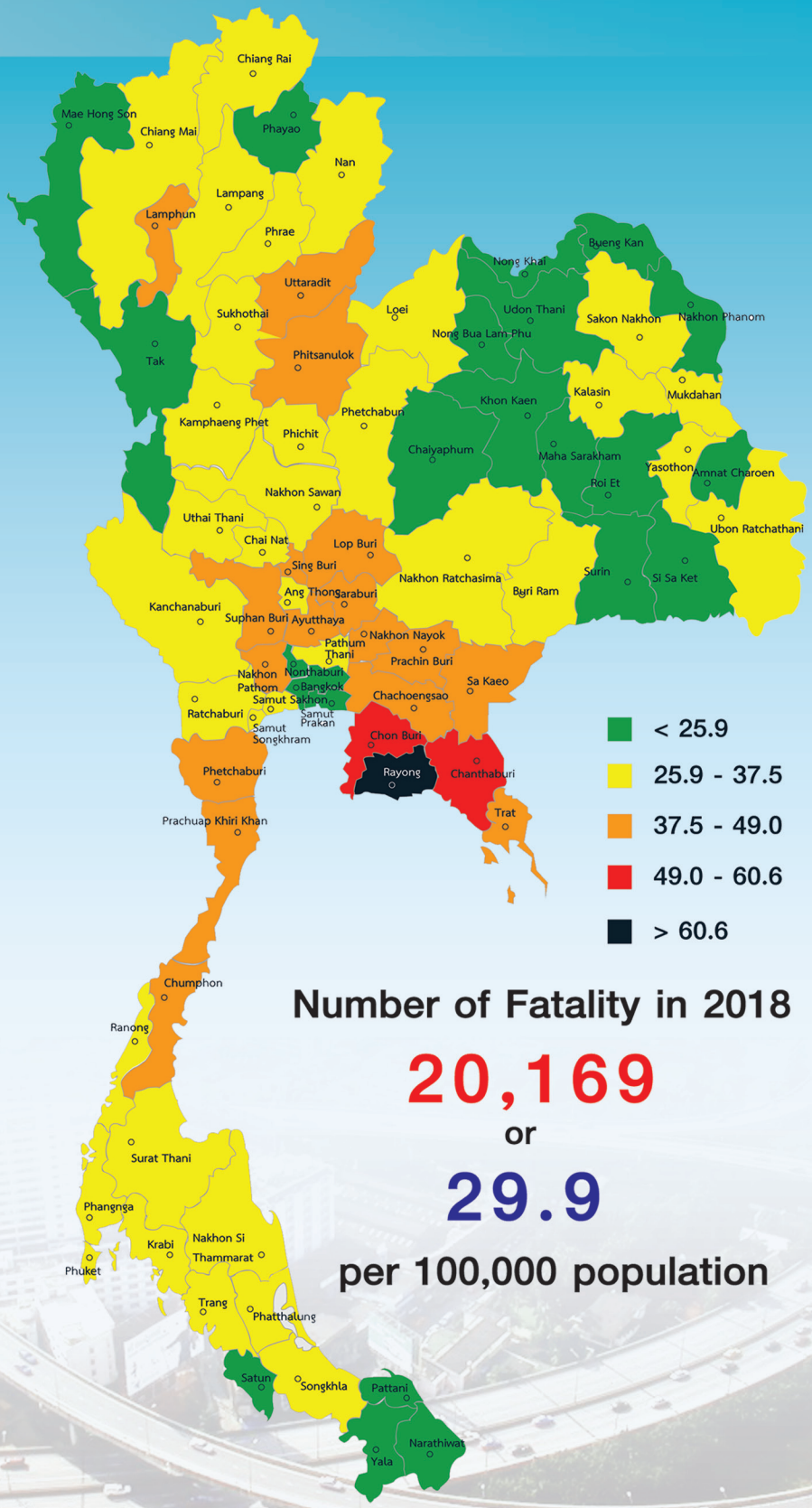
Thailand National Status Report on Road Safety 2018



Number of Fatality in 2018

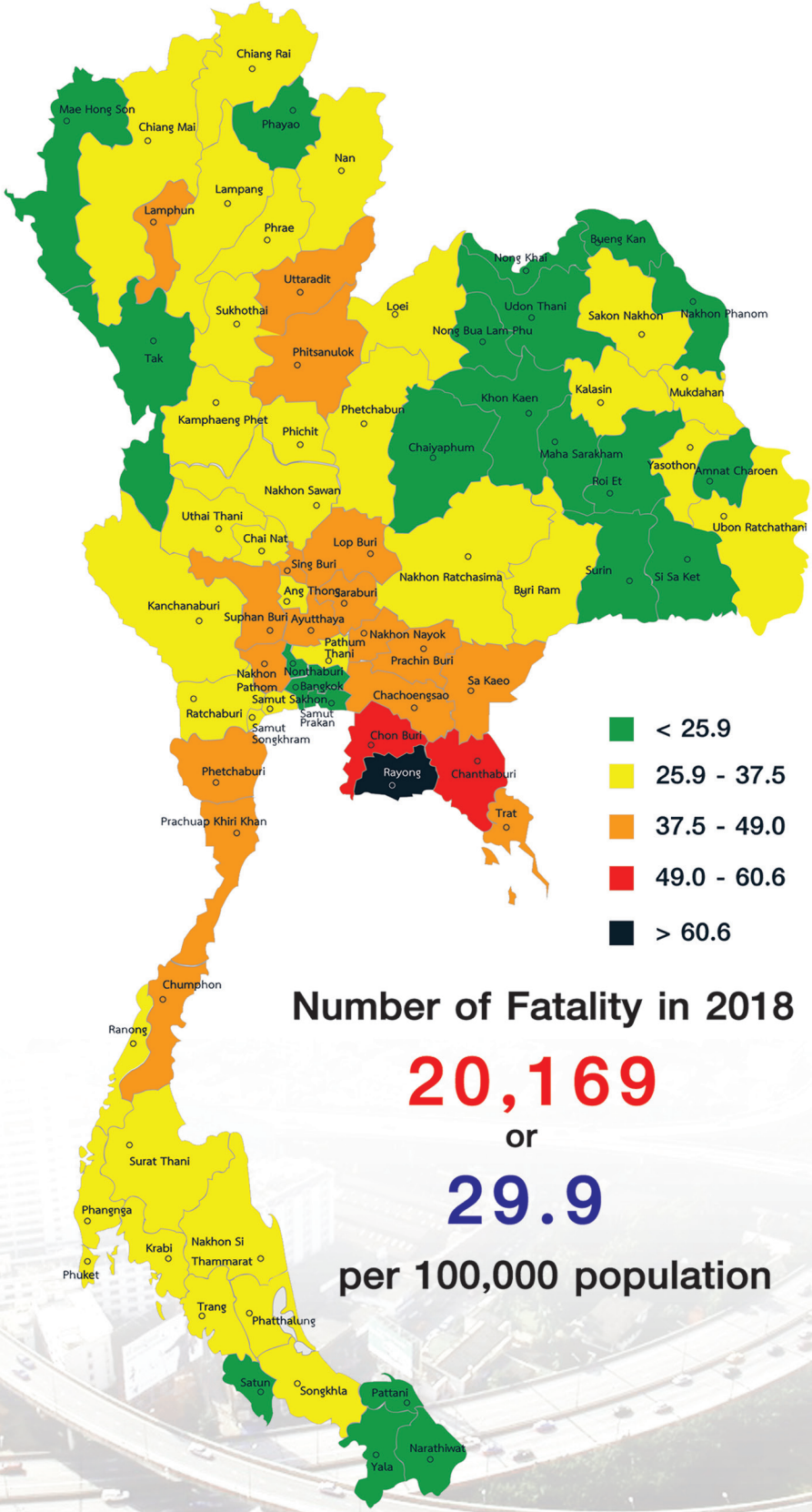
20,169

or

29.9

per 100,000 population

Thailand National Status Report on Road Safety 2018



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Thailand National Status Report on Road safety 2018

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Thai National Status Report on Road Safety 2018 has been completed. Thanks to the collaboration from multidisciplinary teamwork from every single province in arranging the conference, as well as collecting and analyzing data, and sorting the risk factors on road traffic accidents.

Road Safety Work Group in Provincial Level of Thailand (RSWGS) gratefully acknowledges the contribution made to this report by the following; every individual, organization, leader and support team from every province who provided valuable information; every regional executive officer who collected data; Dr. Preeda Chaturabong who had the important role of analyzing data and writing this report; executive committees of RSWGS who gave the advice on the report for its completeness and utility for referencing in the future. Finally, RSWGS wish to thanks Thai Health Promotion Foundation for its generous financial support for the development of this report.

Working Group

August 2019

Foreword

I praise and thank you RSWGS with Dr. Witaya Chadbunchachai, MD. as its president for providing Thai National Status Report on Road Safety 2018 which is the fifth issue so far. The purpose of this report is to support multidisciplinary teamwork on developing road traffic accident database system and exchanging information between each other, which will propel to the integration and effective data management within the province. Consequently, the actual situation will be perceived and utilized into the plan to solve road traffic accidents complying with the ultimate goal of reducing injuries and fatalities from road traffic accidents as much as possible.

I hope that Thai National Status Report on Road Safety 2018 will serve as a useful tool for government official, individual, civil society and networks concerning in the prevention and solution to the road traffic accidents in Thailand, especially high road traffics case rate provinces stated in this report. Additionally, I hope that students, scholars, researchers, media and public will make a good use of this report for their studies and distribute to the public in the future.

(Professor Dr.Udomsil Srisangnam, MD.)

Advisor to the Thai Health Promotion Foundation

Preface

For more than ten years that Thailand has witnessed the movement which attracted people and organization to work together on preventing and reducing road traffic accidents, and create awareness on road safety. Furthermore, they also established a support team to assist each other and create various levels of networks to cooperation horizontal structure and coordinate with government officials in vertical structure under the certain organization called Road Safety Work Group in Provincial Level of Thailand (RSWGS).

This butterfly effect has caused Thailand to see the change that everyone has begun to acknowledge and response to the problem, although the problem is widespread and severe, it's starting to loosen up due to the collaboration across all the network and people awareness tends to be expanding.

From Thai Health Promotion Foundation's point of view as one of the supporter, RSWGS is the organization who ignite the fire of collaboration between multidisciplinary teamwork to build good health and wellbeing which complied with the contemporary definition of the framework to promote the provincial policy called "Health in All Policies" which is also supported by World Health Organization (WHO). Additionally, it is a special mechanism called "Three Forces" consisted of three coherent approach including knowledge force, social movement force and policy force, to achieve the goal and overcome difficulties.

Thai National Status Report on Road Safety 2018 provided by RSWGS is the example of the utilization of information retrieved from various databases to obtain knowledge and apply it in the integration and planning to prevent and solve road traffic accidents, as well as monitoring its progress. The report also presented useful information for analyzing the diversity of situation in each province. It is very important that Road Safety Thailand should utilize this information on setting policies and procedures to reduce huge amounts of injuries and fatalities from road traffic accidents by half to achieve the decade of action for road safety within 2020.

I would like to thank you and cheer for the tireless effort of working group, and I also hope that this report together with RSWGS activities will deliver road safety to every part of Thailand as well as succeed in achieving the goal in the near future.

(Dr. Supreeda Adulyanon, MD.)

Thai Health Promotion Foundation manager

Foreword

First and foremost, I would like to give the best compliment to the working group and people who involve in the development of the fifth issue of Thai National Status Report for Road Safety, which present the new dimension of report. This report shows the great improvement in collaboration of all sectors of the society, with the continuity of context from previous issue.

I also encourage readers to read every single page and have a clear understanding, because this report is a must-read for its first time self-assessment on provincial system management, such as the strength of the provincial policy, the strength of working group and network, the risk management and the resource allocation. Then the result from the self-assessment were used in the analyzing process to define the relationship of injuries and fatalities from road accidents, by using different colors in the map to compare each province in each region to explain their risk factor, weakness and killing zone. Finally, it would be sustainably beneficial to road users, should this report were utilized to reduce injuries and deaths, and overcome all weaknesses.

(Dr. Weerapan Supanchaimat, MD.)

RSWGS Chairman of the Steering Committee

Preface

Thailand National Status Report on Road Safety 2018 is the fifth issue provided by RSWGS, the past issues were as follows:

First issue - 2011

Second issue - 2012

Third issue - 2014

Fourth issue - 2016

Current (5^{th}) issue - 2018

Thai National Status Report on Road Safety is considered the masterpiece derived from RSWGS strategies on development of road safety information system. Our team has created an innovation in gathering and making status report on road safety which set the standard and is nationally accepted in many respects, as follows:

1. The number of fatalities caused by road traffic accidents has been retrieved from three major databases, including POLIS, E-claim and Ministry of Public Health since the second issue of the report in 2012. The data retrieved from a single database proved to be lacking in precision, while the data retrieved from combining three databases together has high precision and conform to the actual situation. Regardless of the capability to identify the number of fatalities, the result from analyzing the situation in each province can also be utilized for setting plan and direction. The integration of three major databases is essential in order to achieve the accuracy and precision of information, thus RSWGS gratefully acknowledges the contribution made to the report from three according organizations since 2012.

2. RSWGS are capable of analyzing situation and coping with the road traffic accident problem (distal determinants). The new dimensional presentation in the form of radar chart was introduced to this report to assess the provincial promptness on solving road traffic accidents. The assessment consists of six factors as follows.

The strength of provincial center/committee on road safety.

The commitment of the provincial policy.

The clarity of plan on solving road traffic accidents.

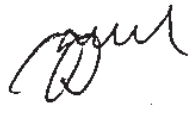
The management of budget and human resource on solving road traffic accidents.

The risk management on human, vehicle and road.

The strength of network on solving and preventing road traffic accidents.

It can be said that the fifth issue of Thai National Status Report on Road Safety is more complete than the past issues, and it is most likely that the province will utilized the report in the planning to prevent road traffic accidents in the province.

I would like to thanks Dr. Wiwat Seetamanotch, Dr. Anucha Setthasatien and Dr.Danai Ruengsorn working group, RSWGS regional leaders, support team and provincial team for their physical and mental effort on collecting, reporting and analyzing data, including successfully completing the report. The report itself is perfect in both appearance and context, and is considered very useful to the process to prevent road traffic accidents in Thailand.



(Dr. Witaya Chadbunchachai, MD.)

Director of RSWGS

August 2019

Content

Road Accident Situation in Thailand 2018

20,169

20,169 people lost their lives on the roads in 2018. This figure decreased from 22,353 people in 2016.

26.1

In every 27 minutes, at least one person dies by road accident.

29.90

The road traffic death rate is 29.90 per 100,000 population.

70.2%

More than three-fourths (70.2%) of victims were motorcyclist.

15-24

The highest proportion of victims were among 15-24 years old. It shared about one-fourths.

Mae Hong Son

Mae Hong Son was reported lowest fatality rate (13.09) per 100,000 population

Rayong

Rayong was reported highest fatality rate (65.53 per 100,000 population)

Nong Bua Lam Phu

Nong Bua Lam Phu was reported the highest fatality reduction rate (decrease 11.00 per 100,000 population)

Chapter 1

Introduction

1.1 Road Accident Situation Worldwide

Every year, more than 1.25 million people die by road accidents. 90% of road traffic deaths occur in low- and middle-income countries. According to the Global Status Report on Road Safety 2018, Thailand posted the nine-highest road fatality rate in the world. However, compared to 2015, Thailand have seen success in reducing the number of road traffic deaths from being ranked 3rd in the world.

The study by Thailand Development Research Institute on the costs of traffic accidents to the nation between 2011 - 2013 reveals an average of sums by year of 545,435 million Baht, equivalent to 6% of the country GDP in 2017. [2]

Without any effective countermeasures, it would be difficult to solve this crucial situation, and more importantly, there will be 56 Thais die on the road every day. That means, every 27 minutes, at least one person is going to die on the road.

[1] WHO, ed. (2018). "WHO Report 2018 Data tables" (PDF) (official report). Geneva, Switzerland: World Health Organization.

[2] Thailand Development Research Institute (TDRI) (2560)

1.2 Road Accident Situation in Thailand

The decade of action for road safety 2011-2020 by World Health Organization encourages countries around the world to set an ambitious goal to stabilize and reduce by half the predicted level of traffic fatalities by 2020. In the past, Thailand aimed to achieve the road fatality rate of 10.00 per 100,000 population by year 2020. However, at the present, Thailand use the statistic from three major accident databases (POLIS, E-claim, and Death Certificate) to predict the road fatality rate. According to the statistic since 2011, the result shown that Thailand have to reduce fatality rate to 17.86 per 100,000 population or 2.86 fatalities per 100,000 population annually by the end of 2020.

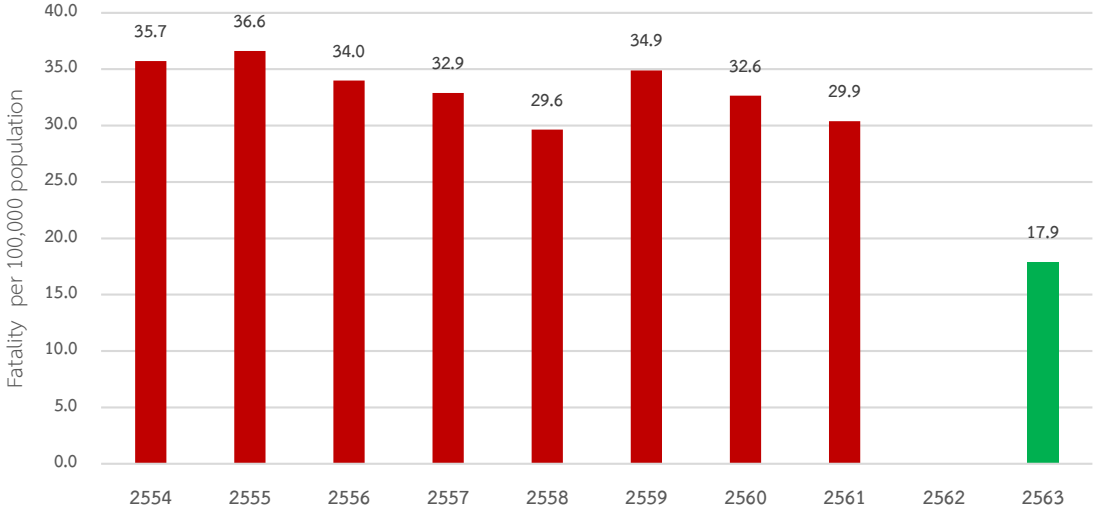


Figure 1.1 Road traffic death rate 2011-2020

(from three major accident databases)

According to the statistic between 2011-2018 retrieved from the integration of three major accident databases, indicates that the fatality rate tends to gradually decrease until 2015, which is 6.08 fatalities per 100,000 population. However, in 2016, the fatality rate increased by 4.76 fatalities per 100,000 population in comparison with the last year. These results also comply with the statistic from Royal Thai Police and Road Protection Victim insurance company. It is still too early to conclude that Thailand has failed to achieve the goal. Only extra efforts is needed to conduct effectively. In the meanwhile, studying the situation along the process will enable us to acknowledge the current problem and limitation in the past, which will lead to the solution to reduce the fatality rate as targeted.

Chapter 2

National Statistics

2.1 Road Traffic Death Rate

The integration of three major accident databases (POLIS, E-claim and Death Certificate) in 2018 by Sub – Committee on Information Management and Monitoring and Evaluation of Road Safety Thailand found that there were 19,585 accident fatalities which equivalent to 29.95 deaths per 100,000 population (**Figure 2.1**). This figure decreases by 4.5 deaths per 100,000 population comparing with 2016. **(Figure 1.1)** (There were 34.40 deaths per 100,000 population in 2016) The highest fatality rate-provinces are Nakhon Ratchasima, Bangkok, Chonburi, Ubon Ratchatani, and Chiang Mai respectively (**Figure 2.2**).

According to the decade of action for road safety 2011-2020, at the present, only five provinces achieve the goal, decreasing the death rate lower than 17.86, which are Bangkok, Mae Hong Son, Pattani, Narathiwas and Yala. There is a very prominent difference comparing to 2016 which has two provinces including Bangkok and Yala. These indicate that many provinces take less effort to improve road traffic death rate. Additionally, in comparison of the fatality rate between 2016 and 2018, the result shows that the fatality rate has reduced in 44 provinces while 13 provinces were found increased. The highest reduction rate-provinces are Phayao, Maha Sarakham, Nong Khai, Sa Kaeo, Nong Bua Lam Phu and Tak. (**Figure 2.4**).

