

## Study on Motorcycle Helmet Use in 2016 Myanmar – Main Findings

### Background

In July and August 2016 motorcycle helmet use was recorded at eight observation sites throughout Myanmar in a collaborative effort by the Myanmar Organization for Road Safety, the Myanmar Traffic Police Force, the Technical University of Berlin, and the Leuphana University Lueneburg.

This factsheet was produced to highlight the main findings of the study, for detailed information please contact the authors.

### Method

385 hours of traffic were filmed with two video-cameras throughout Myanmar. The first 15 minutes of every recorded hour were later coded for helmet-use of motorcycle drivers and passengers (resulting in 103 hours of coded helmet use).

Observation sites were chosen to represent five different city sizes, ranging from 48,000 inhabitants in Nyaung-U to 4.7 million inhabitants in Yangon. Details about the observation sites can be found on page five of this document.

The observation sites were not chosen in a way that allows stratification of the sample. This means a helmet use average for Myanmar as a whole cannot be calculated in a valid way from this study. Nevertheless, to be able to approximate the average helmet use in Myanmar an average between all observation sites was calculated. The resulting value is only a broad estimate of the real helmet use rate throughout the country.

Apart from helmet use, the position of the riders on the motorcycle was coded according to the template on page five of this document.

### Main findings

- Helmet use varies widely between observation sites.
- Drivers wear helmets more often than passengers.
- Helmet use varies throughout the day.
- In urban areas helmet use is higher than in rural areas.
- Estimated helmet use, calculated as the average of all observation sites, was 51.66%.

### What's next?

- Conduct a more comprehensive observation study to improve representativeness of the data.
- Conduct interviews and questionnaire studies to understand what influences helmet use in Myanmar motorcycle riders.
- Evaluate interventions targeted at increasing helmet use for their effectiveness.

**Estimated helmet use, calculated as the average of all observation sites, was 51.66%.**

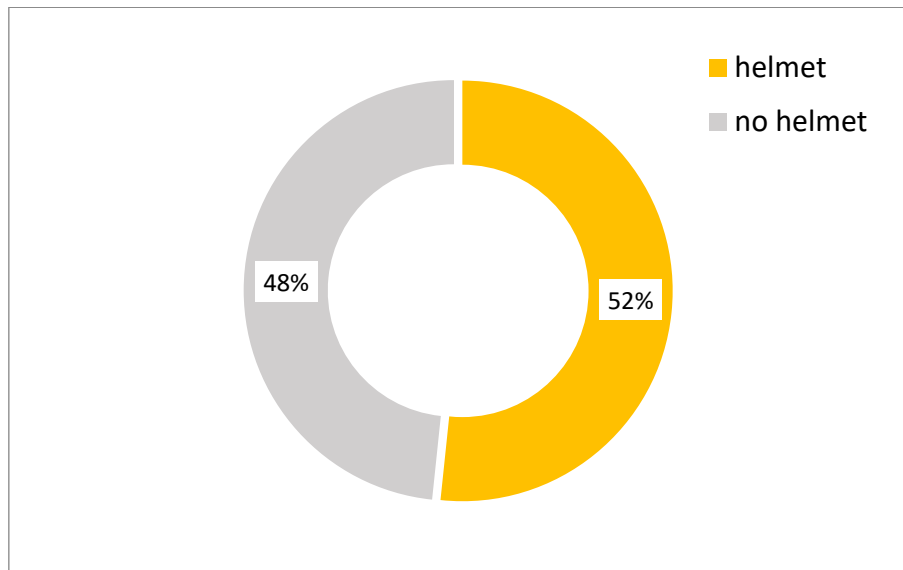


Figure 1. Percentage of helmet use as an average over all observation sites in Myanmar.

