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Ministry of Communications
National Transport Research Centre

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Restructuring of the Communications Division, Its
attached Departments, Subordinate Offices, Autonomous
Bodies and Corporations

REPORT ON
NATIONAL TRANSPORT RESEARCH CENTRE

Nirc-214

December, 1998

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(2) OBJECTIVES OF ESTABLISHMENT

The NTRC was accordingly set up at the federal level in the Planning Commission in June, 1974 as one of its Technical Sections (Annex-I) and later on transferred to the Ministry of Communications in November, 1992 (Annex-II, III and IV) with the basic objective of undertaking research studies in the field of transport sector for determining the national transport policy leading to the formulation of an integrated plan for the development of a well-coordinated transport system in the country. The need for an indigenous R&D facility was accentuated in view of the highly fragmented nature of the transport sector both in terms of its jurisdictional controls and geographical distribution.

(3) ASSIGNED WORK/FUNCTIONS

To achieve the above objectives, the Centre has been assigned multi-pronged work/functions ranging from undertaking research studies based on actual field data to the implementation of pilot demonstration projects, arranging training courses in the field of Transport Planning and setting up of a Transport Data Bank to readily make available statistical data relating to various modes of transport sector at one place.

A number of programmes/projects on different aspects in various modes of transport have been drawn up in consultation with the federal/provincial governments/agencies and translated into PC-Is/PC-II with well-defined aims (Annex-V) and duly approved by the CDWP for carrying out the research work. The Organization Chart of NTRC may be seen in Annex-VI and a brief description of various approved on-going projects of NTRC in Annex-VII. These essentially comprise economic based studies, transport planning studies, demand estimation and forecasting studies; Traffic Counts, Origin-Destination and Axle Load Studies, highway safety studies, urban transport studies, Vehicle operating cost studies, road research work etc.

/ Besides, the Centre has completed 39 studies sponsored by Provincial Governments, World Bank, Asian Development Bank National Highway Authority, Railways, etc (Annex-IX).

NTRC also plays a major role in the preparation of Five Year Plans and Policy for the transportation sector in the country. The Centre has also been represented on various Committees and Working Groups for preparing Reports/Policy Documents, including Comprehensive National Transport Plans etc (Annex-X). The major achievements may be seen in Annex-XI.

Some important transport sector issues examined/evaluated by NTRC over the recent past include :

- (a) Modal Split The transport sector comprises different modes of transport i.e. railways, roads, air, ports, shipping and inland waterways. Establishment of an efficient and reliable transportation system requires close coordination and integration of various modes of transport. The role of various transport modes should be complementary. The Pakistan Railways, during the past two decades, has been unable to cater for the needs of the growing economy. Besides, it also faces a tough competition from the road transport. As a result, there has been a significant change in the modal split. During 1971-72, the freight traffic for railways was 7.8 billion ton kilometers (BTKm) which declined to 4.7 (BT Km) by 1997-98. During the same period, the freight traffic of road sector increased from 8 BTKm to 90 BTKm. Thus the overall trend growth, which is negative for railways (-5.4%), is 11% per annum for road freight traffic. As a result, the share of railways in inland freight traffic has significantly decreased. While during 1971-72 the total freight traffic was more or less equally distributed between railways and roads (i.e. 50% each), the share of road sector has now

increased to 95% and for railways it has declined to 5%. The share in passenger traffic is 90% for road sector and about 10% for rail sector. This is in fact an unhealthy situation. In an optimal situation, the long distance bulk traffic (500 Kms and above) should be taken by rail while short-haul traffic (less than 500 Kms) by roads.

(b) Roads The existing road network is about 200,000 Kms which gives a density of 0.25 Km per square Km of the area. This is less than half the generally accepted standard of 0.5Km/sq.km for sustaining the economic development of a developing country like Pakistan. In other words, the road system deficiency is of the order of about 200,000 Kms. Moreover, the road coverage is not uniform and there are vast pockets which are completely devoid of even the basic communications facilities. The constraints of Pakistan Railways to carry their share of traffic has further increased the strain on the existing highway network particularly on the National Highway N-5 along the North-South Corridor. This calls for undertaking accelerated road development programmes in order to overcome the infrastructural bottlenecks.

Proper maintenance of the existing road network deserves top priority so as to prevent its continuous deterioration and provide the required quality of service. In order to maximize the economic benefits of highways, the deficiency of rural/farm-to-market roads needs particular attention. The objective can be achieved by resorting to (i) stage construction; and (ii) by opening of canal roads (56,000 Kms) to public which would conserve the immediate financial requirements.

(c) Truck Overloading Truck over-loading is another serious problem in Pakistan. The present standard axle load limits are quite often exceeded. Roads are designed for a certain

(c) Pavement Design

- Use of Geogrids in Water Logged Areas, June, 1996
- New Concepts in sub Grade Design, August, 1996
- Use of Asphaltic Mixes on Roads in Pakistan, October, 1996
- Stabilization of Clayey Subgrade by Water Injection, March, 1997
- Various Types of Asphaltic Concrete Mixes Used in Road Construction, June, 1997
- Chemical Soil Stabilization in Pavement Structure (May, 1998)

(d) Pavement Evaluation

- Laboratory Testing of Kashmir Highway (Zero Point-Aabpara Section), May, 1996
- Evaluation of Mian Channu - Sahiwal Section (N-5) Evaluation, April, 1998

(e) Axle Loads

- Further Analysis of Axle Load Data, June, 1998

(f) Highway Maintenance

- Highway Maintenance Management, May, 1997
- Existing Toll Revenues Vs Maintenance Cost, September, 1997

(g) Highway Safety

- Accident black Spots Study on National Highway (N-5) Hassanabdal Attock, April, 1996
- Road Surface Texture in Islamabad, September, 1997

(h) Farm-to-Market Roads

- Village Roads & Rural Development, September, 1996
- Evaluation of Low Cost Roads, August, 1996

(i) Urban Transport

- Greater Islamabad Rawalpindi Area Transportation Study, September, 1995
- Reduction in delays to the vehicular traffic at an Urban Road, December, 1995
- The Peoples' Train - Preliminary Evaluation, October, 1996
- Faisalabad Urban Transport Society (FUTS) - Evaluation, October, 1996

(j) Environment

- Reducing Smoke Nuisance Effects from a Diesel Bus (January, 1996)

(k) Non-Mechanised Road Transport

- Non-Mechanised Road Transport and Rural Areas, June, 1997

(l) Railway

- Rail Transport Modes of 21st Century, June, 1997

(m) Ports

- Survey of Time Taken for Flow of Cargo Through Port, September, 1996

(n) Road Research Laboratory

- Calibrating Road Roughness Measuring Instruments, October, 1997
- Manual of Calibration of Lab. Equipment, October, 1997

(o) Transport Economics and Planning

- A Guide for Project Appraisal Monitoring and Evaluation (with Special Reference to Transport Sector), August, 1995
- A Guide to Transport Economics, November, 1995
- Trends in VOCs, September, 1996

(p) Civil Aviation

- Evaluation of Islamabad Runway Pavement, December, 1997.

(q) Data Bank

- Motor Vehicles on Road, July, 1998
- Driving Licences by category 199-97, August, 1998
- Accident Statistics 199-97 October, 1998

Brief description of some of the major works completed/underway is as follows :

(a) Overall Transport Sector As a result of extensive research work done by the Centre in various sub-sectors of transport and the preparation of a comprehensive National Transport Plan Study under the JICA Technical Assistance, the entire preparatory work relating to the preparation of the 9th Five Year Plan (1998-2003) and various sub-sectoral Reports of the Working Groups on Traffic Forecasts, Roads and Road Transport were prepared by the Centre.

(b) Motorway Senior Chief NTRC worked as a member of the Task Force on Motorway set up under the chairmanship of Secretary (Communications). The contribution of NTRC in the completion of Motorway Project under the directives of the Prime Minister of Pakistan on 26th November, 1997 has been fully

road maintenance have been discussed. Allocation of funds and record keeping, of road data has also been discussed in the study. The recommendation include sectional road inventories, creating a road data bank with more emphasis on frequent visual assessment and routine maintenance and defining priorities in funds allocation and their utilization. The November/December, 1997 Bulletin of the International Road Federation (IRF), which is circulated world-wide, has prominently covered the results of the Study which reflects the quality of the Study.

- (f) Highway Safety For safe driving, among various other factors, it is necessary to have a non-slippery road surface specially during wet-road conditions. On the request of CDA, NTRC has carried out the study of checking the surface texture of roads in Islamabad. From test results, it has been observed that the value of mean macro texture depth of roads surface in Islamabad range from 0.19 - 0.43 mm, as compared to International Standard of 1.0 mm. Therefore, from the safety point of view, all the road sections tested in Islamabad are more slippery than normal and hence are less safe for driving during wet season.

Various other activities relating to highway safety include monitoring the effectiveness and operation of motorway police, collection of motorway accident data, implementation of Pakistan Highway and Motorway Code, preparation of plans for proper parking and regulation of traffic at schools, design for raised zebra crossings, preparatory work for organizing an international Seminar on Road Safety in collaboration with the Pakistan Motorway Police, advisory notes on Highway Safety Issues and guidelines to Motorway Police, Federal/AJK and all Provincial IGPs and to other Traffic Engineering Units. The Pakistan Highway Code was revised to bring it at par with international standard incorporating latest advancements in

the state-of-the-art of highway safety and updated in 1998 to incorporate laws and signs relating to Motorways, which was issued as "Highway/Motorway Code - 1998". Also the comprehensive draft of the Road Safety Act prepared in 1977 and updated in 1998 to incorporate laws and signs relating to Motorways, was adopted as "National Highway/Motorway Safety Ordinance -1998".

(g) Farm-to-Market Roads The performance of six low cost (gravel) roads, constructed by NTRC under the demonstration project in 1987 have been evaluated. Even after 8 years of construction and use by the village level traffic of around 200 vehicles per day (vpd), the roads exist and are in service.

(h) Urban Transport Besides several studies on Urban Transport, Comprehensive Urban Transportation Study titled 'Greater Islamabad/Rawalpindi Area Transportation Study (GIRATS)' was also undertaken by NTRC under the Swedish Technical Assistance in the context of traffic and transport problems of the twin cities of Rawalpindi-Islamabad.

A comprehensive Report on Revamping of Public Transport System was prepared as per the directive of the Prime Minister's Secretariat in August, 1997. In addition to various studies listed above, Traffic flow improvement plans have been prepared which are based on collection of data regarding intercity transport from various stands in twin cities, turning movements at intersections and data regarding route observation by PSVs and goods traffic movements through Rawalpindi and Islamabad. Data was also collected regarding traffic behavior at signalized versus un-signalized junctions. Proposals have been prepared for relocation of Bus Stands, elimination/relocation of routes of tongas in CBD and improvement of various intersections through signals, slip roads and other geometric improvements. Proper design

for direction signs in Islamabad were prepared for the CDA. The NTRC Bus Train Project after successful operation at Karachi and Rawalpindi/Islamabad and after transfer of technology as a low cost mass transit facility for peak hour commuters has been shifted to NTRC. An Evaluation Report was prepared on the performance of the People's Train and CDA Coasters introduced in Rawalpindi/ Islamabad in May, 1996. It was an un-successful project undertaken by the Railways and was subsequently wound up.

- (i) Environment In addition to practically demonstrating the favourable results on account of modifying the exhaust system of a PRTC Bus in helping to reduce the immediate nuisance effects on the road users, other initiatives and measures included creating an awareness for better environment and initiation of proposals with the concerned authorities like the CDA, Ministry of Environment and Local Government, EPA and ENERCON, etc and completing a Study on Environmental Impact Assessment of Road Infrastructure Projects in Pakistan for ESCAP.
- (j) Railway The study on condition of Railway Transport facilities for carrying port traffic identifies the problems in Railway Transport Infrastructure for carrying port traffic and has concluded that non-scheduled operation and over-aged rolling stock result in poor performance compounded by delays due to non-priority to freight wagons and lack of adequate tractive power.
- (k) Ports The study on 'Survey of the Time taken for Flow of cargo through Port' find ways and means which can assist in reducing the time taken for international cargo through port and pin point the areas which are the major cause of increased time for movement of import and export cargo. It has been recommended that Electronic Clearance System be introduced to increase efficiency and reduce paper work and

- (m) Civil Aviation On the request of the Civil Aviation Authority National Transport Research Centre (NTRC) carried out an evaluation of the Islamabad Runway Pavement in order to determine the possible causes of surface distresses in the bituminous overlay laid during 1995-96, for strengthening the existing rigid pavement. The development of surface distresses (cracking) are due to the improper design and laying/compaction of bituminous mix. The runway was found to be more slippery as per FAA standards.
- (n) Road Freight The Study on 'How to Modernize the private Truck Operating System in Pakistan' reviews present Rules and Regulations related to Road Haulage and identifies the bottlenecks in the financing system for private Truck Operators. The study proposes the introduction of leasing system for Freight Trucks and financing for Private Freight Transporters.
- (o) Vehicle Operating Cost The cost of road construction and maintenance accounts for large proportions of the National Budgets. The costs borne by the road user for vehicle operation and depreciation are even greater. The Vehicle Operating Cost (VOC) is an essential input in the planning and management of road investment programme and the main benefit accrued from the highway improvement is the saving in VOC. NTRC have carried out two research studies for the compilation/estimation of the VOCs for the diversified road network in the country. The third study titled "Trends in VOCs used in NHA projects" carried out in September, 1996 envisaged the computation of VOCs through the application of Highway Design Maintenance (HDM) model developed by the World Bank. It also provides for the comparative analysis of HDM-VOCs viz-a-viz VOCs used for economic appraisal of NHA projects. The objective is to set out data trends and discern the variations in terms of percentage change among

the two sets of the VOCs compiled for various projects during past six years. The study revealed that two sets of VOCs were at sharp variance from each other. The study concluded that HDM model provides robust formulation for predicting the VOCs and needs to be adapted by using local conditions to update the VOCs for their utilization in the planning of highway projects.