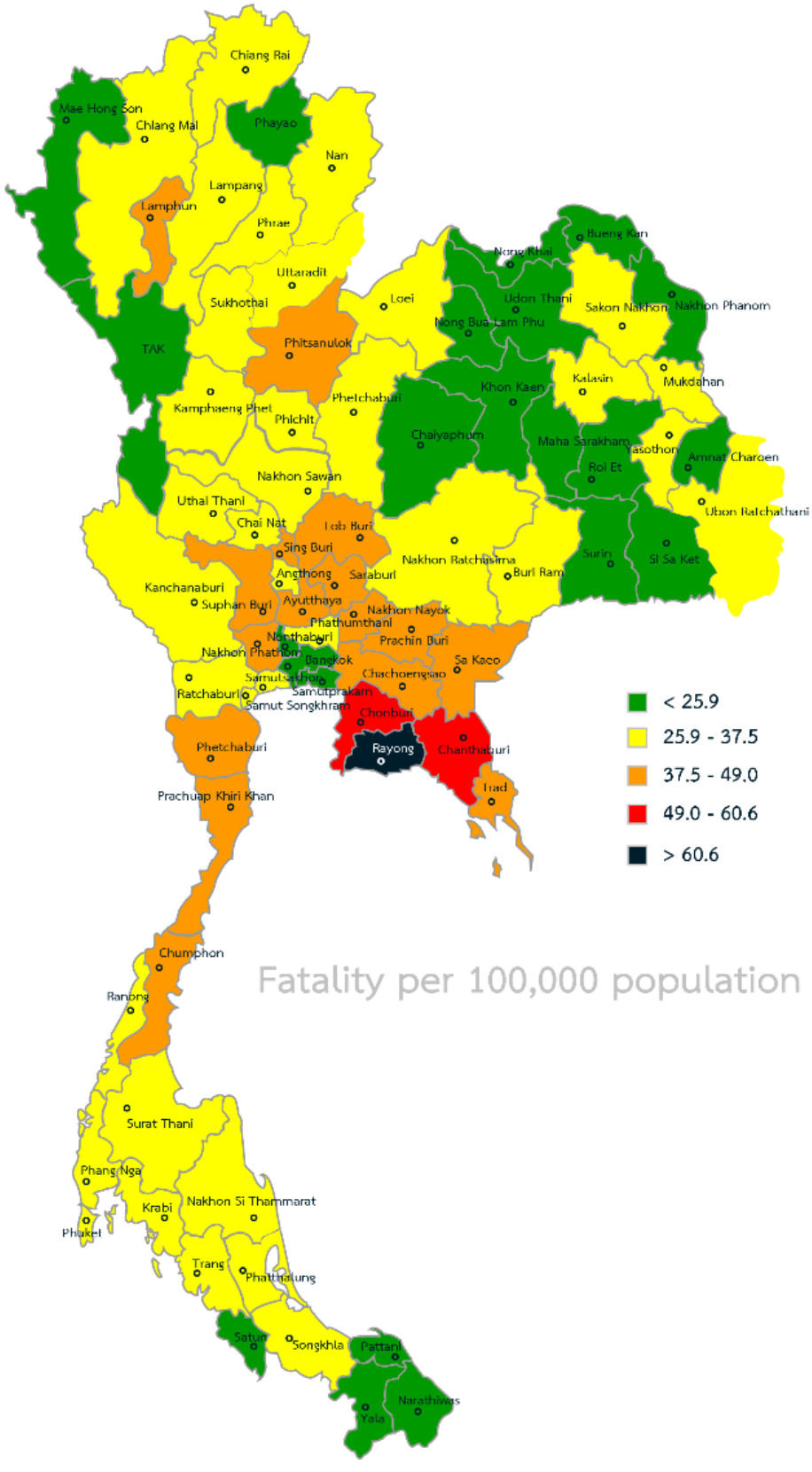


Figure 2.1 Road traffic death rate 2018

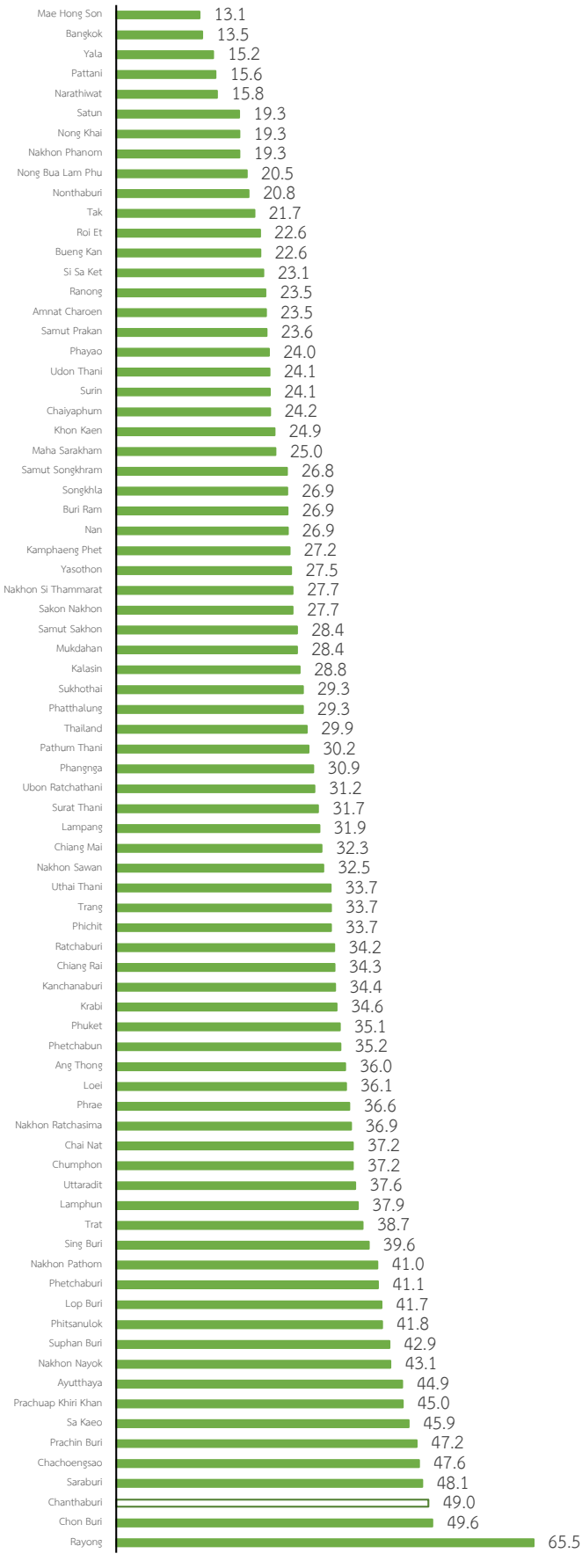


Figure 2.2 Road traffic death rate 2018

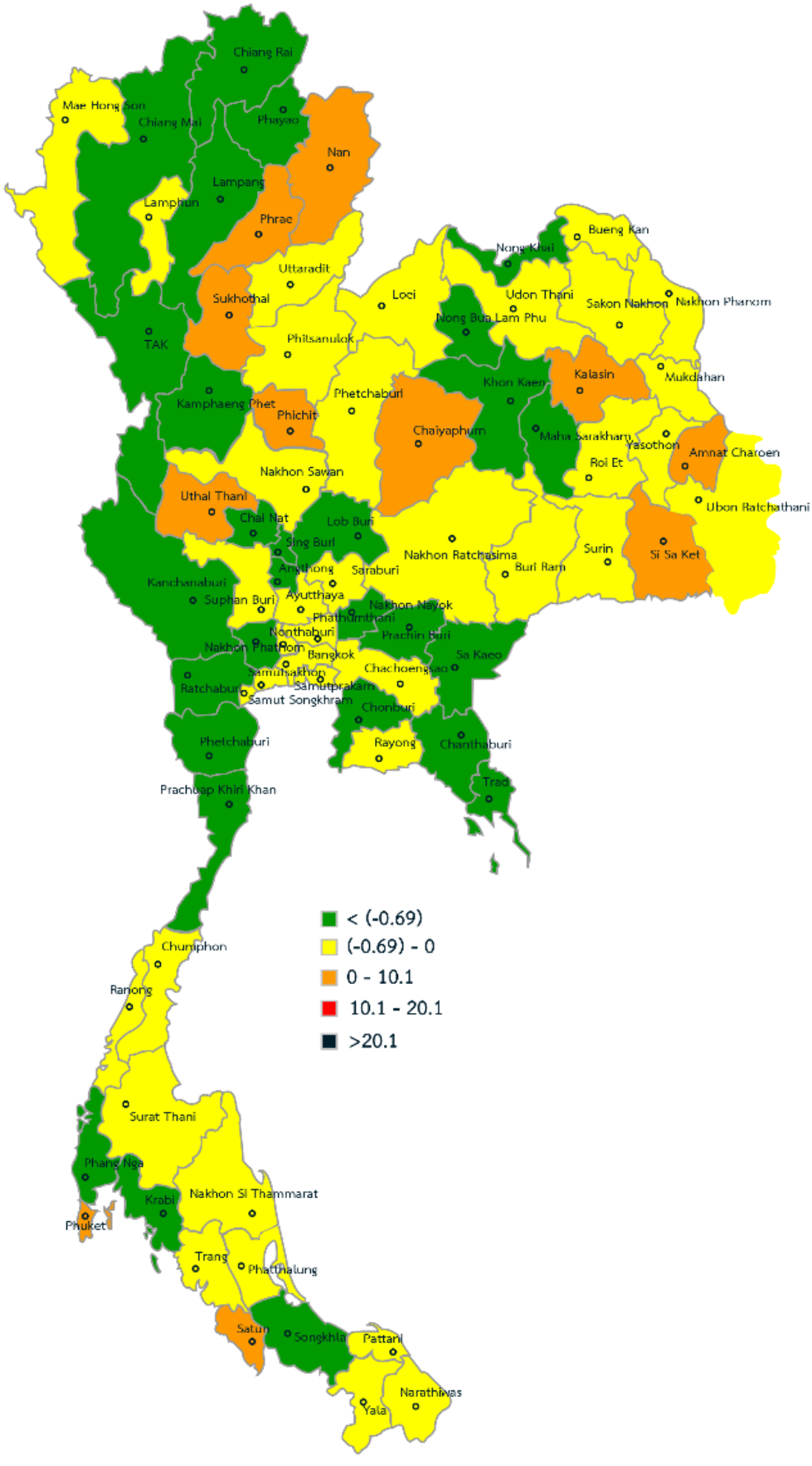


Figure 2.3 The comparison of road traffic death rate between 2016 and 2018

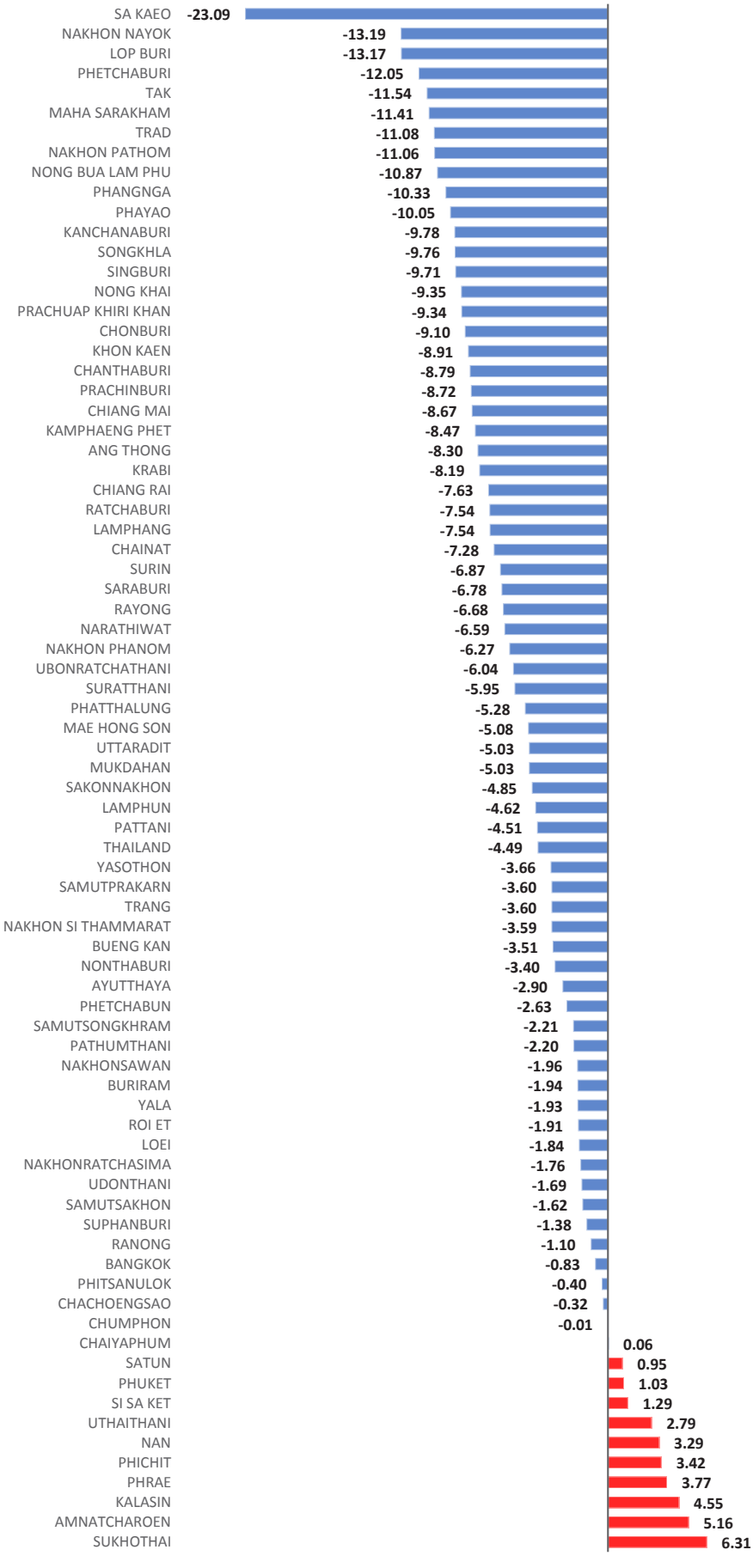


Figure 2.4 The comparison of road traffic death rate between 2016 and 2018

2.2 Fatalities by Age Group

Age groups that have the highest percentage of fatalities are working age between 20-24 years old (**Figure 2.5**). Considering together with the nearby age groups of 15-19 and 25-29 years old, their percentage of fatalities are disproportionately high as 33%. These findings revealed that road accident is one of the most dangerous cause of death among school students, teenagers, and university students which is completely different from illness that cause the death of most adults and elders.

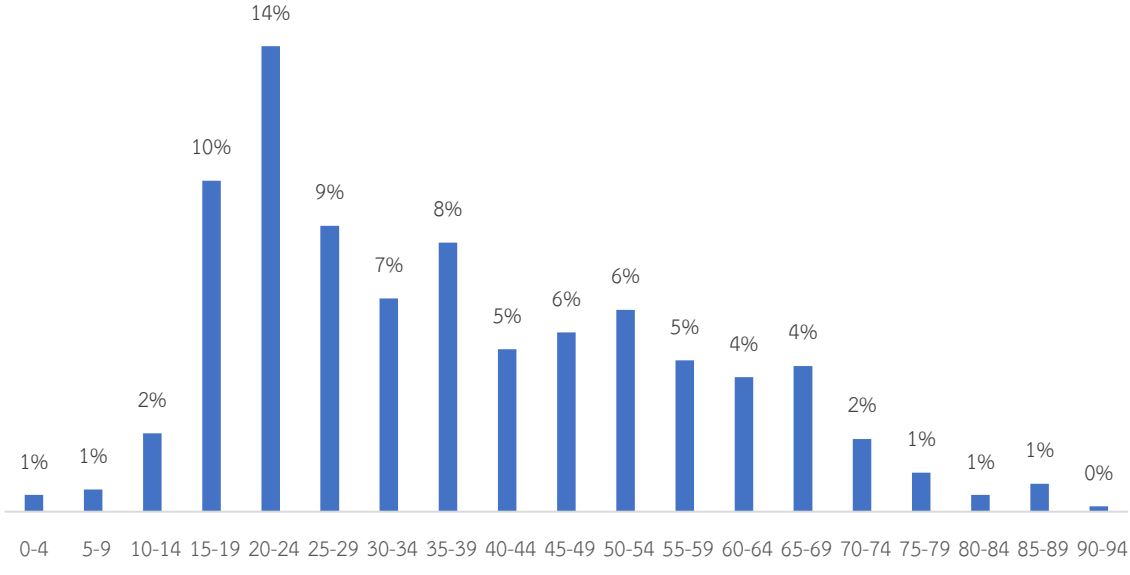


Figure 2.5 Fatalities by Age Group

2.3 Fatalities by Road User Type

Considering fatalities by road user type, motorcyclist is the highest, sharing up to 70.2% which occupies almost three-fourths of all types, following by passenger car and pedestrian (**Figure 2.6**). This finding shows that vulnerable road users (motorcyclist, bicyclist and pedestrian) has the highest risk. In developed countries, the priority of road usage is given to the vulnerable road user while in Thailand, the circumstance is on the contrary. According to WHO report, the accident related to this group of road user is 54%, while in Thailand, the proportion increases up to 81%.

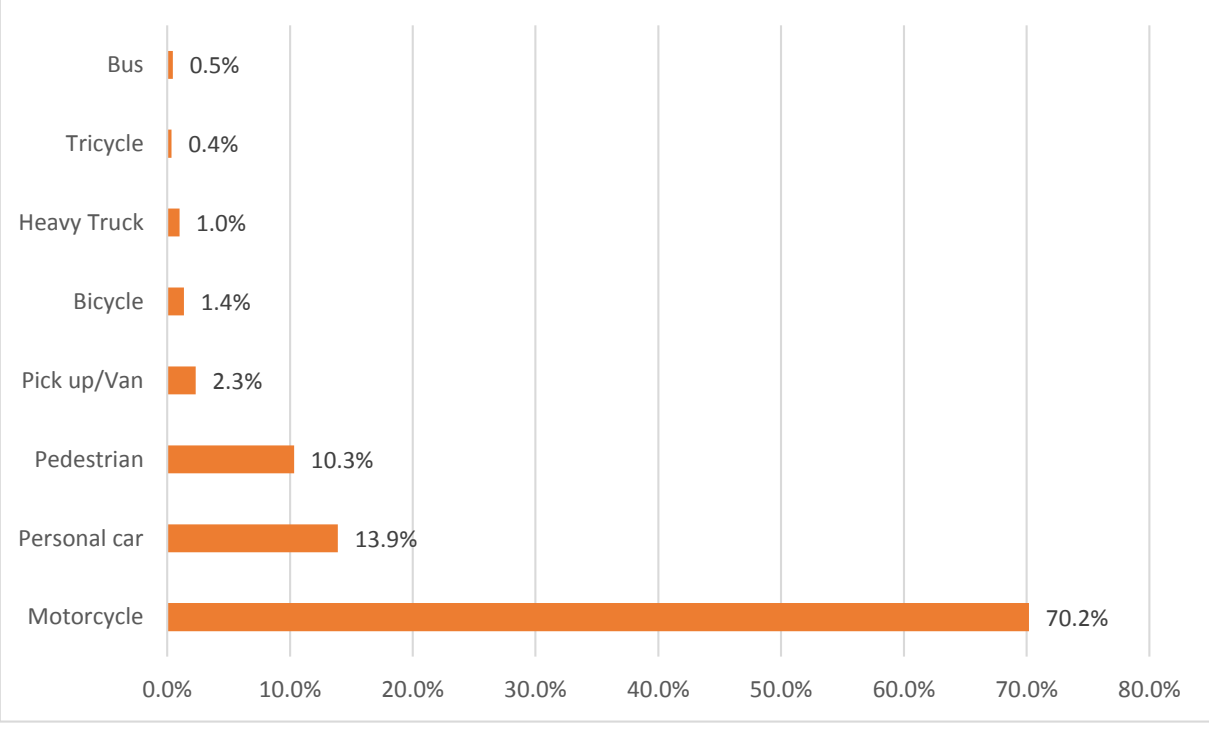


Figure 5 Fatalities by Road User Type

[3] WHO, ed. (2018). "WHO Report 2018: Data tables" (PDF) (official report). Geneva, Switzerland: World Health Organization.

2.4 Police Enforcement

Traffic law enforcement is believed to be an effective solution to maximize the road safety benefit. In 2018, there were 5,531,977 people reported driving illegally from seven cases as follows.

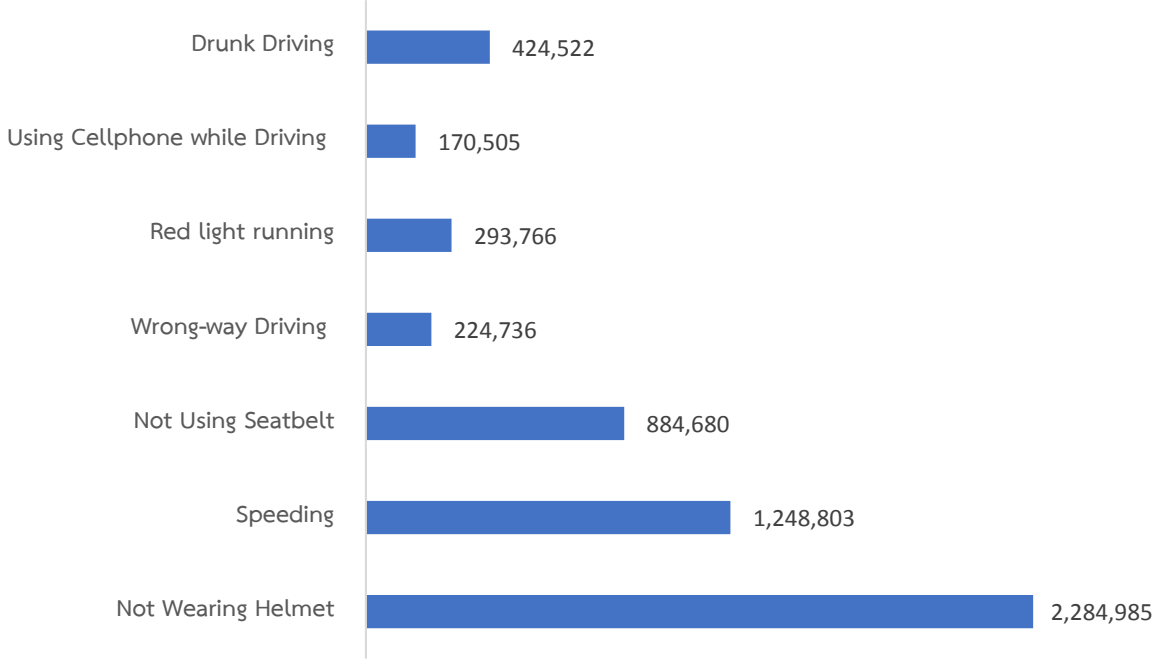


Figure 2.7 Seven traffic violation cases

The perception of these results should be taken significantly. These might be implied that the higher number reflects the higher violence drivers. However, the preferred conception suggests that the greater number the more strength of police enforcement has been devoted.

When considering the arrest rate per 100,000 population, it was found that, on average, Thailand has a capture rate of 10,064 cases per 100,000 population. The data of each province is distributed. Making the trend not clear Will see the trend that corresponds to reality is Rayong and Phetchabun Is a group with a low arrest rate and a high death rate.

2.4.1 Drunk Driving

Drunk driving, or driving under influence, is reported a lowest rate comparing to other cases. In 2018, there were 424,163 drunk driving cases or 477 cases per 100,000 population. But compared to other arrest rates found that the drunk driving case had a 45% increase in arrest rates from 2016, reflecting the attentiveness and continuity of law enforcement and this risky behavior. The top five highest drunk driving rate-provinces were Rayong, Phuket, Chonburi, Chiang Mai and Ubon Ratchathani respectively, while the lowest drunk driving rate-provinces were Narathiwas, Satul, Nan, Trad and Trang respectively. (**Figure 2.8**)

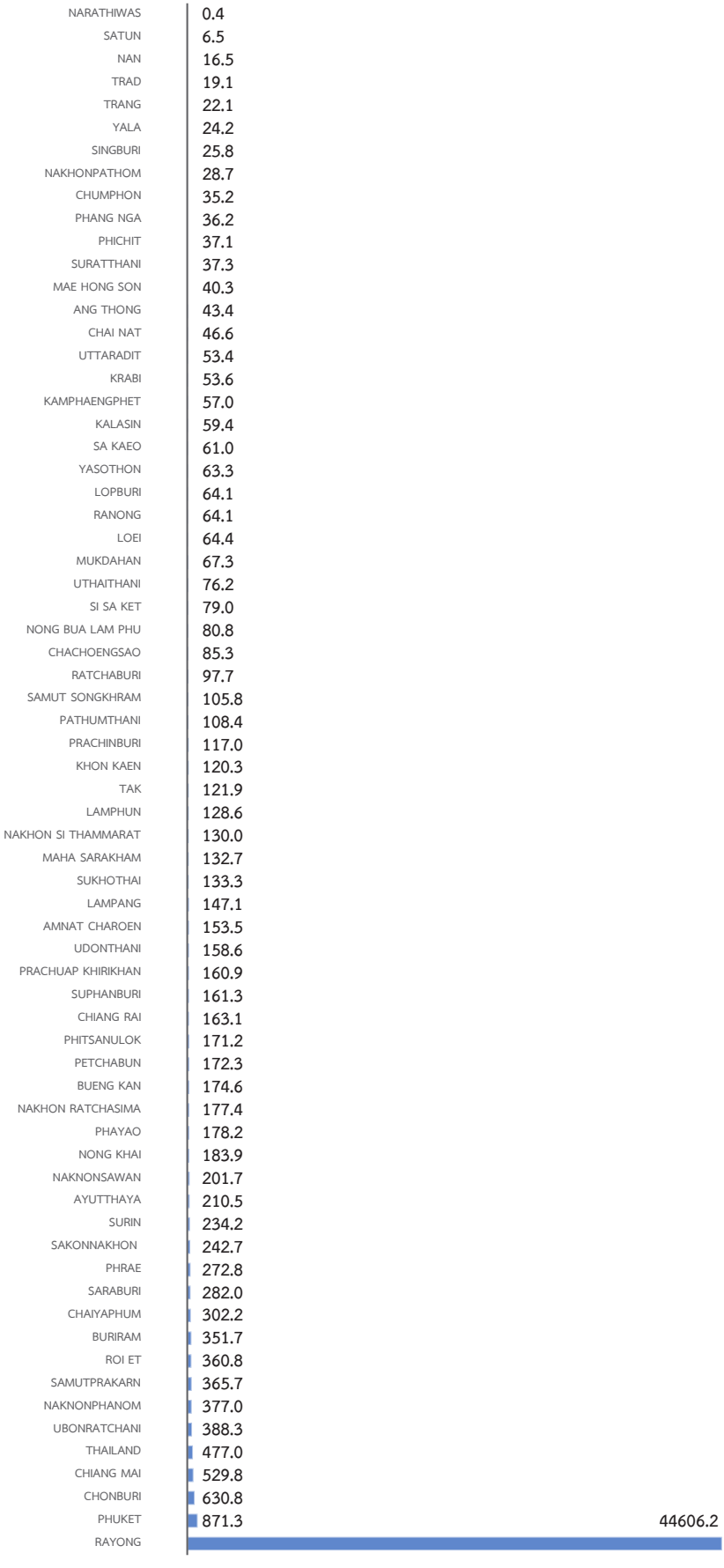


Figure 2.8 Drunk Driving case per 100,000 population

2.4.2 Not Wearing Helmet

Helmets are useful as safety equipment to prevent head injuries in an accident. There has been a number of campaigns to encourage helmet usage, such as Ministerial Regulations on the motorcycle helmet (No. 14), B.E. 2535 concerning Road Traffic Act, B.E. 2522 and 100% helmet usage campaign in 2011 which was controversial to the report from Thai Roads Foundation in 2018, claiming that there were only 45% of motorcyclist wearing helmet. Which increased only 2% from 2017. This is a crisis that needs all the help to overcome. In 2018, there were 2,269,664 of the not wearing helmet cases, or 2,552.6 cases per 100,000 population. Among these numbers, Phuket, Rayong, Chonburi, Ang Thong, and Phrae were considered the highest. On the other hand, Songkhla, Narathiwas, Nakhon Pathom, Satun and Loei were considered the lowest (**Figure 2.9**).

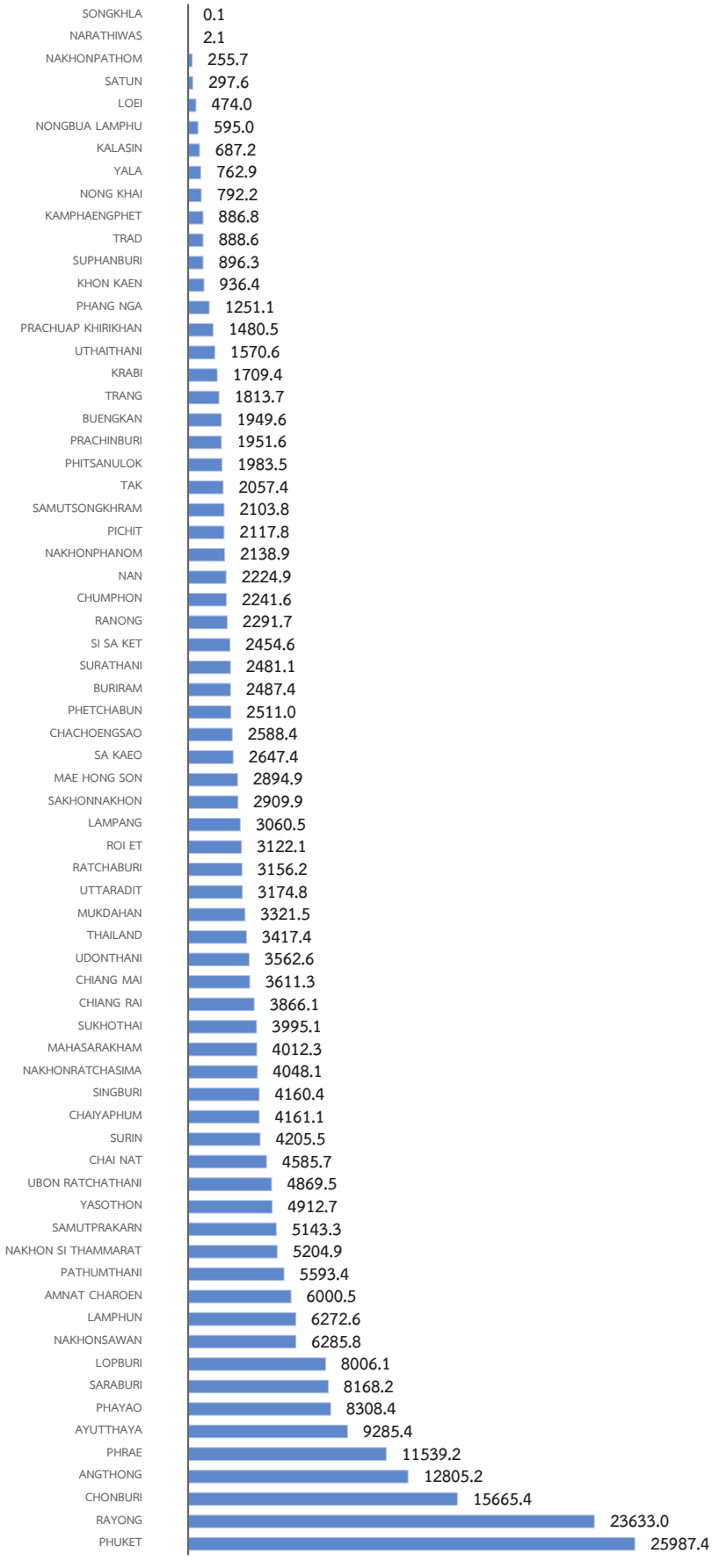


Figure 2.9 Not wearing helmet case per 100,000 population

2.4.3 Speeding

According to the statistic from Department of Highways, driving speed is the key risk factor in road accident. The higher of the driving speed, more likely to be involved in the crash and higher level of severity from the crashes. In 2018, there were 1,244,255 speeding cases in Thailand. It equals to 1,873.5 cases per 100,000 population. when compared to other cases found that the driving speed case increased by 270% from 2016, reflecting the strictness of law enforcement. According to **Figure 2.10**, the highest rate of speeding cases were found in Ang Thong, Chai Nat, Phitsanulok, Ayutthaya, Samutprakarn. On the other hand, Chumphon, Narathiwas, Nakhonsawan, Mae Hong Son, and Yala were found the lowest. However, these results may depend on the policy and the strength of law enforcement in each province. Moreover, the location of speed camera installed is one of the the key success that should be studied. Placing the speed camera at the appropriate location will improve the efficiency to solve the problem.

