Motorcycle Accidents in Vietnam

Dr.-Eng. Vu Anh Tuan, Director of VGTRC
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Introduction

Vietnamese-German Transport Research Centre

- Founded in **August 2010**
- In cooperation with Technische Universitaet Darmstadt
- Located in **Binh Duong (Southern Vietnam)**
- **VGTRC Staff** (May 2013):
  - Director: Dr.-Eng. Vu Anh Tuan
  - Academic Advisor: Prof. Dr.-Ing. Manfred Boltze (TUD)
  - Special Advisor: Dr.-Ing. Khuat Viet Hung (NTSC)
  - 7 Doctoral Candidates & Researcher (15 as plan)
  - 33 Master Students (Intake 2012, 2013 & 2014)
Introduction

Vietnamese-German Transport Research Centre

Vision

VGTRC = a Centre of Excellence in innovation and technology transfer in the field of traffic, transport, mobility, and logistics.

Areas of Focus

- Transport Planning Methods
- Traffic Management Schemes
- Intelligent Transport Systems (ITS)
- Road Traffic Signal Systems
- Traffic Safety and Environment
- Freight Transport and Logistics
- Quality Management (QM)
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Accidents involving motorcycle in Vietnam

Vietnam’s Facts

- Area = 332,698 km²
- Population (2014) = 90.6 million
- Urban pop. (WB, 2013) = 32%
- GDP/cap (2014) = 2,072 US$
Accidents involving motorcycle in Vietnam

Motorization in Vietnam

- Motorcycle ownership rate ~ 400 MC/1000 pop.
- Automobile ownership rate ~ 20 car/1000 pop.

Source: Vietnam NTSC (2014)
Motorcycle Ownership vs GDP per capita in Asia

- M-cycle rapidly accelerating
- M-cycle increasing with income
- M-cycle declined

GDP/cap = 15,000~25,000$, M-cycle declined

- Vietnam
- Indonesia
- Malaysia
- Thailand
- S. Korea
- Japan
- Taiwan

0 5,000 10,000 15,000 20,000 25,000 30,000 35,000

0 100 200 300 400 500 600 700

M-cycles /1000 person

GDP per capita (2007 PPP US$)
Modal splits of selected Asian cities

- **Tokyo (98)**: 54% Car, 0% M-cycle, 4% Bus, 35% Train, 2% Paratransit, 42% Others
- **Seoul (02)**: 27% Car, 26% M-cycle, 35% Public Transport
- **Shanghai (04)**: 28% Car, 0% M-cycle, 49% Bus, 9% Public Transport
- **M. Manila (96)**: 21% Car, 15% M-cycle, 61% Bus, 3% Public Transport
- **Jakarta (02)**: 17% Car, 23% M-cycle, 58% Bus, 2% Public Transport
- **Kuala Lumpur (97)**: 56.6% Car, 23.7% M-cycle, 18.1% Bus, 1.6% Public Transport
- **Bangkok (03)**: 35% Car, 27% M-cycle, 26% Bus, 1% Public Transport
- **Taipei (04)**: 29% Car, 31% M-cycle, 20% Bus, 12% Public Transport
- **Hanoi (05)**: 3.5% Car, 82.7% M-cycle, 7% Bus, 0% Public Transport
- **HCMC (02)**: 1.9% Car, 91.4% M-cycle, 2% Public Transport

Source: ITPS 2007 (STREAM project) with updated data

Extremely high share of M-cycle, low share of Public Transport
Accidents involving motorcycle in Vietnam

Accidents, Fatalities and Injuries in Vietnam

- High fatal rate: 13.4 deaths/100,000 pop.
- Fatality reduction is a big challenge

Source: Vietnam NTSC (2014)
The high share of motorcycle traffic in Vietnam & Indonesia → extremely high rate of traffic fatality
Accidents involving motorcycle in Vietnam
Causing Vehicles & Locations

- MC contributed to 75% total accidents
- 45% accidents on National Highways (6-7% total road lengths)

Source: Vietnam NTSC (2014)
Accidents involving motorcycle in Vietnam

Accident % by Main Cause

Source: Vietnam NTSC (2014)
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Regulatory and legal instruments

Speed Regulation

- Designed Speed regulated by Road Type
- Speed Limits regulated by Vehicle Type
  - e.g., car and bus are allowed to run at higher speeds → more serious or fatal accidents with motorcycle
- Lack of signs and facilities to support safe overtaking on highways, particularly for MC drivers
Regulatory and legal instruments

Road Signs and Marking

- Standards & guideline for road signs and markings are generally existed.
- Road users find it difficult to recognize traffic sign boards (small and inappropriately located).
- For motorcycle/scooter users, sign boards need to be easily recognizable and understandable.
Lack of standards nor guidelines for designing motorcycle lanes, sign boards/marking & traffic signal systems for the mixed traffic.

Weak enforcements on major national highways and at night.

Lack of routine enforcements for traffic violations (e.g., speeding, wrong lane use, dangerous overtaking, illegal parking, red light running, and no helmet wearing, etc.)
Recommendations

Research Need for Vietnam

- Need to support scientific research
- To deeply understand the local traffic behaviors, particularly motorcycle behaviors, and
- To develop infrastructural engineering solutions, including road signs/markings and traffic signal system for motorcycles.
Thank you for your kind attention

Any question, please email to

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