

# **Vehicle safety: A move towards zero fatalities**

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# 3rd. Asia Automobile Institute Summit

2-4 December 2014, Bangkok

## Part I

### Motorcycle accident data in Thailand

## Part II

### Countermeasures of Thailand

Source: Department of Land Transport, Thailand

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## Part I

### Motorcycle accident data in Thailand

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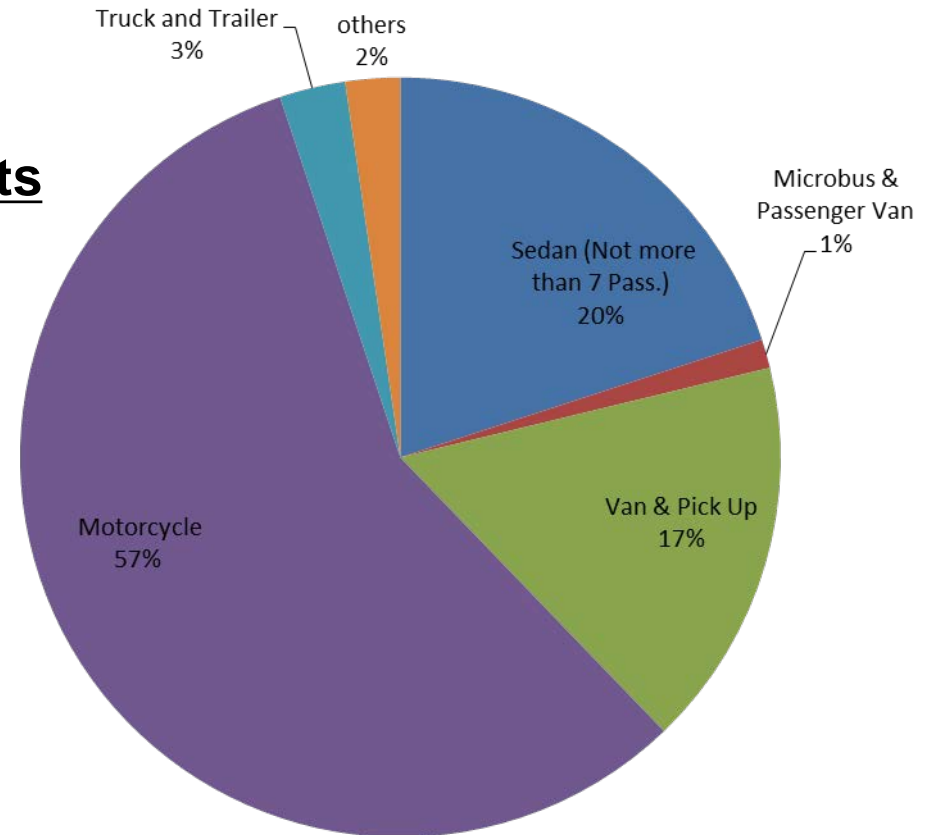
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## Background

Number of Registered Vehicles  
as of 30 June 2014 = **35,352,660 Units**

About **57%** are Motorcycles



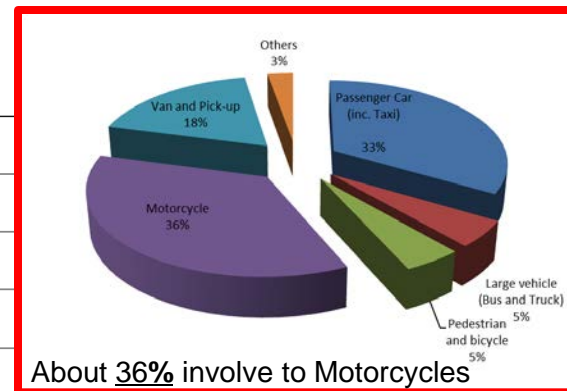
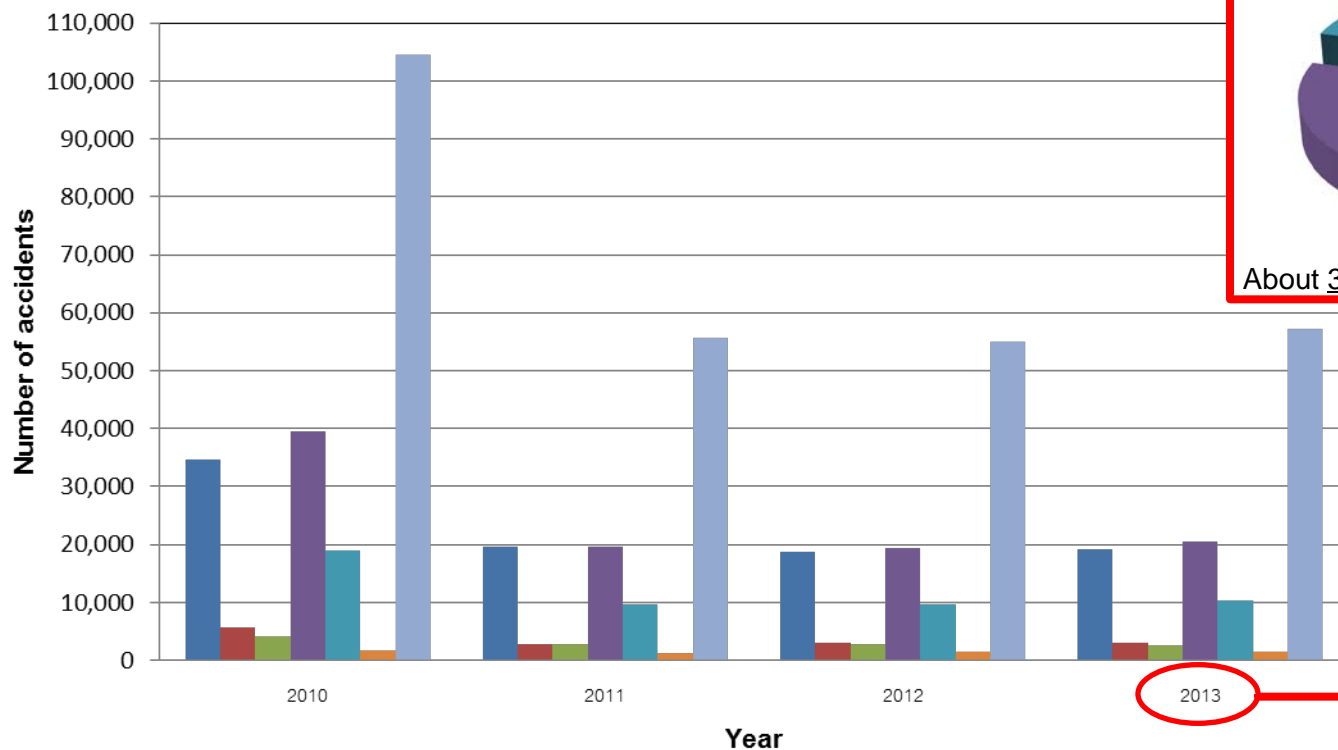
Source: Department of Land Transport, Thailand

