure availability of transport services, for estimation of operating costs and revenues for regulation and control of fares and for forecasting of demand for transport etc. However, there is no regular source of information to provide reliable data on these variables. Therefore, in order to make realistic estimates of passenger loads and daily mileage performed by buses on inter-city routes, a short survey of bus operations was carried out by National Transport Research Centre. It included sample survey of bus loads at Rowat near Rawalpindi for about 8 hours and

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SERIAL NO:

NTRC - 34

T I T L E:

Motor Vehicle Ordinance-Working Paper

AUTHOR/
CO-ORDINATOR:

Mr. M.Sadiq Swati, Chief

BRIEF
DESCRIPTION:

The working paper contains the original provision of Motor Vehicle Ordinance-1965, revision proposed by the author, views of the Govts. of Punjab, Sind, NWFP, and Baluchistan, Ministry of Interior and a panel of U.K experts. The working paper was the primary document which was relied upon to evolve the final draft of the motor vehicle laws.

DATE OF
COMPLETION:

June, 1979.

SERIAL NO:

NTRC - 35

T I T L E:

Canal Roads for Public use (Feasibility Study)

AUTHOR/
CO-ORDINATOR:

- i) Mr. M.Sadiq Swati, Chief
- ii) Mr. M.Aslan Farouk, Deputy Chief

BRIEF
DESCRIPTION:

The feasibility of using the canal banks for public transportation has been studied. Whereas cost savings may accrue on account of cost saving due to land acquisition and existing embankment for earth work, additional costs would be incurred on account of additional bridges to provide access across the channel at reasonable intervals, providing link roads to various population centres and in view of the longer distances involved as canals are aligned on the basis of levels to command surrounding area and not from the point of view of shortest distance between two given points. The study has recommended that it would be advisable to open up canal banks for public use in NWFP and Baluchistan as these banks are

SERIAL NO: NTRC - 37

T I T L E: Psychological Attitudes towards Highway Safety

AUTHOR/
CO-ORDINATOR: i) Mr. M. Sadiq Swati, Chief

ii) Professor Muntaz Daniel, Consultant

BRIEF
DESCRIPTION:

A number of measures in the past have been proposed and implemented to curb the fast rising highway accident rate in the country, without much success. The reason being that no systematic study of the problem has been carried out. As a result the highway safety problem has grown from bad to worse. The Study revealed that the perception of the problem on the part of the road-users regarding real causes of the problem is generally based on popular beliefs arising more out of what they hear about the traffic management in the developed countries rather than the true facts about the problem. The Study clearly established that the popular beliefs were not the cause of the high accident rate in the country. The real problem was outdated laws and lack of an effective enforcement.

D A T E O F
C O M P L E T I O N: January, 1980.

SERIAL NO:

NTRC - 39

T I T L E:

Abstract of Research/Desk Studies of National
Transport Research Centre

AUTHOR/
CO-ORDINATOR:

Mr. Muhammad Kazim Idris, Assistant Chief

BRIEF
DESCRIPTION:

An Abstract of Research/Desk Studies of National Transport Research Centre has been prepared wherein the brief information regarding various studies undertaken by the Centre since its inception (July, 1974) have been compiled. The Abstract shall be distributed among the concerned personnel associated with the Planning, design, construction, operation, regulation and maintenance of transportation facilities in the country as well as to other concerned international institutions so as to apprise them of the activities of the Centre. It is hoped that this would help in the opening up of a two-way exchange of information between the Centre and the other concerned personnel/institutions both within and outside the country which would go a long way in making some use of the work being done by the Centre. Besides, such a contact will also enable the Centre to study the specific problems in a broader perspective for achieving the best possible results.

DATE OF COMPLETION: MARCH, 1980.

II. STUDIES NEARING COMPLETION
(NTRC-40 To NTRC-42)

SERIAL NO: NTRC - 40

T I T L E: Effectiveness of Traffic Police Training

AUTHOR/
CO-ORDINATOR: i) Mr. M.Sadiq Swati, Chief

ii) Mr. Syed Muhammad, Consultant

BRIEF
DESCRIPTION: The Traffic enforcement in the country during recent years is of not very high quality. This is directly due to the lack of appreciation on the part of senior official that traffic enforcement is a specialized job. The common belief is that just about any **body** can do the job.

The study which is being carried out with the help of a retired Superintendent of police who has a very vast experience of traffic enforcement would demonstrate the improvement in enforcement quality of the selected traffic police officials after they are given a proper training in the art of traffic enforcement and control. First phase of the study has been completed.

