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## Approaches to Transportation Priority Transport Topics


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# Diversification of transport services: EGAT/ Infrastructure and Engineering Team (I&E)

EGAT Support: IET & IQC



Provision of technical  
support to USAID missions  
& other units

Priority Topics:

Institutional  
Modernization  
Cost Effectiveness  
Engineering Innovations  
Integration  
Rural & Urban transport  
Integrated Planning

Support of USAID Policies

Poverty alleviation,  
Private sector sector  
participation  
Security Improvements

Community  
Participation-SME

Governments, NGOs and Civil Society

# **Six Priority Transport Topics**

- 1. Institutional Modernization**
- 2. Cost effective & reliable engineering services**
- 3. Engineering Innovations**
- 4. National & regional Integration**
- 5. Rural & Urban Transport**
- 6. Integrated Multi-Mode transport Planning**

## Selected Issues: Quality of Transport Services

- Roads: Inadequate or very limited coverage and very bad road safety conditions in post conflict countries (Sudan, Liberia, Afghanistan) .
- Roads: Adequate, but poorly managed & poor road safety conditions in transition countries (Kenya, Ecuador, Peru).
- Ports: Urgent needs of investment and operation improvements (Peru, Liberia, Sudan).
- Airports: High costs of operation & urgent investment needs (Mali).

# Key Institutional Issue

- Inefficient use of limited financial resources

**Example: Sudan: collapsed Nile bridge could be probably averted with \$1 M or less vs. over \$25 M to construct a new one-lane bridge**

## Issue: The Nile bridge failure-Juba Sudan-Nov/2007



## Other two principal Institutional issues:

- (A) **Lack of clear sectoral policies & social, ethnic and political pressures have resulted institutional confusions and vague responsibilities.**
- (B) **Inadequate transparency & stakeholder participation**
- An exception: the Peruvian port & rural roads projects:  
(a) Callao port concession project & (b) 15,000 km rural road project managed by 650 SMEs.

# A How-To Guide: (1) Institutional Modernization

- Implement Institutional modernization including decentralization & cost effective project development & implementation procedures
- Modernization of the road sub-sector supports improvement of highway safety, development of clean & effective public transport services, pedestrian, bicycle & other non-motorized traffic services, and keeping low Urban CO<sub>2</sub> and other transportation related contaminants.



# A How-To Guide: (1) Institutional Modernization

## Decentralization

- Define & transfer the responsibilities & financial needs to local governments
- Activities that are best performed at the central level need not be delegated to the district level

