MOTORCYCLIST SAFETY REGULATION

Dr Siti Zaharah Ishak
Director General
Malaysian Institute of Road Safety Research
MAIN SOURCE FOR MOTORCYCLE SAFETY REGULATIONS

Road Transport Act 1987 (Act 333)

Road Transport Rules
MOTOR CYCLE - CLASSIFICATION

- Classification of motor vehicles for motor cycle according to Section 5 (1)(b), Road Transport Act 1987 is motor vehicles with less than four wheels, and the unladen weight of which does not exceed 450kg
VEHICLE COMPOSITION

Registered Vehicles

- Motorcar: 13,725,918, 46%
- Motorcycle: 14,189,693, 48%
- Bus: 620,222, 0%
- Taxi: 95,058, 0%
- Goods Vehicle: 1,262,064, 4%
- Rental Car: 2,954,119, 9%
- Others: 592,229, 2%

Road Traffic Volume

- CLASS 1: Motor Cars & Taxis, 61.4%
- CLASS 2: Small Vans & Utilities (Light 2-axles), 9.4%
- CLASS 3: Lorries & Large Vans (Heavy 2-axles), 5.1%
- CLASS 4: Lorries With 3-axles (Heavy 3-axles & above), 2.5%
- CLASS 5: Busses, 0.7%
- CLASS 6: Motorcycles & Scooters, 20.9%

Source: Road Transport Department
Source: Ministry of Works
MOTORCYCLE COMPOSITION IN MALAYSIA

Source
2. JPJ (2015)

% of registered MC by engine capacity

- Under-bone/Cub: 92.42%
- Scooter: 95.31%
- Naked bike: 3.57%
- All terrain bike: 1.61%
- Moped: 1.70%
- 90cc < x < 150cc: 1.88%

% of observed MC by engine capacity

- Maxi scooter: 2.31%
- Cruiser: 1.20%
- Tourer: 2.10%
- Supersports: 2.00%
- Super naked: 1.88%
- Naked bike: 1.70%
- Sport bike: 1.50%

< 90cc: 1.70%
90cc < x < 150cc: 1.88%
150cc < x < 250cc: 3.57%
x > 250cc: 1.61%
In 2018, motorcycle deaths was 66% from the overall road traffic deaths
For the past 10 years motorcycle always more than others user group death

Source: Royal Malaysian Police
PILLAR 2 – SAFER ROADS

Guidelines related to motorcycle facilities published by Public Works Department:

- NTJ 33/2015 Guidelines for Motorcycle Facilities
- ATJ 35/2018 Geometric Guideline for Exclusive Motorcycle Lane

The objectives for both guidelines are:

- The objective is to provide engineering practitioners with better understanding of motorcyclists’ safety needs and incorporate the needs in the upgrading and maintenance of existing roads and the planning, design and construction of new roads

- To assists road designers on the design criteria and approach to provide uniform and standard design for Exclusive Motorcycle Lane (EML)
MOTORCYCLE FACILITIES

- Non-exclusive motorcycle lane
- Exclusive motorcycle lane
- Motorcycle shelter
- Motorcycle storage zone
MOTORCYCLE FACILITIES

- Utilisation of motorcycle lane are generally higher on no exclusive motorcycle lane
- There evidence of miss-use of motorcycle lane by other vehicles
**PILLAR 3 – SAFER VEHICLES**

**Vehicle Type Approval (VTA) System in Malaysia**

**Type Approval** is granted to a product that meets a *minimum* set of regulatory, technical and safety requirements.

**Component Type Approval** is product compliance (including **System Approval**) with specified standards or regulations (Malaysian Standards/UN Regulations).

**General Requirements** are the requirements listed under Road Transport Act 1987, Environmental Quality Act 1974 and Road Transport Rules.