SERIAL NO: NTRC - 41

T I T L E: Liquefied Petroleum Gas Study

AUTHOR/
CO-ORDINATOR: i) Mr. M. Aslan Farouk, Deputy Chief

ii) Mr. Naseer Ahmad, Planning Officer

BRIEF
DESCRIPTION:

This study is aimed at quantifying the savings associated with the use of LPG and its effect on automobile engine, etc. The study will also consider demand and supply aspects of petrol and LPG and various aspects of policies for encouraging or discouraging the use of one or the other.

An LPG Kit has been installed on our office vehicle (Toyota Hiace) and its use on petrol and gas is being recorded. The data will be analysed in due course and necessary policy measures will be formulated accordingly.

SERIAL NO: NTRC - 42

T I T L E: Survey of Traffic Police

AUTHOR/
CO-ORDINATOR: i) Mr. M. Sadiq Swati, Chief

ii) Mr. M. Kazim Idris, Assistant Chief.

BRIEF
DESCRIPTION:

The Survey has been undertaken to quantify the deficiencies in the Traffic Police with regard to the level of education, training experience and driving ability which has hindered it from becoming an effective traffic rules enforcement agency.

III. STUDIES IN HAND
(NTRC-43 To NTRC-50).

SERIAL NO: NTRC - 43

T I T L E: Fuel Consumption Study.

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief.

BRIEF
DESCRIPTION: Information on vehicle operating costs is required for the appraisal of highway Projects, inter-nodal traffic distribution studies, estimation of transport costs for various commodities, and a number of other purposes. However, reliable data for Pakistan has not been compiled by any agency. Various agencies concerned with construction, maintenance, operation, Planning and Development of infrastructure and transport services use data which is either based on guess work or on studies undertaken in other countries which are not relevant. The NTRC is, therefore taking up a number of studies to develop reliable estimates of vehicle operating costs. Fuel consumption constitutes one of the major and important components of vehicle operating costs. It is subject to precise measurement by controlled experiments. A special instrument designed for measuring minute quantities

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SERIAL NO: NTRC - 45

T I T L E: Traffic Factors For Pakistan

AUTHOR/
CO-ORDINATOR: i) Mr. M. Sadiq Swati, Chief

ii) Mr. M. Kazim Idris, Assistant Chief

BRIEF
DESCRIPTION:

In Pakistan traffic factors i.e. relationship of hourly traffic to Average daily traffic to weekly traffic to monthly traffic, etc. have not been developed so far and as a result determination of ADMT is done on the assumption that these factors are the same as determined by using the factors developed in U.S.A. which may or may not be applicable and are likely to result in erroneous design. The proposed study attempts to establish the said factors by analysis of Traffic Count data collected from Punjab and Sind Highways Departments for a period of four years so that uniform factors could be used for design of the highways.

The results will make planning, designing and appraisal of the highway projects more realistic and relevant to our conditions.

SERIAL NO: NTRC - 46

T I T L E: Setting up of a Data Bank in the NTRC

AUTHOR/
CO-ORDINATOR: Deputy Chief (Statistics).

BRIEF
DESCRIPTION:

The need for reliable and adequate information for planning purposes can not be over-emphasised for any sector of the economy. The transport sector is, however, of particular importance in this respect for a number of reasons. e.g.

- i) the sector scattered over a number of Ministries, Divisions and Departments of the Provincial Governments without there being any coordination;
- ii) the activities of transportation are themselves scattered geographically which make the management and control of data quite a difficult job.
- iii) the nature of road transport sector is such that various operators do not have their own information.

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In view of the above, there is no single agency to provide transport data at one place. Planning Commission is the agency which needs such an information most and can coordinate the activities of all.

The NTRC is accordingly collecting the information available with various agencies in different forms. This is a continuous process. However, the Project of setting up of a data bank intends to make up past series of various types of data. Once this is done the information will be continuously up-dated on a regular basis.

SERIAL NO:

NTRC - 47

T I T L E:

Road Traffic Origin-Destination Survey

AUTHOR/
CO-ORDINATOR:

Mr. Abdul Majeed, Deputy Chief

BRIEF
DESCRIPTION:

For proper transport planning, it is essential to have detailed information on volume and direction of movement of passengers and goods traffic. Whereas information on traffic carried by Rail and Air Transport is well documented, nothing is known about Road Traffic Origin-Destination. The nature of this sector is such that

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Information has to be collected by means of field surveys. The last such survey was carried out in 1968-69 by the former West Pakistan Transport Planning Cell with the assistance of TRACO Consultants. This survey was of limited scope and coverage and provided only guidelines for detailed survey of the type in the country. However, no such survey has been carried out since then. Accordingly, the National Transport Research Centre are carrying out the Origin-Destination Survey from August 1979. The first round of the survey has been completed in March 1980. The survey covered 106 points on main roads spread all over the country. The survey at each place was carried out for 24 hours. The Drivers of vehicles passing the survey points were asked questions about origin, destination, no. of passengers, type and volume of commodities carried by goods vehicles. The second round of the survey is commencing from 12th April, 1980. The partial results will start coming out shortly. This survey will be of major assistance in preparing next five year plan and in formulating important policies. The results will provide answers to such questions as to what are the main commodities being carried by road? What is their trip length? Whether and to what extent rail worthy commodities are being carried by road and vice versa? Where a direct link between two places is needed? etc.

