بسم الله الرحمن الرحيم

THE THIRD REGIONAL ENVIRONMENTALLY SUSTAINABLE TRANSPORT (EST) FORUM

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Pakistan

(Country Paper)

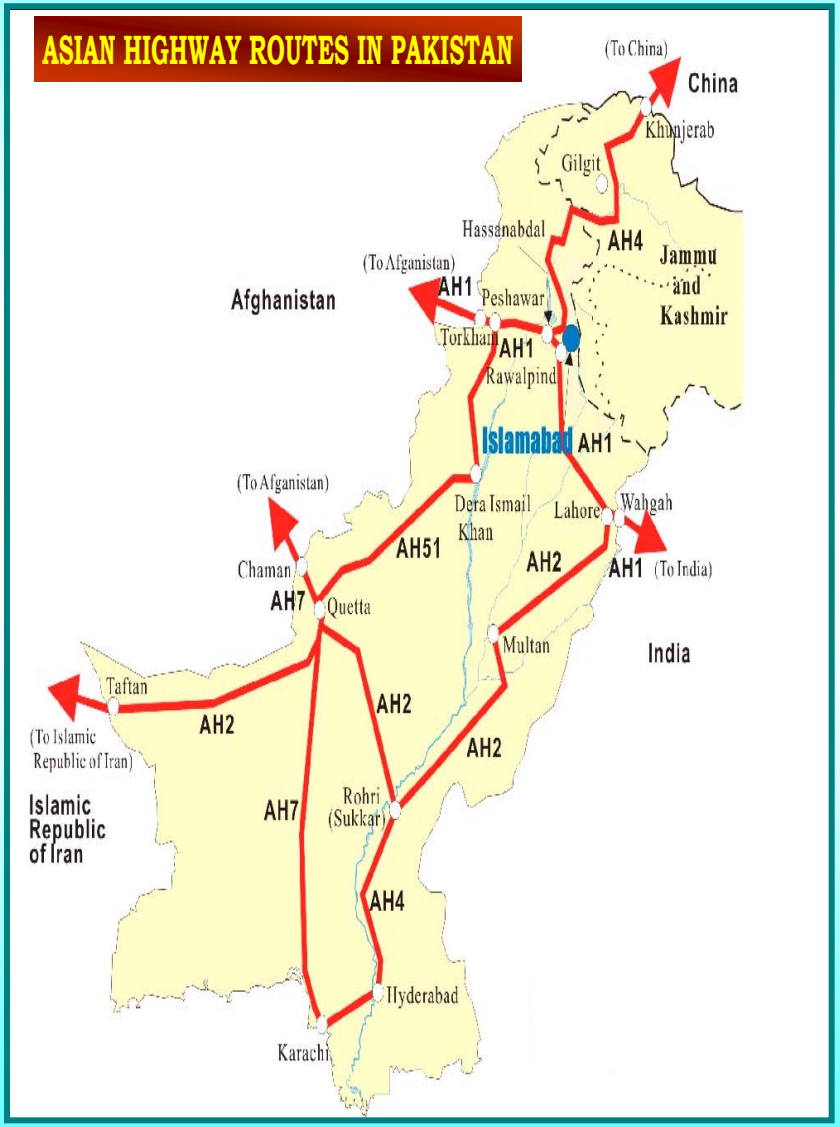
INTRODUCTION TO PAKISTAN

- **Area = 803,950 Sq-km**
- **Population = 150 million**
- **Pakistan has a well developed road network of 260,000 kilometers.**
- **There are over 11,500 kms of National Highways & Motorways.**
- **Roads have dominant share in both transport of passengers (94%) and the Goods (97%) followed by rail.**
- **Total Number of Vehicles is 8 million with 55.4% share of two Wheelers and 44% Wheelers (4-wheelers including Cars) while Annual growth rate is 9 %**
- **The country offers the most attractive transit route to the Central Asian countries. Recently, Gawadar port has been constructed and operationalized to further facilitate and enhance movement of transit-traffic.**