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## Road Safety Situation in Thailand

Vehicle types involve in road crashes



Proportion of road crashes classified by road user types in 2013

2011, 2012 & 2013 are Comparable

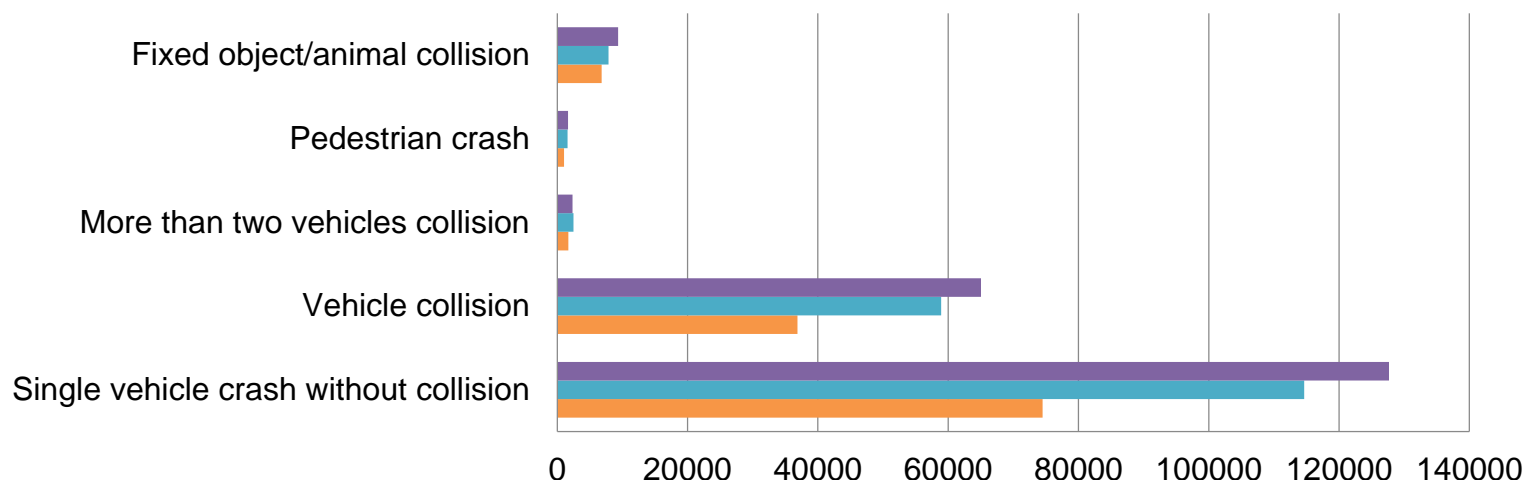
■ Passenger Car (inc. Taxi) ■ Large vehicle (Bus and Truck) ■ Pedestrian and bicycle ■ Motorcycle ■ Van and Pick-up ■ Others ■ Total accidents

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## Motorcycle Accident Analysis

### Number of Motorcycle Accident by Types of Crash



	Single vehicle crash without collision	Vehicle collision	More than two vehicles collision	Pedestrian crash	Fixed object/animal collision
2012	127674	65044	2331	1664	9334
2011	114641	58916	2492	1582	7869
2010	74500	36879	1706	1035	6823