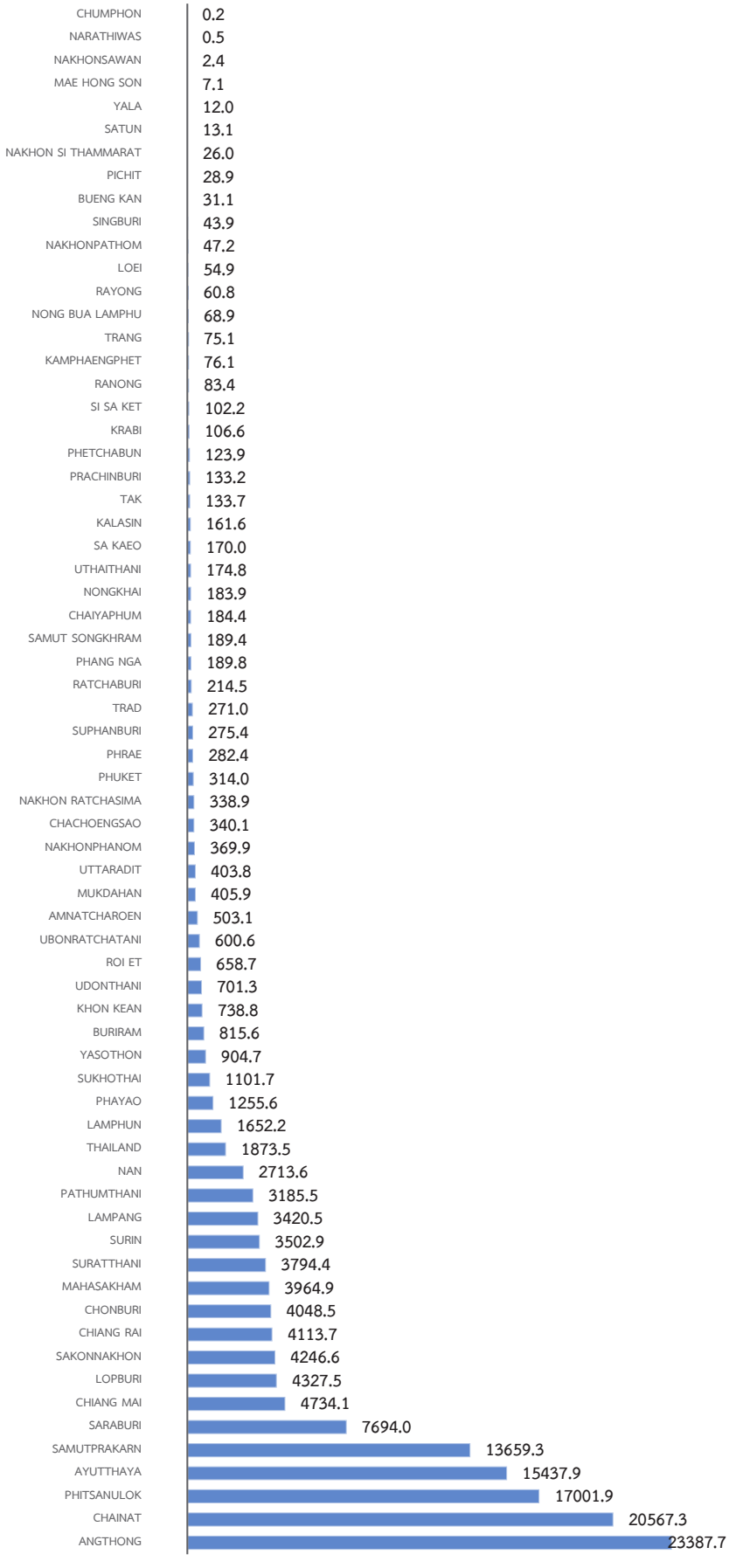


Figure 2.10 Speeding case per 100,000 population

2.4.4 Not Using Seatbelt

Seatbelt is determined the same feature as helmet. It cannot prevent the crash, but it reduces the risk of injury. According to the report from WHO, using the seatbelt is likely to reduce the chance of death by 40-65%[4]. In 2018, there were 878,911 not using helmet cases, or 1,323.4 cases per 100,000 population. The highest rate-provinces are Rayong, Phayao, Chonburi, Chaiyaphum and Roi Et, while the lowest are Narathiwas, Songkhla, Nakhonpathom, Pattani and Phang Nga. (**Figure 2.11**)

[4] WHO, (2015) "10 Facts on Global Road Safety". World Health Organization. url: http://www.who.int/features/factfiles/roadsafety/en/

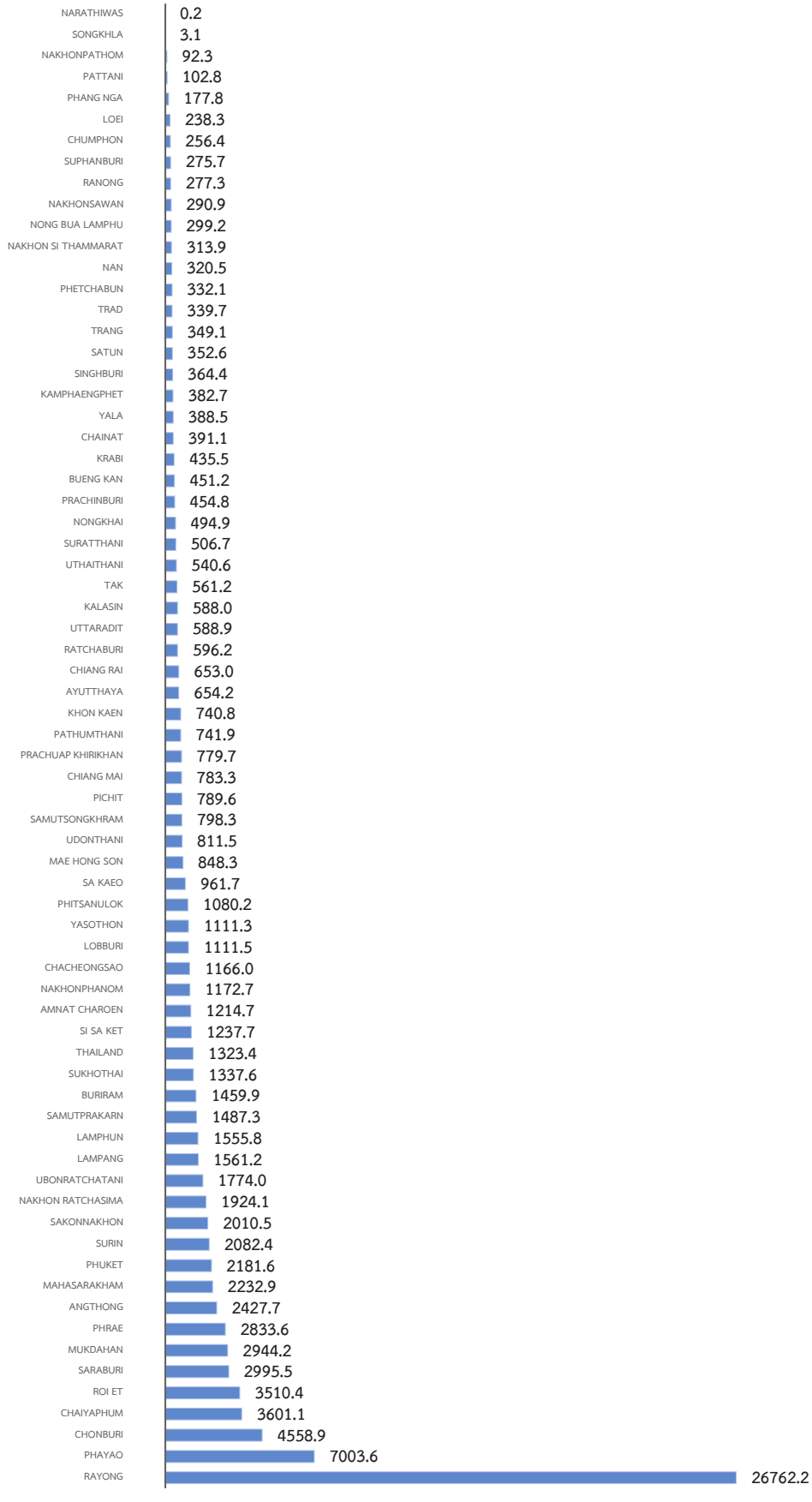


Figure 2.11 Not Using Seatbelt case per 100,000 population

2.4.5 Wrong-way Driving

In 2018, there were wrong-way driving, or driving encountering the traffic flow total of 224,139 cases, or 337.5 cases per 100,000 population. The highest rate-provinces were Ang Thong, Chonburi, Phuket, Pathumthani, and Samutprakarn, while the lowest were Songkhla, Narathiwas Nan, Nakhonpathom and Uttaradit (**Figure 2.12**). It should be noted that this statistic might not be a true representative of driving behavior in these provinces. As mentioned, driving encountering the traffic flow most of the time occurs only in some parts of the road where the network lacks of connectivity. For improving, one might look for more details on the area basis to understand the behavior of road users.

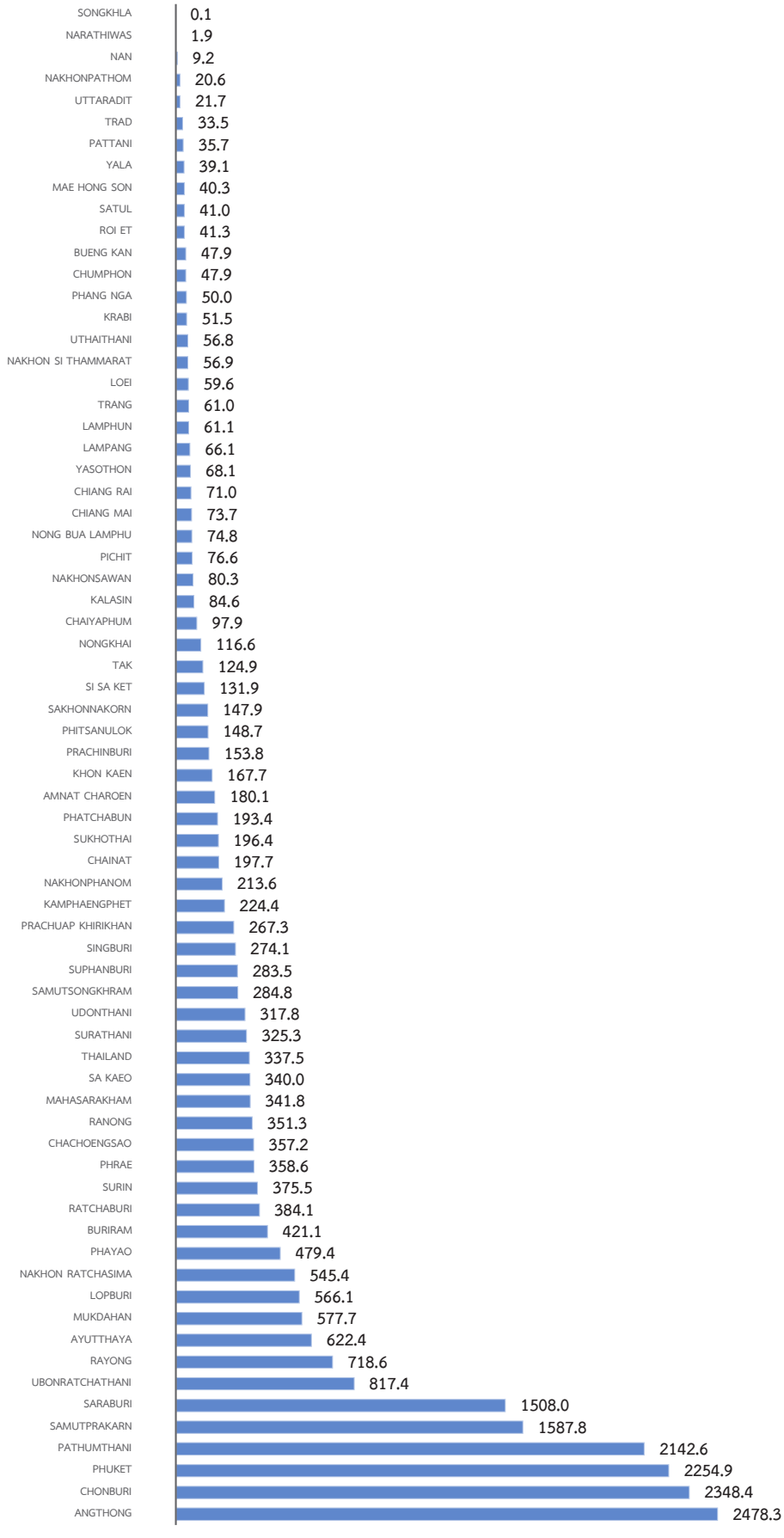


Figure 2.12 Wrong-way Driving case per 100,000 population

2.4.6 Red light Running

In 2018, there were 292,971 red-light running cases in Thailand, or 441.13 cases per 100,000 population. The highest rate-provinces were Chonburi, *Ayutthaya*, Phuket, Saraburi and Phitsanulok. On the other hand, The lowest rate-provinces were Narathiwas, Trad, Lampang, Phang Nga and Suphanburi (**Figure 2.13**). Red light running is considered a severe risk of crash because intersections normally compose of many different driving directions. The crash is usually dreadful due to the vehicle coming unrestrained at high speed to beat the light. The specific study on the area with high violation rate should help understanding the root of problem and also conducting the appropriate solution.

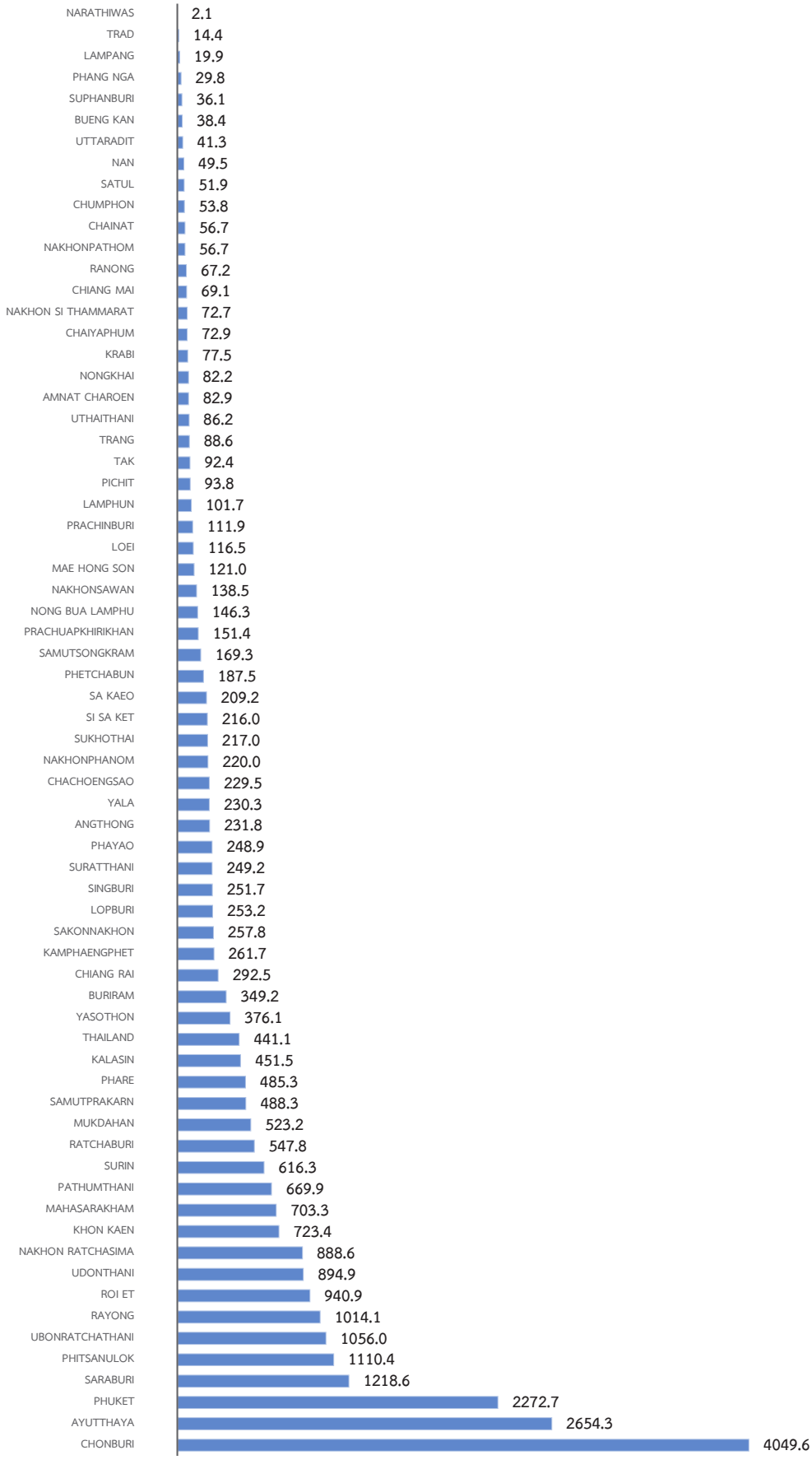


Figure 2.13 Red light Running case per 100,000 population

2.4.7 Using Cellphone while Driving

In 2018, there were 170,274 Using cellphone while driving cases, or 256.38 cases per 100,000 population. The highest rate-provinces were Rayong, Chonburi, Phuket, Amnat Charoen and Mukdahan, while the lowest were Narathiwas, Phang Nga, Bueng Kan, Mae Hong Son and Nong Khai (**Figure 2.14**). Using cellphone while driving is considered dangerous due to its potential for causing distracted driving and accidents, as well as causing traffic problem. It is still unable to identify the seriousness of a crash from Using cellphone while driving because most drivers tend to drive at lower speed. However, it can affect the decision of drivers in case of emergency, and possibly leads to fatal crashes.

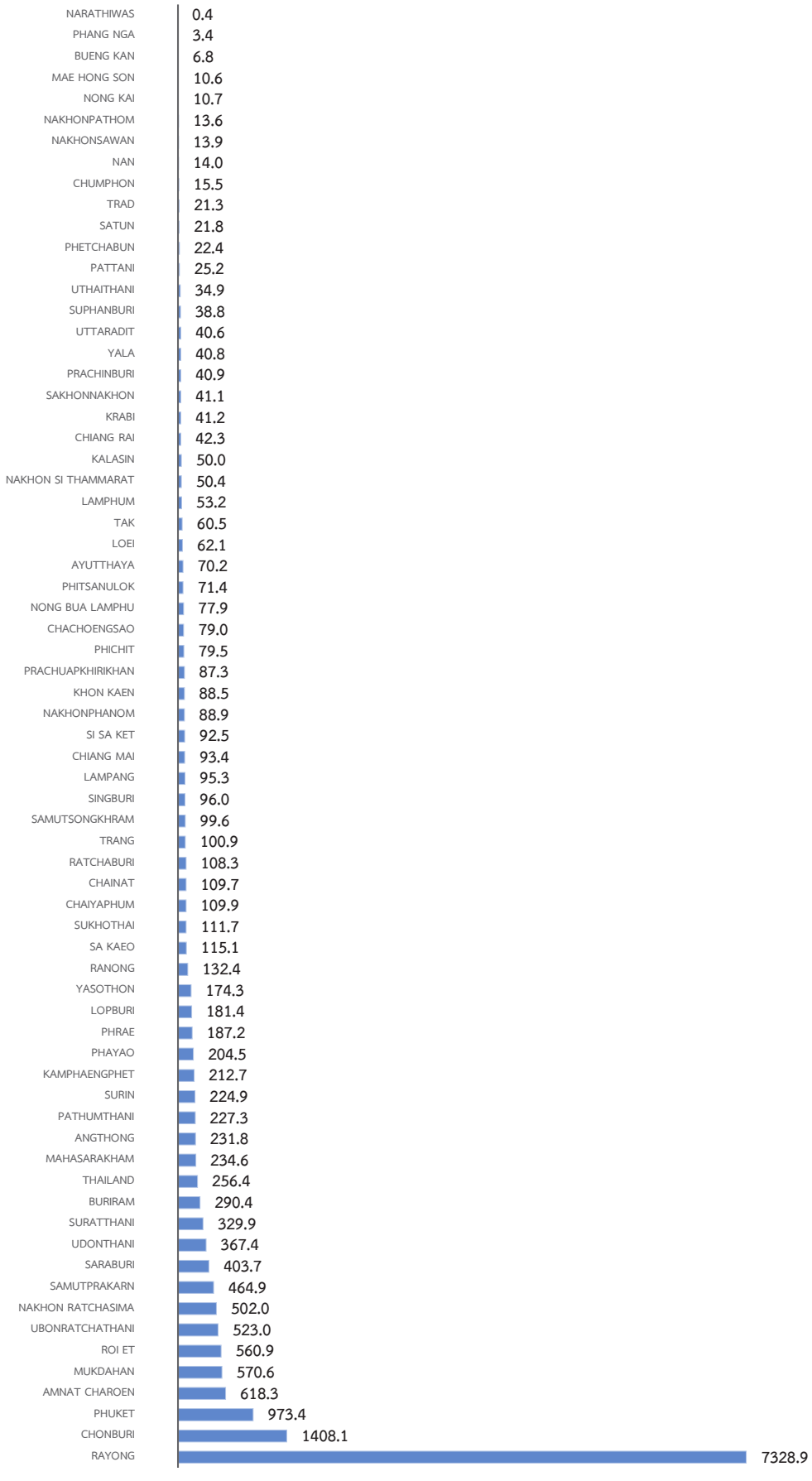


Figure 2.14 Using Cellphone while Driving case per 100,000 population

2.5 Self-Assessment on the Promptness of Solving Road Traffic Accidents

Self-Assessment on the promptness of solving road traffic accidents is an indicator that was continued report from 2016. The purpose is to measure the promptness of each province, and serve as an indicator to predict the potential fatalities in the future. This assessment consists of six factors as follows. (**Figure 2.15-2.20**)

1. The strength of provincial center/committee on road safety.
2. The commitment of the provincial policy.
3. The clarity of plan on solving road traffic accidents.
4. The management of budget and human resource on solving road traffic accidents.
5. The risk management on human, vehicle and road/environment.
6. The strength of network on solving and preventing road traffic accidents.