(p) Task Force NTRC acted as a Secretariat for the Task Force which was established/approved by the Prime Minister to prepare a comprehensive plan for development of Coastal Areas of Baluchistan. NTRC was entrusted to scrutinize the recommendations pertaining to Transport & Communications. A number of meetings were held with the representatives of NHA, Ports & Shipping, PTCL, CAA, PIA and Fisheries and Coastal Development Department, Government of Baluchistan. The recommendations made for the Plan encompassed construction of Coastal Roads and Gwadar-Khuzdar Road alongwith implementation schedule, establishment of deep sea port and operation of already established Fish Harbour at Gwadar, commencement of ferry services between Karachi and Gwadar, upgradation of Gwadar and Turbat Airports for Boeing operations and assessment/provision of telecommunication facilities in the Coastal Areas of Balochistan.

(q) Project Appraisal Appraisal of various projects carried out for comments including Karachi Mass Transit Programme, Revamping of Public Transport System, the Lahore Public Transport Policy and Institution Study for the World Bank, CDA's BOO Scheme for introduction of Electric Trolley Bus in Islamabad, Lady Transport Pilot Project for Women, Privatization Commission Working Papers on Railway Policy and Railway Regulatory Authority, etc.

4.2 Other on-going work The research work in the Centre is of a continuing nature. It is being carried out as per approved PC-

Is/PC-II of the Operational Research Wing, Road Research Wing, Urban Transport Wing and the Railway Research Wing on a regular basis. Besides the collection of data from primary and secondary sources for the Data Bank and various other studies, the following assignments deserve a special mention which have been assigned to the Centre under the directives of the Prime Minister of Pakistan and the Executive Board of the National Highway Authority.

4.2.1 Prime Minister's Directive

- (a) National Plan For Roads As per the Prime Minister's directive for preparation of a national plan for building of roads incorporating motorways, highways, provincial roads and farm to market roads, work has been undertaken under the supervision of Senior Chief, NTRC alongwith Member(Planning), NHA and Deputy Chiefs NTRC for preparation of a comprehensive plan in consultation with provincial and local governments. The national plan would prioritise construction and up-gradation of roads according to a laid down criteria alongwith an implementation plan and a financing plan. The implementation plan would include scheduling of road construction/up-gradation as well as identification of contractors who would complete these works within the schedule at the most competitive rates. The possibility of involving government contractors such as the FWO would also be studied. In this regard, a mechanism would be evolved to allow allotment of contracts to the government agencies.
- (b) Road Signs As per the Prime Minister's directive that the Road Signs of International Standard be installed on all Motorways and Highways, a Committee has been constituted under the chairmanship of Senior Chief NTRC in October, 1998 to :

- Finalize the system of Road Signs to be adopted through out the country.
- Develop and implement the system for M-1 Motorway.
- Complete the system installed at M-2 Motorway.
- Fully associate the local industry to develop the facilities within the country.

4.2.2 NHA's Executive Board - Rutting On Motorway (M-2) In pursuance of the decision of the NHA's Executive Board in its meeting held on July 23, 1998, an Enquiry Committee has been constituted under the Chairmanship of Senior Chief NTRC to determine the causes of rutting on M-2 with the following Terms of Reference :

- (a) Determine the causes of failure of M-2 due to rutting;
- (b) Estimate the loss to public on account of this failure;
and
- (c) Fix responsibility for the lapse/failure and apportion loss incurred.

Samples from the Motorway have been obtained and are being tested/evaluated.

4.2.3 Highway Safety Study In addition to the studies listed above, a Comprehensive Road Safety Study is presently underway. The Government of Pakistan has obtained assistance from the Asian Development Bank and the Nordic Development Fund for 'improving the knowledge, capability and expertise of personnel associated with accident prevention in the fields of accident analysis, traffic engineering and management, and the design of low-cost accident counter-measures. This forms part of a federally

sponsored programme designed to counter the serious road safety problem in Pakistan.

The main objectives of the Project are:

- (a) to assist the Government in identifying and improving road accident - prone locations called "black spots".
- (b) to advise NHA and C&W departments on road safety measures in highway design to reduce accidents and assist in developing standard design of typical accident-preventive road features.
- (c) to assist and guide C&W departments and NHA in construction, supervision of civil works for low-cost engineering counter-measures.
- (d) to undertake before/after studies to assess the impact of the road safety measures.
- (e) to advise and train NHA and C&W department engineers and major domestic consulting engineers.
- (f) to train and assist the Traffic Police on road safety enforcement activities.

Based on the Pilot Study in the vicinity of Islamabad-Rawalpindi area, remedial work at eight sites around Islamabad/Rawalpindi is underway. Accident data for National Highways has been collected and is being collected for Provincial Roads. Training Seminars are being arranged to train the Provincial Authorities in identifying the blackspots and their remedial measures. During a series of seminars, provincial representatives would identify some blackspots on provincial roads in their provinces. Later on remedial measures would be implemented physically at some of these identified blackspots with the assistance of the Asian Development Bank.

4.2.4 Motorway Impact Study A study on assessing the impact of Motorway (M-2) on the socio-economic conditions of the adjoining areas is presently underway.

4.2.5 Data Bank In addition to collecting data on various modes of transport, NTRC is acting as a focal point for Road and Road Transport Statistics and the various national and international agencies obtaining related statistics regularly include the Ministry of Finance, Federal Bureau of Statistics, Provincial Bureau of Statistics, Ministry of Environment, Local Government and Rural Development, Oil Companies Advisory Committee. The International Agencies collect the data for the World Road Federation Reports, UN Statistical Year Book, Common Wealth Year Book, etc.

4.2.6 Dissemination of NTRC Studies The various studies carried out by the Centre are distributed regularly. The relevance of research work done by the Centre in the field of transportation is evident from the ever increasing demand of the Centre's publications as may be seen from some of the requests received from various federal and provincial government organizations and the private sector placed in Annex-XIII.

4.3 Staff Position

The over all strength of NTRC has registered a sharp decline as may be seen from the following :

	<u>Non</u> <u>Development</u>	<u>Development</u>	<u>Remarks</u>
• Officers	19	5	14 posts are vacant
• Staff	38	22	17 posts are vacant
Total	57	27	

4.5 Revenue Earnings

With trained manpower and expertise, NTRC has developed the capability to undertake work for other private sector agencies and charge for the work carried out by it and thus act as a revenue earning department for the government. In this connection an amount of Rs. 360,000 were deposited in the Federal Treasury during 1998 on account of amount received for carrying out material testing for motorway and other projects (Annex-XVII). It included complete Material Testing of the Peshawar-Islamabad Motorway (M-I), 154 Km long section for M/s Bayindir.

(5) THE ONLY RESEARCH ORGANIZATION IN THE FIELD OF TRANSPORTATION

NTRC is the only research organization in the country which is engaged in transport research. It has been incorrectly stated in the Report on "Draft Proposals for Restructuring of the Communications Division, its attached Departments, Subordinate Offices, Autonomous Bodies and Corporations" prepared by the Management Services Wing (September, 1918) in Para-107 that the functions being performed by the NTRC are being performed by Pakistan Railways, Civil Aviation Authority, National Highway Authority and National Mass Transit Authority. The fact of the matter is that the Rules of Business had to be amended in November, 1992 on the transfer of NTRC to the Communication Division and the word 'research' was specifically incorporated for the first time in the Rules of Business of the Ministry of Communications as may kindly be seen from the Notification dated the 10th November, 1992 (Annex-IV). This is a clear proof of the fact that research work in the field of transportation is unique to NTRC and it is the only organization in the country which is carrying out research work in the field of transport. This has been further verified from various agencies and no research work has been done by these organizations as may be seen from the replies received from NMTA and PMP in Annex-XVIII.

(6) DRAFT PROPOSALS ,IN THE RESTRUCTURING REPORT AND THE MANAGEMENT SERVICES WING (SEPT. 1998) - SOME CLARIFICATIONS

The revised Report on 'Restructuring of the Communication Division, its attached Departments, Subordinates Offices, Autonomous Bodies and Corporations' prepared by the Management Services Wing (MSW - September, 1998) and containing draft proposals has not taken into account the correct perspective about NTRC and at places sweeping statements have been made which tend to give an incorrect impression as may kindly be seen from the following Paras.

In Para-107 (P.46) of the MSW Report, the statement that the Cabinet Decision has not been implemented does not take into account the contents of the Cabinet Decision according to which the staff of the development projects had to be made surplus on completion of the development phase of these projects. The actual position is that to-date all the development projects are still on-going except for the National Transport Plan Study, the staff of which was made surplus on completion as per the Cabinet Decision. Accordingly it is incorrect to state that, "the decision of the Cabinet has not been implemented by the Centre as yet".

Similarly, it has been incorrectly stated that, 'the functions being performed by the NTRC are being performed by Pakistan Railways, Civil Aviation Authority, National Highway Authority and National Mass Transit Authority' (Para-107). This is also incorrect as has been explained earlier in Section (5) of this Report.

In Para-106(P.46), only the sanctioned strength has been mentioned which does not give the true picture about the existing staff position. The factual position is that presently the existing staff strength is only 78, comprising 20 officers and 58 staff members and represents a corresponding reduction of 37 (32%) in the overall strength, 21 (51%) in the number of officers

overall basis, the Research Output of the foreign experts working in NTRC, in terms of number of studies and number of pages per man-month was 1/3rd and 1/4th, respectively. This was inspite of the fact that the NTRC staff personnel were assigned several other duties during this period. As regards quality of work done in the Centre, it was either of a comparable level or even better in several cases when compared with the foreign experts although majority of the NTRC staff were fresh entrants to research with no previous background and experience of transport research whereas the foreign experts had experience of a number of years in the field.

"The Committee unanimously concluded that despite many problems and difficulties, the Centre has done a commendable work both in terms of quality as well as quantity and there is very reason for it to continue and flourish. It is the only Organization in the country which is doing effective research work in the field of transportation NTRC should be provided with additional funds, manpower, equipment and infrastructure facilities in a major way to enable it to cover all modes of transport in its research programme....."

- (b) Cabinet Sub-Committee on the Working of R&D Organizations (May, 1993) "..... The output of the organization, measured in terms of research papers and project report produced during the same period is, however, better than what the input would have warranted. This is good indicator for the present health and future potential of the organization..... It is recommended that the NTRC may be allowed to continue as it is.....".

(c) Economy Study of National Transport Research Centre Management Services Division (MSD) (June, 1994) In the 'Economy study of National Transport Research Centre' carried out by the Management Services Division (MSD) in June, 1994, it has been fully acknowledged by the MSD that:- "..... the Centre has done a commendable work both in terms of quality and quantity and the Centre was achieving the objectives assigned to it in the charter through effective research work". The MSD in its June, 1994 Report had specifically recommended that "the Centre may continue to provide research based advice on all the transport related subjects allocated to the Communications Division".

(d) 'Project Evaluation Study of National Transport Research Centre carried out by the Management Services Division (MSD) in January, 1996 It has been recommended by the MSD that, "the NTRC may, however, be provided with adequate funds in the NTRC's non-development budget for meeting expenditure expected to be incurred on research studies, laboratory tests, etc. With a view to supplement the financial resources of the NTRC it may be considered to charge on dissemination of research work and laboratory tests which are conducted for other agencies."

(8) CONTRIBUTION IN NATIONAL ECONOMY AND IMPACT

Highly trained manpower and requisite infrastructure facilities have been developed at the national level in the multi-disciplinary and highly fragmented sector of transport 'under one roof' in the most cost-effective manner. The total development/non-development expenditure including pay of Officers, Staff, etc. over the twenty five year period since 1974-75 is about Rs 165 million (annual average expenditure of Rs. 6.6 million). The infrastructure facilities, spread over a

building area of about 58,000 sq.ft. on a plot of land measuring about 5.5 acres, houses modern road research laboratories, Computer Centre and a Library.