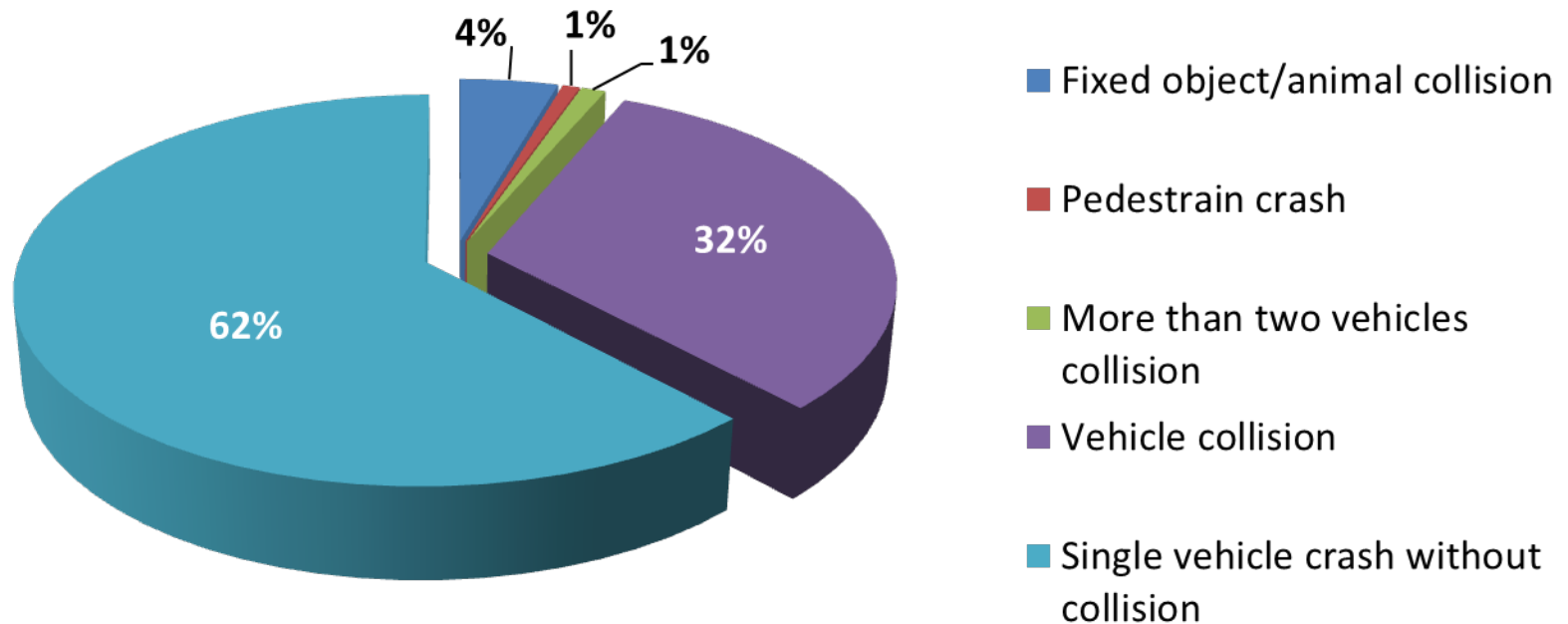
No. of accident

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## Motorcycle Accident Analysis

Percentage of Motorcycle Accident by Types of Crash, Year 2012



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## Motorcycle Accident Analysis

Other Vehicles involved in Accidents with Motorcycle

	2010		2011		2012	
Vehicle Type	Injured	Fatal	Injured	Fatal	Injured	Fatal
Public Bus/Van	657	79	1,037	141	1,058	130
Truck	1,533	342	2,379	697	2,589	675
Passenger Car, Pickup	16,351	921	26,833	1,567	29,385	1,861
Motorcycle	9,931	213	15,384	399	16,308	430
Personal Van	161	17	295	24	367	35