SERIAL NO: NTRC-48

T I T L E: Utilization of Technical Manpower
in Public Works Departments

AUTHOR/
COORDINATOR: i) Mr. M. Sadiq Swati,
Chief

ii) Mr. M. Kazim Idris,
Assistant Chief

BRIEF
DESCRIPTION:

The various public sector agencies are frequently criticized for improper utilization of their manpower trained at great cost to the Government. In such cases both the individual and the Government is the loser. The individual cannot contribute the skills and knowledge acquired by him if he is placed in a position where his specialization is not relevant. On the other hand the Government loses by being deprived of his technical advice.

In order to pin-point causes and find out remedial measures, a survey of technical manpower in public Works Departments is envisaged. The information is being collected by means of a questionnaire from the Field Engineers of Provincial and Federal Public Works Departments.

SERIAL NO:

NTRC-49

T I T L E:

Energy Use in Transport Systems

AUTHOR/
CO-ORDINATOR:

Dr. M. Abdullah, Head Electrical
Engineering Department, University
of Peshawar

BRIEF/
DESCRIPTION:

The primary objective of transportation Planning is to plan the best possible system given the available resources. As long as fuels are abundant and inexpensive, the major criteria for transportation are probably the initial capital cost and convenience. However, as energy costs rise and energy resources become scarce, increasing attention has to be given to the question of energy use in transport.

Accordingly, this study is aimed at measuring use of energy by various transport systems, e.g. railways, road, etc. The results will provide guidelines for future planning.

The study will be carried out by Dr. Abdullah, Professor and Head of the Department of Electrical Engineering, University of Peshawar and is a step forward to involve educational institutions in our Research Programme, so that our educational institutions get an exposure to practically oriented problems of the real life.

SERIAL NO:

NTRC - 50

T I T L E:

Effect of Enforcement on Road User's
behaviour

AUTHOR/
COORDINATOR:

- i) Mr. M. Sadiq Swati, Chief
- ii) Mr. Syed Muhammad, Consultant

BRIEF/
DESCRIPTION:

The study has been undertaken to study the effects on road user's behaviour to various traffic enforcement emphasis such as strict speed check, turning violation and lighting restrictions. The study results shall help in identifying such areas where effective enforcement can produce the optimum desired results.

IV. STUDIES IN THE PIPELINE
(NTRC-51 To NTRC-56)

SERIAL NO:

NTRC 51

T I T L E:

Electric Transport

AUTHOR/
CO-ORDINATOR:

Principal Investigator Mr. Inamur
Rahim, University of PESHAWAR.

BRIEF
DESCRIPTION:

The proposal intends to develop a prototype vehicle. A second hand, fully depreciated bus would be fitted with an electric motor and a rake of battery. The vehicle thus developed will be tested in the laboratory and on the road for the life of various combinations of batteries, electric motors and other mechanical parts and their placement. The results will have far reaching effect on future transport planning particularly in urban areas. The study is also relevant to the problem of imbalance in the consumption of petrol and diesel in the country. The demand for the two products is such that out of a given amount of crude, diesel falls short of requirements while petrol is surplus. The substitution of diesel vehicles would bring balance in the demand for the two products.

The study shall also be undertaken by University of Peshawar and is in accordance with the process of involving the various Educational institutions with the practical problems in the field by undertaking constructive type of Research work.

SERIAL NO:

NTRC-52.

T I T L E:

Intermodal Choice Motivation

AUTHOR/
COORDINATOR:

Mr. M. Sadiq Swati,
Chief.

BRIEF
DESCRIPTION:

The study would attempt to determine as to why people choose a particular mode of travel. This information is an important tool for planning transport facilities. As an example, it has been established that upto about 250 Kilometres of journey, both for passenger and goods, road transport is more economical, and should be preferred by the road users. However the rail statistics show that the trip lengths of the 80% of people using rail is less than 80 Kms. This is un-economical both for railway and the road users. An in depth Study of the matter would provide a tool for taking measures to encourage such people away from rail and to use road transport.

SERIAL NO:

NTRC - 54

T I T L E:

Survival rate of Private Sector
Motor Vehicles in Pakistan.

