
SAFETY OF POWERED TWO-WHEELED VEHICLES FOR SOUTHEAST ASIAN AND SIMILAR COUNTRIES

DR HARRY EVDORIDES, UNIVERSITY OF BIRMINGHAM, UK

DR ROHIT BALUJA, INSTITUTE OF ROAD TRAFFIC EDUCATION, INDIA

CONTENTS OF THE PRESENTATION

- Introduction
 - Background
 - Needs
 - Vision
 - Principles
- Contents of the Guidelines
 - Policy issues
 - Key themes
 - Users' behaviour
 - Infrastructure
 - Vehicles
 - Mitigation measures
 - Training
 - Data management
 - Sustainability



INTRODUCTION

BACKGROUND

- Number of powered two-wheeled vehicles (PTW) fatalities and serious injuries is the highest in the world
- Appreciation of the regional conditions needs to be enhanced
- Significant work carried out by UNECE; yet more focused attention is needed
- IRTE offered a vision for road safety in Southeast Asia
- Coalition of Universities

NEEDS

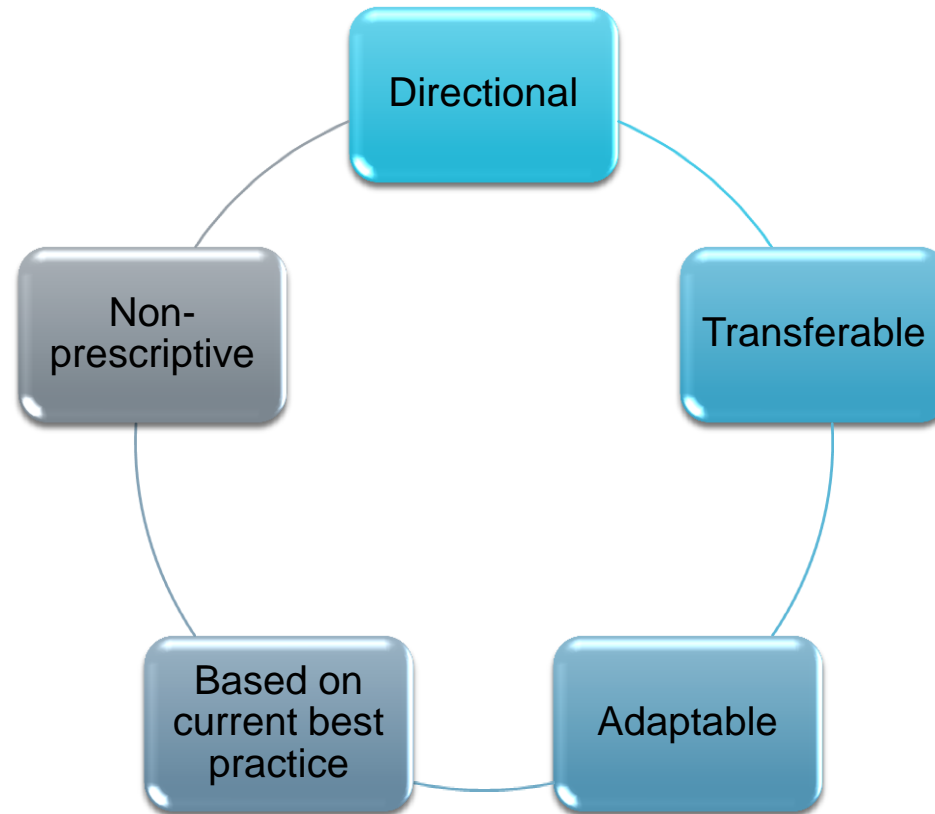
- Targets: PTW
- Sustainable solutions
- Evidence (data and its management)
- New, innovative and practicable knowledge
- Consistency with developmental goals
- Capacity building
- Inclusive approach (stakeholders, industry, users)
- Governments' commitment

ROAD SAFETY VISION

- Contributes to policy for regional transport development
- Enables sustainable transport connectivity and mobility
- Considers the most vulnerable part of societies
- Part of wider pro-growth and pro-transport policies