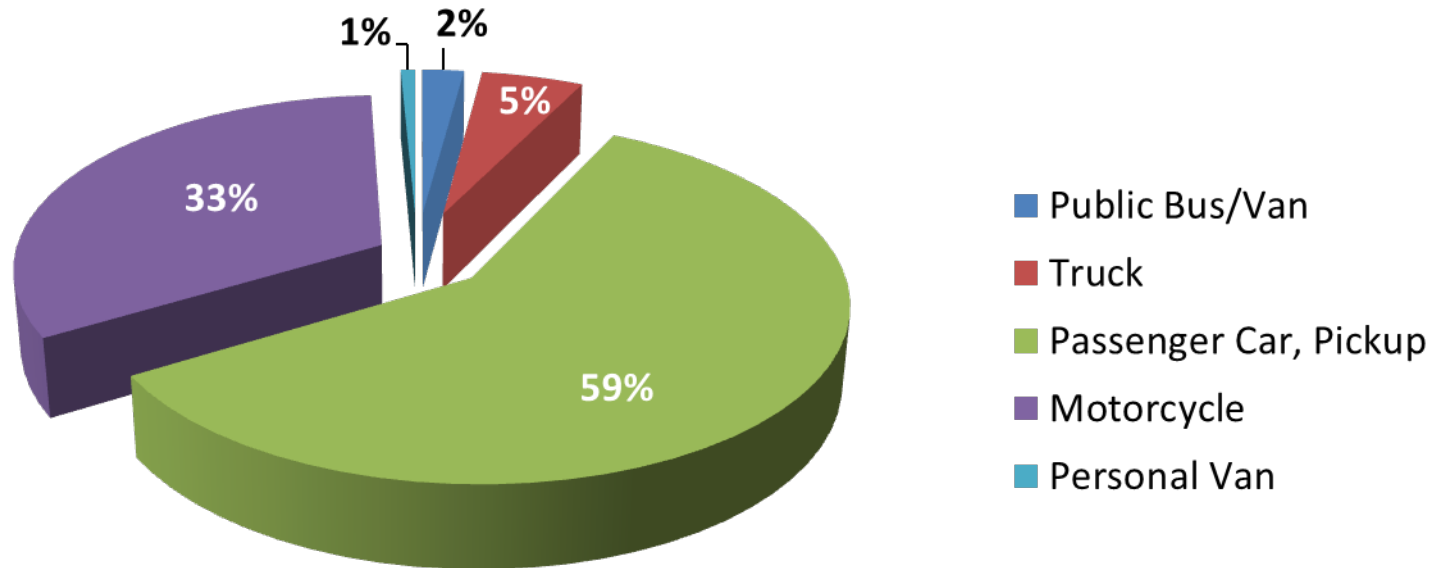


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## Motorcycle Accident Analysis

Percentage of Injury vs Vehicles involved in Accidents, Year 2012

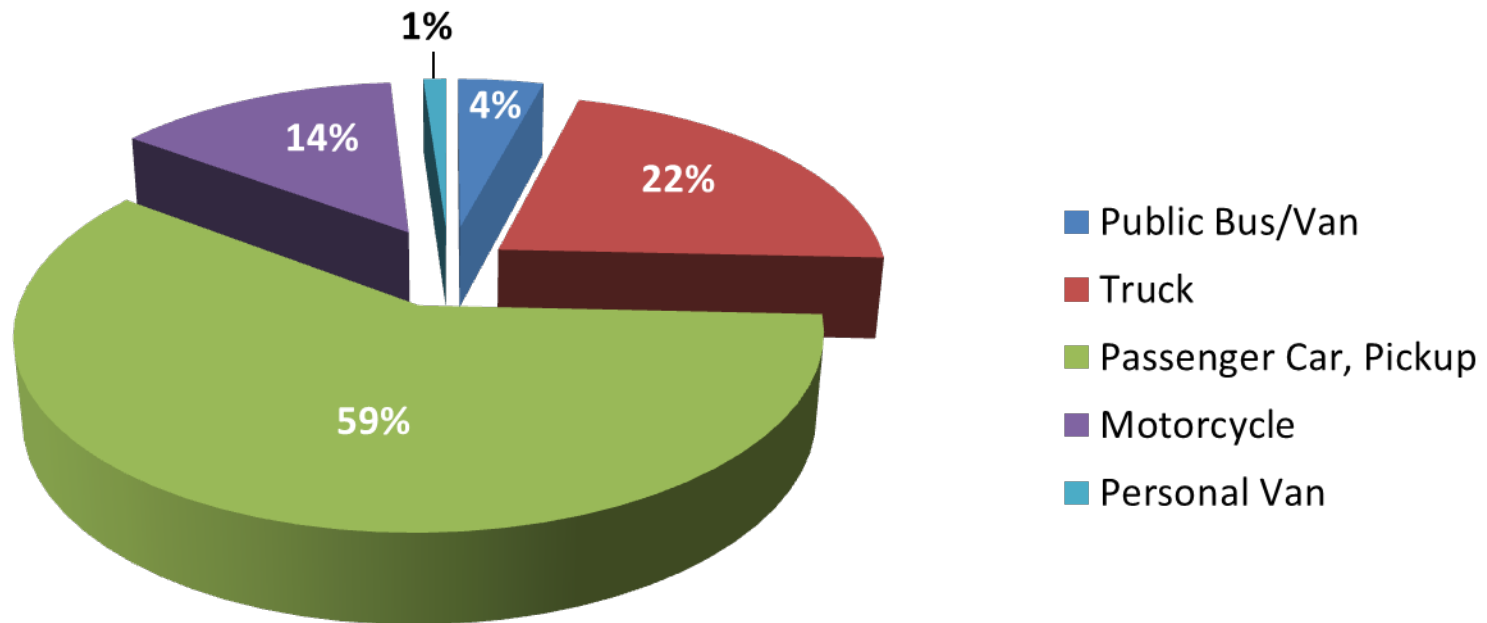


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## Motorcycle Accident Analysis