National Highways and Motorways

CROSS BORDER ROAD TRAFFIC

- **Almost 95% of trade is sea-borne and volume of cross-border road traffic is very low.**
- **Only Torkham (Border with Afghanistan) has higher level of traffic with almost 400 vehicles a day and 700,000 tons of goods per year. This constitutes almost 70% and 50% of the total cross-border traffic of vehicles and goods tonnage respectively.**



THE ROUTES DESIGNATED AS ASIAN HIGHWAYS IN PAKISTAN ARE:

- AH-1 : Torkham – Peshawar – Rawalpindi – Lahore - Waga Border (India) (520 Km)
- AH-2 : Lahore – Sahiwal – Multan – Rohri – Sukkur – (Quetta) Sariab- Lakpass – Nokundi - Taftan (Iran) (1763 Km)
- AH-4 : Karachi – Hyderabad - Rohri – Lahore – Rawalpindi – Hasanabdal - Abbottabad – Khunjrab (China) (1391 Km)
- AH-7 : Karachi – Kala –Quetta-Chaman (Afghanistan) (816 Km)
- AH-51 : Quetta - D.I. Khan – Peshawar (862 Km)

Total length of Asian Highways in Pakistan = 5,377 kms, which is about half the total length of National Highways and Motorways in the country.

For the improvement & upgradation of 2,363 kms of designated Asian Highways in Pakistan, an amount of US $ 1.96 billions will be spent.

URBAN TRANSPORT

- **Almost the entire urban public transport system is owned and operated by the private sector.**
- **Characterised by :**
  - **A growing number of personal modes of transport: (Cars, motorcycles, etc.)**
  - **Private Trasport largely Based on Mini Buses/Wagons**
  - **Serious congestion**
  - **Encroachments**
  - **Infrastructure needs to be augmented (Quality & Quantity)**
  - **Priority System to be introduced**
    - **Infrastructure – Priority to Intersections**
    - **Operations**
  - **Effective Enforcement**
  - **Demand Management required**

PERSONS TRAVELLING AND ROAD CAPACITY

Vehicle Type	Persons Travelling (%)	Road Capacity Usage (in %)
Motor/Bi-cycles	20.1	16.1
Rickshaw	4.4	14
Car	10.5	42.4
Taxi	1.2	5.4
Mini-Bus	17.5	6.2
Bus	45.5	11.1
Others	0.8	4.8
Total	100	100

Please Note:-

- Congestion is mainly caused by the car
- Road Usage with Present Fleet Mix 100%
- If no Buses 220%
- If all Buses 25%

GROWTH IN LOCAL PRODUCTION OF MOTORCYCLES, CARS AND BUSES

Year	Motorcycles	Cars	Buses
1991-92	97,114	28,911	1,114
1995-96	121,809	31,079	438
1996-97	117,188	33,462	862
2000-01	117,858	39,573	1,337
2001-02	133,334	40,601	1,099
2005-06	752,603	163,114	627
Annual Compound Growth rate (%)			
1991-96	5.8	1.8	(-) 20.8
1996-01	0.14	3.9	11.6
2001-06	54.1	41.6	(-) 13.1
1991-06	15.8	13.2	(-) 4.0

ACTION PLAN

The Government is conscious of the immediate requirements to improve accessibility and mobility in the urban context which includes the following :

1. **Institutional Arrangement**
2. **Modus Operandi**
3. **Bus Requirements**
4. **CNG Buses**
5. **Mass Transit**
6. **Financial Aspects**
7. **Terminal / Parking Facilities**
8. **Roadway Facilities**
9. **Safety**
10. **Vehicle Registration, Motor Vehicle Examination, Driver Training and Driving Licences**
11. **OTHERS (Insurance, Fares, Enforcement, Monitoring System etc)**

1. Institutional Arrangement

- **Government emphasis on regulatory role.**
- **Provincial Transport Departments to play the lead role (registration, licencing, vehicle fitness)**
- **Regional Transport Authorities (RTAs) / Executive District Officers (EDOs) are strengthened and manned by professionals**
- **Ministry of Communications looks after the subject of road and road transport & coordinates with the provincial governments**