# A How-To Guide: (2) Cost effective & reliable engineering services

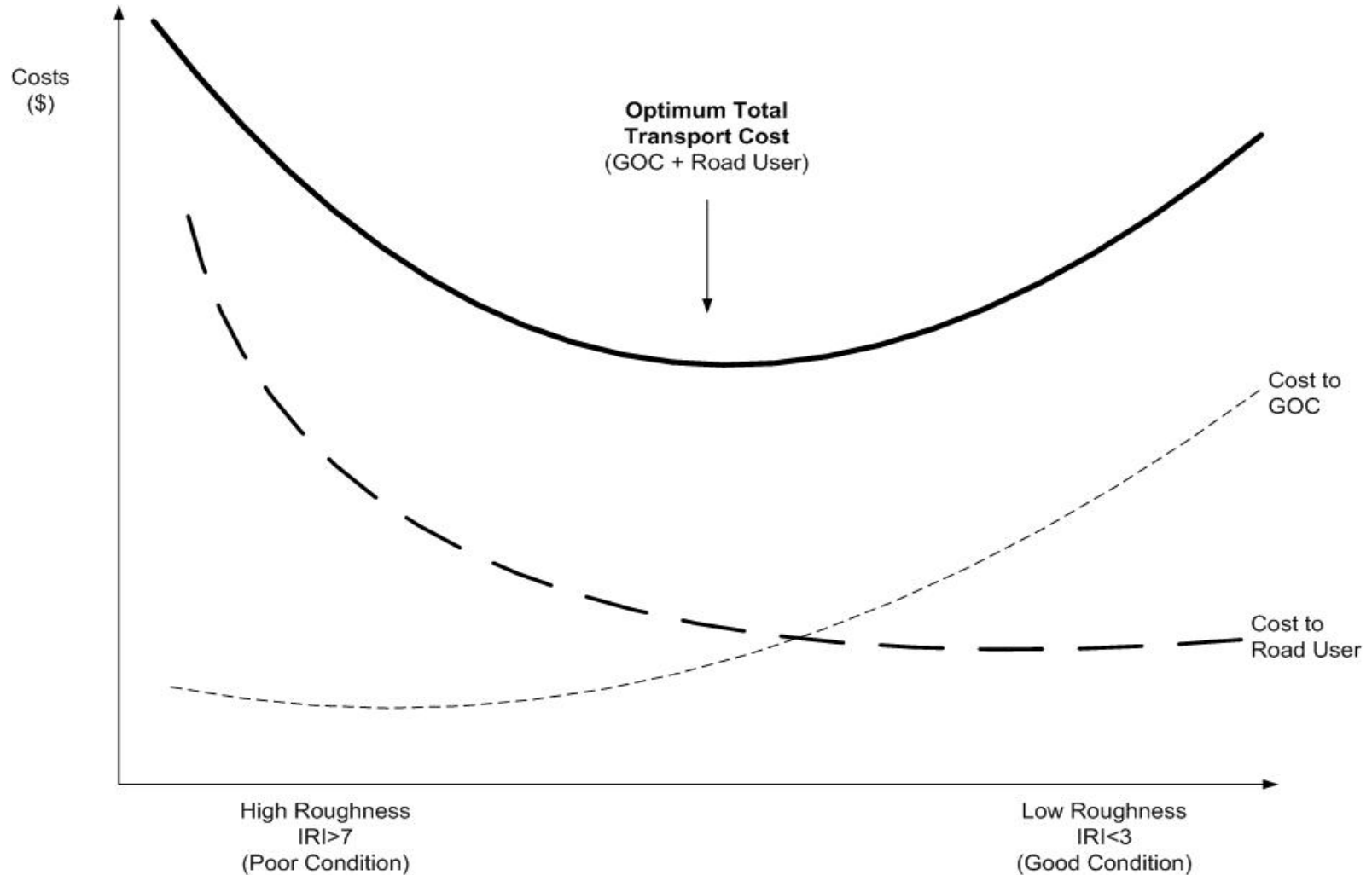
- Feasibility
  - Optimize dimensions & characteristics using HDM 4 for CB analysis
  - Consider Social & environmental analysis
- Design
  - Use innovated engineering tools & produce detailed design
  - Produce bidding documents & unit cost analysis (+/- 10%)
- Construction:
  - use performance-based, lump sum contract
- Maintenance:
  - Use Road Management Systems (RMMS) & community-based micro-enterprises

## A How-To Guide: (2) Cost effective & reliable engineering services

- Cost-plus contracts have transferred most or all of the risks to the public sector
- Performance based lump-sum contracts (PBLSCs) are a good mechanism to share risks & limit cost overruns
- PBLSC provides incentives and encourages collaboration of all stakeholders
- PBLSC promotes stakeholder partnership

- Plan for maintenance
- Risk should be borne by agent that can best control for it

