



# “Safety of Land Transport System in Pakistan”

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**My compliments to all who helped me in compilation of this paper**

**4<sup>th</sup> National Seminar on Occupational Health,  
Safety & Environment**

**(14-15<sup>th</sup> Nov 2005)**

**IEP Pakistan Karachi Centre**

**Governor Sindh had declared 2005 as Road Safety Year**

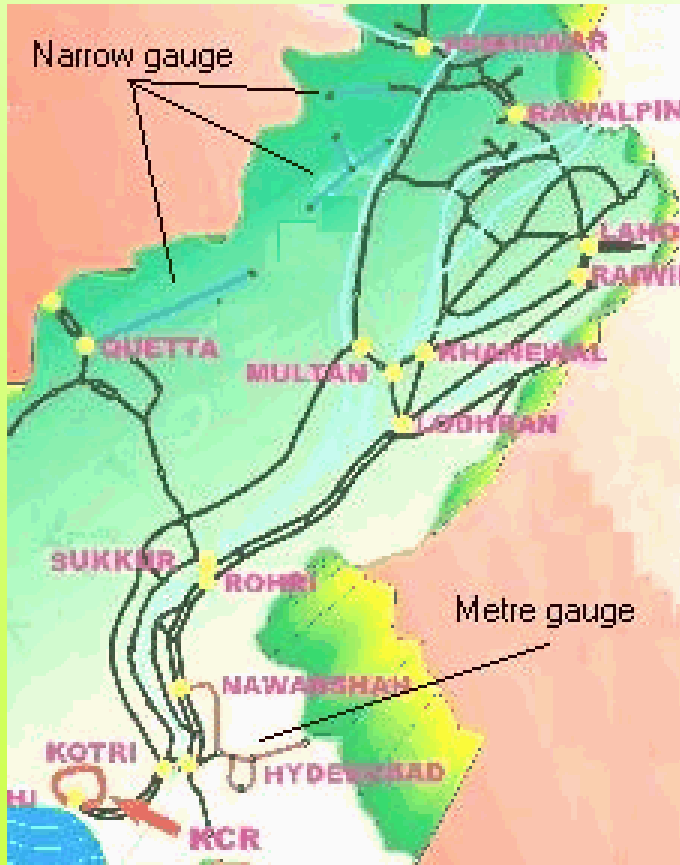
# Institutions working on transport sector

- **International / regional / national / provincial / NGO etc-ILO –66-67**
- **UNDP – Fuel Efficiency Program (ENERCON's Pilot ) WB /ADB Road safety**
- **NTRC & Chartered Institute of Transport – National Policy - 1998. Infrastructure planning, construction & maintenance.**
- **Roads – NHA, Prov Highway Dept. District Govt. Canal-Authority**
- **Law & Enforcement: Roads – Traffic Police /Courts-Encroachments?**
- **Association of Road Users Pakistan – NGO – Road Safety Book etc.**
- **Amnesty International (Pak) - Driver licensing procedure.**
- **Medical Institutions– Behavioral Study -Agha Khan University. WHO**
- **First Aid & Ambulance Service – Punjab Health Dept at Lahore 1122**
- **Driver literacy & driving skills training. Road signs visibility.**
- **Shell – Safe Driving Practices Posters. Awareness at Schools**
- **Vehicle Standardization – PS &QCA. Road Signals IEC-48/1980**
- **Maintenance of Vehicles. Vehicle Fitness - Police & EPA (silencers)**
- **Information media / Broadcasting 915/ Seminars - Word / Walk / Week**

# Railway

Safe, comfortable, energy conservative with least pollution

## Revival World Over



- **Karachi-Kotri built in 1861**
- **Inspector of Railway-Act1890**
- **Schedule of dimensions 1913-29**
- **Pak 5048 M. Single /Double Track**
- **Added Mardan/Charsadda-1954**
- **Jacobabad-Kashmore (NG to BG) & extended to Kot Addu 1969/73**
- **Karachi Circular Railway 60's**
- **Abandon NG & KCR-Restrict MG**
- **5% of freight traffic. 73% in 1955-60. Passenger traffic 9%. 42% in 1955-60**
- **PM's Task force March 1997.**
- **Safety: Engine/ Carriage /track**
- **Signals/track interlocking-Catch slip**
- **Electric Traction Mid 60'sMicrowave**
- **Accidents 6.12.57 to 13.7.05**