**Vehicle Type Approval (VTA)** is a homologation process to confirm the production sample of a vehicle design to comply with specified standards or UN Regulations before a vehicle registration is allowed in Malaysia.
Gazetted UN Regulations

MOTORCYCLE

TYPE APPROVAL OF MOTORCYCLE

Implementation of UN Regulations based on Vehicle Category

* Generally the mentioned UN Regulations are applicable

Environment
- Noise (3-Wheeled Vehicle) R9
- Diesel Smoke R24
- Exhaust Emission R40
- Noise R41
- Exhaust Emission R47
- Noise (Moped) R63

General Safety
- EMC Compatibility R10
- Speedometer R39
- Safety Glass R43
- Product Unauthorized Use R62

Passive Safety
- Safety belts R36
- Head Restraints R25

Braking
- Rear-view Mirrors R78
- Halogen Headlamps (052) R81
- Daytime Running Lamps R82
- Replacement Brake Lining R87
- LED Light Sources R112
- Headlamps Asymmetrical R113
- Headlamps Symmetrical R114
- Gas-Discharge Headlamps R98

Retro Reflecting Device R1
Direction Indicators R6
Stop & End-outline Lamps R7
Front Fog Lamps R19
Audible Warning Devices R28
Filament Lamps R37
Rear Fog Lamps R38
Headlamp Cleaners R45
Headlights (Moped) R46
Lights R50
Installation of Lights R53
Headlamps (Motorcycle) R55
Headlamps (Motorcycle) R57
Driver operated Control R60
Special Warning Lamps R65
Halogen Headlamps R72
Installation of Lights R74
Tyres R75
Headlamps (Moped) R76

Total of 40 UN Regulations

There are 40 UN Regulations related to motor cycle gazetted in Malaysia.
• Enforcement of Product Labeling for VTA have been done since 1st January 2014.

• Starting 1st July 2014, product labeling become mandatory item on PUSPAKOM inspection

• Product labeling should include this information:
  
i. Name of the Manufacturer;

  ii. Vehicle Type Approval (VTA) Number;

  iii. Vehicle Identification Number (VIN) / Chassis Number;

  iv. Gross Vehicle Weight (GVW) of the vehicle*;

  v. Gross Combination Weight (GCW), where the vehicle is used for towing**; and

  vi. Axle load rating for each axle, listed in order from front to rear.
COMPONENT TYPE APPROVAL
COMPLIANCE LABELING/MARKING

• All component/system certified under UN Regulation (E-mark) or Malaysian Standards (MS mark) must comply with product labeling/marking outlined inside each regulation or standard. Example:

  E-mark at Motorcycle Helmet
  E-mark at Tyre
  MS-mark at Tyre
  MS-mark at Helmet

• Ministry of Domestic Trade, Co-operatives & Consumerisme (KPDNKK) have enforced Trade Description (Marking on Pneumatic Tyre and Motorcycle Helmet) 2012 which require all tyres and motorcycle helmets sold in Malaysia must obtain certification according to Malaysian Standards (MS) and/or UN Regulations (E-mark) and/or FMVSS (DOT) and have related marking.
## PILLAR 4 – SAFER ROAD USER

<table>
<thead>
<tr>
<th>Motorcycle licence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Requirement</strong></td>
</tr>
<tr>
<td>Section 39, Road Transport Act 1987</td>
</tr>
<tr>
<td><strong>Driving Licences Requirement</strong></td>
</tr>
<tr>
<td>Section 26, Road Transport Act 1987</td>
</tr>
</tbody>
</table>
TYPES OF MOTORCYCLE DRIVING LICENSE

1. **Learner’s Driving License (L)**
   - Successfully completed:
     - Theory class (6 hours)
     - Theory test

2. **Probationary Driving License (P)**
   - Successfully completed:
     - In circuit practical riding
     - On road practical riding
     - Pre-test practical
     - Practical test with RTD

3. **Competent Driving License**
   - Successfully completed Probationary Driving License for 2 years
MOTORCYCLE LICENSE CLASSES

**A**: Unladen weight no exceeding 450kg

**B1**: Not exceeding 500cc

**B2**: Not exceeding 250cc

**B**: Exceeding 500cc

**C**: Three wheels
PILLAR 4 – SAFER ROAD USERS

• **Paragraph 88(1)(s) Road Transport Act 1987** require persons driving or being carried on motorcycles to wear protective helmets.