**The observed helmet use rate varies greatly between different observation sites, from 27.9% in Yangon to 74.6% in Mandalay.**

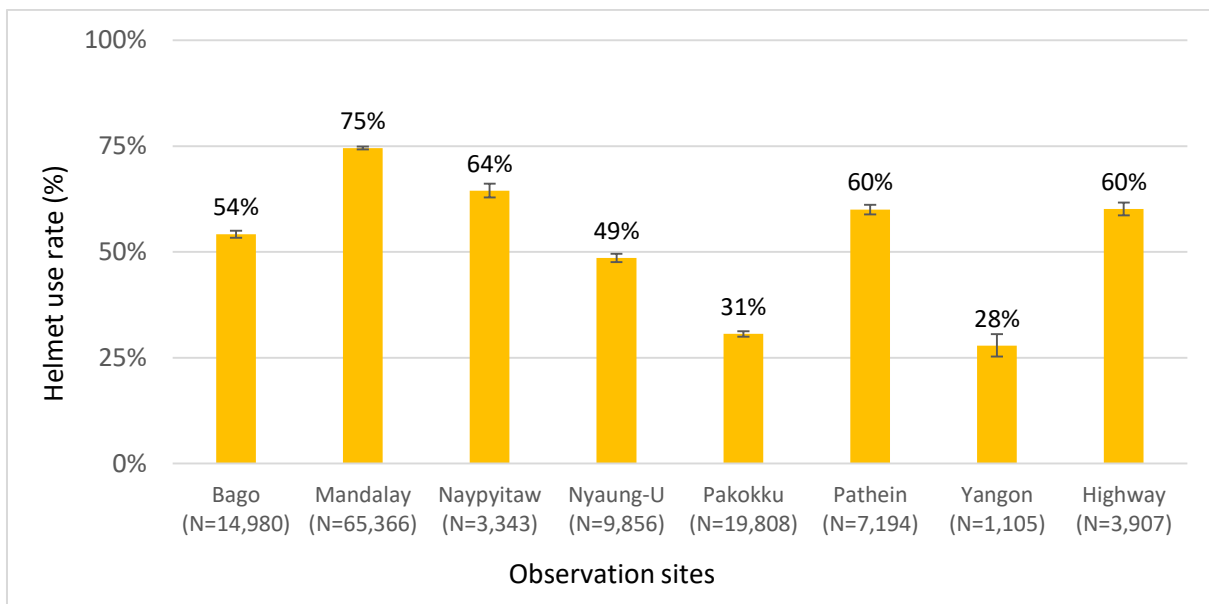


Figure 2. Helmet use at eight observation sites in Myanmar (total number of riders observed N=125,559). Error bars show the 95% confidence interval.

**The helmet use rate increases in the morning and decreases again in the afternoon. The maximum difference accounts for 36% (between 6am and 10am).**