The work done by the Centre is of direct relevance and application in the field of transportation. This is evident from the requests received for its research studies from the various federal/provincial government organizations and the private sector, etc. Besides serving as an authentic source of information on various modes of transport sector at one place - a fact acknowledged in almost every study undertaken by various agencies in the transport sector, this work has been carried out at a fraction of the cost.

Indigenous expertise is now available to competently prepare and examine proposals related to various aspects of transport planning, road research and highway safety and act as a revenue generation department under a well-defined regulatory framework. The development of indigenous factors for project preparation, appraisal and evaluation is another landmark which has greatly helped in the proper preparation, appraisal and evaluation of transport sector projects by the concerned executing Ministries/agencies and the Planning Commission. These include studies on Vehicle Operating Costs, Traffic Factors, Travel Speeds, etc. and have been adopted as the basis for Transport Project Appraisal and Evaluation. Design Standards for Roads have been modified based on axle load studies carried out by the Centre in quantifying the effects of axle loads. Based on the work done by the Centre, JICA have adopted the figure of 10,000 vehicles per day (vpd) as the design capacity of 2-lane road compared to 7,200 vpd used originally with tremendous pay-off in terms of economic savings to the country. Besides, expertise and techniques have been developed in the area of low cost roads, design and construction of a low cost mass transit facility, chip spreader and traffic signals, etc.

- (c) Cost estimation studies for various modes of transport.
- (d) Demand estimation, measurement and forecasting studies.
- (e) Modal choice, traffic distribution/assignment and origin-destination studies.
- (f) Inventory and capacity studies.
- (g) Standard improvement studies.
- (h) Traffic accidents study.
- (i) Traffic speed studies.
- (j) Time cost studies.
- (k) Regulation, subsidy, taxation studies.
- (l) Urban transportation studies.
- (m) Vehicle utilization/performance studies.
- (n) Investment, pricing, operation and regulation studies.

3. Most of the studies would be undertaken in collaboration with the provincial Governments and agencies concerned. The centre would also set up a Data Bank to make readily available statistical data required for various studies and other purposes.

4. It is requested that the National Transport Research Centre may be closely associated with studies being undertaken in the field of transport and preparation of proposals for major projects. A brief outline of such studies indicating objectives, scope and methodology, present status, agencies undertaking work etc., may be communicated. It is also requested that the copies of the studies undertaken in the past on the above subject and basic statistical data concerning any aspect of transport compiled/issued by your organization may kindly be supplied for record and reference.

5. In addition, specific problems in the field of transport and proposals for research studies, if any, may also kindly be sent to the Centre.

Sd/SADAQAT HASAN MIR, CHIEF T & C.
Project Director, N.T.R.C.

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IMMEDIATE

GOVERNMENT OF PAKISTAN
CABINET SECRETARIAT
(CABINET DIVISION)

ISLAMABAD, the 8th October, 1992.

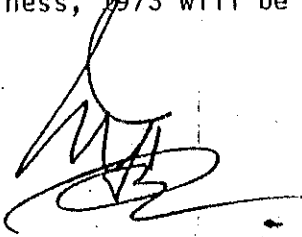
No. 4-12/91-Min.1.

OFFICE MEMORANDUM

Subject:- TRANSFER OF NATIONAL TRANSPORT RESEARCH CENTRE (NTRC) FROM
PLANNING & DEVELOPMENT DIVISION TO MINISTRY OF COMMUNICATIONS

The undersigned is directed to say that it has been decided with the approval of the Prime Minister to transfer administrative control of the National Transport Research Centre (NTRC) along with its staff and equipment from the Planning & Development Division to the Ministry of Communications with immediate effect.

2. Necessary amendment in the Rules of Business, 1973 will be made in due course of time.


(M. HANEEF QURESHI)
Deputy Secretary

To

- (1) Secretary,
Planning & Development Division
Islamabad.
- (2) Secretary,
Ministry of Communications
Islamabad.

Copy forwarded to :-

- (1) President's Secretariat (Public), Islamabad
(2) Prime Minister's Secretariat (Public), Islamabad
(3) All Ministries/Divisions
(4) National Assembly/Senate Secretariats, Islamabad.
(5) Chief Secretaries of all the Provincial Governments

(M. HANEEF QURESHI)
Deputy Secretary (Min)
Phone: 817232.

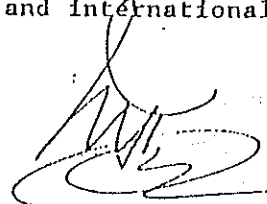
GOVERNMENT OF PAKISTAN
CABINET SECRETARIAT
(CABINET DIVISION)

ISLAMABAD, the 10th November, 1992.

NOTIFICATION

No. 4-12/91-Min.I.- In exercise of the powers conferred by Articles 90 and 99 of the Constitution of the Islamic Republic of Pakistan, the President is pleased to direct that the following further amendment shall be made in the Rules of Business, 1973, namely:-

In the aforesaid Rules, in Schedule II, in serial number 5, in entry 9, for the words, comma and colon "National Planning, international aspect of" the words and comma "National planning, research and international aspect of" shall be substituted.

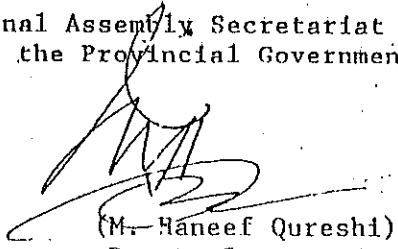


(M. Haneef Qureshi)
Deputy Secretary

The Manager,
Printing Corporation of Pakistan Press,
Islamabad.

Copy forwarded to:-

1. Secretary to the President
2. Principal Secretary to the Prime Minister
3. Secretaries/Additional Secretaries Incharge of Ministries/Divisions
4. Secretaries Senate/National Assembly Secretariat
5. Chief Secretaries of all the Provincial Governments



(M. Haneef Qureshi)
Deputy Secretary

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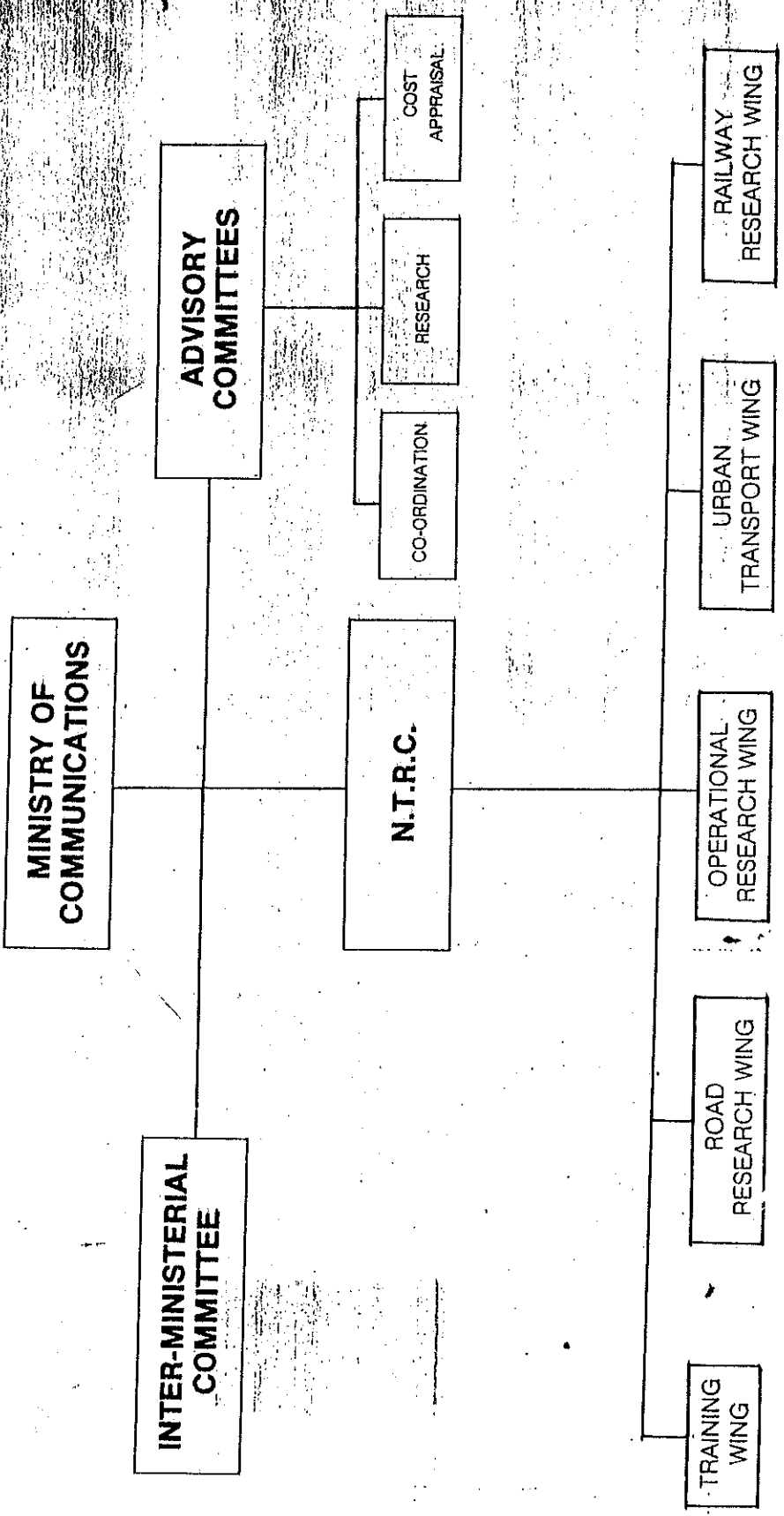
All the Admn. Sections
All the Attached Cells/Subordinate Offices

(TALAT FAROOQ KHAN)
SECTION OFFICER

AIMS

1. To carry out research studies required for sound transportation planning and Road Engineering.
2. To establish close liaison with other such institutions in the developed as well as developing countries.
3. To coordinate the research efforts taking place in the country in the field of Transportation.
4. To act as clearing house for all the research being undertaken in the country in the field of Roads and Transportation.
5. To help other institutions develop indigenous expertise in the field of Highway Engineering and Transportation.
6. To establish research collaboration with similar agencies of international repute.
7. To implement/execute pilot demonstration projects to establish the viability of the research efforts undertaken in the Centre.
8. To organize training courses, seminars and symposia on various aspects of transportation planning, design, construction, operation and maintenance.
9. To provide consultancy services in the field of Transportation to local agencies.
10. To gradually enlarge the scope of research being undertaken in the Centre to also cover all modes of Transportation.

ORGANISATION CHART



NATIONAL TRANSPORT RESEARCH CENTRE

APPROVED ON-GOING PROJECTS

(Rs. Million)

S. No.	Description	Estimated Cost		Total Est. Exp. upto June, 1998	Balance Amount (Local)	Alloc. 1998-99			Brief Project Profile
		Total	Foreign Grant			NTRC Demand	Plan Comm	Prior. Committee	
1.	Operational Research Wing (Approved by CDWP)	50.00	1.00	26.40	22.60	3.00	2.00	1.00	Research on various modes of transport, help in formulating Five Year Plans, Data Bank, O-D Surveys, Vehicle Operating Cost Studies, Traffic Counts Road Accidents, Vehicle Operating Cost Studies, etc.
2.	Road Research Wing (Approved by CDWP)	51.75	19.13	48.00	3.75	2.00	2.00	1.00	Development of infrastructural facilities and Research on various aspects of Pavement Design, soil stabilization materials and traffic engineering. Research Studies for resolution of problems such as over-loading, capacities, highway safety and quality control of materials and construction of highways.
3.	Urban Transport Wing (Approved by CDWP)	33.30	5.00	20.50	12.80	4.00	3.00	2.00	Development of infrastructural facilities and Research Studies on urban transportation problems for suitable remedial measures; Traffic management, Highway Safety and Urban Transportation Studies.
4.	Railway Research Wing (Approved by DDWP)	19.65	-	9.10	10.55	5.00	1.00	1.00	Development of infrastructural facilities and research on inter-modal operational matters and completion of building.
	Total	154.70	25.13	104.00	49.70	14.00	8.00	5.00	