AUTHOR/
COORDINATOR:

- i) Mr. M. Sadiq Swati,
Chief
- ii) Mr. M. Kazim Idris,
Assistant Chief

BRIEF
DESCRIPTION:

Information on age of motor vehicles is needed for estimation of requirements of vehicles for replacement and to meet additional demand. However, there is a great controversy about age of vehicle in Pakistan particularly public service vehicles e.g. buses, trucks etc. In the public sector, the vehicles have a shorter life, six years for accounting and depreciation purposes, and much less operationally. In the private sector, actual life of such vehicles is not known. Our Plans are based on a life of 10 years. In order to determine the actual life of vehicles and to make the Plans more realistic, this study is aimed at determining the average life of various types of vehicles and probability of a particular vehicle surviving a given number of years in the country. The results will provide more realistic estimates of life of vehicles for making provision for replacement and additional requirements by the Planning Division.

SERIAL NO: NTRC-55

T I T L E: Accident Black Spots on National Highways

AUTHOR/
COORDINATOR: i) Mr. M. Sadiq Swati,
Chief

ii) National Highways Board

BRIEF
DESCRIPTION: This study would identify the accident black spots on National Highways, pinpoint the predominant factors causing the accidents and suggest measures to alleviate the problem. The study would be carried in collaboration with the National Highways Board.

SERIAL NO: NTRC-56

T I T L E: Manual of uniform traffic Control devices

AUTHOR/
CO-ORDINATOR: i) Mr. M. Sadiq Swati, Chief

ii) National Highways Board

BRIEF
DESCRIPTION: With a view to standardize the erection, installation and fixing of traffic control devices throughout the country, a Manual is being prepared wherein all the essential details regarding their size, shape, colour scheme and all other relevant information shall be presented so that uniform standards could be evolved for the entire country.

V. FUTURE STUDIES
(NTRC-57 To NTRC-63)

SERIAL NO: NTRC - 57

T I T L E: Highway Construction Machinery

AUTHOR/
CO-ORDINATOR: Mr. M. Aslam Farouk, Deputy Chief

BRIEF
DESCRIPTION: This is a similar study to the one underway for buses (NTRC-38). The work on the study shall be started after the 'Bus Make Study' has been completed so that the experience gained in that study could be made us of.

SERIAL NO: NTRC - 58

T I T L E: Driver Behaviour at Signalized Intersections

AUTHOR/
CO-ORDINATOR: i) Mr. M.Sadiq Swati, Chief

ii) T.R.R.L London

BRIEF
DESCRIPTION: This study is to be undertaken in collaboration with the Road Research Laboratory-U.K as part of their research programme in highway safety in the developing countries.

SERIAL NO: NTRC - 61

T I T L E: Study of Fatal Accidents Around Rawalpindi

AUTHOR/
CO-ORDINATOR: Mr. M.Sadiq Swati, Chief

BRIEF
DESCRIPTION: The study would identify the predominant causes of fatal accidents and would determine the role of such factors as use of drugs, mechanical failures, environmental factors etc. The study results would pave the way for appropriate decisions which would help in the minimization of the accident on our highways.

SERIAL NO: NTRC - 62

T I T L E: Economics of Truck Sizes

AUTHOR/
CO-ORDINATOR: Mr. Abdul Majeed, Deputy Chief

BRIEF
DESCRIPTION: At present the size of conventional truck is un-suitable for long haul traffic. Such trucks in the developed countries are used as delivery vans for short trips. The study would, therefore, attempt to quantify the losses suffered by the economy while using these trucks for hauling goods from Karachi to up country and would recommend appropriate sizes of trucks for this purpose.

SERIAL NO:

NTRC - 63

T I T L E:

PIA Fleet Expansion versus Parallel Development of Facilities by Civil Aviation Department

AUTHOR/
CO-ORDINATOR:

Mr. M. Aslam Farouk, Deputy Chief

BRIEF
DESCRIPTION:

There has been a phenomenal increase in Air Transport Operations in Pakistan over the past decade. The Civil Aviation facilities have, however, not kept pace with the expansion of air traffic and there is marked imbalance in the complimentary facilities.

A study to reveal the status of "Required" versus "Actual Facilities" will be undertaken by the National Transport Research Centre. A questionnaire will be designed to record the present facilities and manpower available with DGCA and the airports under its control. The proforma will be a comprehensive one and will cover all aspects (runways, taxiways, concourse, passenger areas, baggage handling, customs procedures, communications, radio aids for navigation and landing, rescue facilities and number of operations by aircraft type).

Based upon this information, a development level for each airport will be determined and compared with the existing facilities available and a short development programme will be recommended.