

# **KEY ROAD SAFETY MANAGEMENT PRACTICES**

## **BOOSTING ROAD SAFETY IN LOW- AND MIDDLE-INCOME COUNTRIES**

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# PRESENTATION OUTLINE

- LMICs Road Safety Management Basic Facts
- Road Safety Management Issues
- Road Safety Management Measures
- Recommendations

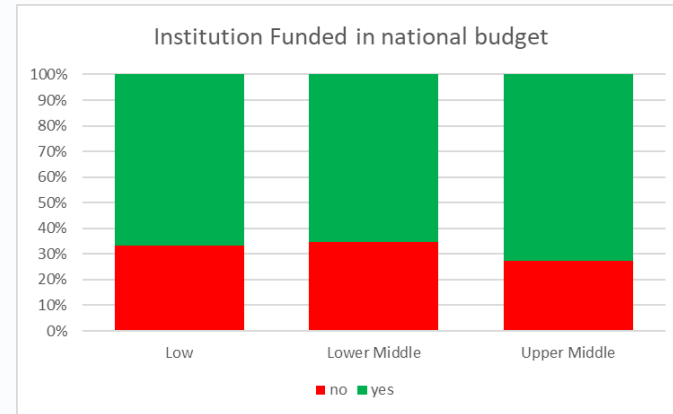
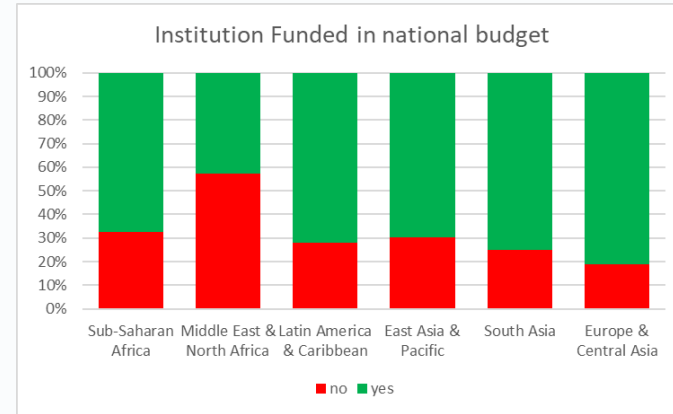


# LMICS ROAD SAFETY MANAGEMENT BASIC FACTS



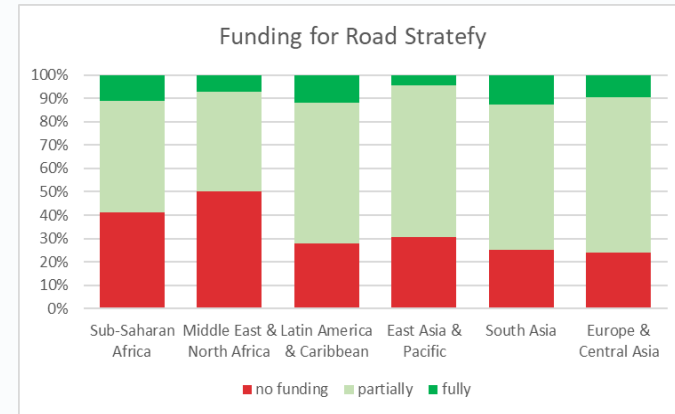
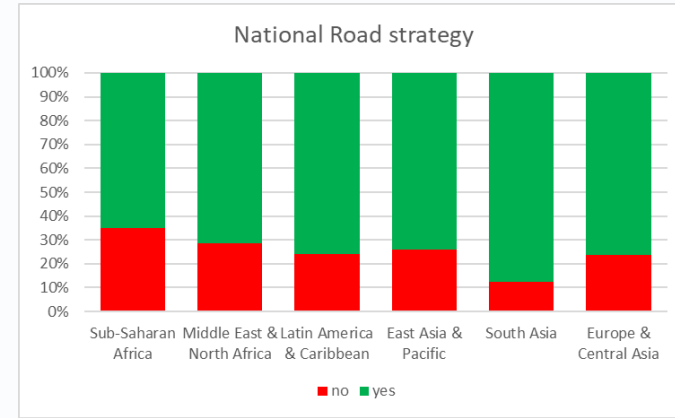
# LEAD AGENCY FOR ROAD SAFETY

- **Institutional management** provides the foundation for improving road safety
- **87% of LMICs** have established lead agency to guide the national road safety efforts.
- **66% of Low and Lower-Middle and 72% of Upper-Middle Income Countries fund the lead agency in national budget.**
- **81% of Europe & Central Asia LMICs** fund the road safety institutions in national budget
- **Only 43% of Middle East & North Africa LMICs** fund the road safety institutions in national budget



# NATIONAL ROAD SAFETY STRATEGY

- **63% of the Low and 75% of the Middle Income Countries have a national strategy for road safety.**
- **88% of South Asia LMICs** have a national road safety strategy that is fully (13%) or partially funded (63%)
- **Sub-Saharan Africa** is the region with the smaller percentage of LMICs (65%) with national road safety strategy