NTRC RESEARCH STUDIES

- (1) Economics of Electrification Khanewal Samasatta Section of Pakistan Railways, February, 1975
- (2) Inland Water Route-Port Qasim Sukkur, May, 1975
- (3) Highway Improvement Priority Criteria, January, 1976
- (4) Pilot Origin and Destination Survey, January, 1976
- (5) Inland Traffic Forecast 1980-81, February, 1976
- (6) Cargo Port Traffic Forecast for Pakistan (1974-75 to 1989-90), February, 1976
- (7) Organization of NTRC-Interim Report, April, 1976
- (8) Effects of Highway Design Elements on the Capacity of Two-Lane Roads, August, 1976
- (9) Farm-to-Market Roads Survey, November, 1976
- (10) Pakistan Maritime Transport Study, January, 1977
- (11) Lowari Ropeway Study, February, 1977
- (12) A Note on Petrol Versus Diesel Transport, August, 1977
- (13) Re-organization of Administrative Control of Transport, October, 1977
- (14) Change of Passenger Class Structure of Pakistan Railways - Effect on Revenues, November, 1977
- (15) Transport Requirements - Shortage of Buses, October, 1978
- (16) Economics of Pipeline Versus Rail, December, 1977
- (17) Pakistan Highway Code, December, 1977
- (18) Re-Organization of Traffic Police, January, 1978
- (19) Draft Motor Vehicle Ordinance, 1978, January, 1978
- (20) Traffic Survey of Islamabad Highway (Dual Carriageway), June, 1978
- (21) Organization of NTRC - Final Report, July, 1978
- (22) Effect of increase in Bus Fares on Common Man's Budget, July, 1978
- (23) Highway Operating Speeds of Government and Private Bus Drivers, August, 1978
- (24) Containerization in Pakistan-Interim Report, November, 1977
- (25) Modern Transportation, December, 1978
- (26) Survey of Bus Services for Islamabad Secretariat, December, 1978
- (27) Accident Study for Punjab, December, 1978
- (28) Containerization in Pakistan - Final Report, January, 1979
- (29) Feasibility Study for the Operation of a Passenger/Ro-Ro-Ferry Service to the Gulf by PNSC, March, 1979
- (30) Transport Data Collection - Storage and Retrieval System, March, 1979
- (31) Highway Transportation Studies and Surveys, April, 1979
- (32) National Port Policy, May, 1979
- (33) Bus Passenger Loads and Mileage - A Survey of Intercity Bus Operations, May, 1979
- (34) Motor Vehicle Ordinance (Working Paper), June, 1979
- (35) Canal Roads for Public Use (Feasibility Study), July, 1979
- (36) Choice of Mode for Journey to work - For Government Employees, August, 1979
- (37) Psychological Attitude Towards Highway Safety, January, 1980
- (38) Bus Make Study, March, 1980

- (39) Abstract of Research/Desk Studies of National Transport Research Centre (First Issue), March, 1980
- (40) Proposal for Establishment of NTRC Phase-I (Revised), July, 1980
- (41) Proposal for Establishment of NTRC Phase-II, March, 1983
- (42) Role of Transportation in Development, July, 1980
- (43) Real Problem of Highway Safety in Pakistan, July, 1980
- (44) Traffic Enforcement Plan for Rawalpindi, November, 1979
- (45) Review of Port Traffic Forecasts with Particular Reference to Fertilizer Imports, August, 1980
- (46) Effectiveness of Traffic Police Training, September, 1980
- (47) Road Safety Ordinance, 1980, October, 1980
- (48) Transport Bulletin, November, 1980
- (49) Energy Use in Transport, February, 1981
- (50) Investment Programme and Development Projects of PIAC, July, 1980
- (51) Highway Speed Survey, November, 1980
- (52) Manual of Uniform Traffic Control Devices, July, 1981
- (53) Computerized Reservation of PIAC - A Re-Appraisal of Project, June, 1980
- (54) Fuel Consumption Study, July, 1981
- (55) Traffic Factors for Pakistan-I, March, 1982
- (56) 4th Course on Transportation Projects Planning, November, 1979
- (57) Manual of Road Construction Engineering, January, 1983
- (58) Manual of Stage Construction of Rural Roads, January, 1983
- (59) Manual of Maintenance of Low Volume Unpaved Rural Roads, January, 1983
- (60) National Transport Plan Study, May, 1983
- (61) Utilization of Technical Manpower in PWDs, February, 1981
- (62) Effect of Enforcement on Road User's Behaviour, March, 1981
- (63) Inland Water Transport in Pakistan, September, 1981
- (64) Transport Research and Development in Pakistan, October, 1981
- (65) Bus Driver Training Pilot Study, December, 1981
- (66) Multi Axle Vehicle Survey, October, 1982
- (67) Road Accidents in Pakistan, January, 1983
- (68) Axle Load Survey, October, 1982
- (69) Review of Vehicle Operating Equipment and Inventory in Pakistan, November, 1983
- (70) Road Traffic Origin-Destination Survey (1979-80), June, 1983
- (71) Transport Alternatives for Sixth Plan, August, 1983
- (72) Survey of Skidding Resistance Values on Main Roads in Pakistan, December, 1983
- (73) 5th Course on Transportation Project Planning, December, 1983
- (74) Economic Implications of Vehicle Overloading, April, 1983
- (75) Proposal for Road Research Division in NTRC, May, 1984
- (76) Road Development Plan Azad Jammu & Kashmir (1983-88), April, 1983
- (77) Transport Bulletin (Supplementary No 1), November, 1981
- (78) Five Year Plan for FWO, June, 1980
- (79) Abstract of Research/Desk Studies of National Transport Research Centre (Second Issue), May, 1984
- (80) Manual of Vibratory Compaction, March, 1984
- (81) Bahawalpur Traffic Accident (Case Study), March, 1984
- (82) Manual of Rural Roads Drainage, May, 1984

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NTRC (79)

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- 872-92
- (83) Motor Vehicle Utilization Survey, June, 1985
 - (84) A Review of Design Standards for Tertiary Rural Roads, November, 1984
 - (85) Vehicle Operating Cost Study-I, January, 1985
 - (86) The Volume and Composition of Traffic on Tertiary Rural Roads, January, 1985
 - (87) Public Service Vehicle Survey, June, 1985
 - (88) A Study of Design Standards for Surface Width and Design Speed on Tertiary Rural Roads, February, 1985
 - (89) Transport Statistics - 1984 Vol I & II, April, 1986
 - (90) Intermodal Choice Motivation, December, 1984
 - (91) Road Accidents Counter Measures in Pakistan, June, 1985
 - (92) Transport Demand for Major Commodities, June, 1985
 - (93) O-D Survey for Rail, June, 1987
 - (94) 6th Course on Transportation Projects Planning, December, 1984
 - (95) Origin Destination Survey for the Proposed Link Road between Super Highway and National Highway, March, 1986
 - (96) Survival Rate of Motor Vehicles in Pakistan, December, 1985
 - (97) 7th Course on Transportation Projects Planning, December, 1985
 - (98) The Effect of Road Work Signs on Driver Behaviour, October, 1986
 - (99) Abstract of Research Studies (3rd Issue), June, 1986
 - (100) The Effect of Road Marking on Drivers Behaviour, December, 1986
 - (101) Economics of Taxi Operation, March, 1987
 - (102) Taxi survey Rawalpindi-Islamabad Vol I & II, February, 1987
 - (103) 8th Course on Transportation projects Planning, December, 1986
 - (104) Proposal for Urban Transport Wing in NTRC, April, 1986
 - (105) Road Construction Machinery Survey, January, 1987
 - (106) Effectiveness of Bus Driver Training Course, June, 1987
 - (107) Analytical Review of Road and Road Transport Statistics (1947-86), December, 1987
 - (108) 9th Course on Transportation Projects Planning, December, 1987
 - (109) Battery Powered Electric Vehicle, October, 1987
 - (110) Pilot Urban Bus Project (Preliminary Evaluation), December, 1987
 - (111) Road Freight Industry Survey (Role of Freight Agents), February, 1988
 - (112) Road Freight Transport Survey, February, 1988
 - (113) Transport Bulletin, January, 1988
 - (114) Proposal for NTRC PC-II, Phase-III (Approved), January, 1988
 - (115) Taxi Survey (Peshawar), June, 1988
 - (116) Unit Cost of Road Construction, July, 1988
 - (117) Abbottabad-Murree Road Traffic Count Study, October, 1988
 - (118) Taxi Survey (Lahore), November, 1988
 - (119) Indus River Expedition (1987-88), November, 1988
 - (120) Inland Water Transport (Review), August, 1988
 - (121) Abstract of Research Studies (4th Issue), December, 1988
 - (122) International Seminar on Highway Safety (Proceedings), March, 1988
 - (123) Inland Water Transport (Canal Re-connaissance), April, 1989

- (124) Traffic Signs N-5, Lahore-Gujranwala Section, April, 1989
- (125) Taxi Survey (Quetta), May, 1989
- (126) Taxi Survey (Karachi), May, 1989
- (127) Peshawar Ring Road (Alignment), May, 1989
- (128) Proposal for Road Research Wing in NTRC, June, 1988
- (129) Survey of Agricultural Tractors, June, 1989
- (130) Transport Bulletin Railway, June, 1989
- (131) Financing Pakistan's Trucking Industry, June, 1989
- (132) Road Freight Transport - Utilization, July, 1989
- (133) Road Freight Industry - Tariffs, July, 1989
- (134) Un-Remunerative Rail Lines (Mandra-Bhaun Section), June, 1988
- (135) Pakistan Road Freight Industry (An Overview), July, 1989
- (136) Islamabad Road Accident Analysis, January, 1990
- (137) proposal for Railway Research Wing in NTRC, January, 1990
- (138) Link Node Directory (Rawalpindi District) June, 1990
- (139) Quality Control in Road Construction (Phase-I), June, 1990
- (140) Lahore Dry Port Improvement, April, 1990
- (141) Role of Tractor Trollies in Rural Transportation, May, 1990
- (142) Freight Rates (Karachi-Peshawar), May, 1990
- (143) Road Accident Analysis, May, 1990
- (144) Traffic Factors for Pakistan-II, December, 1990
- (145) Planning Machinery for 8th Plan, September, 1990
- (146) Road Safety Education Campaign, October, 1990
- (147) Traffic Regulation at Schools, October, 1990
- (148) Proposal for Multimodal Transportation Programme, UNCTAD, November, 1990
- (149) Urban Transport Dilemma in Pakistan, October, 1988
- (150) Toll Charges Survey National Highways (Nowshera-Kharian), February, 1991
- (151) Highway Hazards (Identification and Ranking), March, 1991
- (152) Proposal for Training Wing in NTRC, July, 1991
- (153) Proposal for Review & Update of National Transport Plan Study, June, 1991
- (154) Quality Control in Road Construction (Phase-II), June, 1991
- (155) Low Cost Roads (Demonstration Project), June, 1991
- (156) Vehicle Operating Cost-II, August, 1991
- (157) Traffic Factors for Pakistan-III, April, 1992
- (158) Chemical Stabilization of land Slide Kohala Muzaffarabad Road (A Preliminary Report), November, 1991
- (159) Traffic Improvement at Urban Intersection, December, 1991
- (160) Location for Intercity Bus Stand, February, 1992
- (161) Road Traffic origin Destination Survey (1990), March, 1992
- (162) NTRC Bus Train, May, 1992
- (163) Planning Standards for Roads in Pakistan, August, 1992
- (164) Evaluation of Telecommunications and Related Signaling Project of Pakistan Railways, August, 1992
- (165) International Comparison of Pakistan National Shipping Corporation, November, 1992
- (166) Benefits from Transport Infrastructure Improvement, December, 1992
- (167) Impact of Road on Socio-Economics Development, December, 1992
- (168) Rutting of Kashmir Highway, Islamabad, February, 1993
- (169) Bridge Inspection Manual, August, 1993
- (170) Transport Sector in Pakistan (An Evaluation of Domestic Traffic), September, 1993