PRINCIPLES OF THE GUIDELINES





GUIDELINES



CONTENTS OF THE GUIDELINES

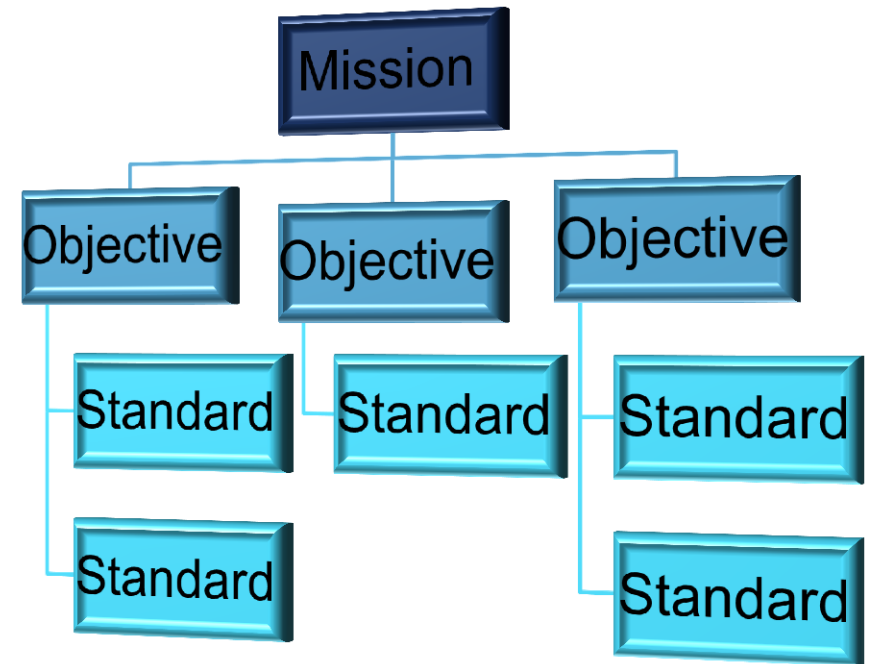
- Policy
- Key themes
 - Users' behaviour
 - Infrastructure
 - Vehicles
 - Mitigation measures
 - Training
 - Data management
 - Sustainability



POLICY

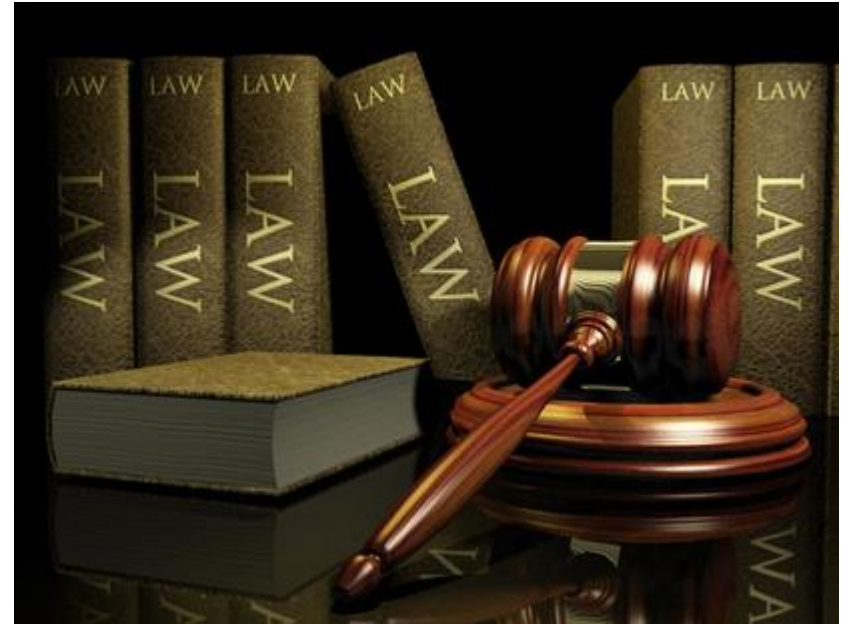
POLICY ISSUES

- Clarify ownership and responsibility – very big challenge as road safety is a multi-sectoral issue (transport, health, social welfare)
- Sustainability
- Should include a vision, a mission, objectives and standards
- Should be sensitive to road users and their local needs
- Should be considered in terms of
 - Mobility
 - Economic growth and stability
 - Prosperity
- Be based on appropriate institutional structures