# Roads

National Highways & Motorways, Special purpose & Strategic roads  
Provincial roads, Local bodies roads, Rural access & Farm to Market Roads

- **G.T. Road. Animal Driven Transport. Britain Highway Act 1835.**
- **The I.C.Engine. Speed Limits. Traffic Control & Laws**
- **Britain Motor Car Act 1903. Motor Vehicle Act 1924.**
- **Indian Act 1939 - W.P Motor Vehicle Ordinance 1965**
- **Rules made in 1969. Revised (mobile phone seatbelt)**
- **Pak roads 260,000KM. NHA 1991-9000 KM of roads 75% traffic**
- **Provincial Highway Dept- 80,000 KM of inter-city roads.**
- **National Highway Safety Ordinance No. L-III of 1997 & No. XL of 2000-define "axle weight", "cycle track", "footpath" etc**
- **Overloading. NHA design roads on AASHTO standards.**
- **NTRC study - 88% trucks loaded above design limits of 8.2 tons & 43% above the axle load limits of 12 tons.**
- **2-axle trucks are 69% of the fleet on National Highways.**
- **Farm-to-market road stage1-NTRC design at 1/8th cost**



# URBAN TRANSPORT SYSTEM

**Justice Ajmal Mian (1982) / Masud-uz-Zaman Commission (1985)**

**Karachi Tramway – Abandoned - Revival**

**Oil tanker fire at Golimar main road 1974**

**Bushra Zaidi's accident on Chowrangi**

**Quidabad railway crossing - collusion**

**Accident at Urdu University-Over bridge**

**Behavior- public transport drivers - public**

**AKU Community Health Science Department Study**

**Encroached footpaths. No zebra crossings**

**No lanes. Decision makers never walk on roads.**

**Other Utility Lines & Construction works.**

**Absence of road signals / signs – Standards.**

**Too many vehicles. Bad Public Transport.**

**Urban Noise 60 to 70 dB (A). Wzr Mns 89 dB A**

**Delayed Mass Transit Project. Finances??**



# Road Traffic Environmental Impact

- **Fuel / Lubricating Oil type**
  - **Octane No. Lead Content**
  - **Engine Type 2 / 4 Stroke Condition – Compression Tuning of ignition system.**
  - **Left idling – Overloading.**
  - **NEQS for Exhaust & noise (S. R. O.) 742 (I)/93 Dated 24th August, 1993. PEPA Act 1997**
  - **Smoke: during acceleration**
  - **CO (New & Used vehicles)**
  - **Noise 85dBA @ 7.5 m**
  - **Implementation-110dB to 85dB. Replaced 8000 faulty rickshaws (local) silencers.**
- **Annexure B**
  - Under Clause (d) of section 6 of the Pakistan Environmental Protection Agency Ordinance, 1983 (XXXVII of 1983), the Pakistan Environmental Protection Agency and with the prior approval of the Pakistan Environmental Protection Council,  
**Annex – III**
  - **National Environmental Quality Standards for Motor Vehicle Exhaust and Noise**
  - 1. **Smoke** 40% or 2 on the Ringlemann Scale during engine acceleration mode.
  - To be compared with Ringlemann Chart at a distance of 6 meters or more.
  - 2. **Carbon Monoxide.** Emission Standards :

• New	Used
• Vehicles.	Vehicles.
• 4.5 %	6 %
  - Under idling conditions: Non dispersive infrared detection through gas analyzer.
  - 3. **Noise.** 85 db (A). Sound-meter at 7.5 meters from the source.

# TO BE CONTINUED

## **The Cost of Accidents –**

**Four Acre & Jacobs Study (1977) anticipated 1%**

**WB and others now suggest 1-3% of the GNP**

**Cost of road design, education, training, enforcement etc.  
can bring TEN times benefits + the Humanitarian Aspect**

**Inactivity in Karachi- Economic loss of Rs.1.5 billion /day**

**Probability of occurrence of accidents in Karachi**

**(Karachi Traffic Engineering Bureau's estimated figures)**

**Motorcycle / 82 Hrs - Minibus / 28 Hrs and Car / 37 Hrs.**

**A life is lost every 14 hours**

**An injury is caused every 11 hours**

**A pedestrian is killed every 25 hours**

**CAN WE DO SOME THING? YES-INSHALLA**