Percentage of Fatality vs Vehicles involved in Accidents, Year 2012

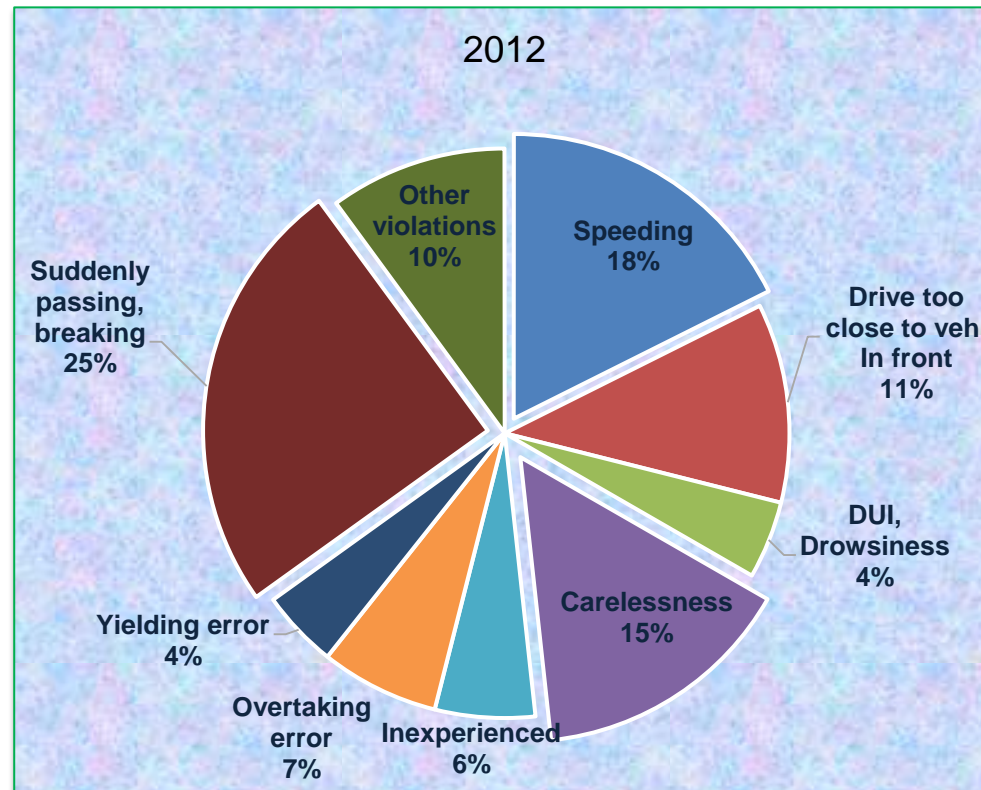


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## Motorcycle Accident Analysis

Number of Motorcycle Accident by Causes of Accident

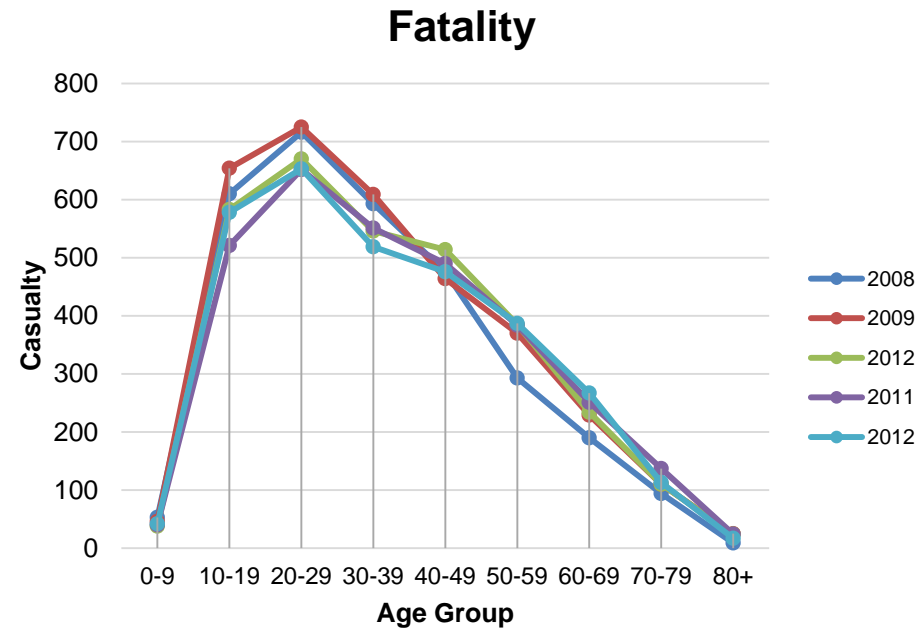
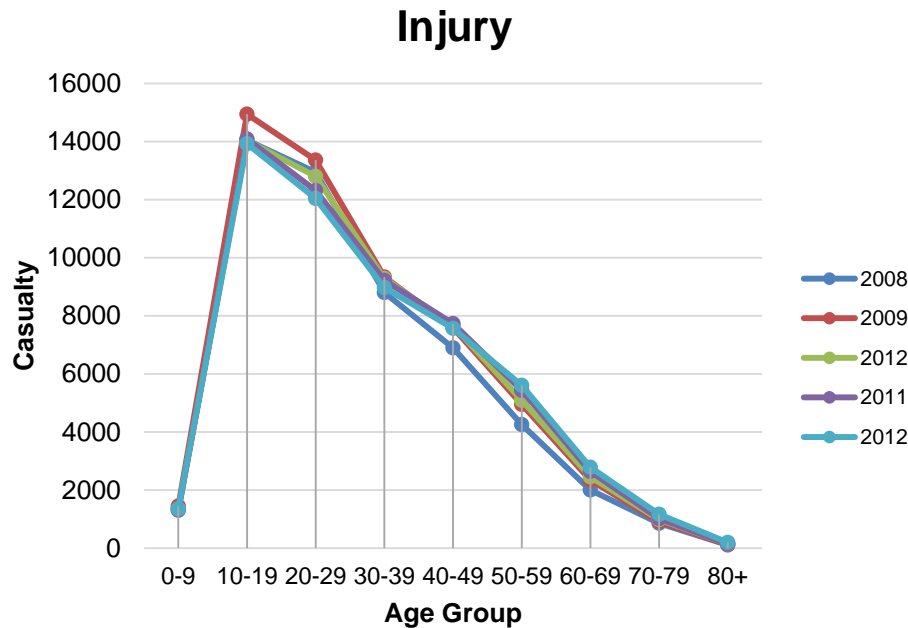