The result from the assessment shows that the commitment of the provincial policy was rated the highest, while the second place belongs to the strength of network on solving and preventing road traffic accidents, and the clarity of plan on solving road traffic accidents. The management of budget and human resource on solving road traffic accidents were rated the lowest. (**Figure 2.14**)

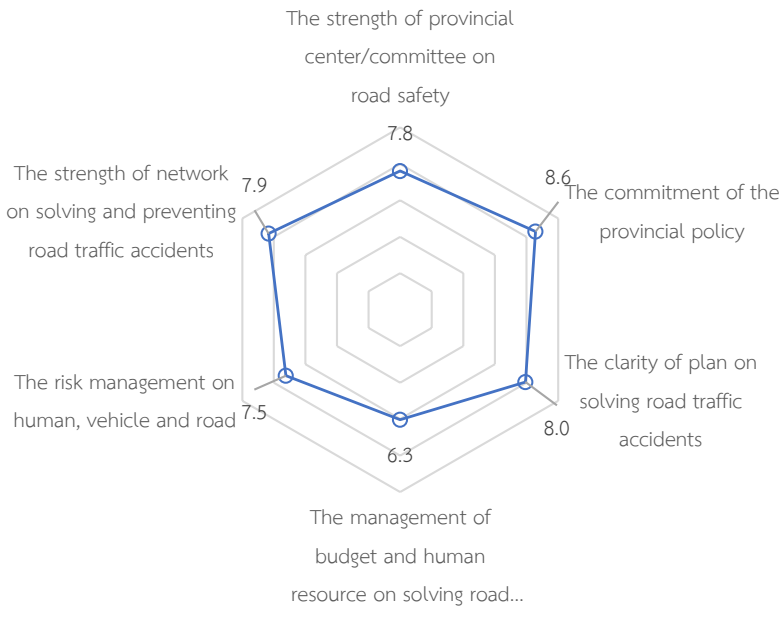


Figure 2.14 Radar chart of self-sssessment on the promptness of solving road traffic accidents

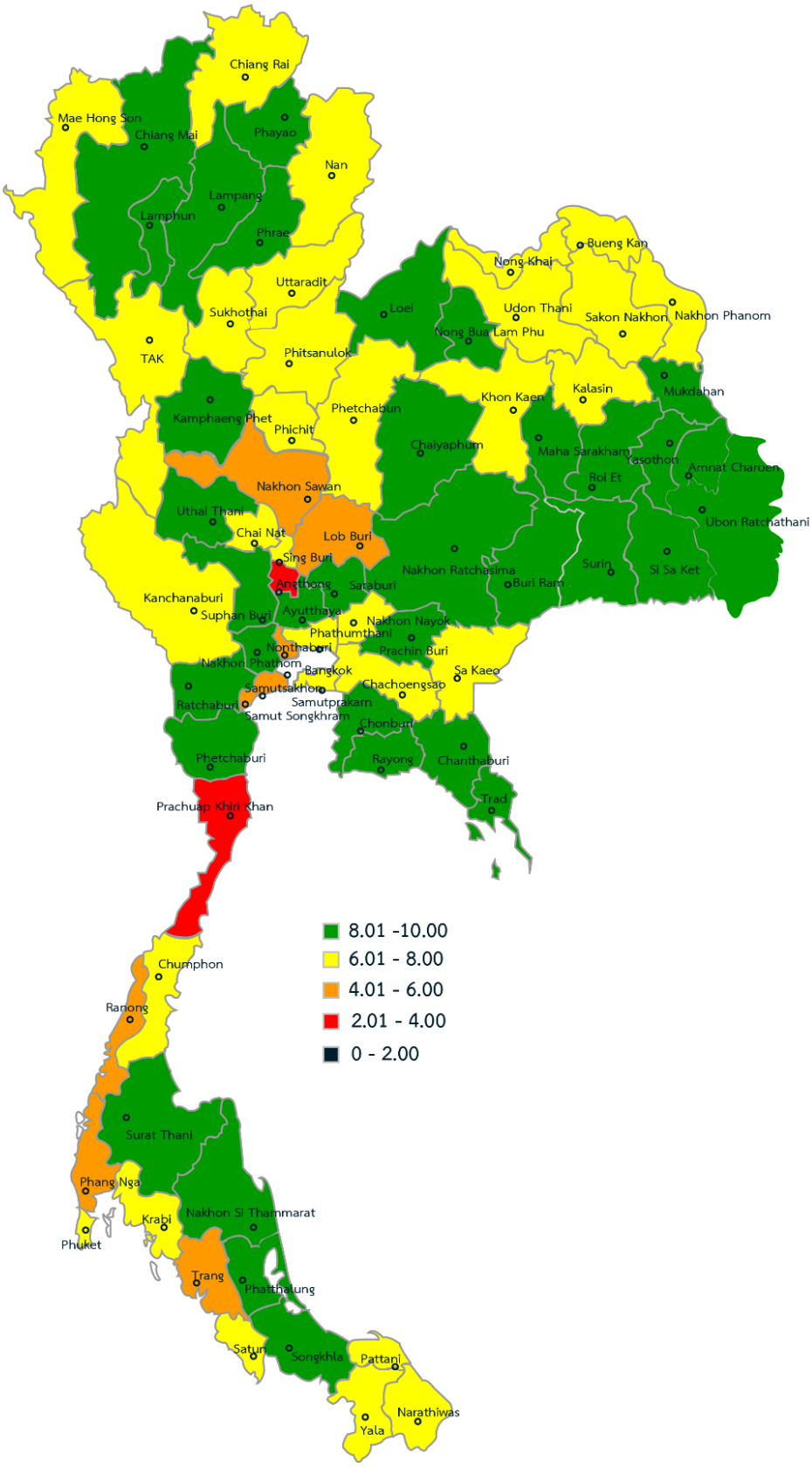


Figure 2.15 The strength of provincial center/committee on road safety

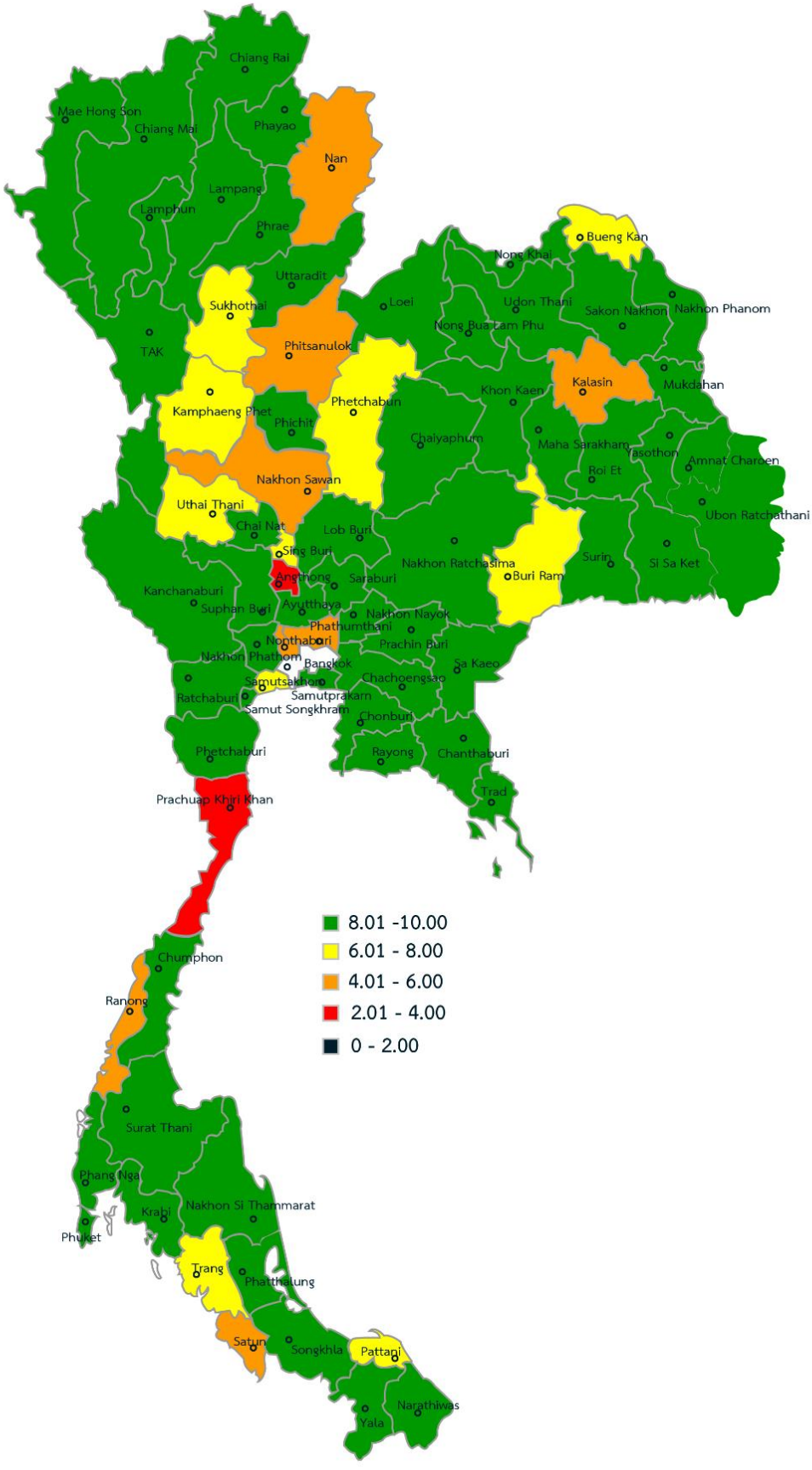


Figure 2.16 The commitment of the provincial policy

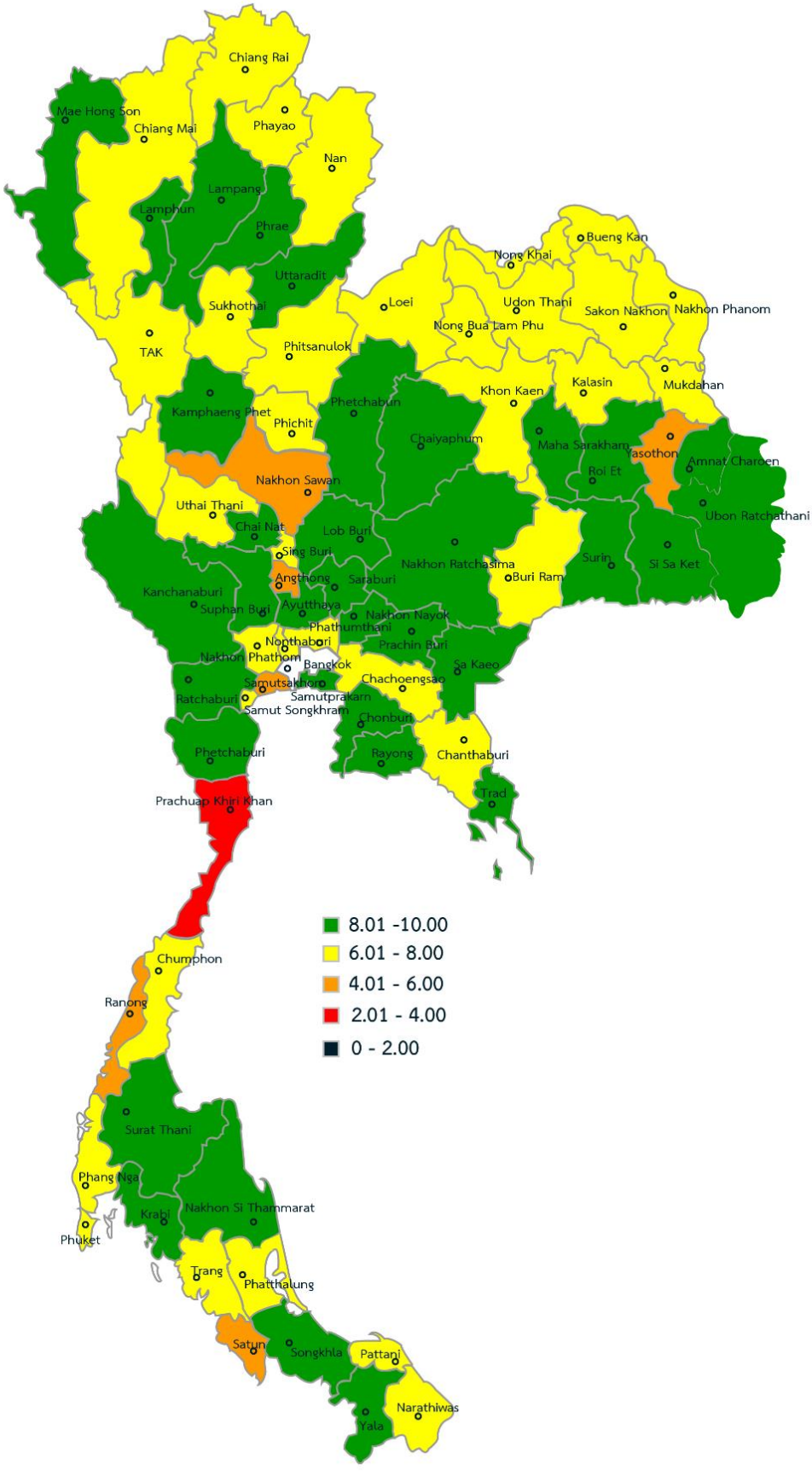


Figure 2.17 The clarity of plan on solving road traffic accidents

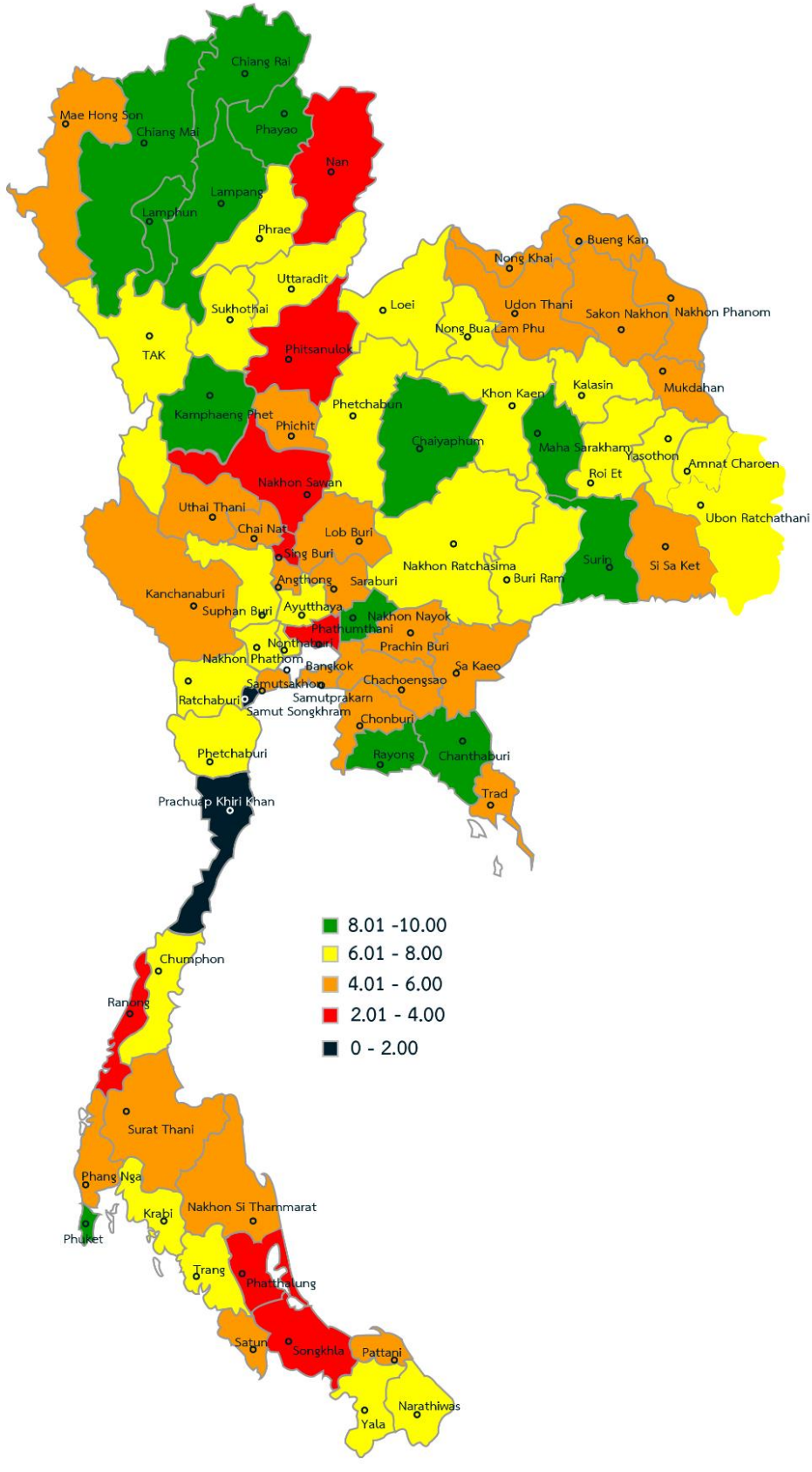


Figure 2.18 The management of budget and human resource on solving road traffic accidents

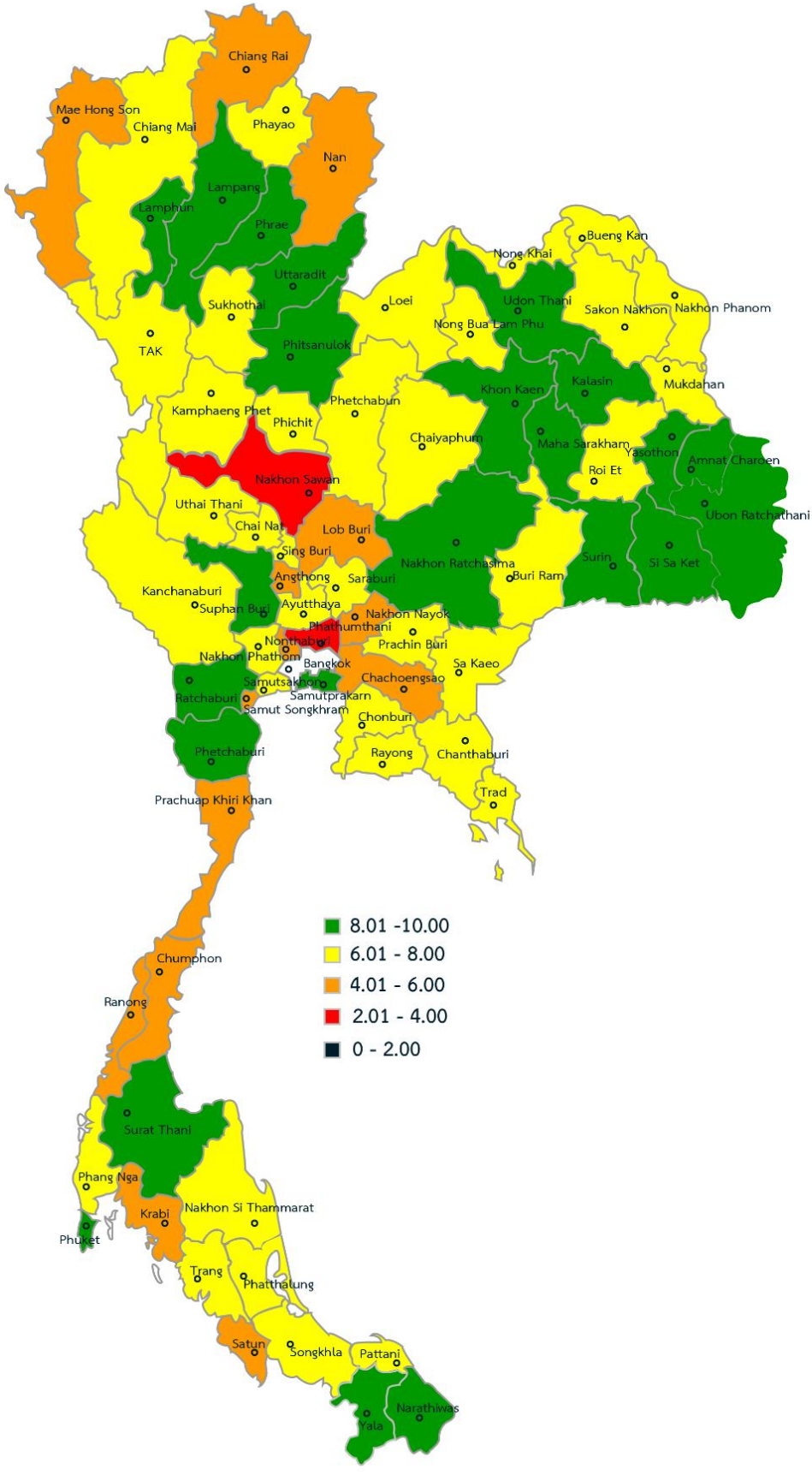


Figure 2.19 The risk management on human, vehicle and road/environment

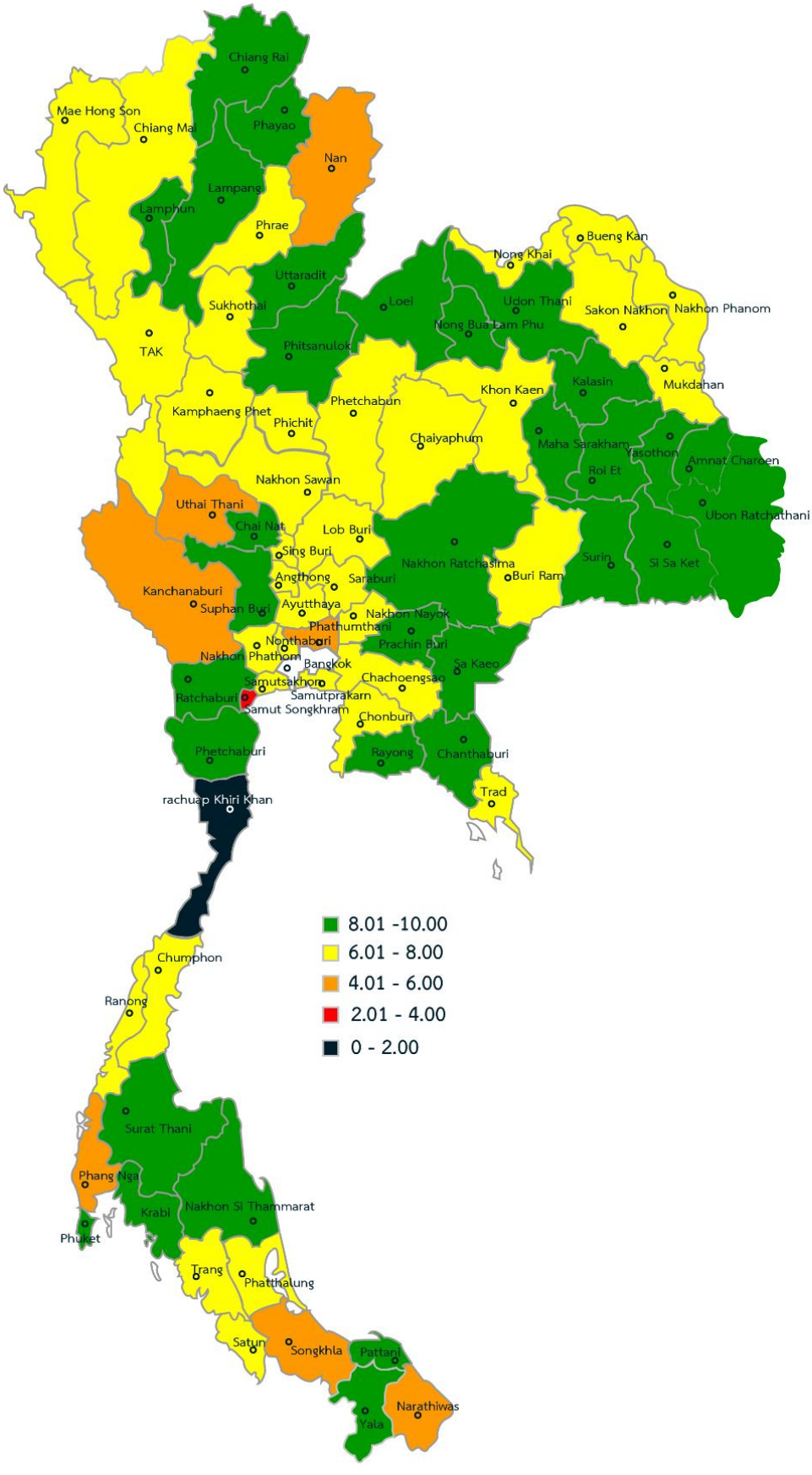


Figure 2.20 The strength of network on solving and preventing road traffic accidents

Chapter 3

Northern

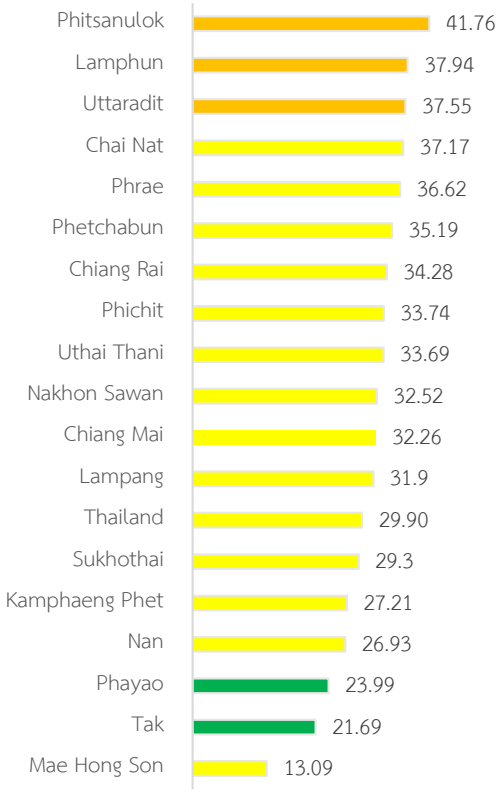
Thailand Road Safety Network categorizes northern region into 18 provinces, including Mae Hong Son, Chiang Mai, Chiang Rai, Phayao, Nan, Phrae, Lampang, Lamphun, Tak, Sukhothai, Uttaradit, Phitsanulok, Kamphaeng Phet, Phichit, Phetchabun, Nakhon Sawan, Uthai Thani and Chai Nat. The 2018 general information of northern region is shown as follows.

- 12,444,178 population — 19% of the country
- 7,147,575 registered vehicles — 18% of the country
- 1,214,722 million baht of GPP* — 8% of the country

Road accident statistics of northern region in 2018 are;

- 4,005 Deaths — 20.2% of the country

Note * Gross Provincial Product data, 2017



The average of road traffic death rate in northern region is 31.50, higher than 29.90 of country average. The highest death rate-province is Phitsanulok (41.76), followed by Lamphun and Uttaradit. There are six provinces that are under the country average death rate, including Mae Hong Son (13.09), followed by Tak, Phayao, Nan, Kamphaeng Phet and Sukhothai (**Figure 3.1**).