- (171) Project Profitability (Case Studies), November, 1993
- (172) Effect of Cellulose Fibre and Pulerised Rubber on Asphaltic Concrete Properties, June, 1993
- (173) Zoning for Comprehensive Urban Transportation (Islamabad/Rawalpindi), May, 1993
- (174) Mitigation of Congestion at an Urban Bus Stop (Faizabad), August, 1993
- (175) Transport Bulletin (Road) (1982-1991), July, 1992
- (176) Transport Bulletin (Road Transport) (1982-1991), July, 1992
- (177) Transport Bulletin (Road) (1982-1991) (Summary Tables), July, 1992
- (178) Transport Bulletin (Road Transport) (1982-91) (Summary Tables), December, 1992
- (179) International Comparison of Pakistan Railways, July, 1993
- (180) A Preliminary Report on User Trials of Geogrids in Road Construction in Pakistan, December, 1993
- (181) Inventory of Air Transport Facilities, August, 1994
- (182) Planning Standards for Airports in Pakistan, August, 1994
- (183) Vehicle Operating Costs, April, 1994
- (184) Analytical Review of Railway Statistics, July, 1994
- (185) Road Accident Investigation, October, 1994
- (186) Indus River Survey Comprehensive Report with Reference to previous work on inland Water Transport in Pakistan, January, 1995
- (187) Inventories of Ports & Shipping Facilities & Infrastructure, June, 1994
- (188) National Transport Plan Study, February, 1995
- (189) A Guide for Project Appraisal Monitoring and Evaluation (with Special Reference to Transport Sector), August, 1995
- (190) Greater Islamabad Rawalpindi Transport Study, September, 1995
- (191) A Guide to Transport Economics, November, 1995
- (192) Reduction in delays to the vehicular traffic at an Urban Road, December, 1995
- (193) Reducing Smoke Nuisance Effects from a Diesel Bus (January, 1996)
- (194) Accident black Spots Study on National Highway (N-5) Hassanabdal Attock, April, 1996
- (195) Use of Geogrids in Water Logged Areas, June, 1996
- (196) Laboratory Testing of Kashmir Highway (Zero Point-Aabpara Sector), May, 1996
- (197) Village Roads & Rural Development, September, 1996
- (198) New Concepts in sub Grade Design, August, 1996
- (199) Evaluation of Low Cost Roads, August, 1996
- (200) Trends in VOCs used in NHA Project, September, 1996
- (201) Use of Asphaltic Mixes on Road in Pakistan, October, 1996
- (202) The Peoples Train Preliminary Evaluation, October, 1996
- (203) Survey of Time Taken for Flow of Cargo Through Port, September, 1996
- (204) Faisalabad Urban Transport Society (FUTS) (Preliminary Evaluation), October, 1996
- (205) Further Analysis of Axle Load Data, November, 1996
- (206) Stabilization of Clayey Subgrade by Water Injection March, 1997
- (207) Highway Maintenance Management, May, 1997
- (208) Non-Mechanised Road Transport and Rural Area, June, 1997

- (209) Rail Transport Modes of 21st Century, June, 1997
- (210) Report on Lahore-Islamabad Motorway, June, 1997
- (211) Various Types of Asphaltic Concrete Mixes Used in Road Construction; June, 1997
- (212) Road Surface Texture in Islamabad, September, 1997
- (213) Existing Toll Revenues Vs Maintenance Cost, September, 1997
- (214) Calibrating Road Roughness Measuring Instruments, October, 1997
- (215) Manual of Calibration of Lab Equipment, October, 1997
- (216) Evaluation of Islamabad Runway Pavement, December, 1997
- (217) Evaluation of Mian Channu - Sahiwal Section (N-5) Evaluation, April, 1998
- (218) Chemical Soil Stabilization in Pavement Structure (May, 1998)
- (219) Motor Vehicles on Roads (July, 1998)
- (220) Lahore-Islamabad Motorway Evaluation Report (August, 1998)

SPONSORED STUDIES OF NTRC BY VARIOUS NATIONAL
AND INTERNATIONAL ORGANIZATIONS

World Bank

- (1) Axle Load Survey (1981-82)
- (2) Economic Implications of Vehicle Overloading (1982-83)
- (3) Traffic Survey of 4th Highway Project (1985-86)
- (4) Road User Charges Study (1985-86)
- (5) Foodgrain Transport Economics and Logistic Study (1984-85)

Asian Development Bank/SAARC/ESCAP

- (6) Farm-to-Market Roads, Phase II (1986)
- (7) Transport Flows and Intermodal Distribution in Pakistan (1985)
- (8) Economic Implications of Road Maintenance (1981-82)
- (9) Farm-to-Market Road, Phase III, Socio-Economic Impact Study, 1992 (On-going)
- (10) Environmental Impact Assessment of Road Infrastructure Projects in Pakistan (1998)

National Highway Authority

- (11) Installation of Traffic Signs on Islamabad Highway (1981-82)
- (12) Periodic Traffic Count Programme, 1986
- (13) Periodic Traffic Count Programme, 1987
- (14) Installation of Traffic Signs on N-5 between Lahore and Gujranwala (1988)
- (15) Indus Highway Feasibility Study (1988)
- (16) Periodic Traffic Count Programme, 1988
- (17) Periodic Traffic Count Programme, 1989
- (18) Traffic Signs on Rawalpindi-Chablat Road (1989)
- (19) Economic Feasibility of Bridge over River Indus at Mithankot (1989)
- (20) Economic Feasibility of Bridge over River Indus near Larkana (1989)
- (21) Re-Alignment of National Highways on N-5, near Lahore (1989)
- (22) Periodic Traffic Count Programme, 1990
- (23) Periodic Traffic Count Programme, 1991
- (24) Periodic Traffic Count Programme, 1992
- (25) Draft Transport Policy (1992)
- (26) Periodic Traffic Count Programme, 1993
- (27) Permanent Traffic Counts, 1993
- (28) Periodic Traffic Count Programme, 1994
- (29) Periodic Traffic Count Programme, 1995
- (30) Axle Load Study (1995)
- (31) Periodic Traffic Count Programme, 1996

Ministry of Railways

- (32) Track Rehabilitation Programme of Pakistan Railways during Sixth Plan (1986)

Provincial Governments

- (33) Project Preparatory Technical Assistance for improvement of Provincial Roads (1989)
- (34) Abbottabad-Murree Road Traffic Survey (1986)

Metropolitan Authorities

- (35) Islamabad Traffic Survey, 1985-86
- (36) Murree Road Traffic Management Study (1985-86)
- (37) Master Plan for Transportation and Traffic Engineering Project (1989)

Corporations/Agencies

- (38) Khan Cement Factory Approach Road (1988)
- (39) Role of Northern Areas Transport Corporation, 1992

ROLE OF NTRC IN POLICY MAKING

NTRC has been represented on various Committees, and Working Groups for preparing various Policy Documents/Reports as briefly listed below:-

- (1) Working Group on Urban Transport for the Sixth Five Year Plan
- (2) Committee on Development of Local Consultancy Services in Pakistan
- (3) Working Group on Science & Technology for 6th Five Year Plan
- (4) Sub-Working Group on Transport Research for the 7th Five Year Plan
- (5) Working Group on Road Transport for 7th Five Year Plan
- (6) Working Group on Transport for 7th Five Year Plan
- (7) Working Group on Science and Technology for the 7th Five Year Plan
- (8) Committee on Transport for the 8th Five Year Plan
- (9) Coordinator for Comprehensive Transport Plan Study for the Seventh Five Year Plan (JICA)
- (10) Working Group on Transport Policy
- (11) Transport Policy - Working Group Report on Financing Pricing and Investment
- (12) Transport Policy - Working Group Report on Operations, Regulations and Management
- (13) Transport Policy - Working Group Report on Energy Conservation and Environmental Impact
- (14) Transport Policy - Working Group Report on Research, Planning and coordination
- (15) Coordinator for Comprehensive Transport Plan Study for the Eighth Five Year Plan (1993-98) JICA
- (16) Revamping of Public Transport System
- (17) Working Group on Transport for the Ninth Five Year Plan - Overall Transport Sector, Traffic Forecasts, Roads and Road Transport

MAJOR ACHIEVEMENTS

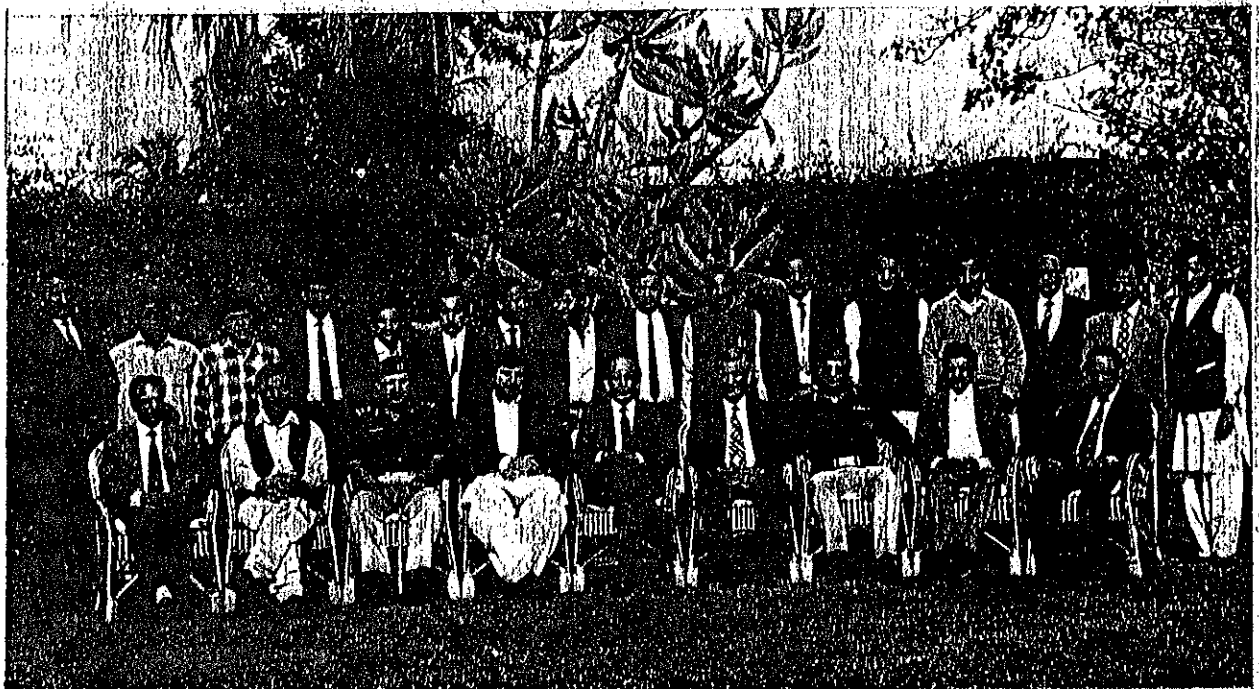
In spite of limited resources at the disposal of the Centre, both in terms of manpower and material, the Centre has made significant strides since its inception as briefly summarised below.

1. RESEARCH

National Transport Research Centre being a research organization is devoted to carrying out applied research in all modes of transportation such as Roads, Road Transport, Railways, Ports, Shipping, Civil Aviation, Highway Safety etc. A comprehensive programme of research in the field of transportation is drawn in consultation with all the Federal and Provincial Transport Agencies for every five year Development Plan. To date the Centre has completed 220 research studies.

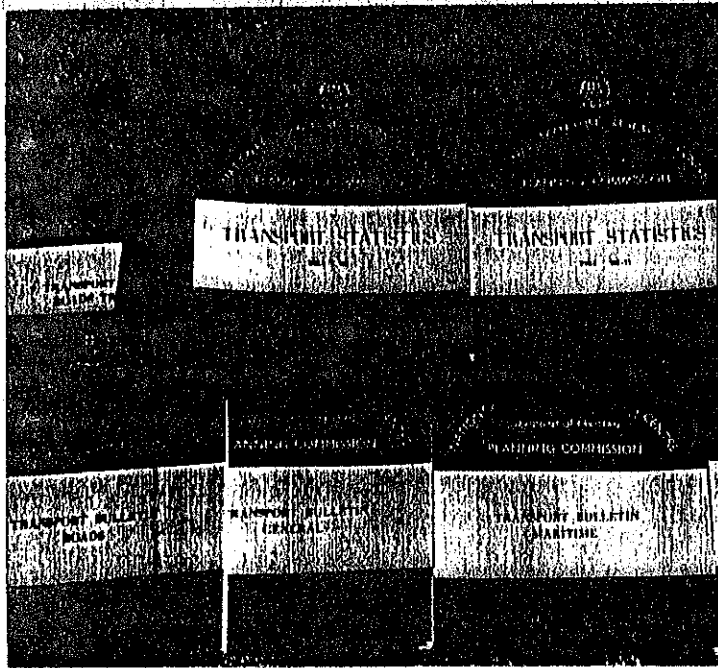
2. TRAINING

The Centre to date has organized nine courses on "Transportation Projects Planning". The first four courses were held in collaboration with EDI-World Bank and the other five with our own resources. A course on Rural Road Planning was also organized with the assistance of US-AID. The courses had a very positive effect on the quality of projects prepared by the various Provincial and Federal agencies.



XI.1

3. DATA BANK



Accurate statistical data is a prerequisite for sound planning. Transportation statistics were either not readily available or were inconsistent, unreliable and inadequate. The Centre as one of its highest priorities undertook the task of collection of required data. Time series data for all modes have been collected since 1947 and being regularly updated.

4. COMPUTERIZATION



The Centre has acquired a NCR Tower XP and a Tower 32 (600) Unix Operating System with 600 Mega Byte Storage; 10 Mega Byte Random Access Memory and 45 MB Backup. 30 ordinary and 2 Graphic Terminals alongwith 23 Slave printers and a sophisticated heavy duty dot Matrix Line Printer, two Laser Printers and a Graphic Plotter are linked to the system. The system is sustained by a 10 KVA UPS and 50 KVA Diesel engine generating set to ensure un-interrupted operation. In addition 3 IBM PS2 and 5 IBM Compatible Micro Computers with Slave Printers are being used.