# A How-To Guide: (2) Cost effectiveness

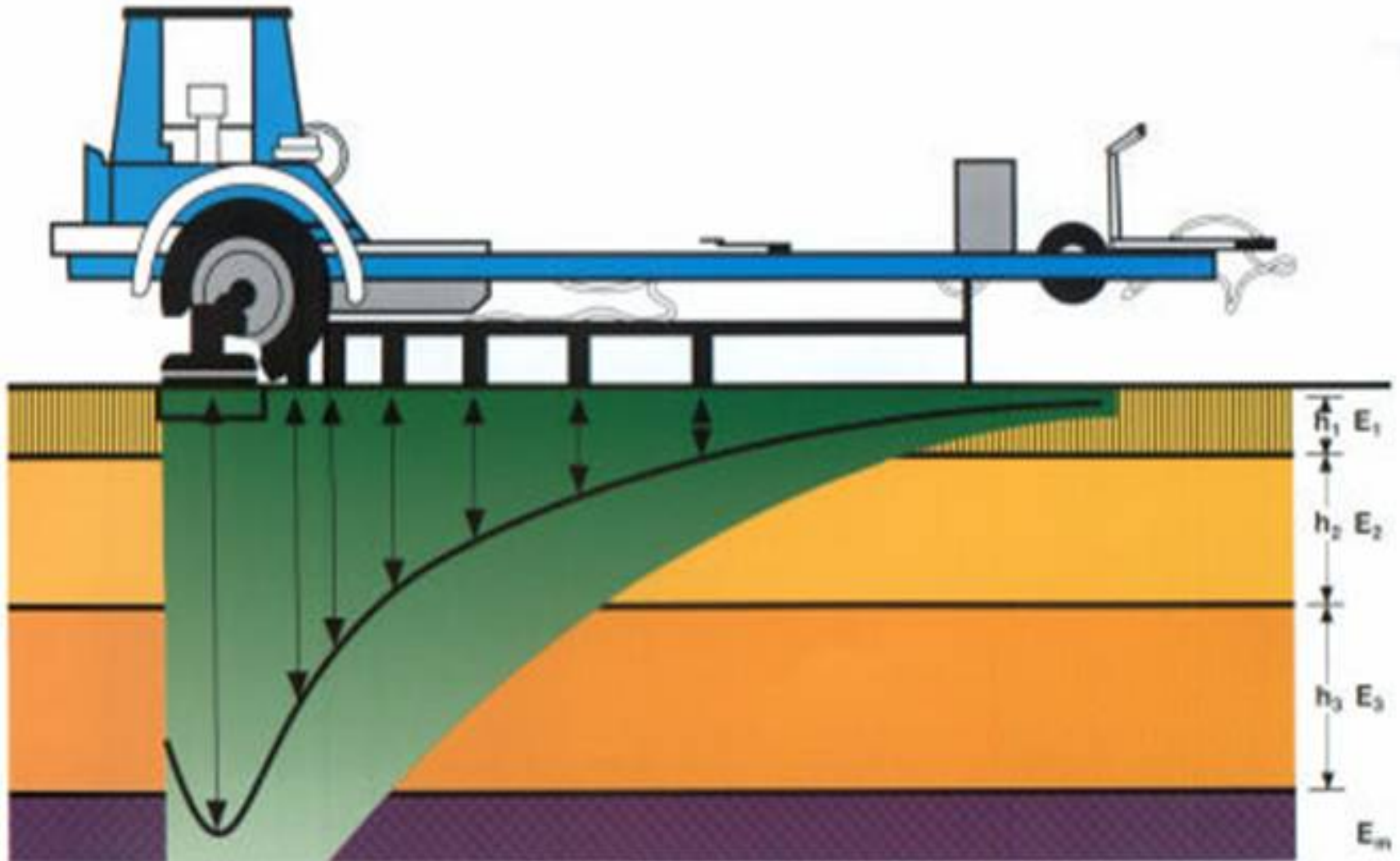


## Determining Optimum