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## Motorcycle Accident Analysis

### Number of Motorcycle Casualties by Age

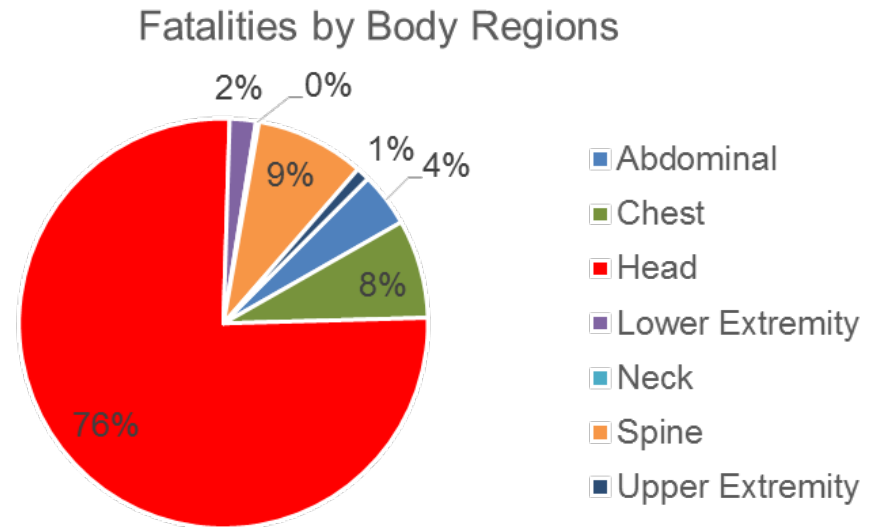
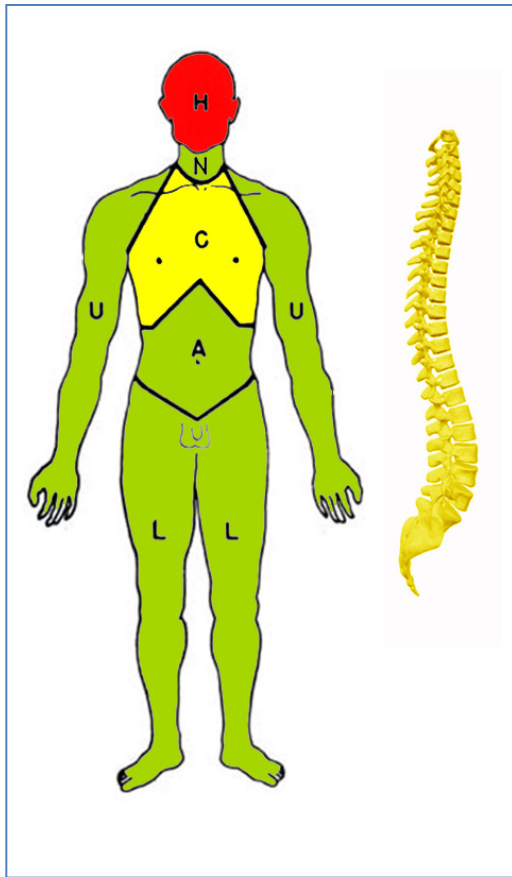


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## Motorcycle Accident Analysis