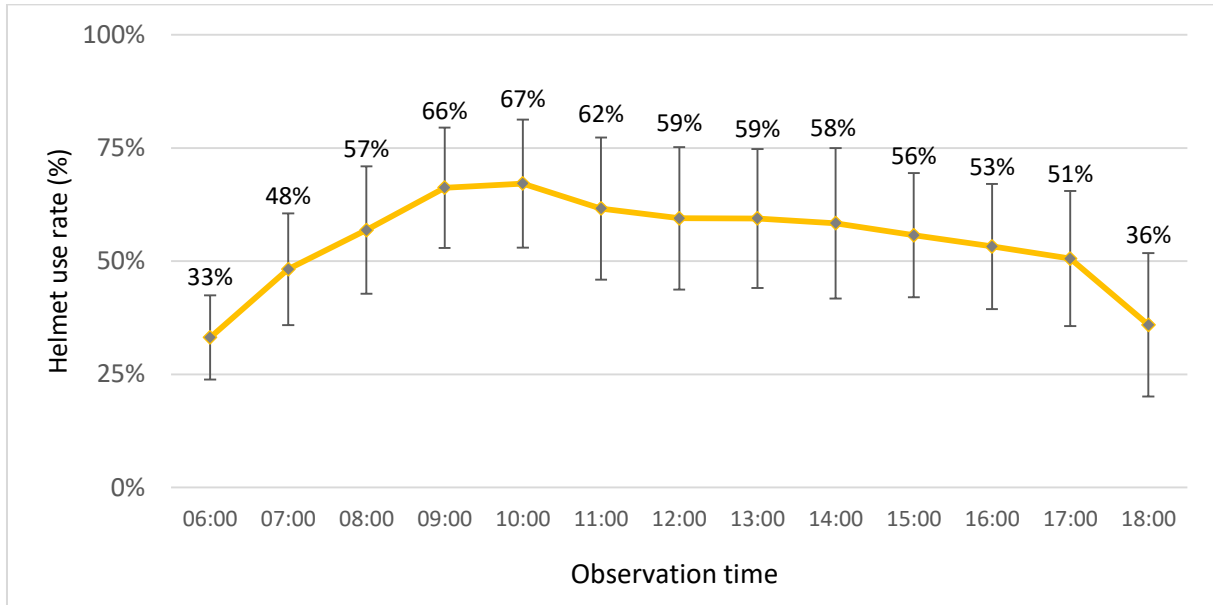


Figure 3. Average helmet use throughout the day (N=124,454). Error bars show the standard deviation.

**Drivers have the highest helmet use rate (68.1%), the rate decreases for every additional passenger.**

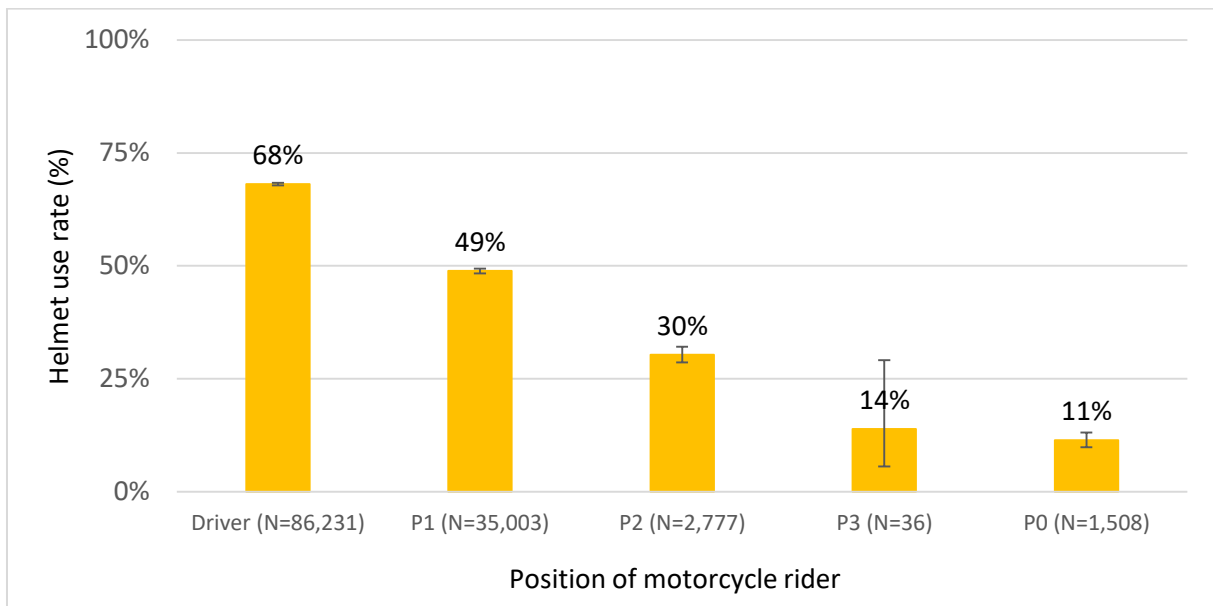


Figure 4. Helmet use for the different positions (defined in Figure 7) on the motorcycle (total N=125,555). Error bars show the 95% confidence interval.