2. Modus Operandi

- **'Package Approach'**
  - **Different modes of urban transport & allied infrastructure dealt as a system**
  - **Priority should be given to public transport modes**
  - **Regulatory/restraint measures are un-avoidable**
    - **Conscious decision to increase the urban infrastructure to 'cope for car demand'**
  - **City / District Governments**
    - **Prepare Transport Master Plans**
      - **Emphasis on land-use and transport requirements**

3. Bus Requirements

- **Cities with population of more than 500,000 should have proper urban transport system . Bus Requirement is 22,000 equivalent buses (in 14 cities with pop. of more than 0.5 million) with estimated bus requirement of 8,500**
- **Local Production of Buses is 1,400 per annum and there is possibility of importing New/re-conditioned Buses**

4. CNG Buses

- **First priority to CNG buses mainly in urban areas**
- **Performance evaluation on regular basis**
- **Techno-economic and a financial feasibility study by HDIP**
- **Use of LPG is also under consideration**

5. Mass Transit

- **Dedicated Mass Transit Systems**
  - **Un-avoidable where Level of Traffic exceeds**
    - **20,000 persons / hour / direction**
  - **Implications**
    - **Capital cost, operating costs, affordable fare structure and capital / operating subsidy – Sharing formula (Federal/Provincial/District Governments)**
    - **Clear decisions at Planning Stage**
- **Existing railway system**
  - **Serve urban and sub -urban traffic in major cities**
- **Inter-modal changes**
  - **Minimal time penalty &**
  - **Out-of-pocket expenses for the users**

6. Financial Aspects

- **Profitability of large size urban buses**
  - **Evaluated on life cycle costs basis**
- **Financial participation**
  - **Clearly defined**
  - **‘one-off costs’ or ‘one-off/ periodic concessions’**
  - **Provincial, district / city governments**
    - **In addition to share in ‘one-off cost, costs of a ‘periodic’ and ‘regular’ nature**
- **Encourage urban bus / mass transit**
  - **Adequate finances to corporate sector**
  - **Special credit line at low rate of interest**
  - **No Government guarantees for obtaining loan**
- **BOT mode of financing**
  - **To attract private financing**

7. Terminal / Parking Facilities

- **Terminal / Parking facilities (Convenient places , Nominal rent, Responsibility (District/ City government)**
- **Bus bays and bus stops (Minimum stoppage time, Ensure Passenger safety, Proper bus schedules and effective enforcement)**
- **Embarking and disembarking of intercity passengers (Convenient locations, Integrated with the local urban transport system)**
- **Parking Facilities (Need to be regulated, Adequately charged)**

8. Roadway Facilities

- **Proper attention to**
  - **Road Geometry**
  - **Adequate roadway facilities**
  - **'Walking' - a composite mode of transport**
    - **Continuous/ walking paths**
- **Traffic Engineering Units**
  - **Established with trained manpower**

9. Safety

- **Removal of Carriers on roof-top of Buses / Wagons**
- **Adequate pedestrian crossing facilities**
- **Preventive and curative measures to minimize road accidents**

10. Vehicle Registration, Motor Vehicle Examination, Driver Training and Driving Licences

- **Vehicle Registration (Computerized record)**
- **Vehicle transfers (Meticulously checked)**
- **Motor Vehicle Examination (Needs Effective Revamping)**
- **Ensure Vehicle Fitness (Standardized Check-lists, Testing Equipment)**
- **Motor Vehicle Examiner (Mechanical / Auto Engineer)**
- **Driver Instructor Training and Driver Training Schools.**
- **Proper Licensing System**

11. Others

- **Accident Compensation**
- **Fares**
- **Enforcement**
- **Adoption of NHSO, 2000**
- **Inter-Provincial Coordination**

VEHICULAR EMISSION & PAKISTAN ENVIRONMENT PROTECTION ACT, 1997

- **Prohibition of certain discharges or emissions (NEQS). Section 11 of PEPA, 1997**

  No person shall discharge or emit any effluent or waste or air pollutant or noise in an amount or level which is in excess of the National Environmental Quality Standards.