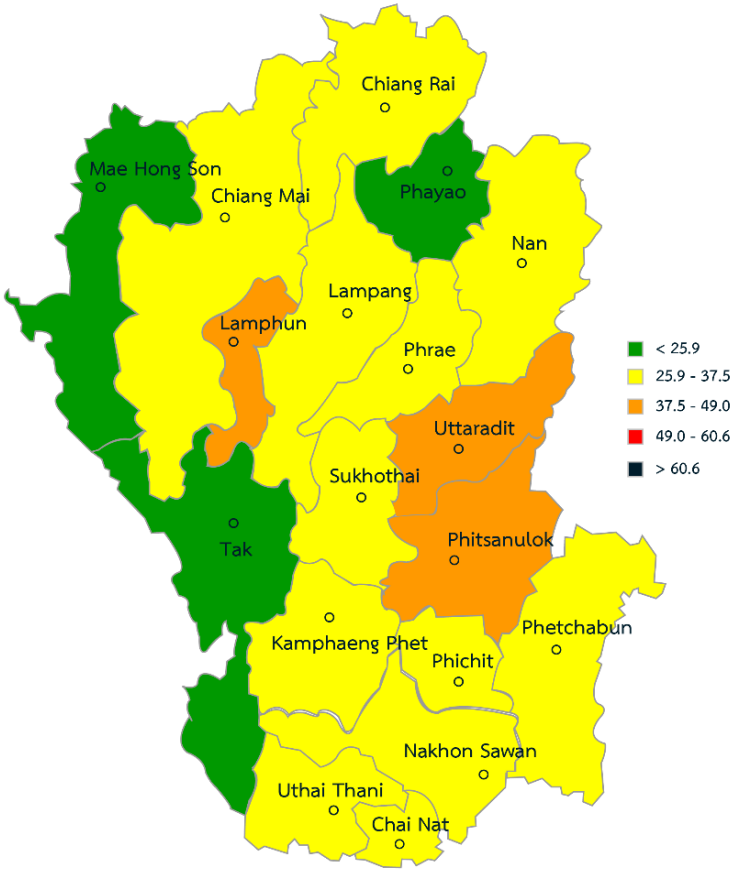
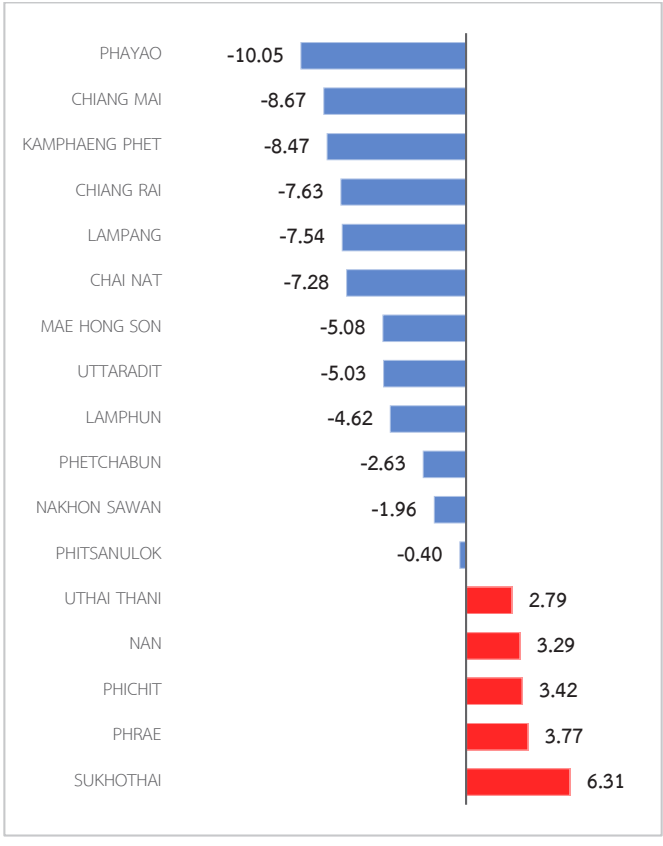


Figure 3.1 Northern Road Traffic Death Rate



Comparing between 2016 and 2018, northern region has an average death rate reduced by 3.4. The highest reduction rate-provinces are Tak, Phayao and Chaing Mai. However, there are four provinces that have the death rate increased, which are Phichit, Phrae, Nan and Sukhothai (**Figure 3.2**).

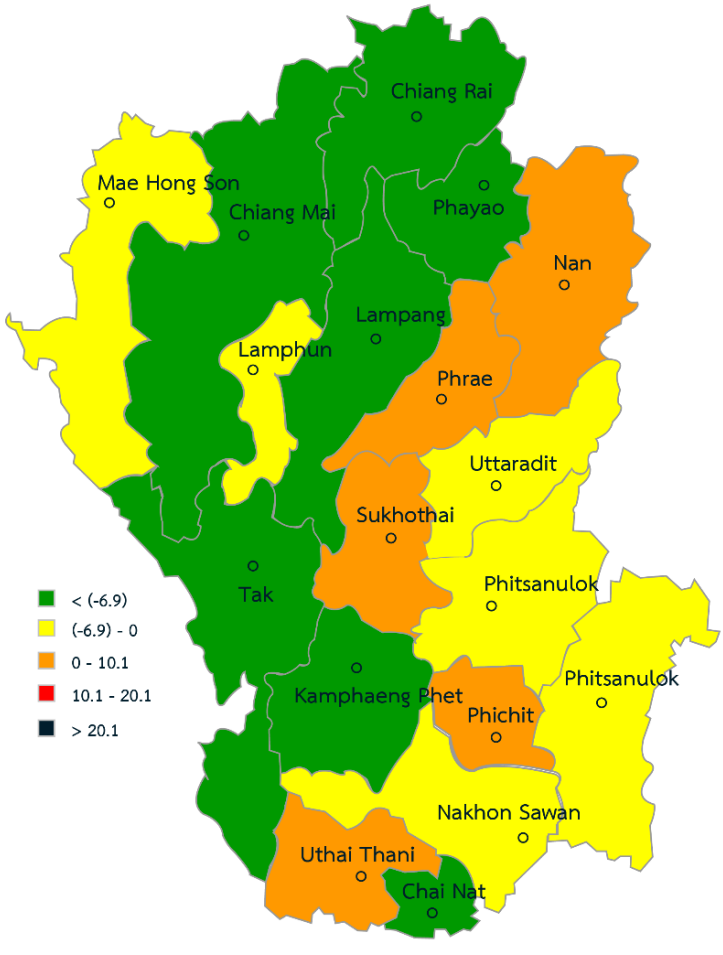


Figure 3.2 Changes in northern road traffic death rate comparing with 2016

3.1. Police Enforcement

The interpretation of the police enforcement statistic implies their effort on solving traffic violation problems. The police enforcement refers to the seven traffic violation cases shown as follows.

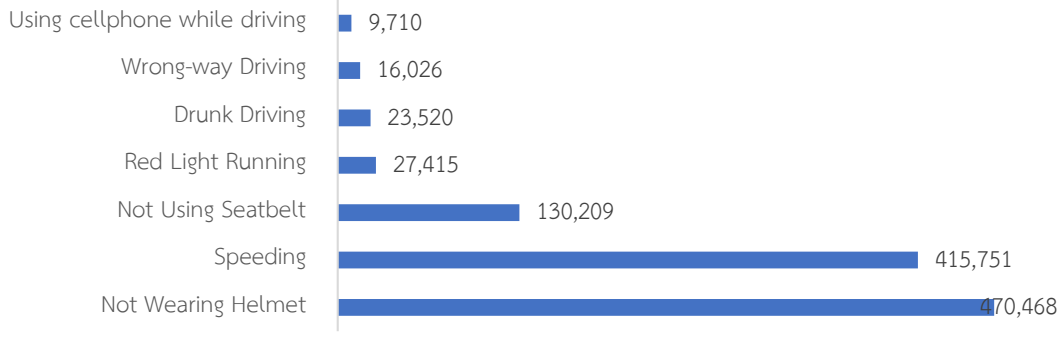


Figure 3.3 Northern's Seven Traffic Violation Cases

The average of traffic violation case in northern region is higher than country average nearly 6% (**Figure 3.4**). The highest rate belongs to not wearing helmet (3780.6 cases per 100,000 population), using cellphone while driving shows the lowest rate (78.0 cases per 100,000

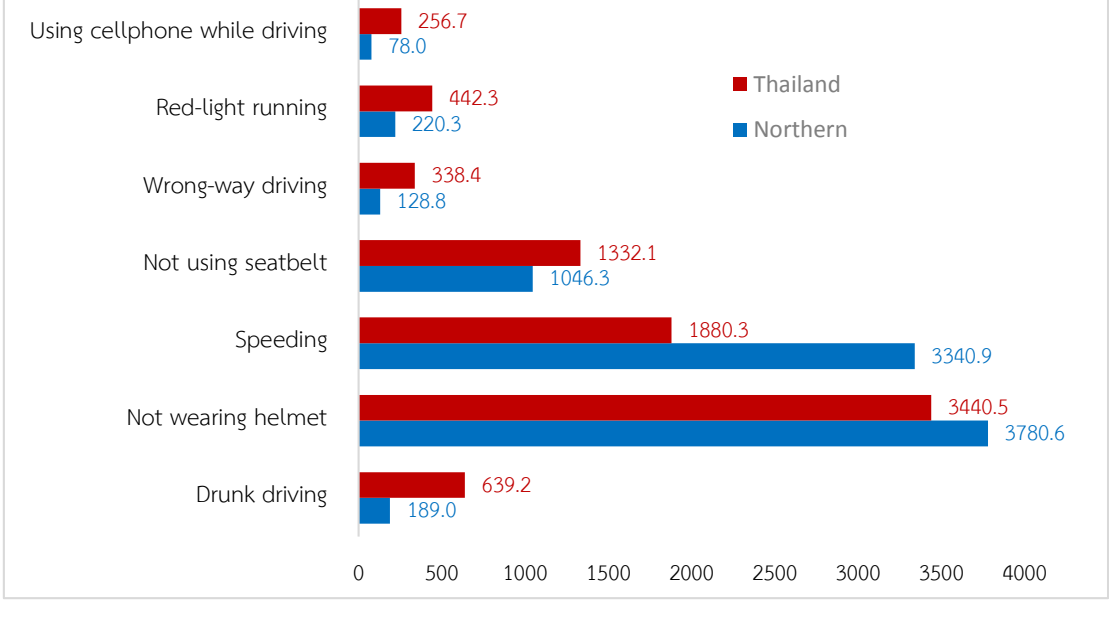


Figure 3.4 Traffic violation rate comparing between northern region and Thailand

Table 3.1 Traffic violation rate in northern region

Province	Drunk driving	Helmet	Speeding	Seatbelt	Wrong way	Red light running	Using phone
Chiang Mai	529.8	3611.3	4734.1	783.3	73.7	69.1	93.4
Phetchabun	172.3	2511.0	123.9	332.1	193.4	187.5	22.4
Phrae	272.8	11539.2	282.4	2833.6	358.6	485.3	187.2
Mae Hong Son	40.3	2894.9	7.1	848.3	40.3	121.0	10.6
Kamphaeng Phet	57.0	886.8	76.1	382.7	224.4	261.7	212.7
Chai Nat	46.6	4585.7	20567.3	391.1	197.7	56.7	109.7
Tak	121.9	2057.4	133.7	561.2	124.9	92.4	60.5
Nakhon Sawan	201.7	6285.8	2.4	290.9	80.3	138.5	13.9
Nan	16.5	2224.9	2713.6	320.5	9.2	49.5	14.0
Phayao	178.2	8308.4	1255.6	7003.6	479.4	248.9	204.5
Phichit	37.1	2117.8	28.9	789.6	76.6	93.8	79.5
Phitsanulok	171.2	1983.5	17001.9	1080.2	148.7	1110.4	71.4
Lampang	147.1	3060.5	3420.5	1561.2	66.1	19.9	95.3
Lamphun	128.6	6272.6	1652.2	1555.8	61.1	101.7	53.2
Sukhothai	133.3	3995.1	1101.7	1337.6	196.4	217.0	111.7
Uthai Thani	76.2	1570.6	174.8	540.6	56.8	86.2	34.9
Chiang Rai	163.1	3866.1	4113.7	653.0	71.0	292.5	42.3
Uttaradit	53.4	3174.8	403.8	588.9	21.7	41.3	40.6

Notes: Dash (-) means no data presented.

Table 3.1 presents the detail of seven traffic violation cases in northern region. The result shows that the drunk driving rate in northern region is 141.5 cases per 100,000 population, which is 4 times higher than country average (638.7 cases per 100,000 population). The highest drunk driving rate-provinces are Chiang Mai, Phrae and Nakhon Sawan, while the lowest rate-provinces are Nan, Phichit and Mae Hong Son. According to **Figure 3.7**, there is an significant correlation between the number of drunk driving case and breathalyzer, regardless of Chiang Mai, Phrae and Nakhon Sawan. An example of high case rate with high breathalyzer availabilities occurred in Chainat, while Nan is an example of low case rate with low breathalyzer availabilities.

Speeding case rate in northern region is 3210.8 cases per 100,000 population, which is higher than country average (1873.5 cases per 100,000 population). There are only three provinces that have the higher rate than the country average, including Chainat, Phitsanulok and Chiang Mai. The lowest rate-provinces are Naknon Sawan, Mae Hong Son and Phichit. There is no significant correlation between the number of cases and

speed cameras. Phitsanulok is an example of high speeding case rate with only a small number of speed cameras presented. (**Figure 3.8**)

In addition, not wearing helmet case rate in northern region is 3780.6 cases per 100,000 population, which is Higher than the country average (3440.5 cases 100,000 population). There are only four provinces that have the higher rate than the country average, including Phrae, Phayao, Nakhon Sawan and Lamphun. The lowest rate-provinces are Kamphaeng Phet, Uthai Thani and Phitsanulok. There is no significant correlation between the number of cases and helmet wearers. An example of high case rate with surprisingly low helmet wearer rate occurred in Phrae and Mae Hong Son, while Phetchabun and Nakhon Sawan are an example of medium case rate with high helmet wearer rate (**Figure 3.9**).

The detail of other cases, such as not using seatbelt, red light running, wrong-way driving and Using cellphone while driving are illustrated in **Table 3.1**.

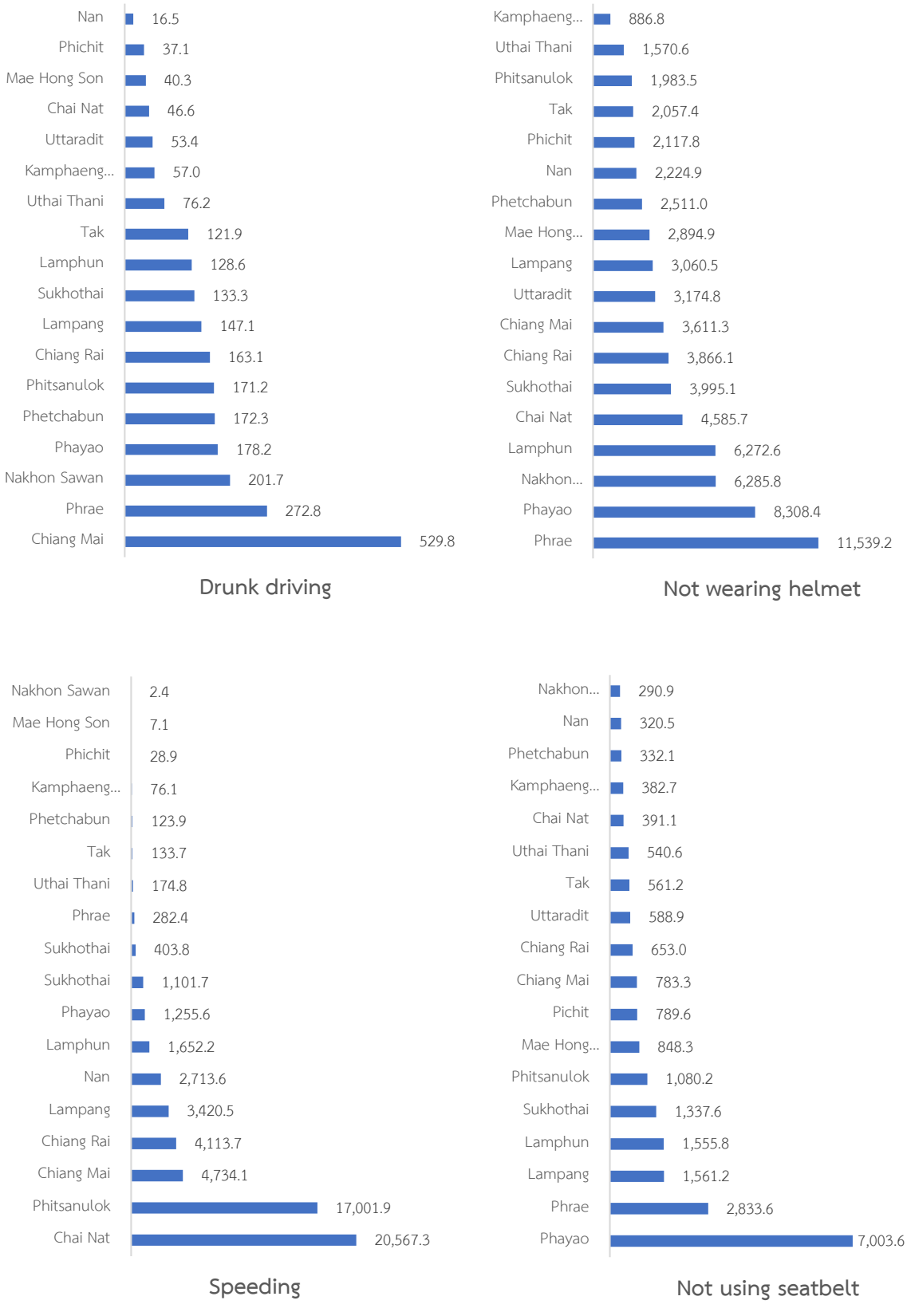
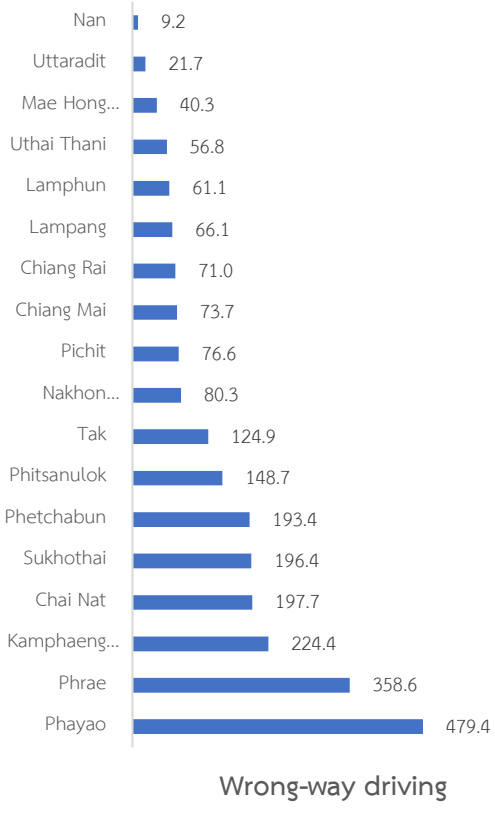
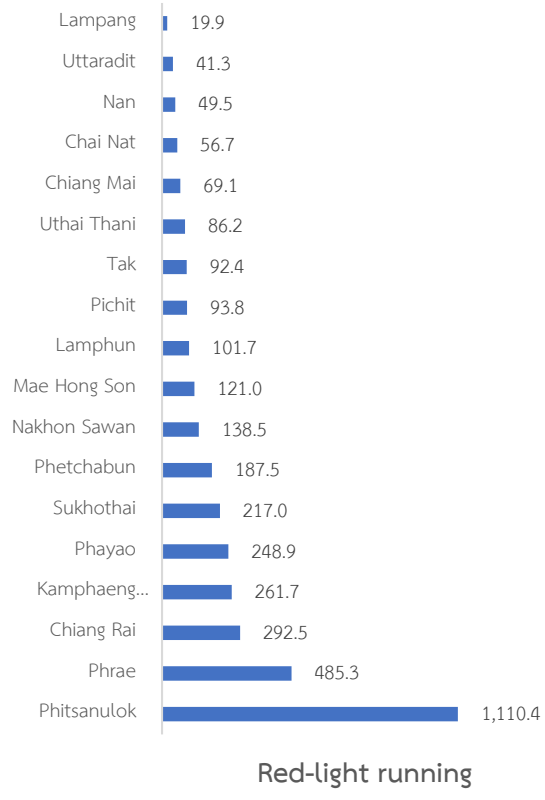


Figure 3.5 Traffic violation case rate per 100,000 population





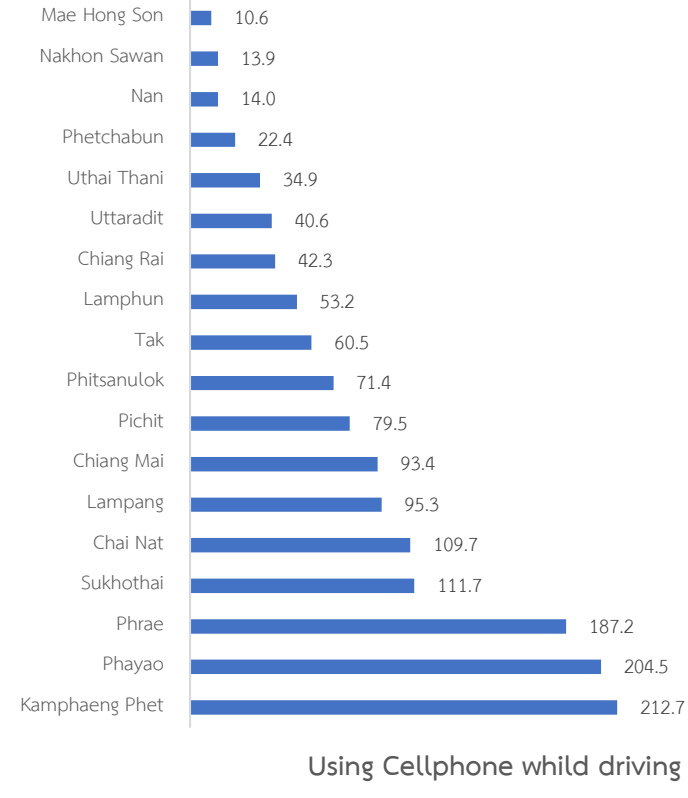


Figure 3.6 Traffic violation case rate per 100,000 population (cont.)

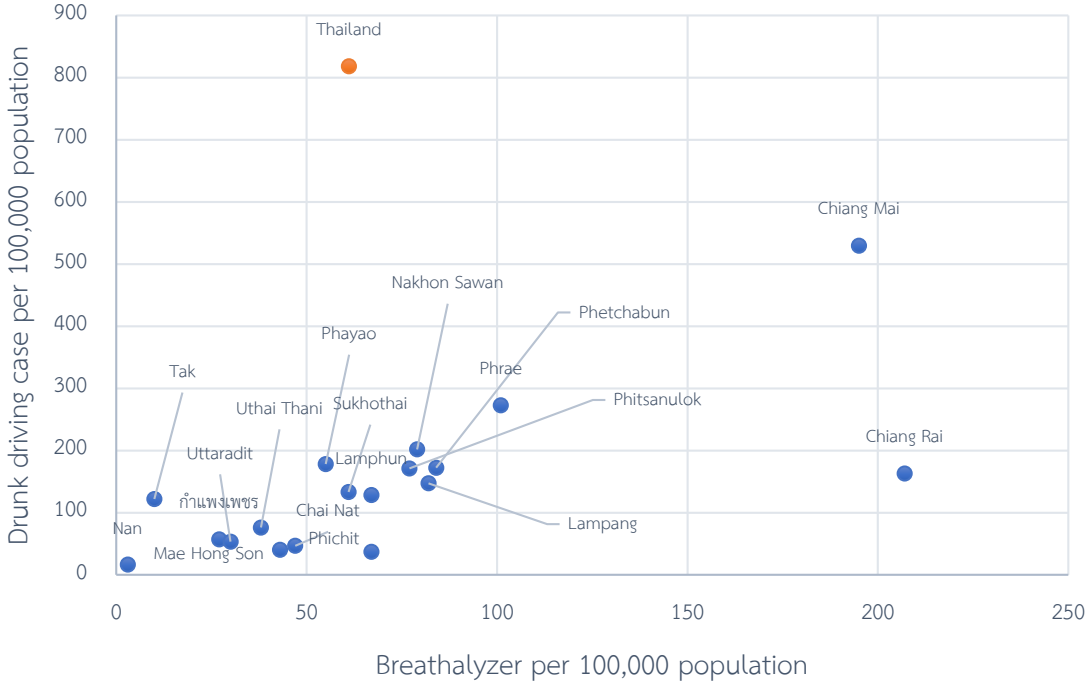


Figure 3.7 Drunk driving case rate and breathalyzer availability

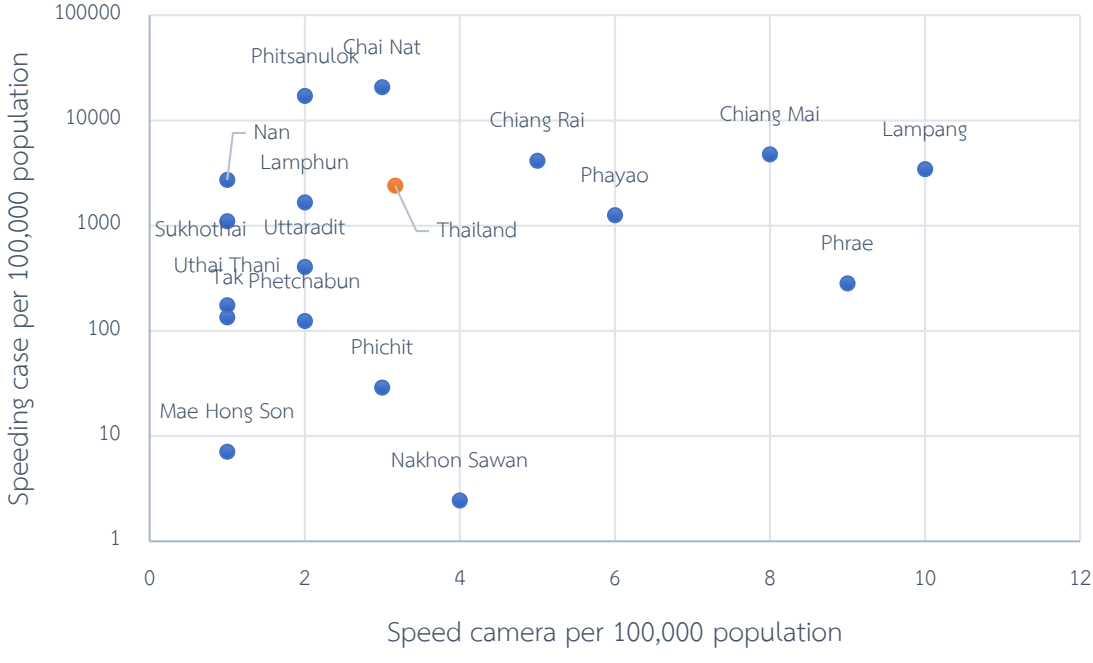


Figure 3.8 Speeding casae rate and speed camera availability

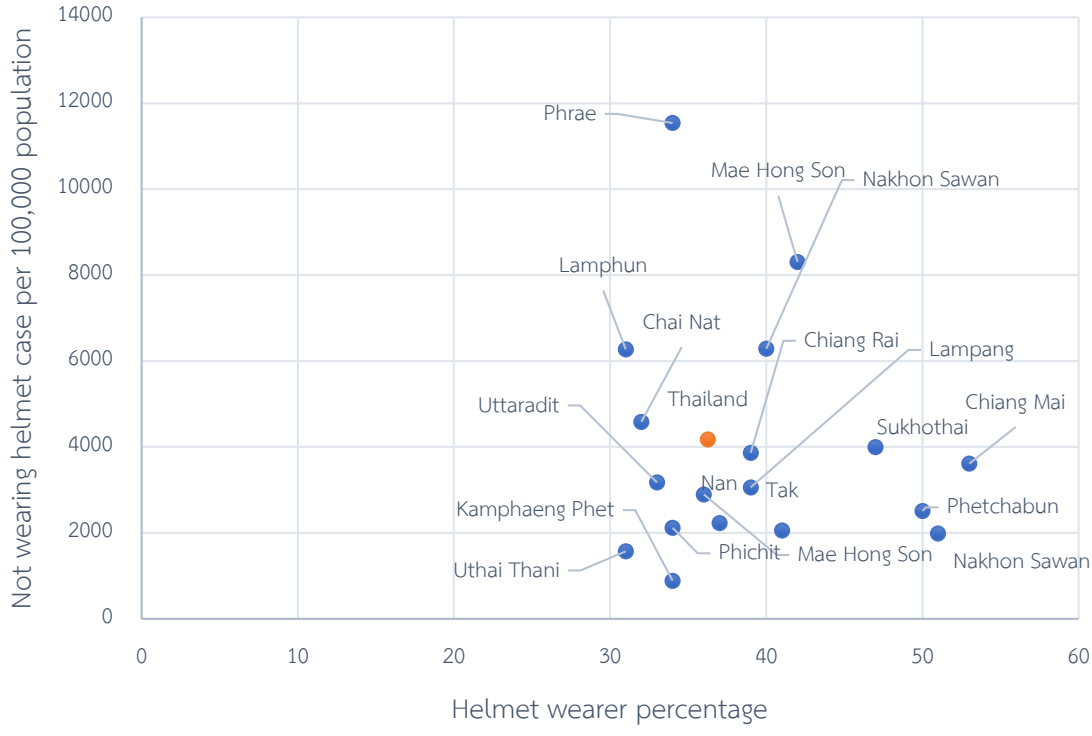
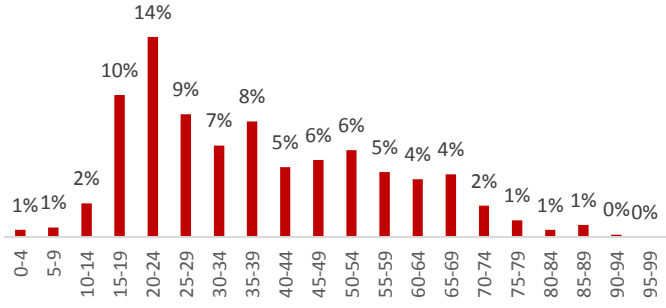