• **Motorcycles (Safety Helmets) Rules 1973 [P.U. (A) 43/1973]** require every safety helmet shall conform with the specification of **MS 1 Specification Protective Helmets for Vehicle Users** or **UN Regulation No. 22 Uniform Provisions Concerning the Approval of Protective Helmets and their Visors for Drivers and Passengers of Motorcycles and Mopeds**
MOTORCYCLE PERSONAL PROTECTIVE EQUIPMENT

• The only protective equipment required in Malaysia for riding a motorcycle is a safety helmet.

• Other protective equipment such as gloves, jacket, boots are not compulsory.
SAFETY HELMET WEARING RATE

• Generally safety helmet wearing rate is high especially in urban area.

• Overall rate of helmet wearing increased slightly from 92.7% during before OPS to 94.3% during OPS (↑ 1.6%).

• Overall percentage adult wearing helmet rate was high.

• Proper helmet wearing (89.8%) (increase by 7.2% during OPS as compared to before OPS).
## RISK REDUCTION AMONG MOTORCYCLIST

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Motorcyclist deaths due to not wearing helmet</td>
<td>1,141</td>
<td>1,403</td>
<td>1,500</td>
</tr>
<tr>
<td>2</td>
<td>Percentage of summons due to not wearing per total of summons</td>
<td>1.39%</td>
<td>1.39%</td>
<td>1.33%</td>
</tr>
<tr>
<td></td>
<td>(107,488)</td>
<td>(89,616)</td>
<td>(94,167)</td>
<td></td>
</tr>
</tbody>
</table>

Source: MRR No 256 Pelan Keselamatan Jalan Raya 2014 – 2020: Laporan Status Pencapaian dan Cadangan Penambahbaikan

For the three years period (2014-2016) **31.4%** of overall motorcycle deaths is due to not wearing helmet
After the implementation of CSSP, 81.3% out of total companies completed the survey with significant reduction of riding behaviour (improved riding behaviour).

About 85% of participants had improved their riding behaviour specifically on compliance of personal protective equipment while riding.
Day-Running-Light (DRL)

- introduced in early 1990s in an effort to increase motorcycle conspicuity and subsequently reduce motorcycle crash risks when traveling on roads and mix with other transport mode.

- Radin Umar (2005), concluded that running headlights campaign and regulation have been successful in improving motorcycle safety in Malaysia.

- The study revealed that the odds ratio before the intervention is much higher (p<0.06) than the odds ratio after the intervention.

- The daytime conspicuity related accidents dropped significantly by about 29 per cent following the intervention while no significant (p>0.05) change was noticed for the non-conspicuity related cases.
High Visibility Windbreaker (HVWB)

- The visibility of motorcyclists who wore HVWB during daytime is higher by 16.9% than those without HVWB, whereas the visibility of motorcyclists who wore HVWB during night time is higher by 13% than those without HVWB.

- HVWB could be considered as an important ‘tool’ while on the road in order to increase the conspicuity level of motorcyclists among road users and could indirectly reduce the occurrence of road accidents involving motorcyclists in the nation.
SUMMARY

• Motorcyclist safety regulation in Malaysia cover all three main aspects, road, vehicle and motorcyclist as user

• New regulation such as Antilock-Braking System (ABS) or Combined-Braking System (CBS) can be made regulatory however need to be coupled with effective campaign and advocacy program
THANK YOU

Malaysian Institute of Road Safety Research
Lot 125 – 135, Jalan TKS 1
Taman Kajang Sentral
43000 Kajang
Selangor, Malaysia

Tel: +603 8924 9200 Fax: +603 8733 2005
Site: http://www.miros.gov.my