- **Regulation of motor vehicles (Section 15).**

  No person shall operate a vehicle from which air pollution or noise are being emitted in excess of NEQS limits. Smoke opacity not to exceed 40% or 2 Ringlemann Scale or equivalent smoke number

INITIAL ENVIRONMENTAL EXAMINATION (IEE) AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA):

Section 12 of Pakistan Environment Protection Act, 1997

No proponent of a project shall commence construction or operation unless he has filed an IEE with Environmental Protection Agency or where the project is likely to cause an adverse environmental effects an EIA, and has obtained from the Agency approval in respect thereof.

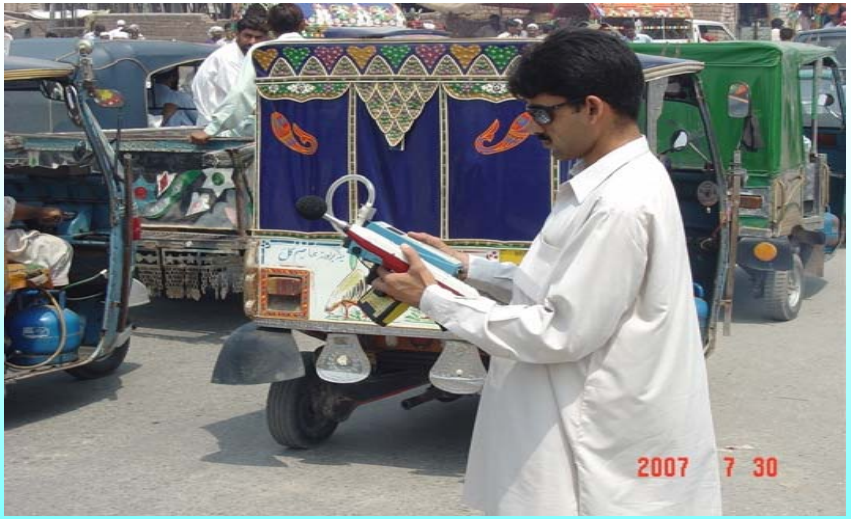
IEE/EIA REGULATION 2001

- **SCHEDULE I (Regulation 3)**
- **E. Transport**
  - **1. Federal or Provincial highways (except maintenance, rebuilding or reconstruction of existing metalled roads) with total cost less than Rs.50 million**
  - **2. Ports and harbor development for ships less than 500 gross tons**

- **SCHEDULE II (Regulation 4)**
- **D. Transport**
  - **1. Airports**
  - **2. Federal or Provincial highways or major roads (except maintenance, rebuilding or reconstruction of existing roads) with total cost of Rs.50 million and above**
  - **3. Ports and harbor development for ships of 500 gross tons and above**
  - **4. Railway works**

AIR POLLUTION MONITORING

- **Air pollution survey was conducted on ground level at 26 different traffic junctions in Peshawar city during day time.**
- **Average carbon monoxide level at traffic junctions is 17 PPM as compared to the WHO standard of 9 PPM for 8 hours exposure.**
- **The dust level in the city is 10 times above the WHO level.**
- **Different people are exposed for different duration depending on their location of residences, businesses and type of jobs (traffic police, drivers, shopkeepers etc).**



VEHICULAR EMISSION

- **Vehicular Emission Testing Station (VETS) was established in 1997. It is the only emission facility working in the country for the last ten years on self sustainable basis by charging Rs.100 per vehicle test.**
- **3 mobile units are working since 2001. VETS Peshawar have checked 3,33,657 vehicles in which 1,86,192 were passed & 1,47,465 vehicles did not comply with the Emission Standards.**
- **Mingora Station has started function in 2005-2006 & has checked 2981 vehicles while staff for Abbotabad VETS has been selected and EPA planning to establish VETS in DI khan, Bannu, Kohat, and Mardan.**

THANK YOU