Maintenance Standards

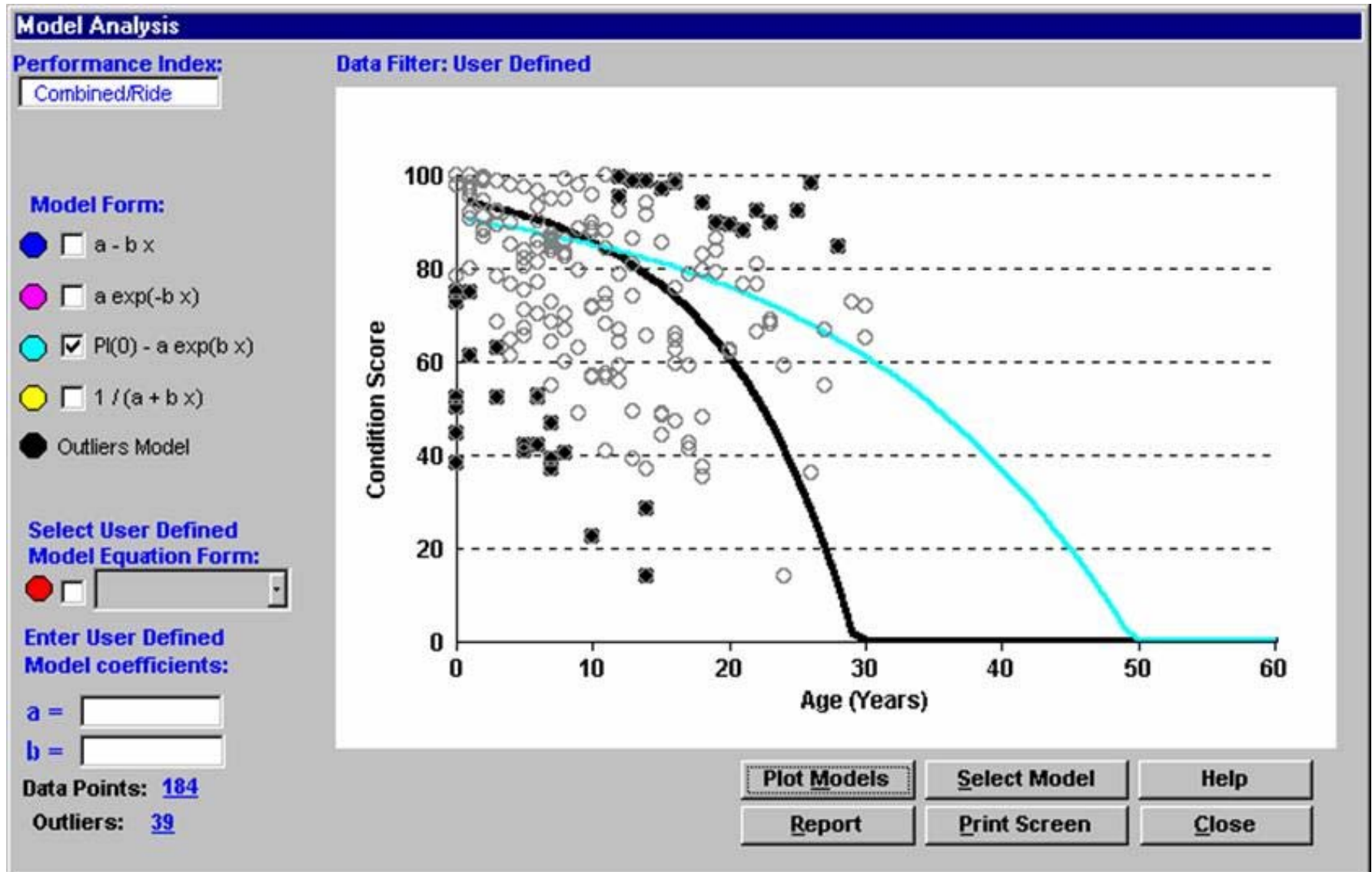
## A How-To Guide: (3) Engineering Innovations