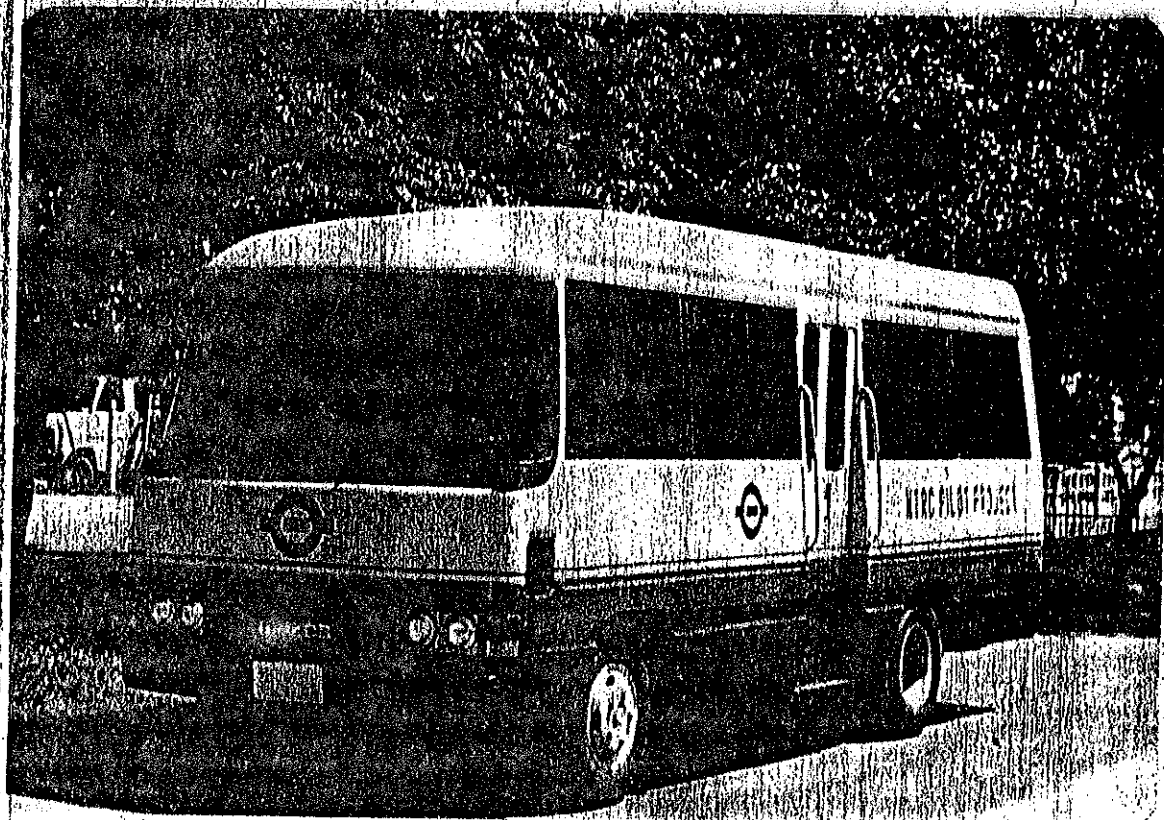
Besides storage of data, these computers are being used for analysis of research studies, office automation and general management information purpose including computerization of Library, Stores, Budget, Data Bank, personnel etc.

X/2

7. DEMONSTRATION PROJECTS

Experimentation of new concepts and field testing of those holding promise is the essence of research. The Centre would continue its efforts to establish the practical viability of new initiatives as far as possible. The Centre has successfully demonstrated the viability of a number of new ideas during past few years which have been highly appreciated by all concerned as described below.

- (a) **Quality Urban Bus.**—In order to study the effects of deregulated fares on bus service quality in the private sector, NTRC successfully undertook a High Quality Urban Bus Demonstration Project in June, 1987 in collaboration with a private entrepreneur who met all the capital, maintenance and operating costs of 13 Mazda Coaches (25 seater). The response from the users was very encouraging right from day one and the one year pilot project proved to be successful and formed the basis for the announcement of deregulated fares policy for public service vehicles by the Federal Government in the Budget Speech, 1988-89.



NTRC PILOT URBAN BUS

- (b) **Urban Bus Train.**—The Urban Bus train is a low cost urban mass transport vehicle designed and developed by the Centre in collaboration with the Trailer Development Corporation and Karachi Transport Corporation (KTC). The Bus Train comprises a Prime Mover and three trailer units. The overall length of the system is about 37 meters.

X1.4

It is basically a peak hour vehicle and depending on the need, can easily be converted as a 1 + 1 or a 1, + 2 system.



URBAN BUS TRAIN

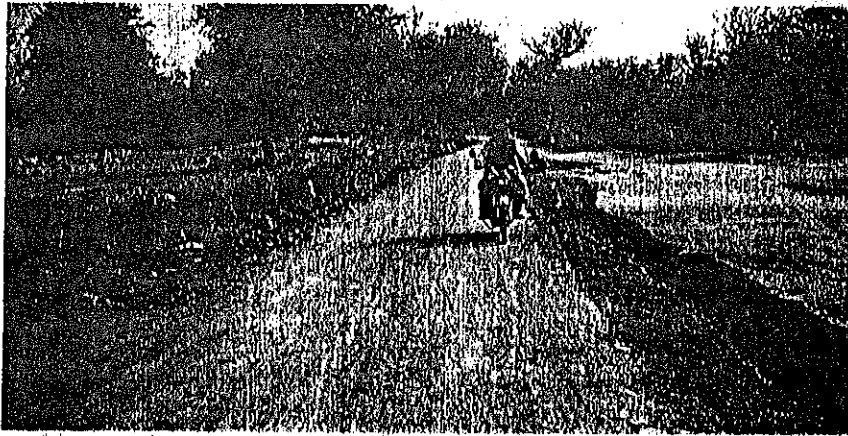
The Train has a carrying capacity of about 350 passengers and operates at speeds of 60—65 kms per hour on the existing road infrastructure. The prototype Train was inducted into regular service in Karachi along Shahrah-e-Faisal between Empress Market and Quaid-a-abad w.e.f. 7 October 1989. The total journey time over the route length of about 22 kms. was about 50 minutes giving an average travel speed of 27 kms. per hour.

The Train was shifted to Islamabad and is being operated through the PRTC between Koh-i-Noor, Rawalpindi and the Islamabad Secretariat w.e.f. 1-1-1991. To date the train has completed 132,000 km without any serious mishap which has fully established its road worthiness.

- (c) **Low Cost Roads.**—A technique has been developed by the Centre for the construction of low cost gravel roads in the country. Seven low cost roads have so far been constructed by the Centre in various parts of the country. The roads are being monitored regularly. An evaluation at the end of 5 years operation has clearly brought

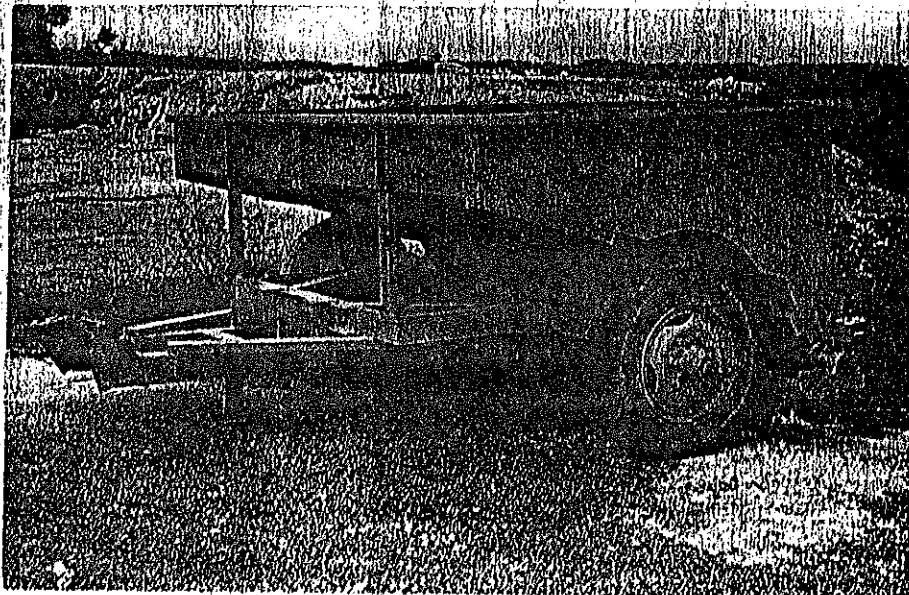
XI.5

out that these roads provide a very satisfactory and cost effective all-weather access for vehicular and pedestrian traffic.



LOW COST ROADS

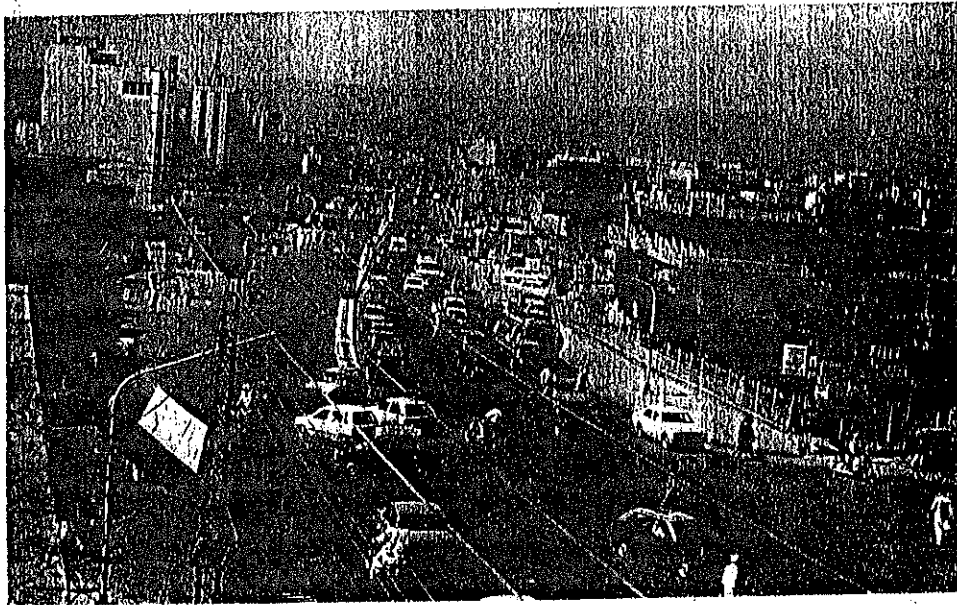
- (d) **Chip Spreader.**—Presently only two options are available to the engineers in the field for resurfacing of black top roads i.e. sophisticated foreign made machine or manual twirling basket method. The first being too expensive is beyond the reach of almost all the agencies and the second one is too primitive to give good quality. To overcome the problem NTRC has successfully designed and developed a Chip Spreading machine in collaboration with the Taxila Engineering University which is very low cost yet gives a good quality of road surfacing.



CHIP SPREADER

XI-6

- (e) **Traffic Management Scheme.**—The traffic congestion problems during peak hours on Murree Road had been attracting the attention of the concerned authorities for a long time. The Centre on the basis of an extensive study carried out came to the conclusion that the traffic could be streamlined between Committee Chowk and Chandni Chowk i.e. the most congested part by low cost management techniques centering on improved enforcement. Practical demonstration of the concept was successfully carried out on the Committee Chowk i.e. the worst trouble spot. The gridlock was completely eliminated, the queue length was reduced and delays minimized.



COMMITTEE CHOWK—BEFORE



COMMITTEE CHOWK—AFTER

XI.7

- (i) **School Safety.**—Severe congestion is wide spread, even on major roads in Islamabad in the vicinity of schools due to haphazard flow of traffic and parking particularly near the entrance gates at opening and closing times. Several options including removing the school to outlying areas, making the road as dual carriageway/one way, requiring the school to provide buses for all students. Since all these were very capital intensive, NTRC looked into the problem at one of the worst affected schools located on Nazim-ud-din Road and arranged for a better enforcement in collaboration with Islamabad Traffic Police for a period of three weeks. The problem was totally alleviated at almost no extra cost.