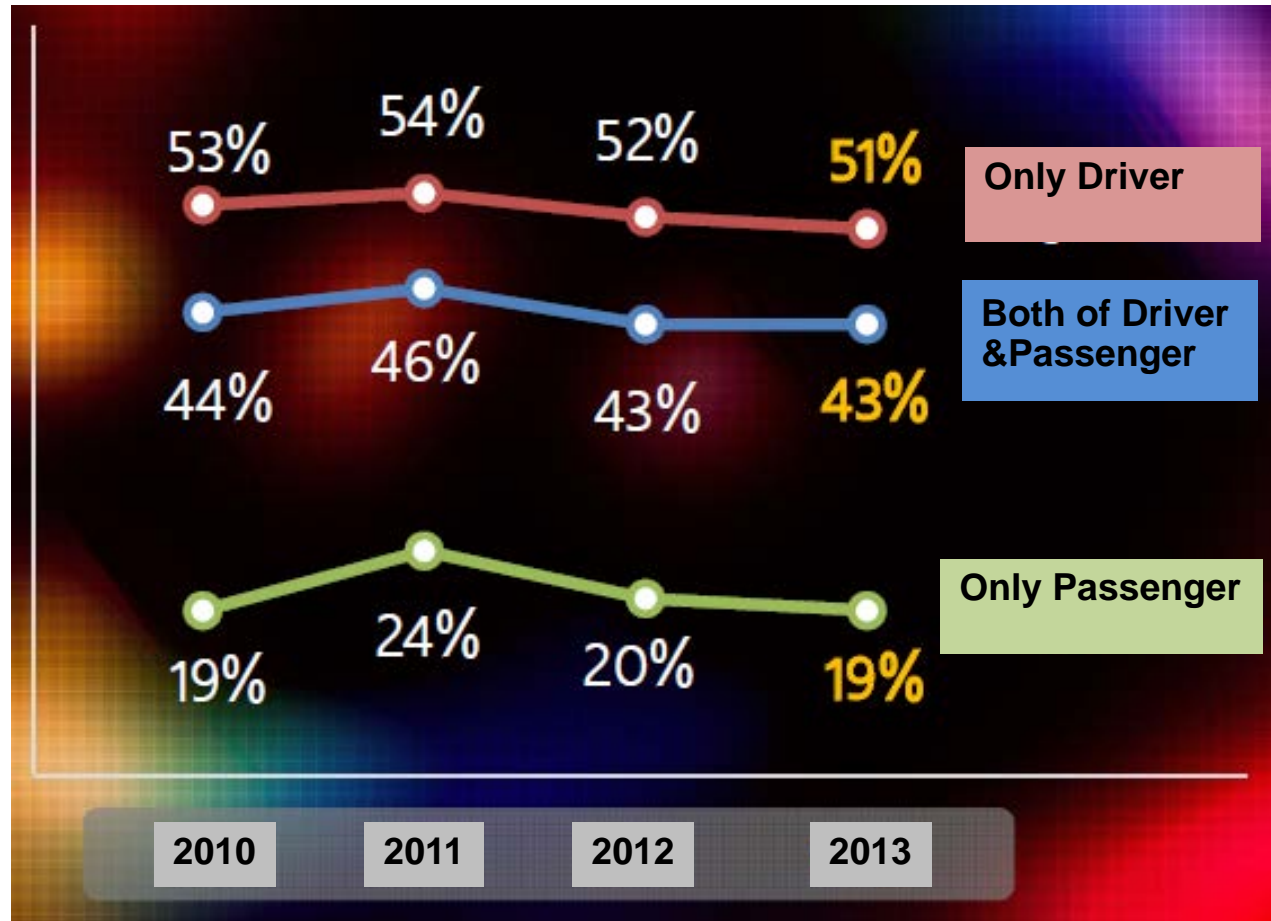
Number of Motorcycle Casualty - Fatalities by Injured Body Regions



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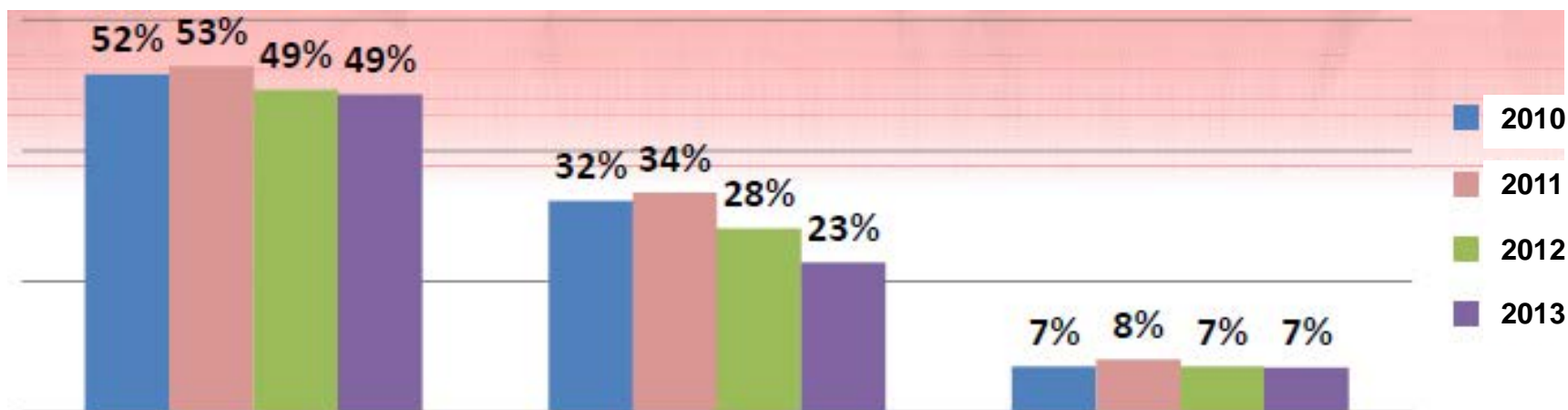
## Overall Safety Helmet Usage in Thailand 2010 - 2013