**The helmet use rates at urban observation sites are twice as high as at rural observation sites.**

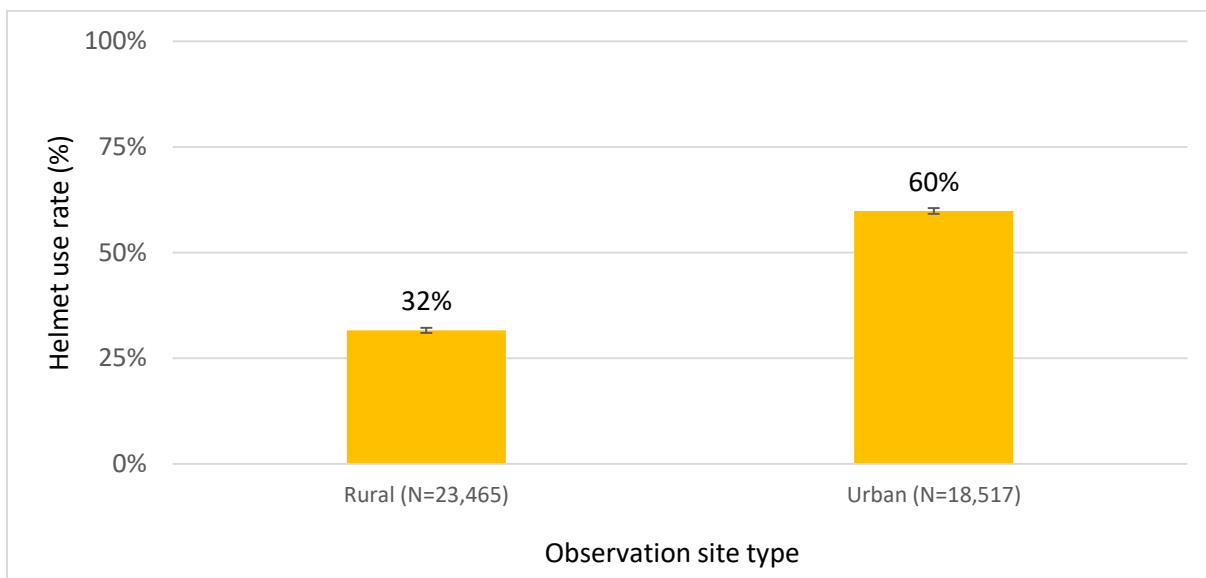


Figure 5. Average helmet use at rural and urban observation in Bago, Pakokku, and Patheingyi (total N=41,982). Error bars show the 95% confidence interval.