BEACON HOUSE SCHOOL BEFORE



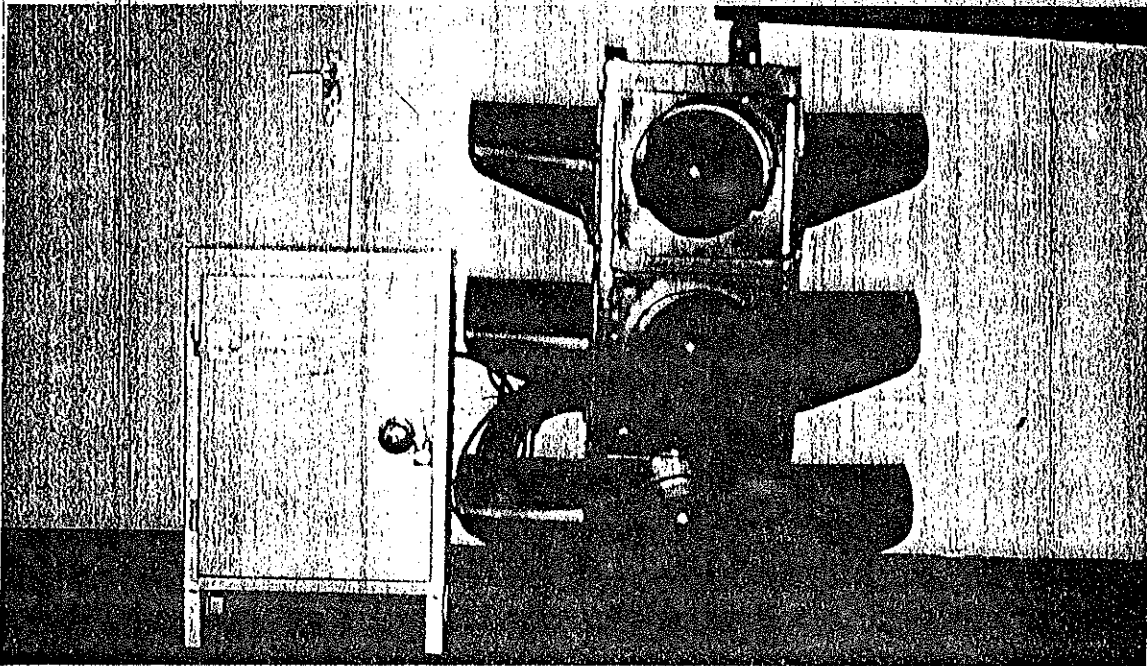
BEACON HOUSE SCHOOL—AFTER

- (g) **Fixed Time Signals.**—Fixed Time Signal for controlling traffic on the road intersections has been fabricated by the Centre in collaboration with Pakistan Council of Scientific and Industrial Research (PCSIR). The signal unit is locally manufactured at a very low cost. The experiment has proved to be a success.



FIXED TIME SIGNAL

- (h) **Traffic Actuated Signals.**—Traffic Actuated Signal works on the basis of traffic demand registered by the actuation of vehicles. The Centre in collaboration with National Institute of Electronics undertook the development of the traffic actuated signals.



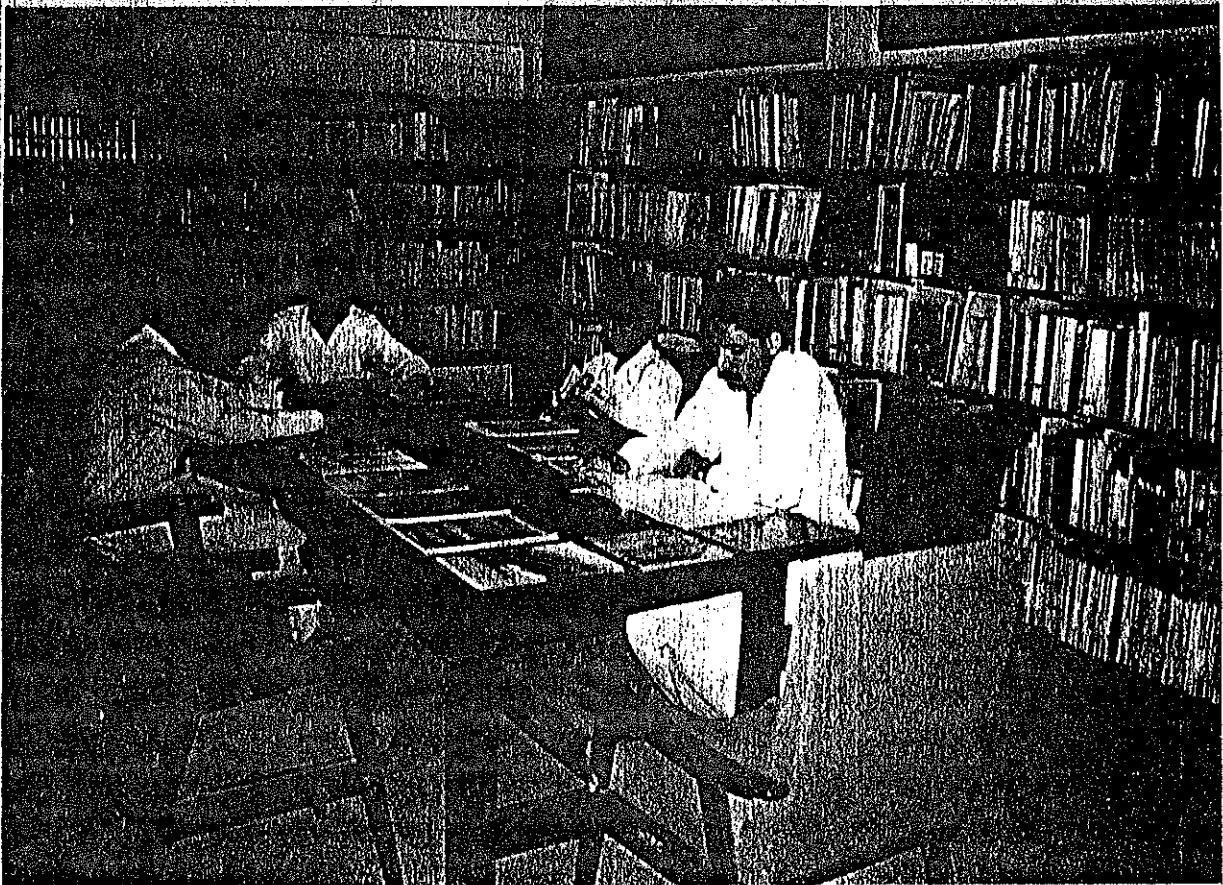
TRAFFIC ACTUATED SIGNAL

21.9

- (i) **Geo-textile Fabrics.**—The Geo-Textile Fabrics are integral grids, light weight, and of high strength. These are sun and water proof and are impervious to decay. They are useful for subgrade strengthening, soil stabilization, land slide repair, railway ballast base, fencing and protection from wind and snow etc. The Centre in collaboration with NETLON Limited, U.K. and C&W Department of NWFP have arranged to demonstrate the technique of Geo-Textile fabrics on weak foundation in water-logged area of Jehangira—Swabi road.

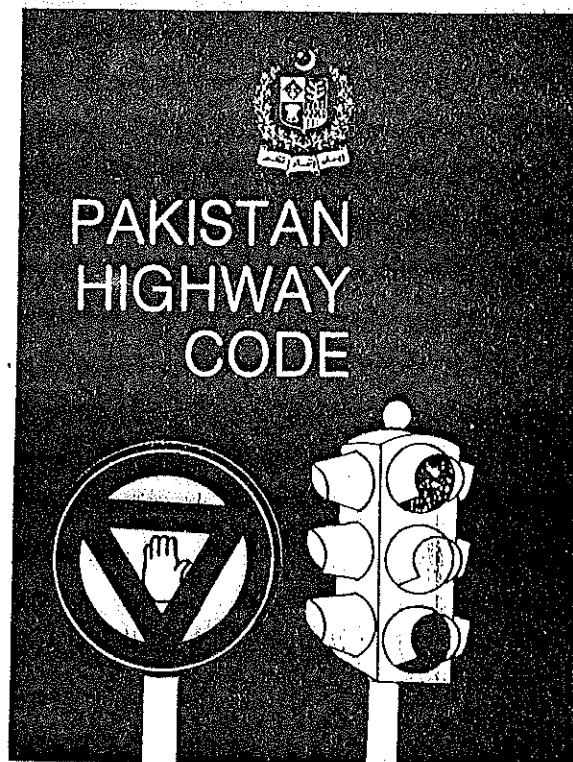
8. LIBRARY

The Centre maintains a highly professional library. A large collection of books, journals and periodicals on different topics of transportation is available. Government of U.K. have also contributed books on Soil Mechanics, Pavement Materials, Design and other related topics under their Technical Assistance to NTRC. Besides technical publications, a variety of other national and international magazines on current topics are received regularly. The Library has been computerized to ensure fast retrieval of the requisite material to the researchers and other professionals.



X1.10

9. HIGHWAY SAFETY



As a result of a number of studies carried out by the Centre in various aspects of highway safety namely role of road, vehicle, users, enforcement, laws, education, etc. the perception of the problems of highway safety has radically changed. It was established that the past diagnosis of the problem, whereby the primary blame was laid on inadequacy of roads, mechanical fitness of vehicles, etc. was not correct and the remedial measures, therefore, tried had no effect. The basic problem of highway safety in the country was primarily due to three factors, namely: (a) Ignorance of Traffic Safety rules on the part of the road users, (b) Lack of effective enforcement, and (c) Out-moded legislation.

The findings have resulted in a comprehensive programme of traffic safety education campaign through television, radio, news-papers, posters etc. A new Highway Code was also produced.

UN Convention — 1968 on Traffic Signs, signals and road markings as well Road Traffic have been ratified. An enabling legislation was passed to adopt these signs and Manual of Signs was prepared to help highway engineers to provide appropriate and uniform traffic signs for the comprehensive guidance of road users.

In addition a Re-organization Plan for improvement of traffic enforcement has been approved by the Government, while a comprehensive draft of legislation updating Road Safety regulation to the prevailing international level is in final stages of approval by the Government.

The impact of these efforts have been that since 1978 the level of the knowledge of the traffic safety rules on the part of road users has risen by more than 40 per cent and the accident rate has declined from 75 to 25 fatalities per 10,000 vehicles on road.

To share the experience with the researchers in the field of Road Safety from developing as well as developed countries, the Centre organized an International Seminar on Highway Safety

during March 1988. The Seminar provided an excellent forum to the experts to exchange views which also benefitted the audience about the latest research and technology. On the request of SAARC member countries, a documentary on the subject has also been prepared for screening in the region.

10. DISSEMINATION



Unfortunately, no systematic and reliable source exists in the country to keep the various professionals in the field abreast of technological developments taking place in the science of transport and in majority of cases, the individuals have to rely on their own efforts to obtain such information at their own cost.

To bridge the gap, the Centre has already compiled a mailing list of over 2,000 technical personnel working in various transport related agencies. The research studies of the Centre are regularly distributed among the concerned individuals.

The arrangements have proved very successful and there is now an ever increasing demand for the Centre's publications.

11. MULTI-MODAL TRANSPORT PROGRAMME

In view of the work done by the Centre on various modes of transportation, NTRC has been declared as a focal point to co-ordinate the efforts being made by various Government agencies, in order to overcome the procedural, legal and other impediments in the way of the international trade. A Multi-Modal Facilitation Programme was initiated in collaboration with UNCTAD and the concerned transport related agencies.



CHAIRMAN

ANNEX-XII

Government of Pakistan
Ministry of Communications
National Highway Authority

D. O. No. 13(94)/NHA/DIR-LIMP/98

Dated. 6th Jan, 1998. ¹⁴⁵¹

Subject: ATTACHMENT OF NTRC OFFICERS WITH NHA: LAHORE - ISLAMABAD MOTORWAY PROJECT:

My dear *Sadiq Swati*

1. I take this opportunity to convey my gratitude to your esteemed organization for providing the services of following officers for expeditious completion/opening of Lahore-Islamabad Motorway Project under directive of the Prime Minister:-

- 41
8/1128 ✓
- | | | |
|------|---------------------------|---------------------------|
| i. | Mr. Bashir Ahmed | : Dy. Chief (NTRC). |
| ii. | Mr. Tahir Sharif | : Dy. Chief (NTRC). |
| iii. | Mr. Mumtaz Malik | : Assistant Chief (NTRC). |
| iv. | Mr. Muhammad Naeem Bhatti | : Assistant Chief (NTRC). |

3. All above officers performed their duties with full dedication by staying on project site day and night and completed their assigned duties in a most effective manners which led to opening of Motorway on 26th November, 1997.

4. Please convey my appreciations to these officers for their excellent performance and accept my thanks for the co-operation extended to NHA during the expeditious completion of Lahore-Islamabad Motorway Project by sparing these competent officers for NHA.

with very best wishes yours sincerely

Hidayat Ullah Khan Niazi
Maj Gen (Retd)
(HIDAYAT ULLAH KHAN NIAZI)
Chairman (NHA)

Mr. Sadiq Swati,
Senior Chief (NTRC),
Islamabad:

DEMAND FOR NTRC STUDIES

(Some Specimen Requests)

GOVERNMENT OF PAKISTAN
CENTRAL BOARD OF REVENUE
+++

C.No. 4(6)WT/96

Islamabad, the May 5, 1996.

To: The Chief,
National Transport Research Centre,
Sector H-8/3,
Islamabad.

SUB: REQUEST FOR SUPPLY OF DATA ON TRANSPORT.

Please refer to the subject noted above.