Figure 3.9 Not wearing helmet case rate and helmet wearer percentage

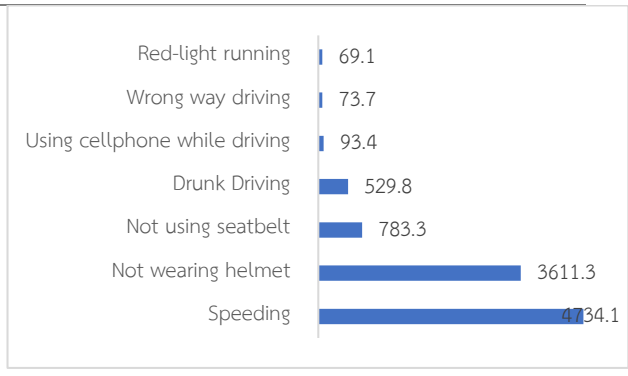
Source :Thairoads Foundation

Chiang Mai 2018

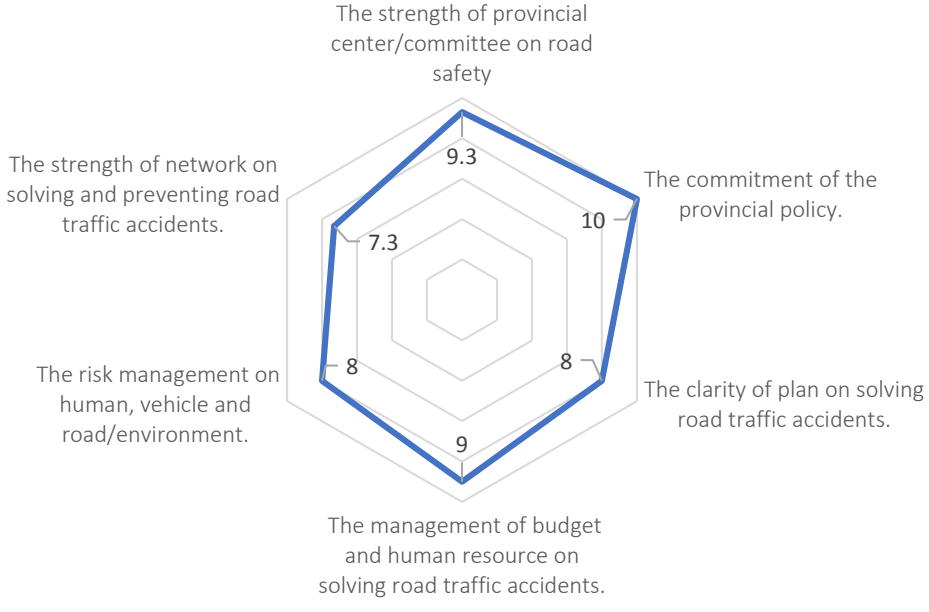
General Statistics			Accident Statistics		
Population	1,763,742	person (5)	Fatalities	569	Deaths (5)
registered vehicles	1,457,217	car (3)			
GPP*	231,726	million baht (15)			



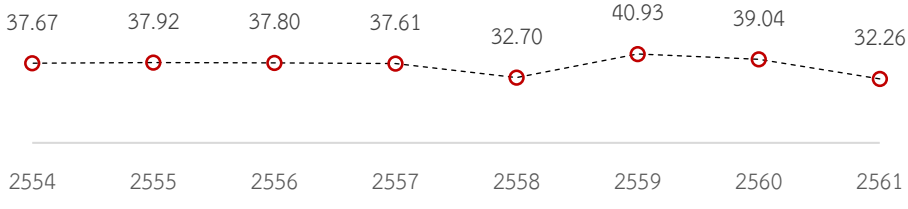
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

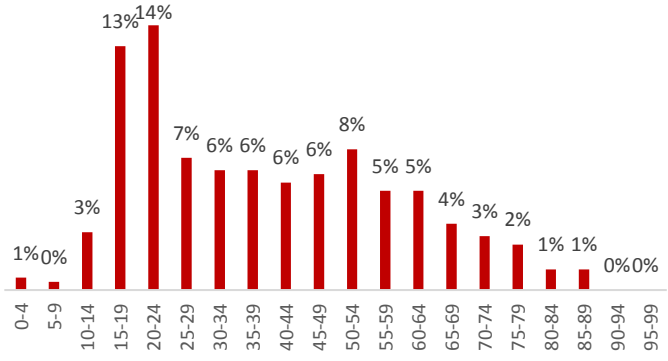


Road traffic death rate 2018

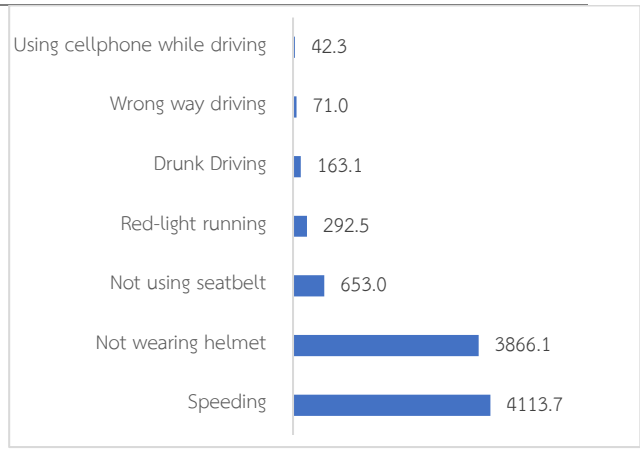
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chiang Rai 2018

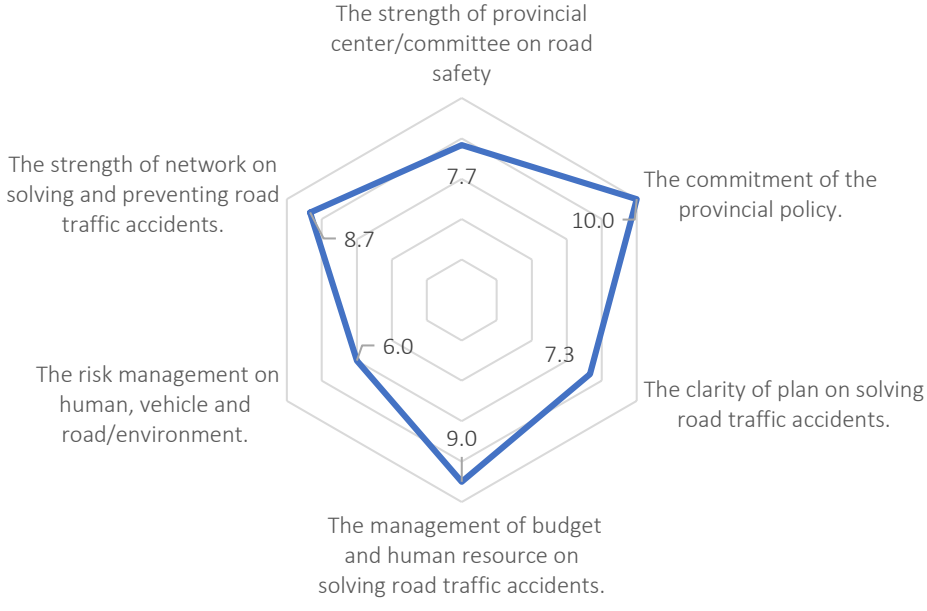
General Statistics			Accident Statistics		
Population	1,292,130	person (16)	Fatalities	443	Deaths (8)
registered vehicles	738,735	car (9)			
GPP*	104,435	million baht (27)			



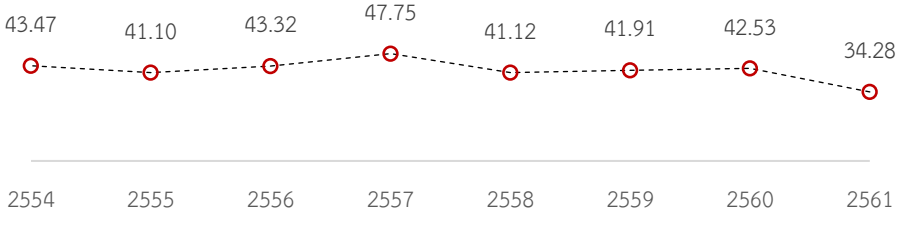
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

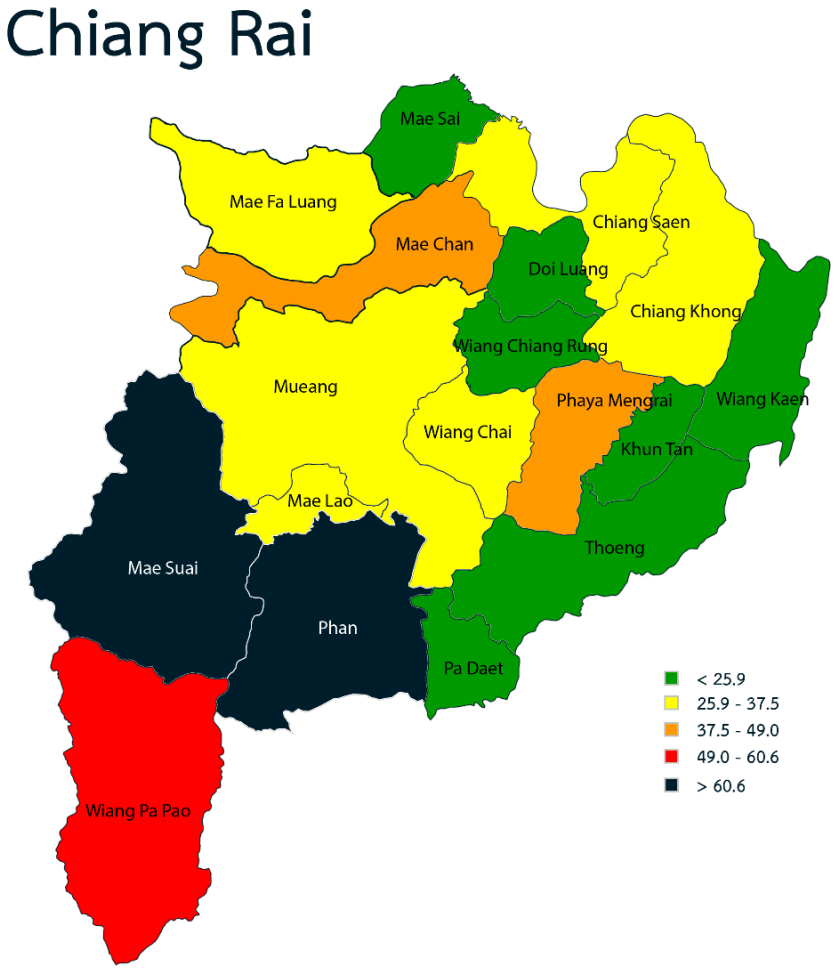


Road traffic death rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Chiang Rai

District	Fatalities Rate	Fatalities per 100,000 population	District	Fatalities Rate	Fatalities per 100,000 population
Phan	38	64.31	Chiang Saen	19	31.08
Mae Suai	37	61.81	Mae Fa Luang	7	30.98
Wiang Pa Pao	12	49.54	Doi Luang	2	28.28
Phaya Mengrai	12	43.70	Mae Sai	30	24.94
Mae Chan	38	41.75	Khun Tan	6	18.92
Mae Lao	20	35.41	Pa Daet	13	18.78
Chiang Khong	20	35.22	Wiang Chiang Rung	9	17.41
Wiang Chai	19	32.35	Thoeng	16	9.66
Mueang	151	31.15	Wiang Kaen	11	9.16

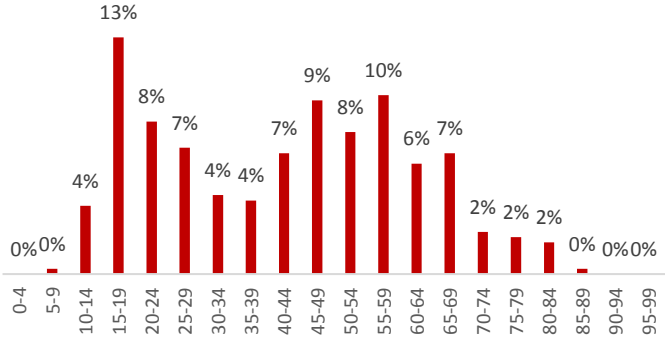


Road Traffic Death Rate by District

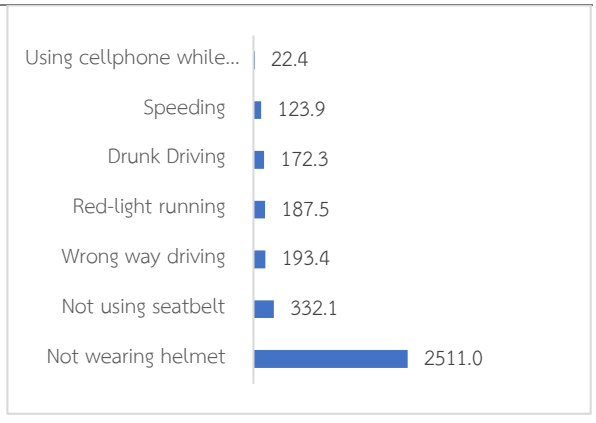
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Phetchabun 2018

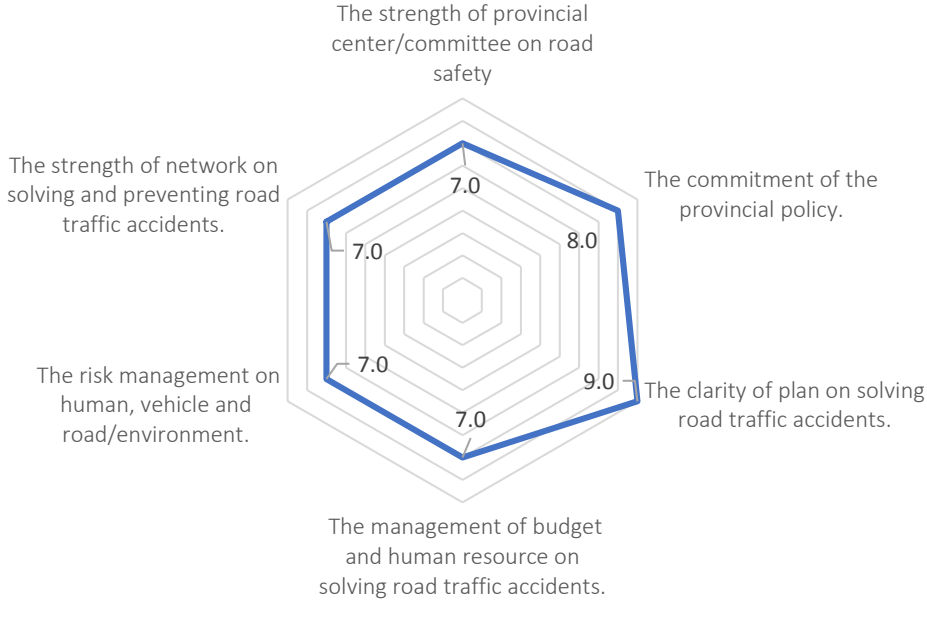
General Statistics			Accident Statistics		
Population	994,540	person (22)	Fatalities	350	Deaths (17)
registered vehicles	464,066	car (23)			
GPP*	76,799	million baht (36)			



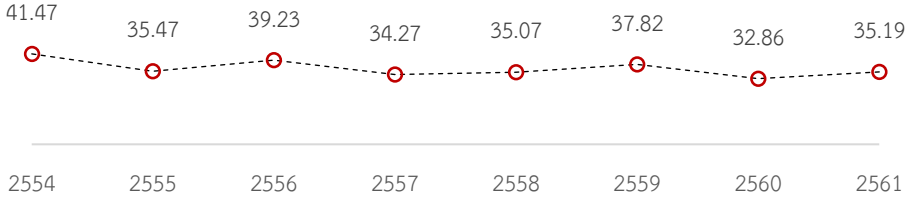
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

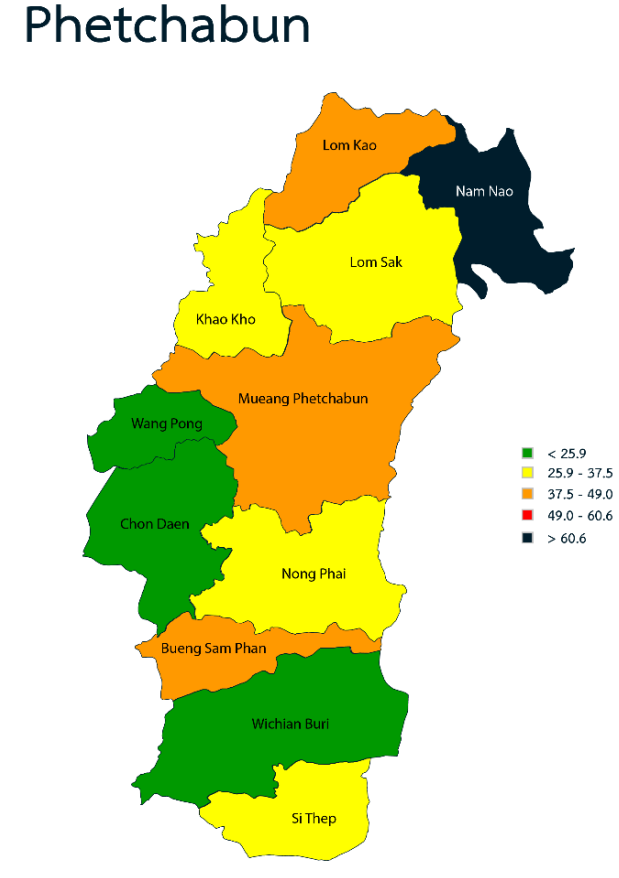


Road traffic death rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Phetchabun

District	Fatalities Rate	Fatalities per 100,000 population
Lom Kao	26	38.92
Si Thep	24	34.09
Lom Sak	51	32.44
Khao Kho	12	30.74
Nong Phai	31	27.72
Wichian Buri	33	25.04
Chon Daen	17	21.44
Wang Pong	2	5.44

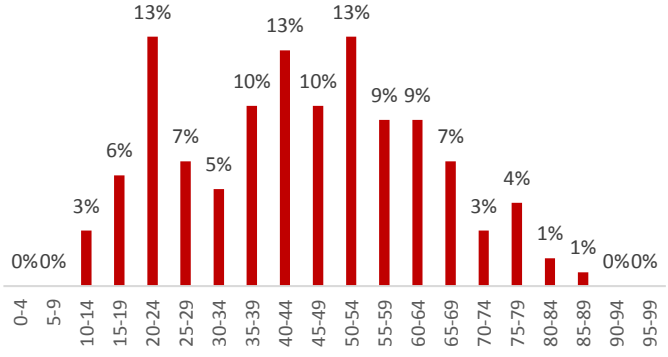


Road Traffic Death Rate by District

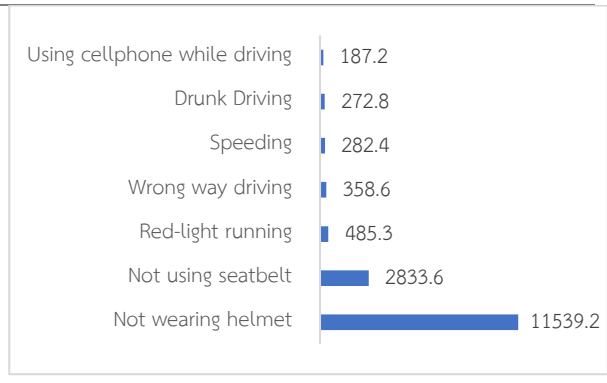
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Phrae 2018

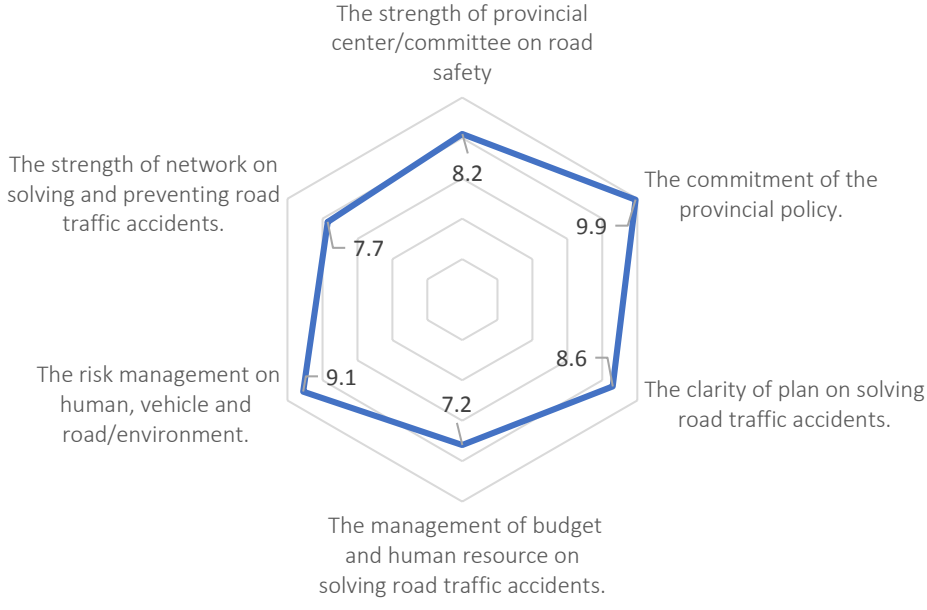
General Statistics			Accident Statistics		
Population	445,090	person (61)	Fatalities	163	Deaths (50)
registered vehicles	260,110	car (48)			
GPP*	28,379	million baht (66)			



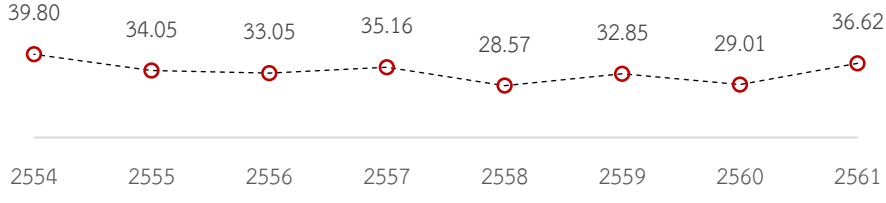
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