**In Mandalay, observed helmet use decreases drastically on Tuesday the 19<sup>th</sup> of July 2016 (Martyr's day).**

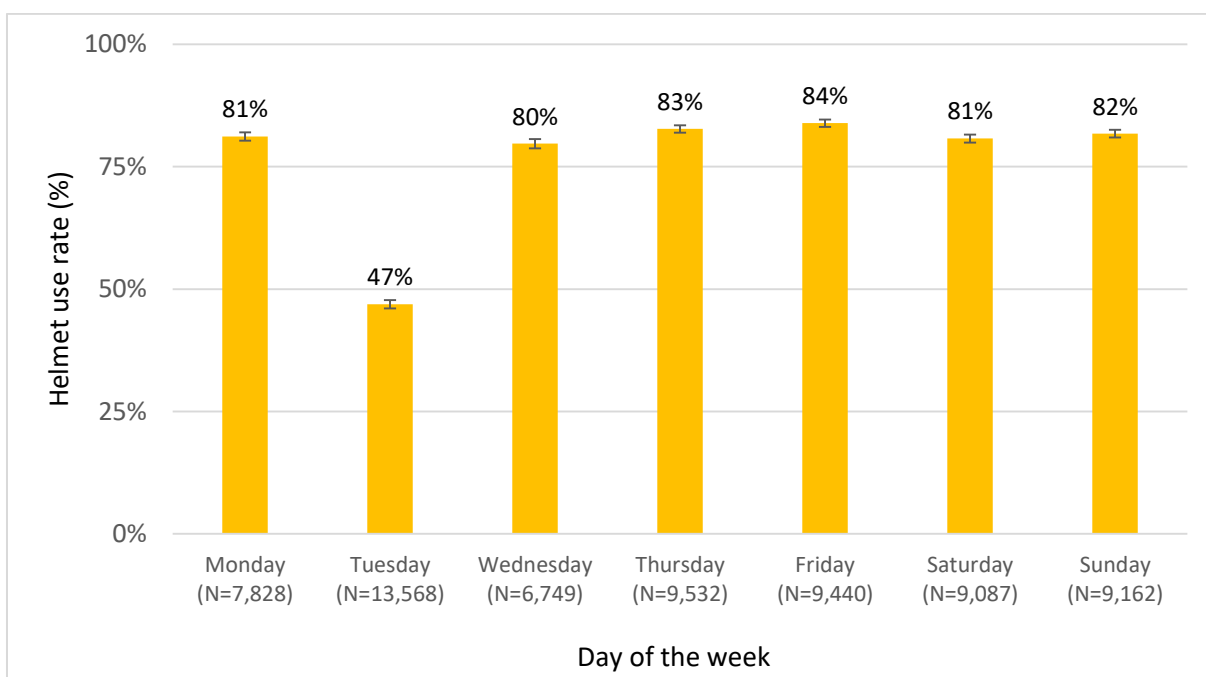
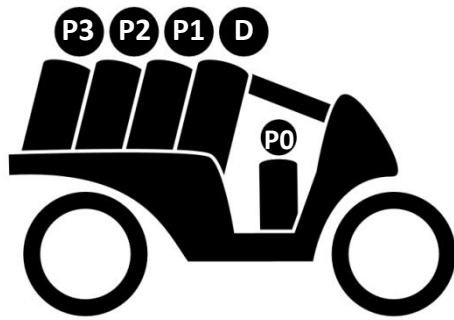


Figure 6. Helmet use in the week of the 18<sup>th</sup> to 24<sup>th</sup> of July in Mandalay (total N=65,366). Error bars show the 95% confidence interval.



D – Driver  
 P1 – Passenger 1  
 P2 – Passenger 2  
 P3 – Passenger 3  
 P0 – Passenger 0

Figure 7. Position of motorcycle riders as coded in this study. Passenger 0 stands on the floorboard of the motorcycle and does not sit on the seat.

City [Population]	Administrative division	Dates [mm-dd- yyyy]	Type of observation site	Road	Total observation time [hh:mm:ss]
Bago [254,424]	Bago Region	08-02-2016 – 08-04-2016	rural, urban & Highway	Thun Pagoda Road, Thanat Pin Road, Yangon - Mandalay Highway	46:51:48
Mandalay [1,225,546]	Mandalay Region	07-17-2016 – 07-23-2016	2x urban	35 <sup>th</sup> Street, 62 <sup>nd</sup> Street	164:28:59
Naypyitaw [333,506]	Naypyitaw Union Territory	07-29-2016 – 07-30-2016	2x urban	Yaza Thingaha Road, Taungnyo Road	31:52:39
Nyaung-U [48,528]	Mandalay Region	07-13-2016 & 07-15-2016	1x urban	Lanmadaw 3 Road	24:30:07
Pakokku [90,842]	Magway Region	07-13-2016 – 07-15-2016	rural & urban	Nyaung U-Myingyan Rd, Mindat-Pakokku Road	48:56:13
Pathein [169,773]	Ayeyarwady Region	07-09-2016 – 07-10-2016	rural & urban	Pathein Road, Shwe Zaydi Road	40:53:49
Yangon [4,728,524]	Yangon Region	08-07-2016	north & south	Ka Naung Min Thar Gyi Road, Yangon-Pathein Road	16:30:04

Table 1. Details about the observation sites.

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