2. It is requested that data about motor vehicles may kindly be provided:-

1. NUMBER OF PASSENGER TRANSPORT VEHICLES PLYING FOR HIRE WITH REGISTERED SEATING CAPACITY:

- i) upto 10 persons.
- ii) 10 or more persons but less than 20 persons.
- iii) 20 persons or more.

2. NUMBER OF GOODS TRANSPORT VEHICLES PLYING FOR HIRE WITH REGISTERED LADEN WEIGHT OF:-

- i) upto 2030 Kgs.
- ii) between 2030Kgs & 8120Kgs
- iii) between 8120Kgs & 15000Kgs
- iv) 15000 Kgs or more.

NUMBER OF PRIVATE MOTOR CARS WITH ENGINE CAPACITY EXCEEDING:

- i) upto 1000 CC
- ii) between 1000CC & 1200CC
- iii) between 1200CC & 1300CC
- iv) between 1300CC & above

835-

141 Road Maintenance Battalion
Care of Postmaster Gilgit
Telephone Number : 3505
Case Number 607/UPG/P

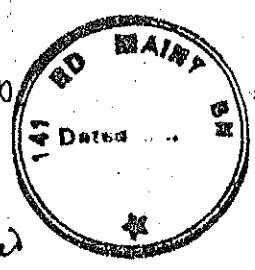
6 March 1996

To: National Transport Research Centre
ISLAMABAD

Subject: Provision of Manual of Signs, Signals and Road Markings

1. This unit is responsible for maintenance of Karakoram Highway (KHK). It has been learnt that your centre published a manual on the subject in July 1989 for guidance and benefit of organisations dealing with Highway maintenance.
2. It would be appreciated if a copy of the same manual can be provided to this unit. This unit would ^{be} glad to reimburse the cost of manual on intimation.
3. An early action is requested please.

*Give me
J.
10/3/96
Forwarded Issued
10.3.96*



[Handwritten signature]

Major
for Commander
(Maqbool Ahmed)

N.L.K.C

837-

No.F.3(5)/95-General
PRESIDENT'S SECRETARIAT (PUBLIC)

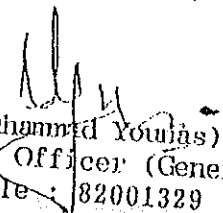
Aiyau-e-Sadr
ISLAMABAD

1st February, 1996.

National Transport Research Centre,
(Mr. Muhammad Zahid Khan,
Librarian),
Ministry of Communications,
Government of Pakistan,
Islamabad.

Subject: GREATER ISLAMABAD/RAWALPINDI AREA TRANSPORT STUDY (GIRATS)

It is requested that one copy each of the working papers and final report of the subject study (Sep, 95 Edition) may please be supplied for official use.


(Muhammad Younis)
Section Officer (General)
Tele : 82001329

*a copy of working papers,
and a copy of study
will be sent as soon as received
from pers.*

*J
1/2/96*

*Issued
Furrukh
1/2/96*

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N.L.K.C



Office of the DIRECTOR GENERAL (D)
C&W Department Govt. of SINDH
Barrack No. 6, KARACHI.

Ref: DG(D)/NTRC/99 Dated: March 5, 98.

To,

Mr. M. Sadiq Swati
Senior Chief
National Transport Research Cell (NTRC)
Ministry of Communication
Sector H-8/3, Old Saidpur Road
ISLAMABAD.

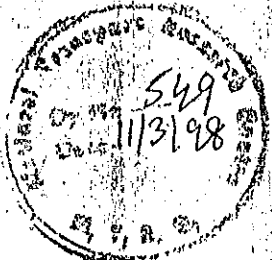
SUBJECT: PUBLICATIONS OF N.T.R.C.

The undersigned would like to offer thanks for the copy of your publication "Low Cost Roads". It is hoped that material in the book will be helpful in deciding future plan of road construction in Sindh.

It is further requested to send copies of other publications of N.T.R.C to this office to update the library and take use of valuable work done in Engineering Research.

With regards

(S. Arbab Ali Shah)
Director General (Design)



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- 802 -

NATIONAL HIGHWAY AUTHORITY

No. 10(5)/TE/NHA/98/

Islamabad, March 14th, 1998

Subject:- ROAD USER CHARGES STUDY

Messrs Wilbur Smith and Republic Engineering Corporation are conducting the subject study for NHA. This study is very important from the road maintenance point of view. The recommendations coming out of the study would be of significance and would pave the way to install dependable institutional framework for efficient road maintenance programme.

It is therefore requested that every possible assistance may please be extended to the consultants in providing necessary information and data so that the study could achieve the desired results.



(RAJA NOWSHERWAN)
General Manager (PSC/WBP)

631
20/3/98

Mr. M. Sadiq Swati
Senior Chief
National Transport Research Centre
H-8/3, Old Saidpur Road
Islamabad.

11



Ahmad Shamsul Huda
 Director General (A&P)
 Tel: 217507

844-

PRIME MINISTER'S SECRETARIAT
(BOARD OF INVESTMENT)
 12th Floor, Saudi Pak Tower, Jinnah Avenue
 Fax: (92-51)215554-217665-819532

Islamabad, the April, 18th, 1996.

Dear Mr. Hondal,

Please handover one copy each of NTRC Report and JICA Report on inland water transportation in Pakistan for official use as discussed.

Regards,

(AHMAD SHAMSUL HUDA)

Mr. Sajjad Hondal,
 Deputy Chief,
 N.T.R.C.,
 Ministry of Communication,
 Islamabad.

*As discussed with Senior Chief.
 The following copies may be provided*

if spare copies available.
 1) JICA report
 2) IWT study. *SHH*
 18.4.96

Sh

Mr. Faruq

18-4-96

*Issued
 Faruq
 18.4.96*

14

735

GOVERNMENT OF N.E.P.T
COMMUNICATION AND WORKS DEPARTMENT

NO. SO(R-I)13-96/ORD/

DATED FEBRUARY THE 11TH 1996.

To

The Chief Engineer,
C&W Department, Peshawar.

Subject:- JETAUGRA-SWART ROAD-DEMONSTRATION PROJECT
FOR ROADS IN WATER-LOGGED AREAS.

I am directed to refer to the subject noted above and to forward herewith a copy of NTFC letter No. NTFC-15(71)/86 dated 30-9-96 alongwith report (in original) for further necessary action as well as for sending it to the Consultants/Field formation for their help in pavement of the road.

D.A

SECTION OFFICER (ROADS-I)

Copy to :-

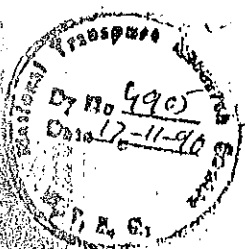
1-

Senior Chief, Govt of Pakistan, NTFC, Ministry of Communications, Sector H-8/3 Clt Saidpur Road, Islamabad w/r to above. He is requested to provide six (6) more copies of the report to be distributed amongst the Chief Engineers, C&W Department for their guidance.

Copy to File No. Sect 16, S.O. (R)/68.

(Paw)

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SECTION OFFICER (ROADS-I)

15



No.2(1)JCE/PC/98
GOVERNMENT OF PAKISTAN
MINISTRY OF PLANNING & DEVELOPMENT
PLANNING & DEVELOPMENT DIVISION

Islamabad, the 28th April, 1998.

JOINT CHIEF ECONOMIST

Tel: 9201984

Fax: 9202704

**SUBJECT:- SUPPLY OF SOME VITAL STUDIES CONDUCTED THROUGH
NTRC**

My dear *Kazim Idris*

Reference is invited to the NTRC letter No. NTRC-8 (2)/97 dated the 17th April, 1998 regarding studies conducted by the Centre so far. I feel that the dissemination of such type of research studies must be extensively made by the Centre to the dealing officers, in the Federal & Provincial Governments. The Senior Officers who have concerned with the Planning and Budgeting of various development projects in the country must have these studies in their possession for study reference. I have gone through the entire list of studies published by the NTRC. I shall be grateful if you could kindly send me one copy each of the studies included in the attached annexure.

With best regards,

Yours sincerely,

(DR. GHULAM MUSTAFA AWAN)

Mr. Muhammad Kazim Idris
Deputy Chief,
National Transport Research Centre,
Sector II-8/2,
Islamabad

CONTRACT SURVEY STAFF IN NTRC
(DEVELOPMENT)

(As on 01.01.1998)

S.NO.	DESIGNATION	BPS	1994-95	1997-98
1	Eco: Investigator	16	12	-
2	Comp: Operator	12	3	2
3	Enumerator	11	19	2
4	Asstt: Enumerator	5	6	5
5	Cook/Chowkidar, etc.	1	4	2
	Total		54	11*

* Presently 5

XIV.3

NATIONAL TRANSPORT RESEARCH CENTRE

+ + +

EARNINGS ON ACCOUNT OF ROAD RESEARCH MATERIAL TESTING

<u>S.No.</u>	<u>Name of Paying Agency</u>	<u>Date</u>	<u>Amount</u> <u>Rs.</u>
1.	M/s Associated Consultancy Centre	12.01.98	4,032/-
2.	M/s Mitchell & Co.	25.05.98	8,210/-
3.	M/s Indus Associated Consultants	03.06.98	8,300/-
4.	M/s Mitchell & Co.	03.06.98	300/-
5.	M/s Govt. of AJK	18.06.98	750/-
6.	M/s Mumtaz Construction Co.	11.07.98	600/-
7.	M/s bayindir	23.07.98	1,54,313/-
8.	M/s National Project Managers	18.09.98	31,875/-
9.	M/s Italconsultants S.p.A.	24.09.98	20,375/-
10.	M/s Husnain Construction Co.	14.10.98	3,000/-
11.	M/s Pace International	17.11.98	9,000/-
12.	M/s Rehan Construction Co.	20.11.98	1,350/-
13.	M/s bayindir	28.11.98	1,18,425/-
		<u>Total:-</u>	<u>360,530/-</u>

ANNEX-XVIII

RESEARCH WORK DONE BY NMTA AND PMP

No. NTRC-1(1)/92

Dated: 3-11-1998

SUBJECT : REVIEW MEETING FOR GENERAL WORKING OF THE ATTACHED DEPARTMENTS/CORPORATIONS, ETC.

My dear

In the Review Meeting presided over by Secretary Communications on 2-11-1998, it was decided that transport related agencies attached with Ministry of Communications would convey the following information to National Transport Research Centre (NTRC):-

- (1) List of studies carried out todate.
- (2) List of studies in-hand.
- (3) List of studies to be undertaken by the Organization in the near future.
- (4) List of studies to be undertaken by NTRC on behalf of the Organization.

It would be appreciated if the requisite information is provided at the earliest so that the research programme of NTRC could be finalized without causing any duplication.

Copy of NTRC Brochure is enclosed.

With regards,

Yours sincerely,

Encl: Brochure

lc
(M. Sadiq Swati)
Senior Chief

- as per list attached -

ISSUED

XVIII-1

3/11/98



Chairman

No. 110/NMTA

National Mass Transit Authority
Government of Pakistan
3rd Floor, Cabinet Block,
Islamabad
Tel : 92-51-9218258, 9203026 Fax : 9203306

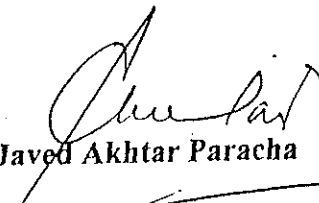
November 14, 1998

Subject: **REVIEW MEETING FOR GENERAL WORKING OF THE ATTACHED DEPARTMENTS/ CORPORATIONS, ETC.**

Reference your letter No. NTRC-1(1)/92 dated 3.11.98, our para-wise reply is as under:

1. Nil
2. Nil
3. Nil
4. NTRC may undertake Mass Transit Study for Peshawar city.

Best regards,


Javed Akhtar Paracha

Mr. M. Sadiq Swati
Senior Chief
National Transport Research Centre
NTRC Building, Sector H-8/3
Islamabad

2277
16/11/98

XVIII-2

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18/11

18/11/98

No. FHP/9/IG(E)/98
GOVERNMENT OF PAKISTAN
Ministry of Communications
Tel. 9218224 / 9210765


Islamabad, the 13th October, 1998.

Subject:- Review Meeting for General Working of the Attached Departments/Corporations, etc.

Reference your letter No. NTRC-1(1)/92 dated 3rd Nov. 1998 on the subject noted above.

2. Motorway Police being a fairly new organization does not have any material to supply. However we would need studies to be carried out on the following:-

- a) Financial loss caused per fatal and nonfatal accident. The formula of working out the cost may also be indicated.
- b) A write up on the Management and Operation of Motorways in Europe and America.
- c) Total number of accidents in the last five years.
- d) Category-wise total number of vehicle registered all over Pakistan separately for Karachi, Lahore, Rawalpindi and Islamabad.


(IFTIKHAR RASHID) 14/11

Mr. M. Sadiq Swati,
Senior Chief,
National Transport Research Centre,
Islamabad.

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