- Use online-GPS-GIS-Gyroscope-multimedia road condition assessments system including: (1) 3 to 4 cameras, voice recording hardware and software equipment; (2) road evaluation devices; (3) notebook computer with video capture cards and distance-speed sensors systems; and (4) non destructive testing (NDT) devices.

# A How-To Guide: (3) Engineering Innovations



# A How-To Guide: (3) Engineering Innovations: Prediction of road performance

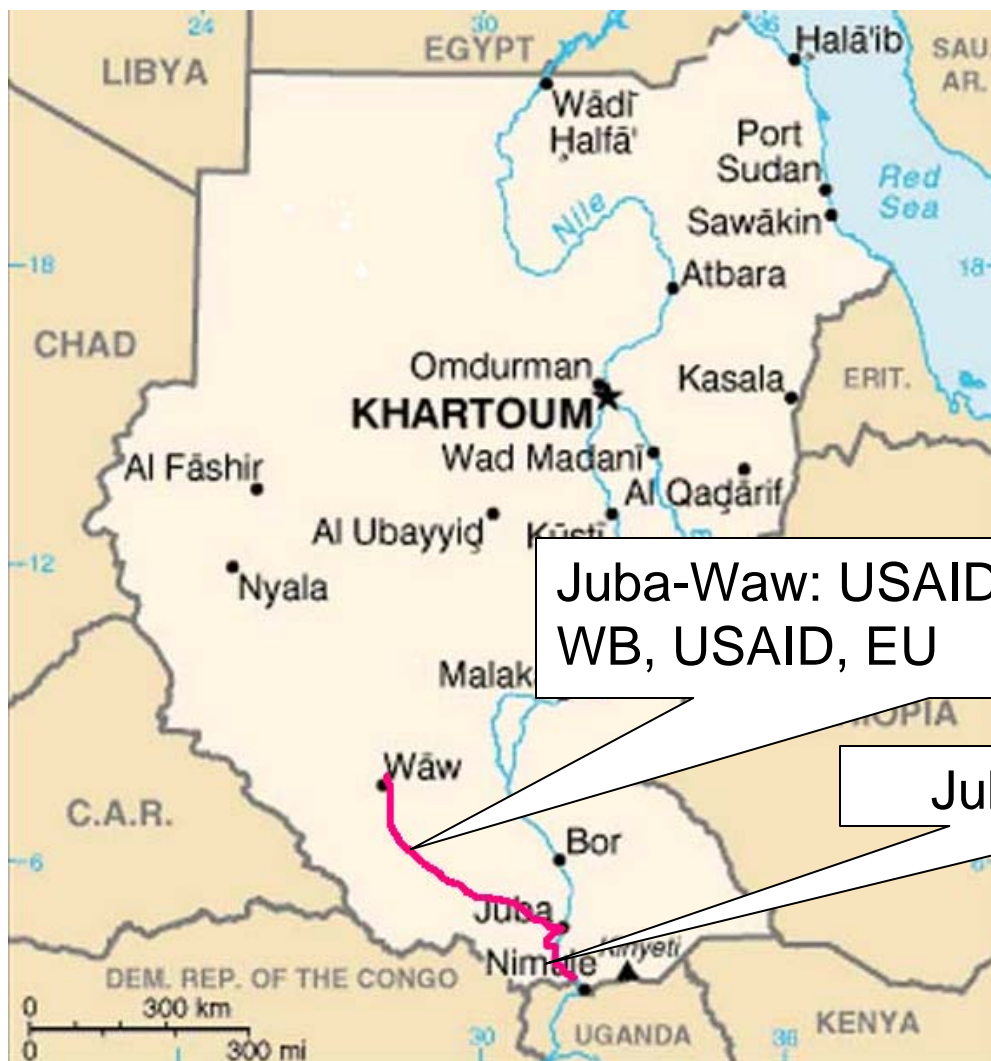


# A How-To Guide: (4) National & International Integration

- **Evaluate political priorities and financial affordability** (all-mode transport services)
- **Support road-corridor improvement & concessions** (Sudan: Nimule-Juba & Pacific rim to Amazonas-Peru & )



# A How-To Guide: (4) Sudan: A Road Integration Plan



Key roads for economic integration with neighboring countries & peace & security

Juba-Waw: USAID 185km segment  
WB, USAID, EU

Juba-Nimule 192km

## **A How-To Guide: (5) Rural & Urban Transport Services To Support Low Income Users**

- **Rural: Use SME for road investment & maintenance works**
- **Urban: Support rapid & safe motorized & non-motorized transport services, including rapid bus services (RBS).**

# A How-To Guide: (5) Rapid Bus Systems

Megabús  
Pereira, 2006



Guayaquil,  
Metrovía-2005



## **A How-To Guide: (5) Rapid Bus System Planning Considerations**

- **Optimize capital costs that vary from 1.4 to 10.0 \$M/ KM**
- **Create a special purpose agency (PROPRANPORTE-Peru)**
- **Maximize the use of the existing ROW to avert land acquisition and non voluntary human resettlement**
- **estimate future impacts on the reduction of CO2 and other transportation related contaminants**
- **Use fares similar to those of pre-existing services**

# A How-To Guide: (5) Rural & Urban Transport Highway safety issues



## **A How-To Guide: (5) Rural & Urban Transport Highway safety Improvements Considerations**

- **Establish an Inter-institutional working group**
- **Develop road accident database:**
- **Train and monitor** the police force
- **Update transport policy** and improve quantitative planning
- **Improve driver licensing code &** strengthen the regulatory capacity
- **Develop a school road safety education curriculum**
- **Implement critical road improvement works**

# A How-To Guide: (6) Integrated Multi-Mode Planning

**Air Transport:** Modernization of civil aviation agencies, improvements of airside and landside of airports and airstrips, security and safety improvements (Afghanistan, Sudan, Guyana & Bamako Mali) .

**Inland Water transport:** Planning and improvement of national and international river navigation services, improvement of port facilities including security and safety services (Sudan-Juba, Peru-Amazonas) .

**Maritime Transport:** Modernization of Maritime Administration Directorates and improvement of operations and facilities of Sea and Dry ports including security and safety services.

- **Container ports are in greatest demand as more and more goods are being transported via container (Callao, Monrovia)**

**Rail:** Support realistic cost effective projects with solid demand.

# **A How-To Guide: (6) Integrated Planning**

## **Five principal Considerations:**

### **1. Diagnose the problem:**

- Define the problems that the project will solve & the sectoral context including future adequate maintenance funding**
- Determine the root causes of the problems, i.e. insufficient investment funding & ineffective institutional capacity**
- Identify the stakeholders who would benefit from (road users), or be harmed by the project (affected communities)**



## A How-To Guide: (6) Integrated Planning

### Five principal Considerations:

2. **Priority**: Is the project a clear priority in relation to other needs and is there enough political support?
3. **Viability**: Have you analyzed the viability of affordable engineering alternatives that can solve the problem?
4. **Best Practice**: Have you considered lessons learned from international best practices
5. **Consistencies**: Have you verified the project's internal and external consistencies?

# **Conclusion: Possible Technical support to USAID Missions On Priority Transportation Topics**

## **Institutional Modernization**

**Use of innovative engineering tools to foster cost effective design & implementation services**

**Use innovative procurement procedures to foster competition and reduce life cycle costs**

**Planning of Multi-Mode transport services**

**Implement SME road maintenance services**

**Private sector participation in investment & O/M activities**



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*Thank you  
very much*

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