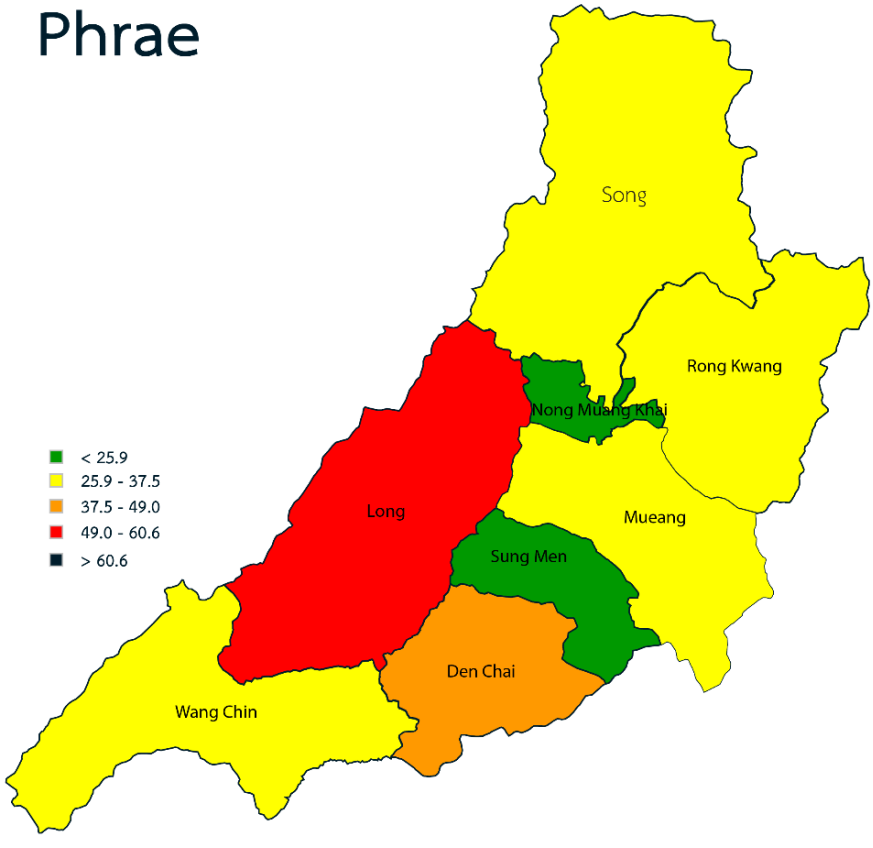


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district,Phrae

District	Fatalities	Fatalities Rate per 100,000 population
Long	28	50.81
Den Chai	14	38.84
Wang Chin	16	34.50
Mueang	38	31.99
Rong Kwang	15	30.37
Song	15	29.64
Sung Men	17	22.48
Nong Muang Khai	4	22.37

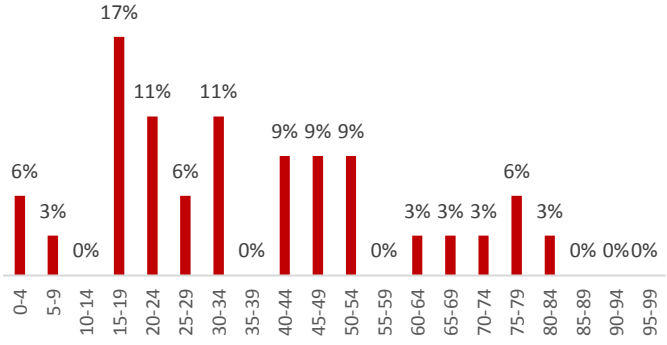


Road Traffic Death Rate by District

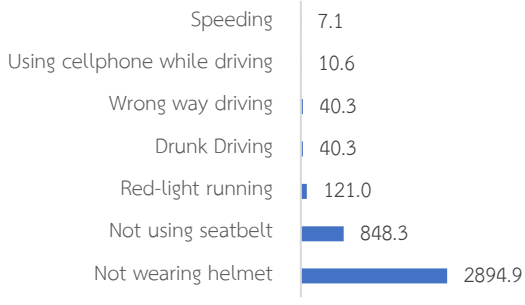
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Mae Hong Son 2018

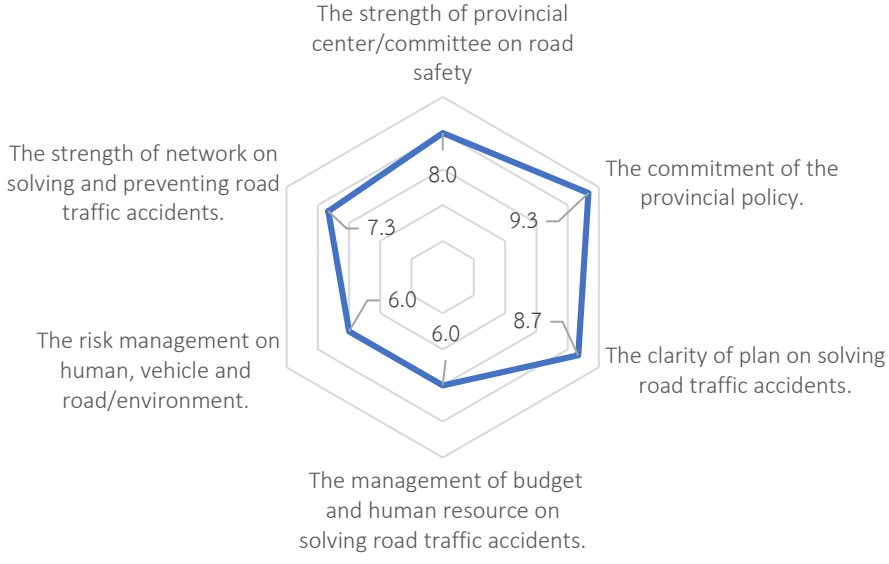
General Statistics			Accident Statistics		
Population	282,566	person (70)	Fatalities	37	Deaths (77)
registered vehicles	66,182	car (77)			
GPP*	13,000	million baht (77)			



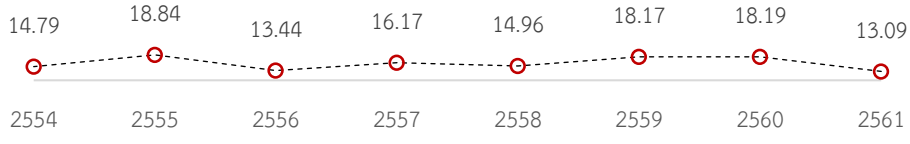
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

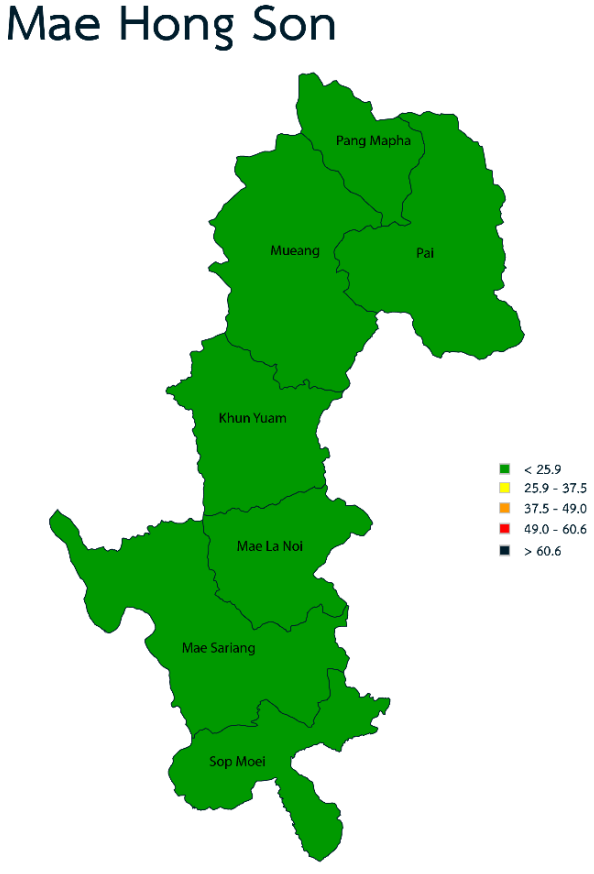


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Mae Hong Son

District	Fatalities	Fatalities Rate per 100,000 population
	Rate	
Sop Moei	3	3.62
Khun Yuam	3	2.41
Mae La Noi	5	2.37
Mae Sariang	8	1.99
Mueang	13	1.59
Pai	7	1.26
Pang Mapha	6	0.00

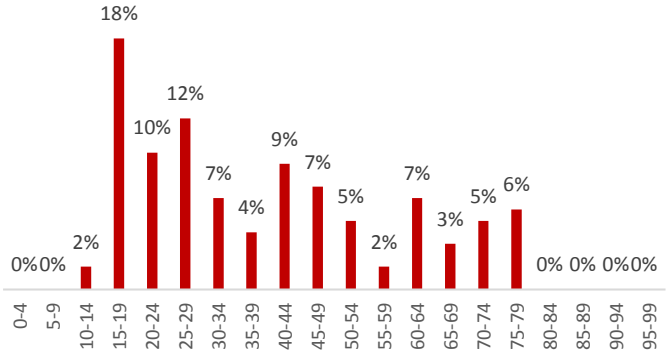


Road Traffic Death Rate by District

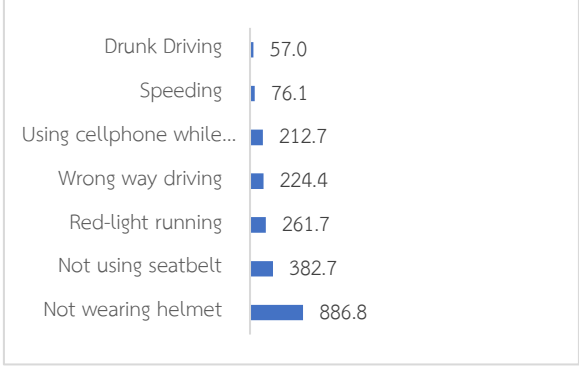
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Kamphaeng Phet 2018

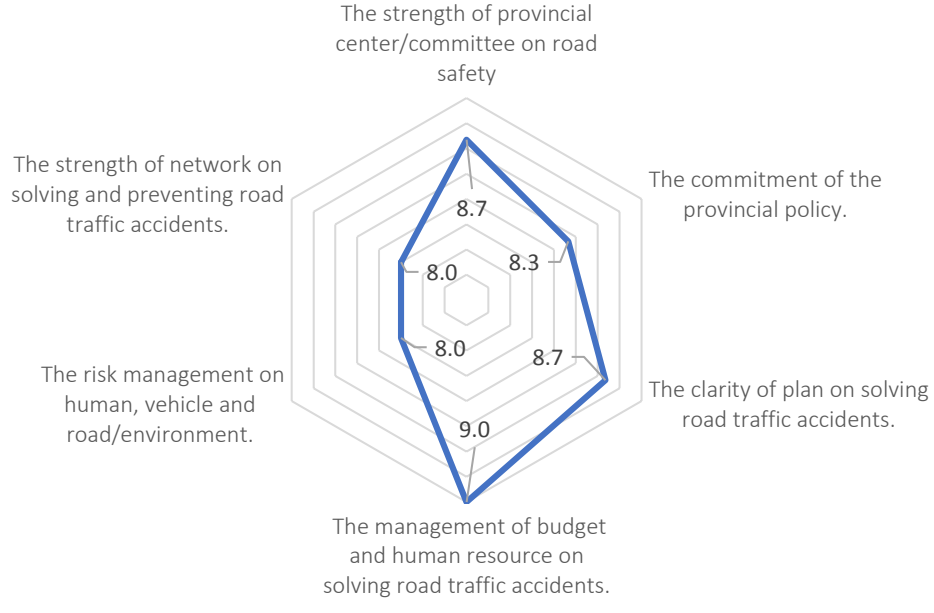
General Statistics			Accident Statistics		
Population	727,807	person (34)	Fatalities	198	Deaths (43)
registered vehicles	363,883	car (33)			
GPP*	110,248	million baht (25)			



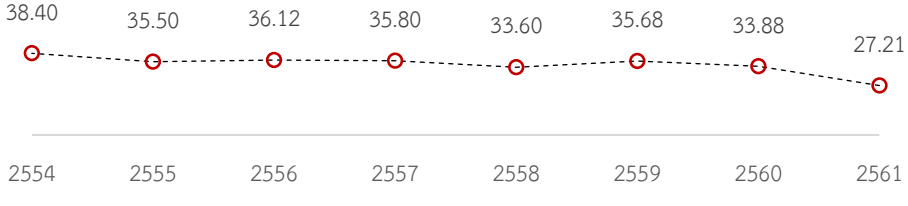
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

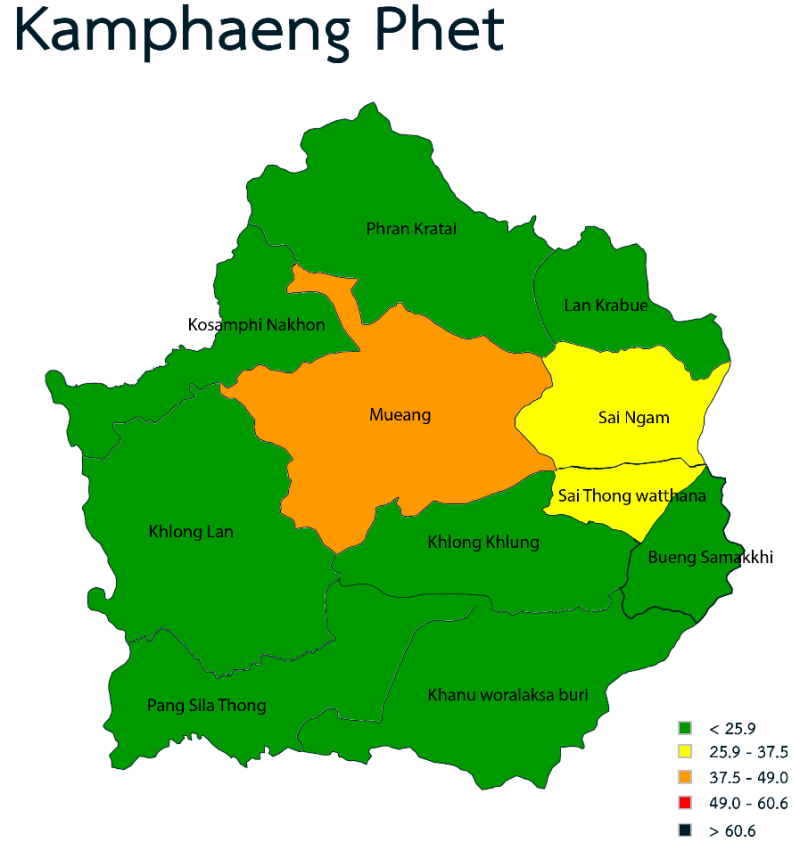


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Kamphaeng Phet

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	53	38.48	Phran Kratai	6	8.61
Sai Thong watthana	5	36.60	Khlong Lan	4	6.28
Sai Ngam	13	26.24	Pang Sila Thong	1	3.31
Khlong Khlung	15	25.44	Khanu woralaksa buri	14	19.17
Kosamphi Nakhon	6	22.42	Lan Krabue	8	18.66
Bueng Samakkhi	5	19.75			

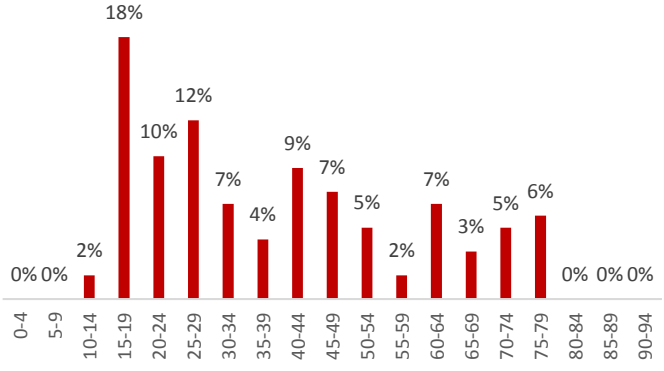


Road Traffic Death Rate by District

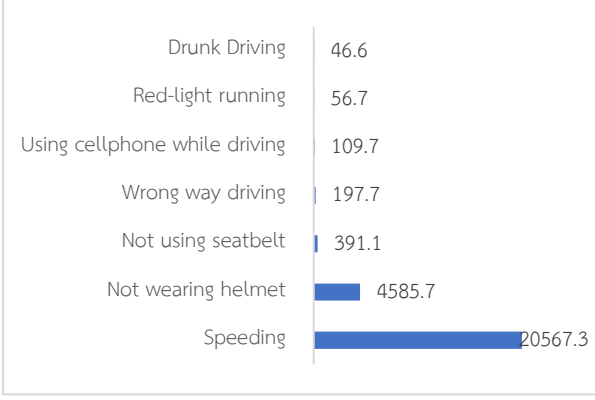
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chai Nat 2018

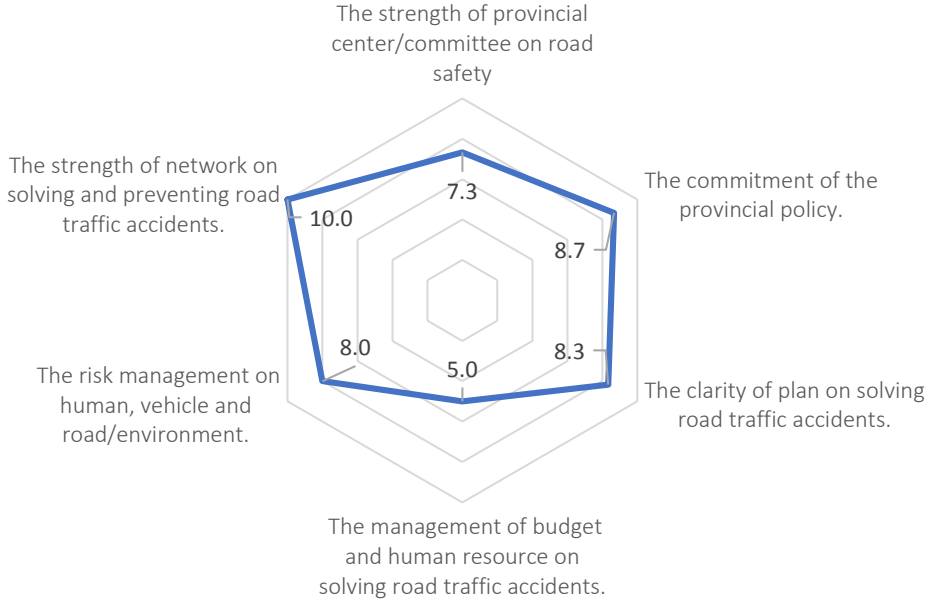
General Statistics			Accident Statistics		
Population	328,263	person (68)	Fatalities	122	Deaths (59)
registered vehicles	174,352	car (62)			
GPP*	31,850	million baht (63)			



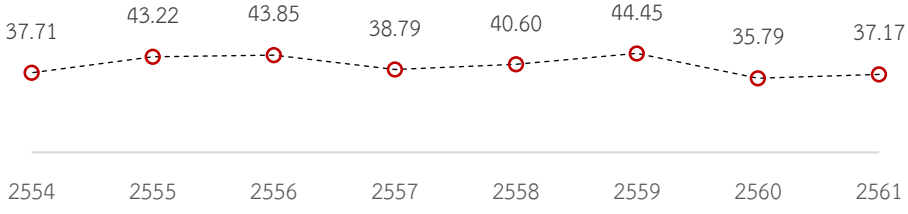
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

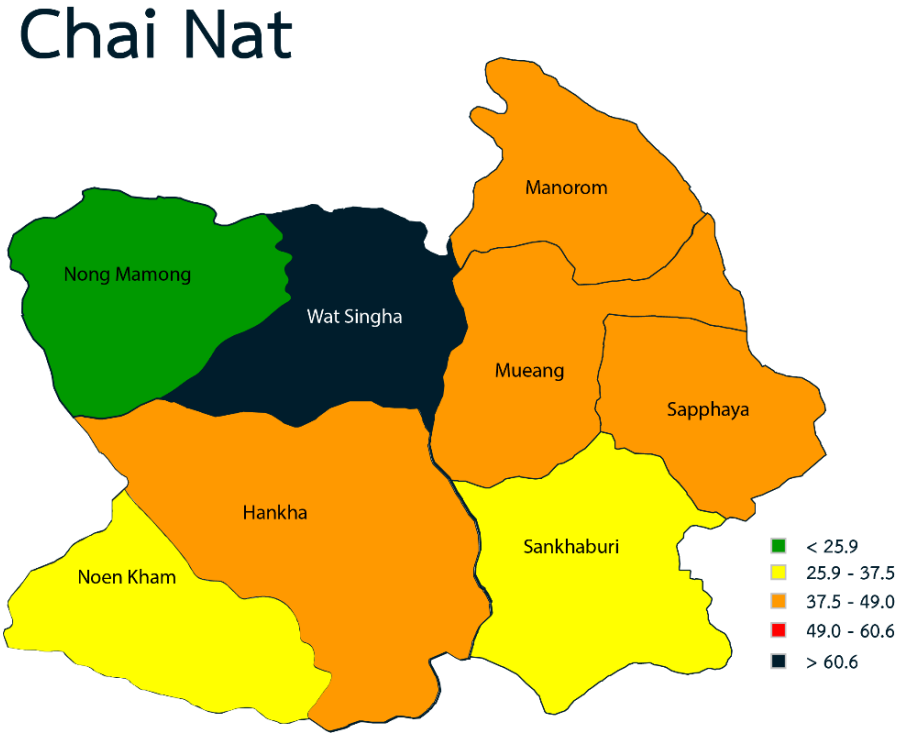


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district,Chai Nat

District	Fatalities Rate	Fatalities Rate per 100,000 population
Wat Singha	15	77.40
Sapphaya	16	46.79
Mueang	21	44.87
Hankha	17	41.86
Manorom	9	37.87
Sankhaburi	17	35.45
Noen Kham	4	33.25
Nong Mamong	3	19.35

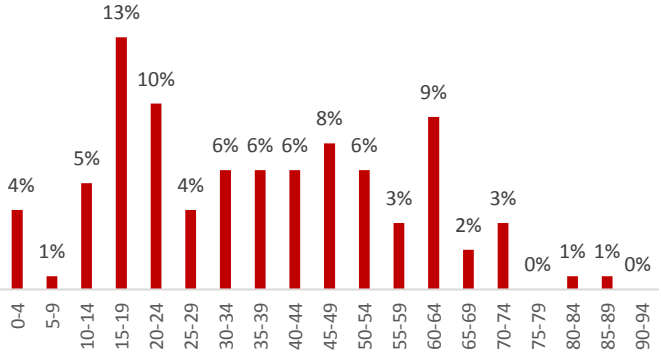


Road Traffic Death Rate by District

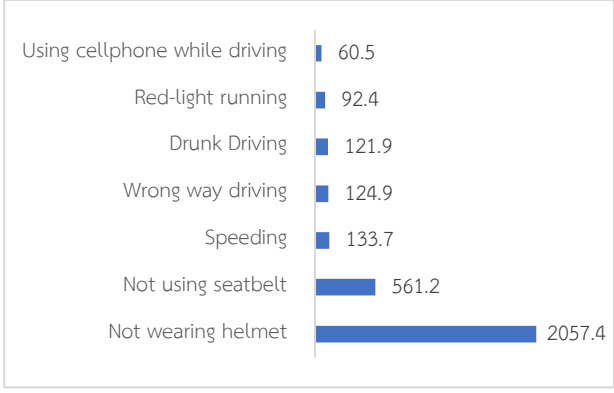
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Tak 2018

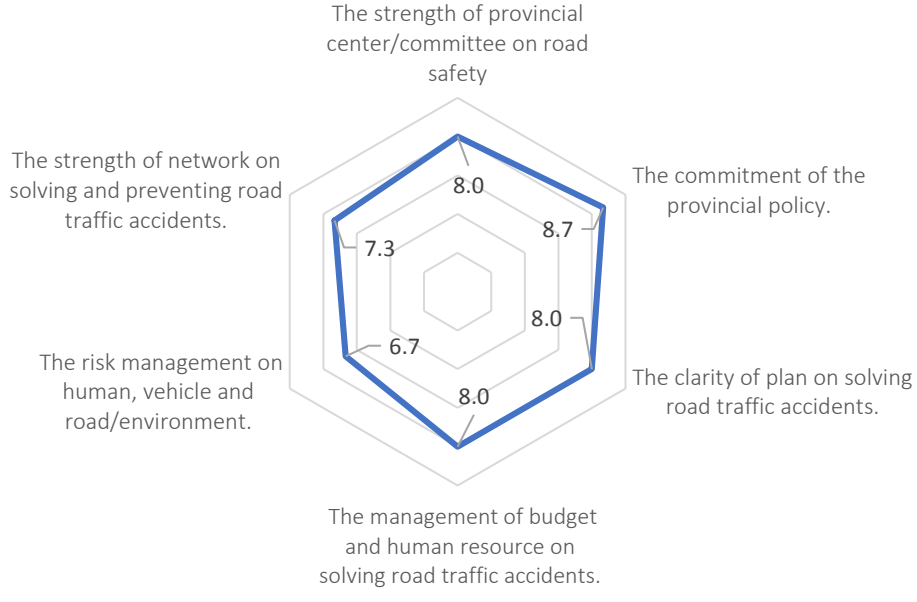
General Statistics			Accident Statistics		
Population	654,676	person (39)	Fatalities	142	Deaths (55)
registered vehicles	234,332	car (54)			
GPP*	47,799	million baht (50)			



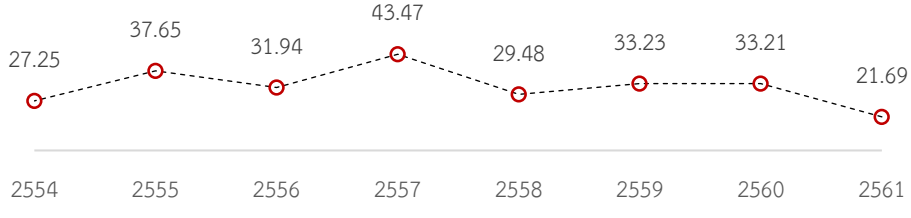
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