# ROAD SAFETY MANAGEMENT ISSUES



# ELEMENTS FOR ROAD SAFETY LEAD AGENCIES

The success and effectiveness of road safety lead agencies (RSLAs) in coordinating preventative road safety interventions in **developing countries** is dependent on the following key elements:

- Lead agencies with **full-time expert staff**, legally endowed powers, permanent funding, political support, and access to relevant data
- Road safety strategies with clear intermediate and final **targets** and outcomes
- **Funding** dedicated to road safety
- Road crash and other complementary **data**
- Understanding of the causes and circumstances at **road crash locations**



# LMICS ORGANIZATIONAL STRUCTURE DEFICIENCIES

- Achieving **global and national road safety goals** and targets requires **appropriate management capacity**.
- In **many LMICs** the organizational structure of the management system may suffer from **deficiencies**:
  - Lack of **leadership**
  - Lack of **political priority**
  - Lack of **funding**
  - Lack of **expertise**
- These deficiencies are **weakening the institutional functions** across key road safety players.





# CAUSES OF DANGEROUS SITUATIONS FOR VRUS

- LMICs are usually **under increasing motorization** and thus place vulnerable road users (pedestrians, cyclists and motor cyclists) at particular risk.
- Causes of VRUs crashes are:
  - **Poor planning** of road networks
  - Poor **traffic control** and management at intersections
  - **Inadequate** pedestrian **facilities**
  - Severe **lack of priority** and attention given to the pedestrians



# DATA IN ROAD SAFETY MANAGEMENT

- While some road crashes are predictable and thus preventable, efforts to reduce crashes in developing countries are further **hampered by lack of accurate crash and casualty data**.
- **Data collection** helps governments to:
  - more effectively **prioritize funding**
  - **monitor** the impact of investments
  - **strengthen** inter-agency collaboration and efficiency



# ROAD SAFETY MANAGEMENT MEASURES





# UN DECADE OF ACTION FOR ROAD SAFETY





# SAFE SYSTEM APPROACH

- **UN Second Decade of Action for Road Safety**, has the goal of reducing road traffic deaths and injuries by at least 50 per cent from 2021 to 2030
- The development of an effective road safety strategy starts from the notion of the Safe System approach, to **prevent fatal and serious crashes**.
- The system design and operation must become **forgiving** of routine human error.
- Deal with human behavior in a **proactive and integral way** by creating an environment for safe human behavior.
- An **efficient management system** and **leadership body** are essential for the implementation of an **effective road safety improvement program**.

# SAFE SYSTEM PRINCIPLES



**Death/Serious Injury  
is Unacceptable**



**Humans  
Make Mistakes**



**Humans Are  
Vulnerable**



**Responsibility  
is Shared**



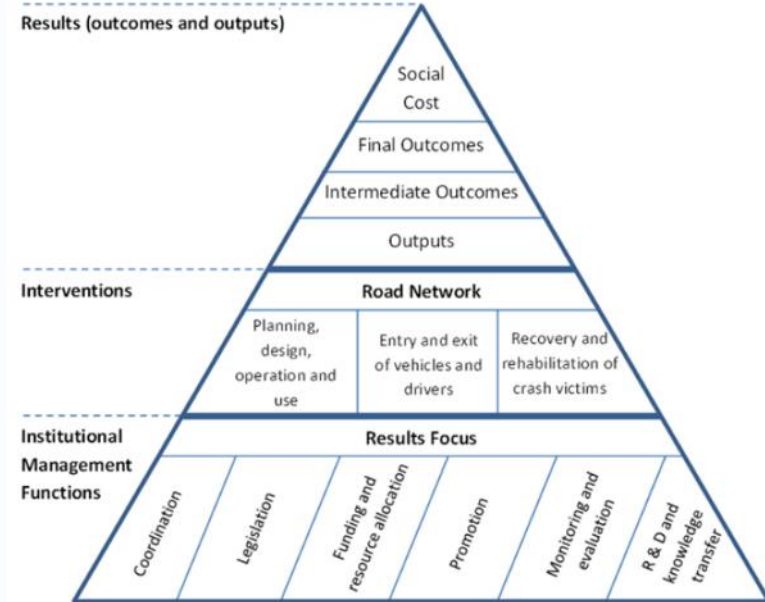
**Safety is  
Proactive**



**Redundancy  
is Crucial**

# COUNTRY MANAGEMENT SYSTEM FRAMEWORK

- Crucial to improving country/jurisdictional **road safety performance**.
- **Management system with three levels:**
  1. Institutional management functions
  2. Interventions
  3. Desired results



# INSTITUTIONAL MANAGEMENT FUNCTIONS (1/2)

- **Link** all actual and potential **interventions with results**
- **Analyse** what can be achieved over time
- Set out a **performance management framework** for the delivery of interventions and their outcomes
- **Delivered:**
  - primarily by the government agencies with core road safety responsibilities
  - In government partnerships with civil society and business
  - With the support of research and professional community
- **LMICs** should exercise **caution** in establishing **complex targeted strategies** and plans until **data** and appropriate **management capacity** are available.