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## Safety Helmet Usage in Thailand by Age



**Adult**

**Driver & Passenger**



**Teenager**

**Driver & Passenger**



**Children**

**Only Passenger**

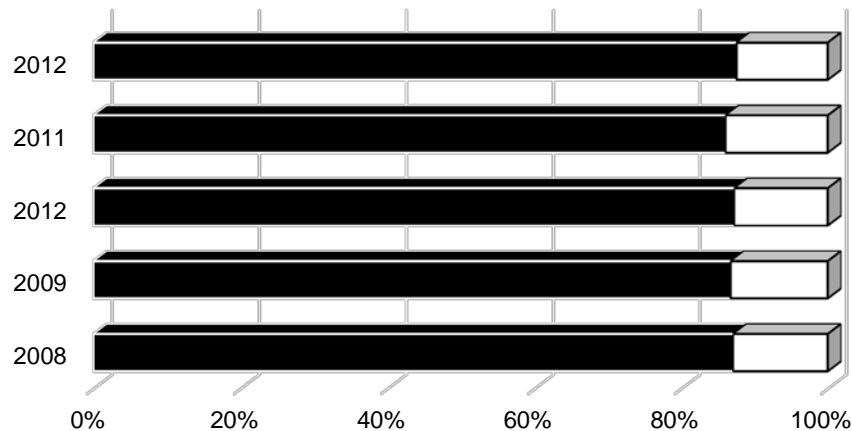
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## Motorcycle Accident Analysis

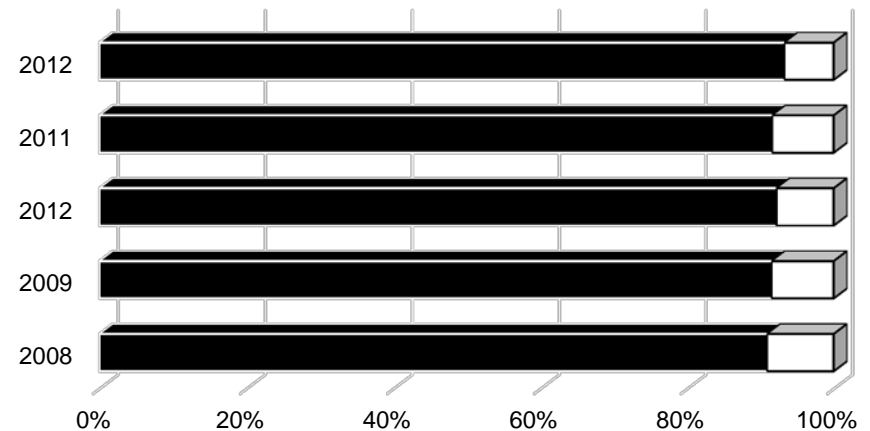
### Number of Motorcycle Casualty by Safety Helmet Usage

Injury



	2008	2009	2012	2011	2012
■ No	42032	45325	44098	43771	44182
□ Yes	6235	6931	6453	7102	6291

Fatality



	2008	2009	2012	2011	2012
■ No	1981	2100	1981	1911	1918
□ Yes	198	194	168	175	138



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## Part II

### Countermeasures of Thailand

Source: Department of Land Transport, Thailand

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Motorcycle Helmet standard progression in Thailand.

TIS 369 – 1996 ,Adapted from JIS & ISO standard.

TIS 369 – 2014 ,ECE R 22 for Full face and Open face types with a few items from ECE to determine a Visor quality ,DOT for Half type.

Suppose to be compulsory in 2015

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Safety concerned items	M/C	CAR	Laws Requirement
Helmet	✓		Rider & Passenger
Passenger Age	✓		Not controlled.
Alcohol or Drug involvement	✓	✓	Not over 50 mg%
Phone while driving	✓	✓	Hand free is accepted.
Age	✓	✓	License permitted over 15 yrs(m/c)18 yrs (car)
Speed limit	✓	✓	Urban 80, Highway 90, Cross province Expressway 120 (passenger car only) (KM/Hr)

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Safety concerned items	M/C	CAR	Laws Requirement
Daytime Headlight On	✓		Controlled only type approval with Department of land Transport 's.
ABS	✓	✓	Not controlled.
Rider's Protection gears	✓		Not controlled.
Passenger &Luggage	✓		Not more than 1 person & Luggage not more than 50 kg
Noise emitted	✓	✓	Not over 90 decibel A
License qualification	✓	✓	Not controlled.

## TAI'S Helmet testing capabilities.

- ECE R 22 full items(Shell &Visor)
- DOT (Impact attenuation )

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TAI'S Helmet testing facilities .



## Research Projects in Thailand

- Motorcycle Wheel Strength Compressive Load Test.
- Identification of hand brake patterns of young motorcycle riders.

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Rajamangala University of Technology Phra Nakhon, Faculty of Engineering, Thailand

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**Thank you for your attention.**