LEGAL AND REGULATORY CONSIDERATIONS

- Infrastructure Considerations
- Road Users
 - Rider Training
 - Licences (Full driving, provisional/probationary) and permits
 - Insurance
 - Safety apparel
 - Helmet use regulations
- Public Health Approach to PTWs' Safety
- Post-Crash Management
- Vehicle Standards



SPECIFIC CONSIDERATIONS

- Recognise the role of PTW in the transport system of developing countries
- Recognise the role of PTW in both urban and rural areas
- Clarify the economic benefits of PTW transport
- Recognise the vulnerability of PTW

ETHICS AND FINANCING

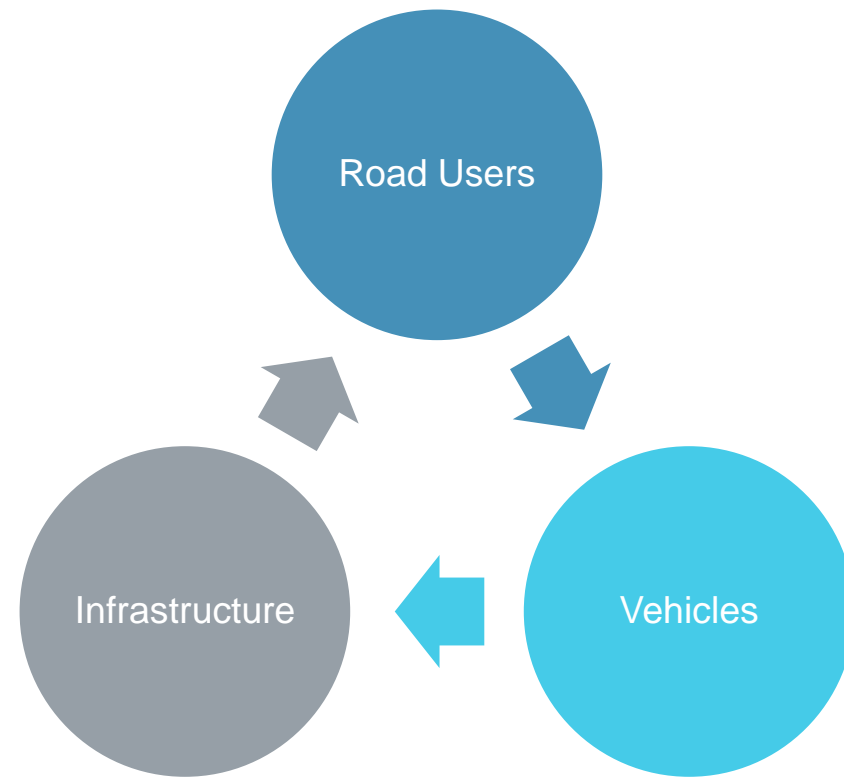
- Recognise explicitly that **human life is priceless**
- Associate PTW policy with a code of Ethics
- Appropriate financing is necessary for the successful implementation of PTW safety
- Explore new and innovative financing mechanisms such as 2nd generation road safety funds and social impact bonds





POLICY THEMES

SAFE SYSTEM APPROACH





ROAD USERS

PTW AS ROAD USERS

- Policy should consider riders issues such as
 - No lane discipline
 - Bus lane intrusion
 - Conglomeration of ahead of the stop line
 - Overloading of the vehicle with goods or passengers
 - Distracting activities such as mobile phone usage
 - Inconspicuity
 - Safety apparel

PROFESSIONAL SERVICES USING PTW

- Policy should concern
 - Taxi services
 - Carriers who deliver goods
- Should be regulated or licenced
- Drivers skills and character should be of good standing

PTW RIDERS AND OTHER ROAD USERS

- Policy should seek to modify behavioural change towards PTW - challenging
- A pragmatic approach is needed to address social, cultural and religious habits
- PTW road safety campaigns can be used