# INSTITUTIONAL MANAGEMENT FUNCTIONS (2/2)

- **Coordination** = development and alignment of the interventions
- **Legislation** = appropriate legal instruments to specify legitimate bounds of institutions
- **Funding and resource allocation** = financing of interventions on a sustainable basis
- **Promotion** = countrywide and sustained communication of road safety emphasizing the shared societal responsibility to support the delivery of the interventions.
- **Monitoring, analyzing and evaluation** = systematic and ongoing measurement, analysis and evaluation of interventions
- **Research, development and knowledge transfer** = systematic and ongoing creation, codification, transfer and application of knowledge



# INTERVENTION STRATEGIES

- Safety conscious planning and **proactive safety engineering design**
- Encouraging use of **safer modes** and safer routes
- **Safe separation**/safe integration of mixed **road use**
- **Managing speeds** to crash protection levels
- Providing **crash protective** roadsides and vehicles
- **Deterring dangerous behavior** and ensuring compliance with key safety rules by social marketing and visible police enforcement
- **Managing risk** via vehicle standards/designs and driver standards
- Fast and efficient **emergency medical help**, diagnosis and care



# RESULTS

- **Targets** define the **desired safety performance** endorsed by government at all levels, stakeholders and the community.
- **Final outcomes:**
  - Long-term goal for the **future safety** of the road traffic system
  - Short- to medium-term targets expressed in terms of **social costs, fatalities and serious injuries**
- **Intermediate outcomes:** improvements to the final outcomes
- **Outputs:** physical deliverables that underpin improvements in intermediate and final outcomes.



# ROAD SAFETY AUDITS

- **An independent process for checking the safety of new or rehabilitated roads:**
  - systematically
  - based upon sound safety principles
  - from the road users' point of view
  - Doesn't rely on standards!
- Ensure **highway schemes operate as safely** as practicable
- **Minimise** collision numbers
- Consider **safety for all road users**
- **Improve awareness** of safety design practices by design, construction and maintenance staff





# ROAD SAFETY INSPECTIONS

- Systematic, **on site review** of existing road sections
- Conducted by **road safety experts**
- Identification of **hazardous conditions**, faults and deficiencies that may lead to serious accidents.



# RECOMMENDATIONS



# MANAGEMENT STRATEGY RECOMMENDATIONS (1/2)

- Building **awareness of Safe System** possibilities and application is a critical step for LMICs.
- To ensure road safety management and leadership and to **build road safety expertise**, LMICs should:
  - Develop a **strong lead agency** (expert staff, legally endowed powers, funding, political support)
  - Develop a **robust road safety data system**
  - Develop a robust **set of local guidelines and regulations**
  - Develop **university road safety programs** at bachelor and master level
  - Connect to regional **road safety observatories**, international networks of universities and centers of excellence
  - **Build centers of road safety excellence** to develop road safety management and research capacity through institutional reforms.





## MANAGEMENT STRATEGY RECOMMENDATIONS (2/2)

- **A small percentage of roads account for a large percentage of deaths and serious injuries** – these routes should be **identified** and addressed at programme-level. For countries with limited resources or that lack adequate data across the network, these locations are the most important.
- For LMICs, **policy priorities** should include:
  - Providing **pedestrian and motorcycle facilities** which improve safety outcomes
  - **Addressing incompatible speeds** between road users in areas of high risk
  - Installing **traffic management and infrastructure safety measures** to reduce crash risk
  - **Controlling vehicle access** to/from roadsides
  - Controlling **land use** developments abutting arterial roads to reduce adverse safety impacts
  - Improving safety of operation of **heavy vehicles**
  - Improving **compliance with road rules**.





# RELEVANT PIARC REPORTS

- [Road Safety Manual. Strategic Global Perspective. Key Developments in Road Safety](#)
- [Road Safety Manual. Strategic Global Perspective. Scope of the Road Safety Problem](#)
- [Road Safety Manual. Road Safety Management. Safety Management System](#)
- [Road Safety Manual. Road Safety Management. The Safe System Approach](#)
- [Road Safety Manual. Road Safety Management. Safety Data](#)
- [Road Safety Manual. Road Safety Management. Target and Strategic Plans](#)
- [Road Safety Manual. Planning, Design & Operation. Roles, Responsibilities, Policy Development and Programmes](#)
- [Road Safety Manual. Planning, Design & Operation. Infrastructure Management](#)
- [Road Safety Manual. Planning, Design & Operation. Risks and issue identification](#)
- [Road Safety Manual. Planning, Design & Operation. Intervention Selection](#)
- [Road Safety Manual. Planning, Design & Operation. Monitoring and evaluation](#)
- [Proceedings of the PIARC International Seminar on: "Road Safety in Low- and Middle-Income Countries: Issues and Countermeasures"](#)
- [Proceedings of the "International Seminar and Workshop on Safer Roads by Infrastructure Design and Operation"](#)



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