INFRASTRUCTURE

PTW are relatively unstable vehicles and vulnerable

ROAD DESIGN

- Policy should ensure that
 - Design standards should be based on
 - predictable road geometry
 - appropriate visibility
 - constant radii and
 - obstacle free zones
 - appropriate parking areas
 - Road safety audits are included in design and maintenance activities
 - PTW friendly safety features

TRAFFIC ENGINEERING

- Policy should require
 - the use of sound traffic engineering principles in any decision making process.
 - empirical practices to be supported by theoretical concepts
 - the use of evidence (data) in a systematic manner

ROAD MAINTENANCE

- Policy should require
 - Minimum maintenance programmes addressing PTW safety (e.g. routine maintenance) black spots
 - Addressing black spots, uneven surfaces, drainage features, road markings, road features aimed at large vehicles.
 - Use of standards

ROAD DEMAND MANAGEMENT AND REGULATION

- Policy should address the maximisation of road space utilisation through appropriate demand management approaches such as
 - motorcycle exclusive lanes,
 - advanced stop lines/zones,
 - channelization using painted road markings,
 - control of longitudinal and lateral distances,
 - speed management (through enforcement and information and use of appropriate speed limits (e.g. 30 km/h).
 - segregated lanes
 - separate supplementary signs



VEHICLES

PTWs or any modifications should adhere to standards and regulations

STANDARDS, REGULATIONS AND DESIGN

- Policy should
 - Reflect local transport needs of people and goods
 - Require and enforce safety standards and regulations
 - Encourage collaboration between manufacturers, practitioners, policy-makers and the research community to enable PTW design to evolve and reflect the latest advances which help to mitigate safety concerns.



PTW DEATH AND INJURY MITIGATION

Helmets, other safety apparel, medical care

HELMETS AND OTHER SAFETY APPAREL

- Policy should enforce
 - the use of helmets, as a minimum
 - other protective gear such as gloves and boots together with jackets and trousers using appropriate materials available locally
- Helmet standards should be
 - clearly defined
 - standardized and harmonized
 - adapted, as necessary, to local conditions

MEDICAL CARE

- Policy should address the need for
 - expeditious medical care at the crash site by appropriately trained staff
 - a PTW dedicated register of injuries and outcomes at trauma centres
 - linking injury data with public health policy development



TRAINING

TRAINING AND TESTING STANDARDS

They should cover:

- The vehicles that can be driven
- Who can drive them
- When and where they can be driven
- The processes to achieve all of the above

Knowledge
is
power!



TRAINING AND TESTING SYSTEM KEY COMPONENTS

- Realistic grouping of vehicles
- Administrative arrangements for the system
- Minimum age for entitlement
- A competence framework addressing the needs for a safe and responsible driver and rider
- An associated set of standards for:
 - the characteristics of a safe and responsible driver and rider
 - the content of training
 - the trainers who deliver it
- Operating procedures and standards for driving examiners
- What happens after the test – penalties, post-test or remedial development, restrictions



DATA MANAGEMENT

DATA MANAGEMENT

- PTW policy should clearly address the need for data.
- Data should enable decision making for
 - strategic planning and
 - implementation, operations and evaluation
- Data for PTW should be collected for
 - accident investigation and
 - injury causation
- Crash data should be standardized.
- PTW policy should be linked to key performance indicators derived from accident and injury data





SUSTAINABLE PTW SAFETY

SUSTAINABILITY

PTW policy should recognise the need to be sustainable in terms of:

Economic and Financial

Environmental

Social

achieved through

- Cost-Benefit Analysis
- Research and Development



PTW POLICY ITEMS CONSIDERED

- Introduction
 - Background
 - Needs
 - Vision
 - Principles
- Contents of the Guidelines
 - Policy issues
 - Key themes
 - Users' behaviour
 - Infrastructure
 - Vehicles
 - Mitigation measures
 - Training
 - Data management
 - Sustainability



THANK YOU

DR HARRY EVDORIDES, UNIVERSITY OF BIRMINGHAM, UK

DR ROHIT BALUJA, INSTITUTE OF ROAD TRAFFIC EDUCATION, INDIA