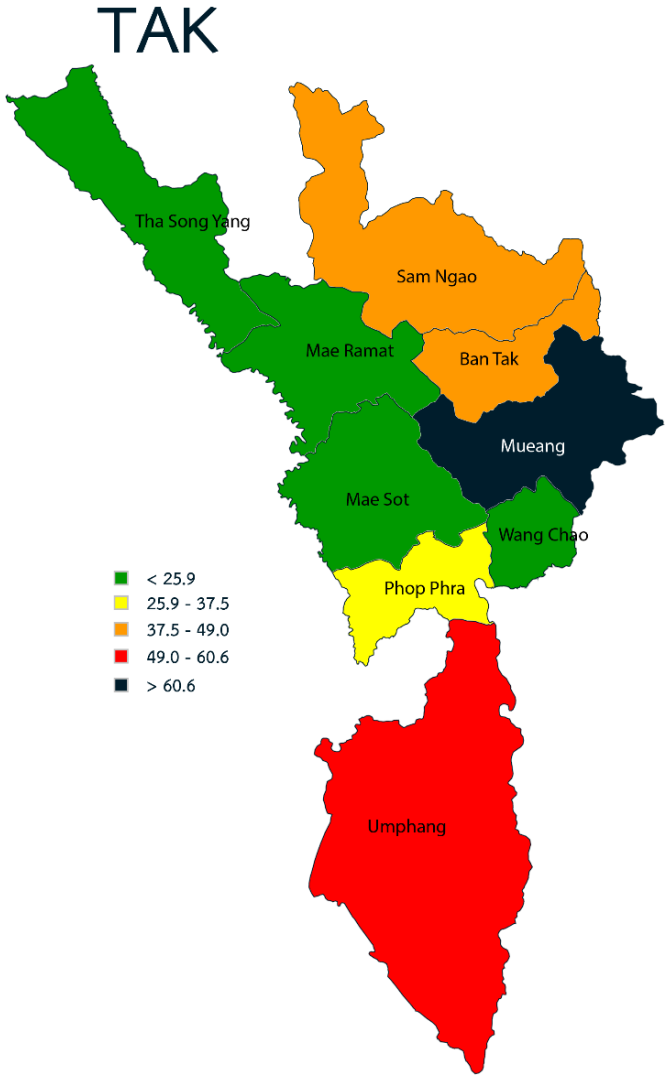


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district,Tak

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	67	65.36	Wang Chao	9	24.57
Umphang	18	59.65	Tha Song Yang	15	21.45
Ban Tak	20	44.59	Mae Ramat	9	18.01
Sam Ngao	10	37.84	Mae Sot	50	5.59
Phop Phra	19	30.08			



Road Traffic Death Rate by District

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

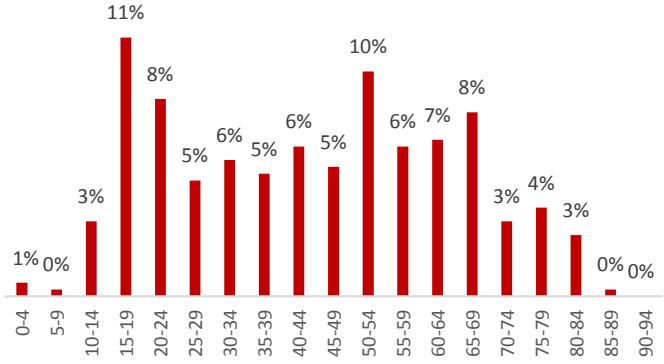
Nakhon Sawan 2018

General Statistics

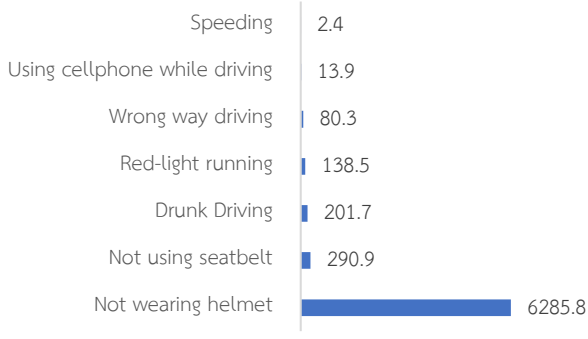
Population	1,063,964	person (20)
registered vehicles	574,255	car (13)
GPP*	107,178	million baht (26)

Accident Statistics

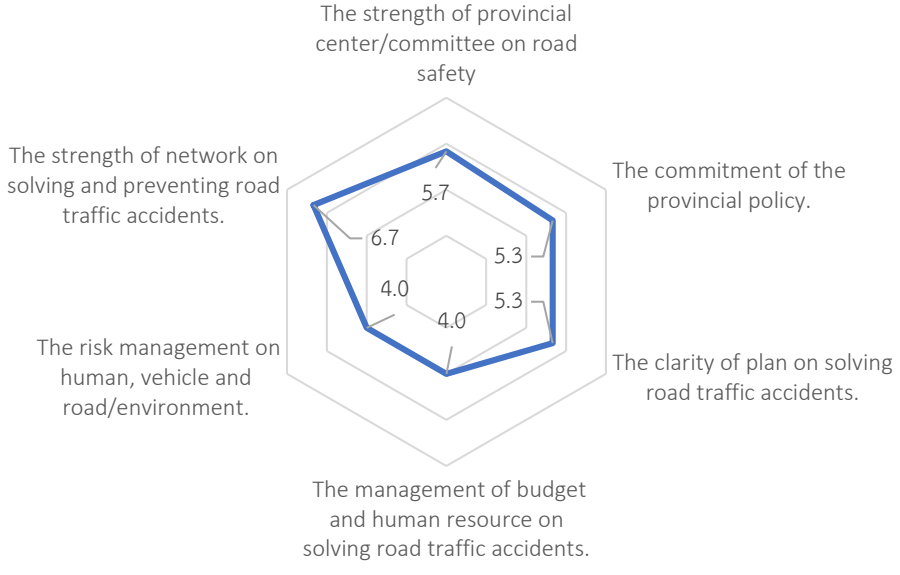
Fatalities	346	Deaths (18)



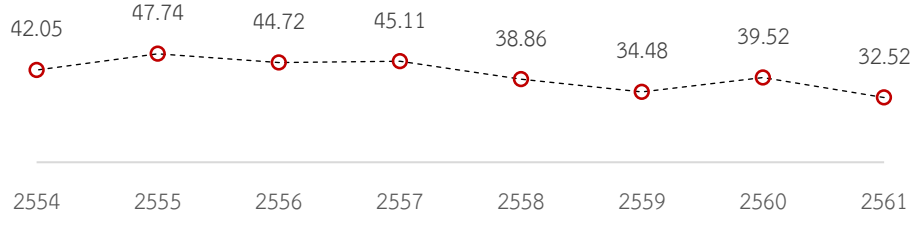
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

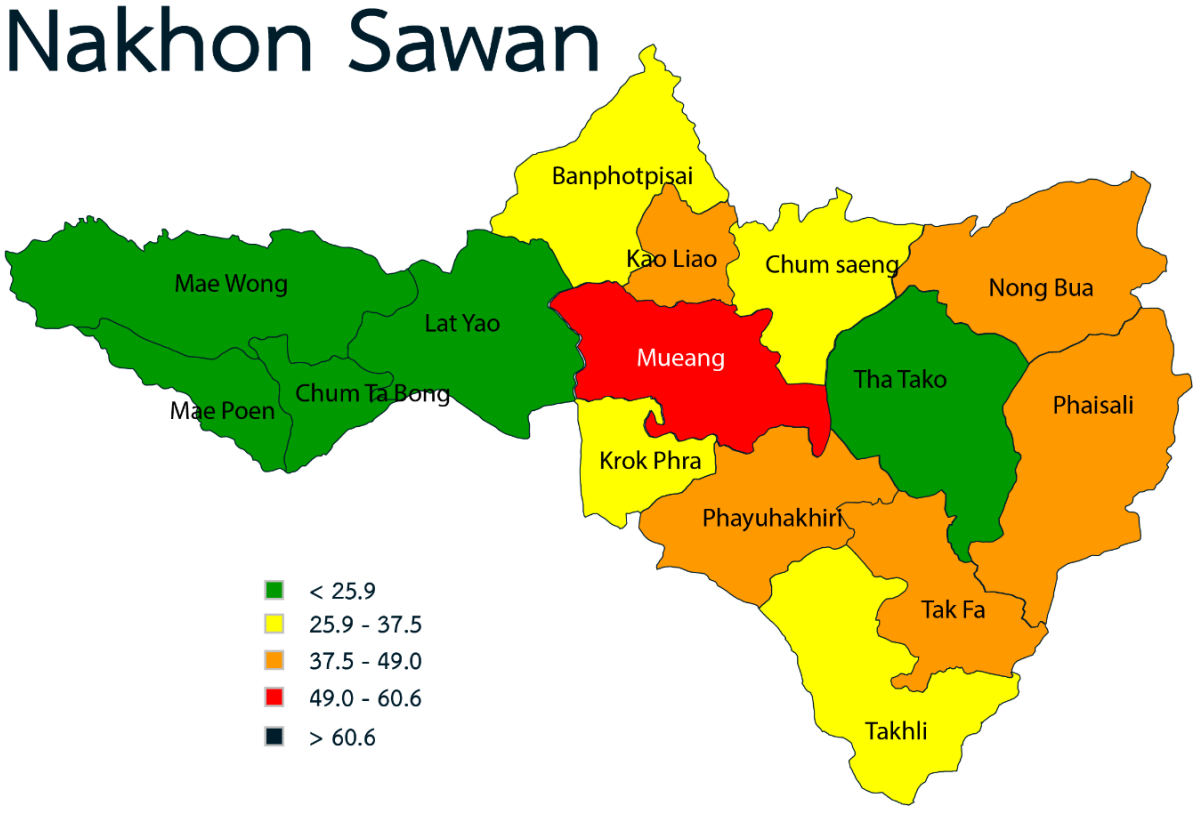


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district,Nakhon Sawan

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	77	49.65	Banphot	26	31.64
Kao Liao	14	48.91	Chum saeng	16	29.58
Phayuha	24	47.69	Lat Yao	18	24.13
Nong Bua	24	43.85	Tha Tako	13	21.27
Tak Fa	15	43.70	Mae Poen	4	19.16
Phaisali	23	38.31	Chum Ta Bong	2	11.06
Takhli	28	35.55	Mae Wong	4	7.92
Krok Phra	9	33.43			

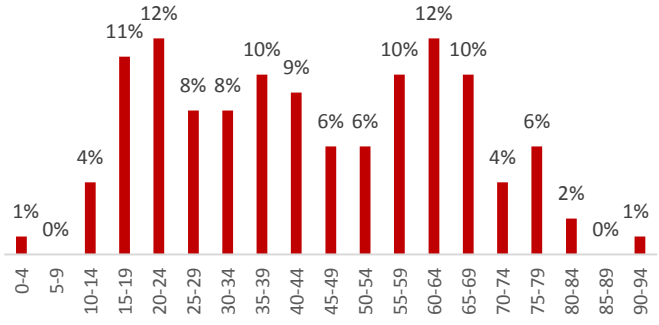


Road Traffic Death Rate by District

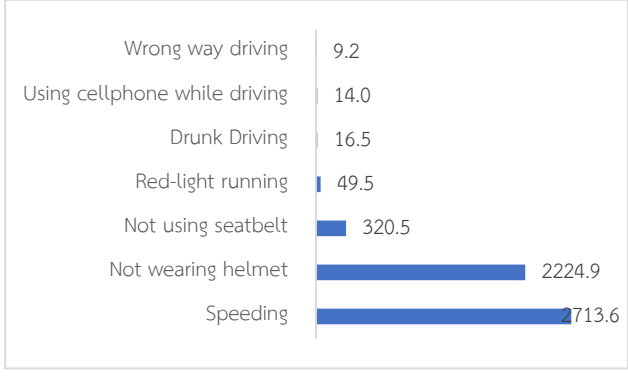
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Nan 2018

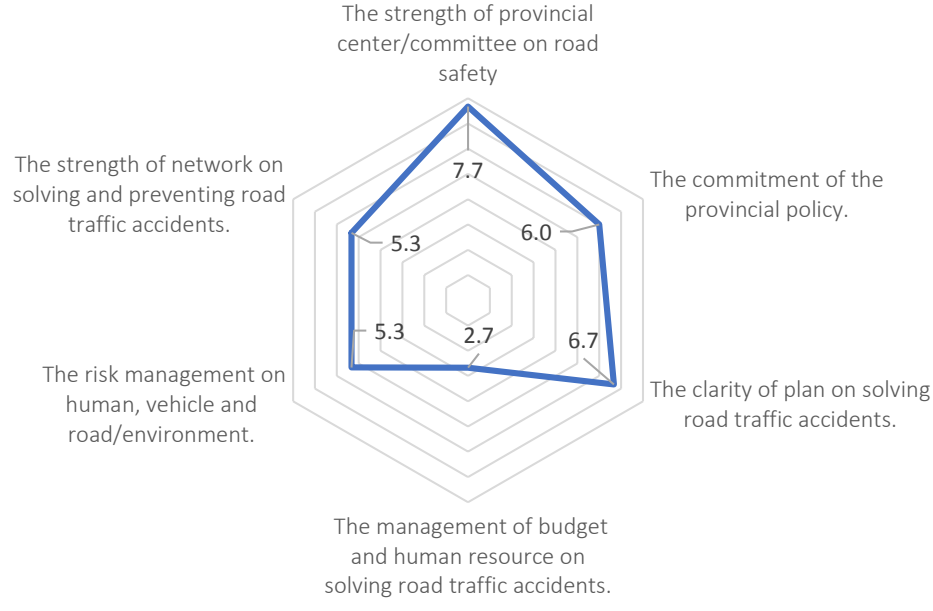
General Statistics			Accident Statistics		
Population	478,989	person (57)	Fatalities	129	Deaths (57)
registered vehicles	236,523	car (53)			
GPP*	31,850	million baht (63)			



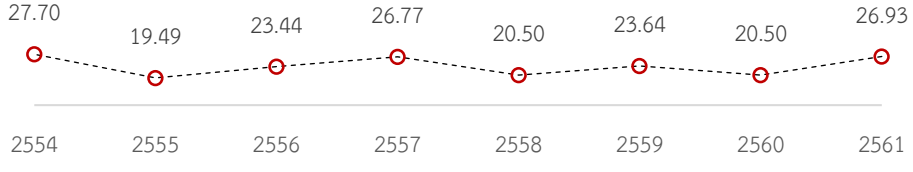
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

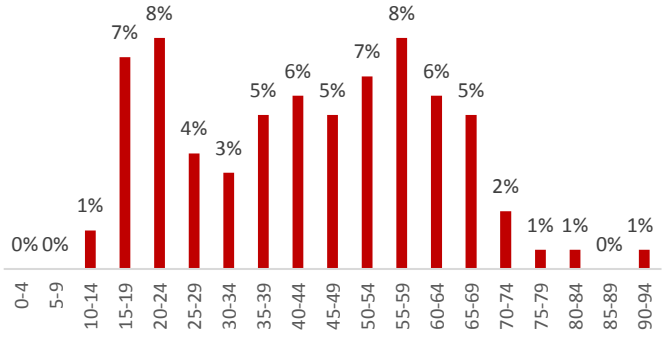


Road Traffic Death Rate per 100,000 population

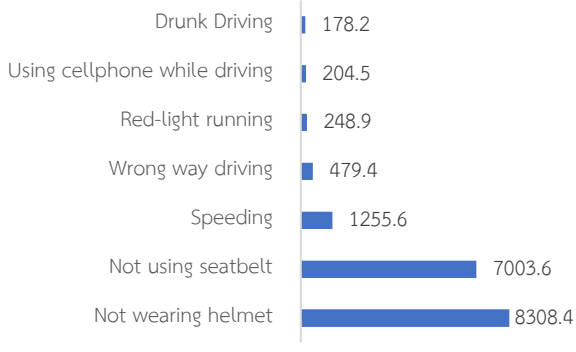
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Phayao 2018

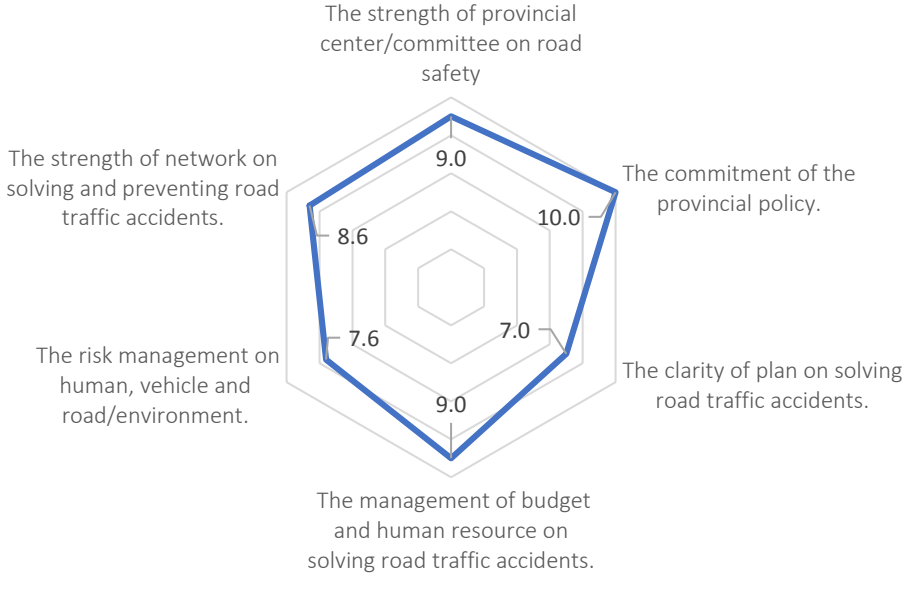
General Statistics			Accident Statistics		
Population	475,215	person (58)	Fatalities	114	Deaths (60)
registered vehicles	271,800	car (45)			
GPP*	36,017	million baht (62)			



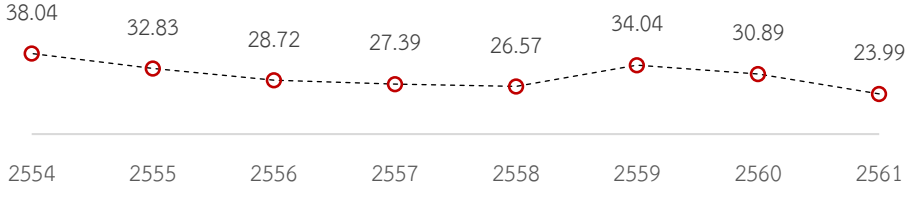
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

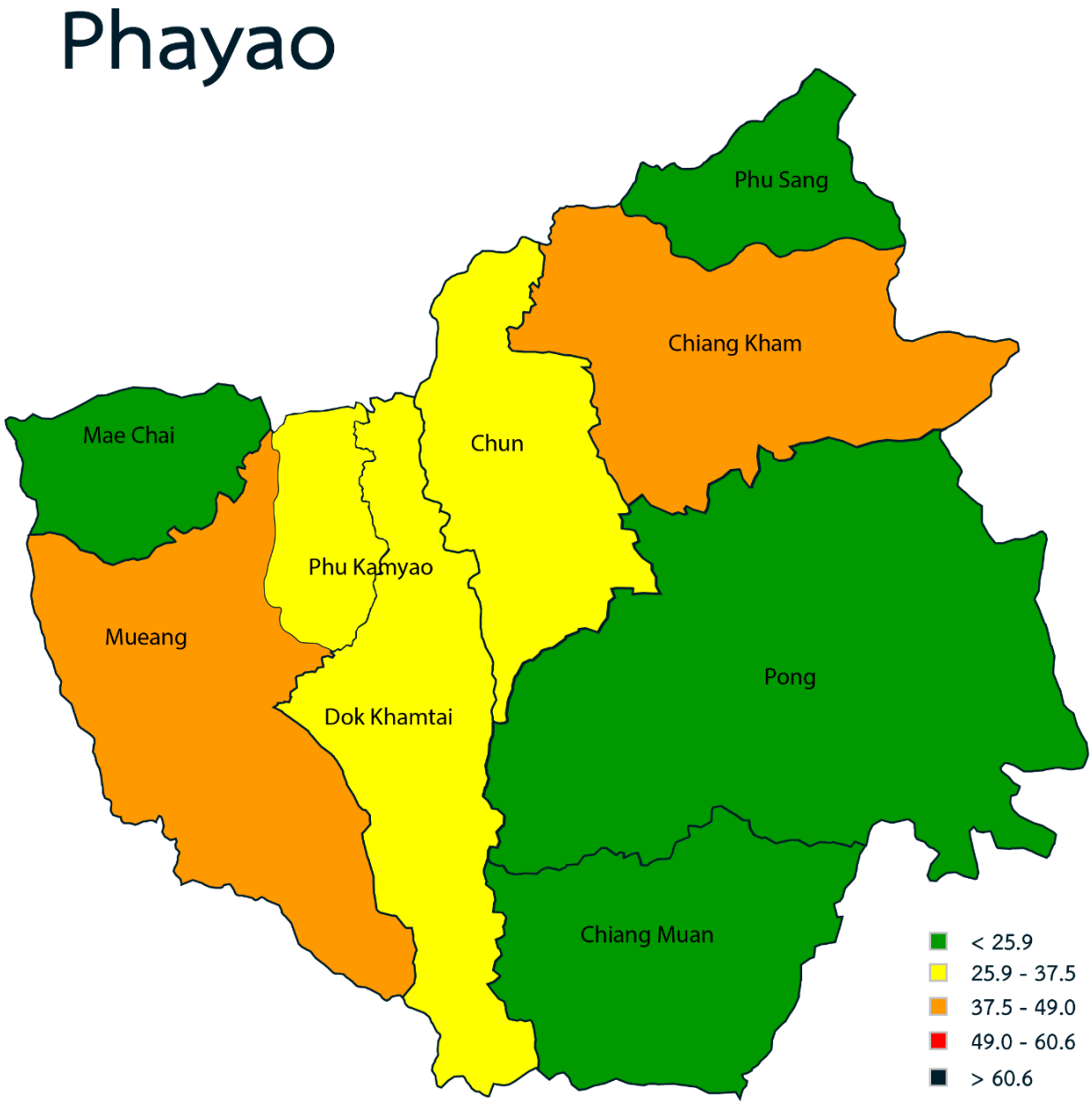


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district,Phayao

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Chiang Kham	24	42.66	Pong	10	25.52
Mueang	47	39.43	Mae Chai	6	25.17
Dok Khamtai	20	37.29	Chiang Muan	2	14.91
Phu Kamyao	5	34.00	Phu Sang	3	10.51
Chun	9	26.49			

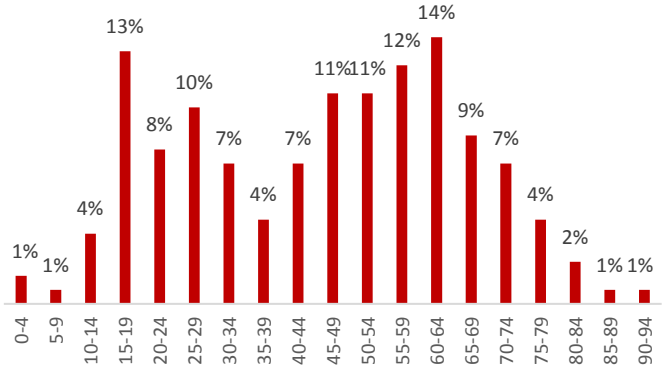


Road Traffice Death Rate by District

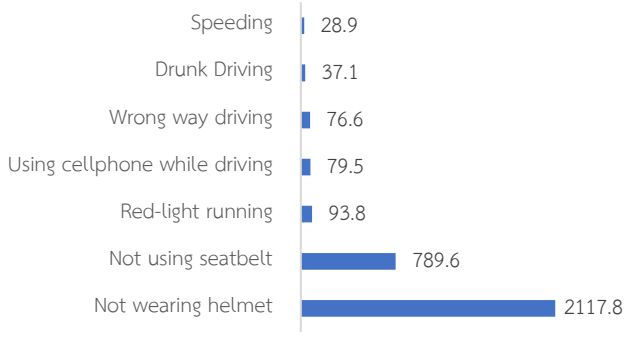
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Phichit 2018

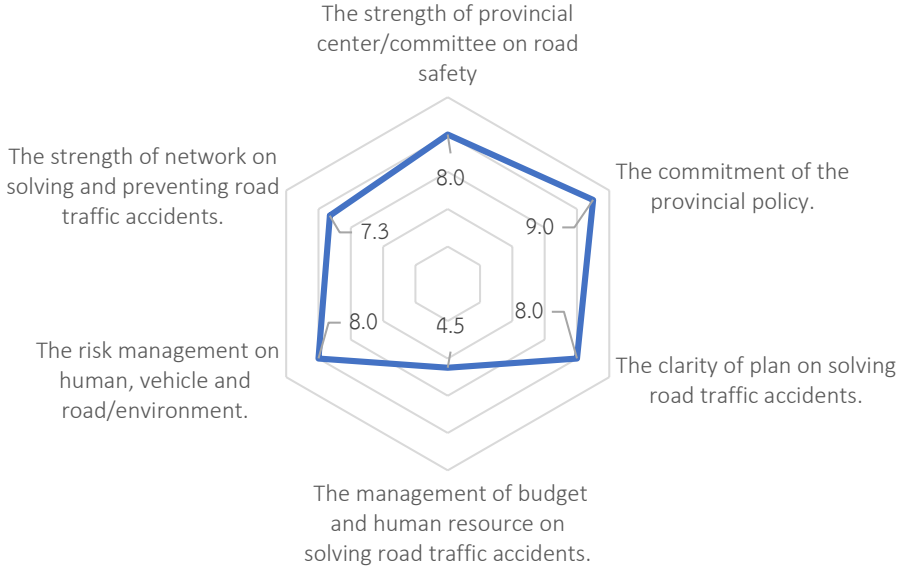
General Statistics			Accident Statistics		
Population	539,374	person (47)	Fatalities	182	Deaths (45)
registered vehicles	291,908	car (41)			
GPP*	45,035	million baht (54)			



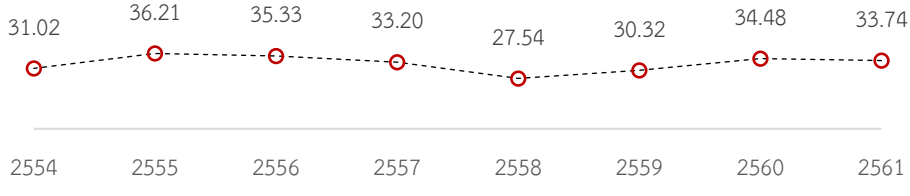
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

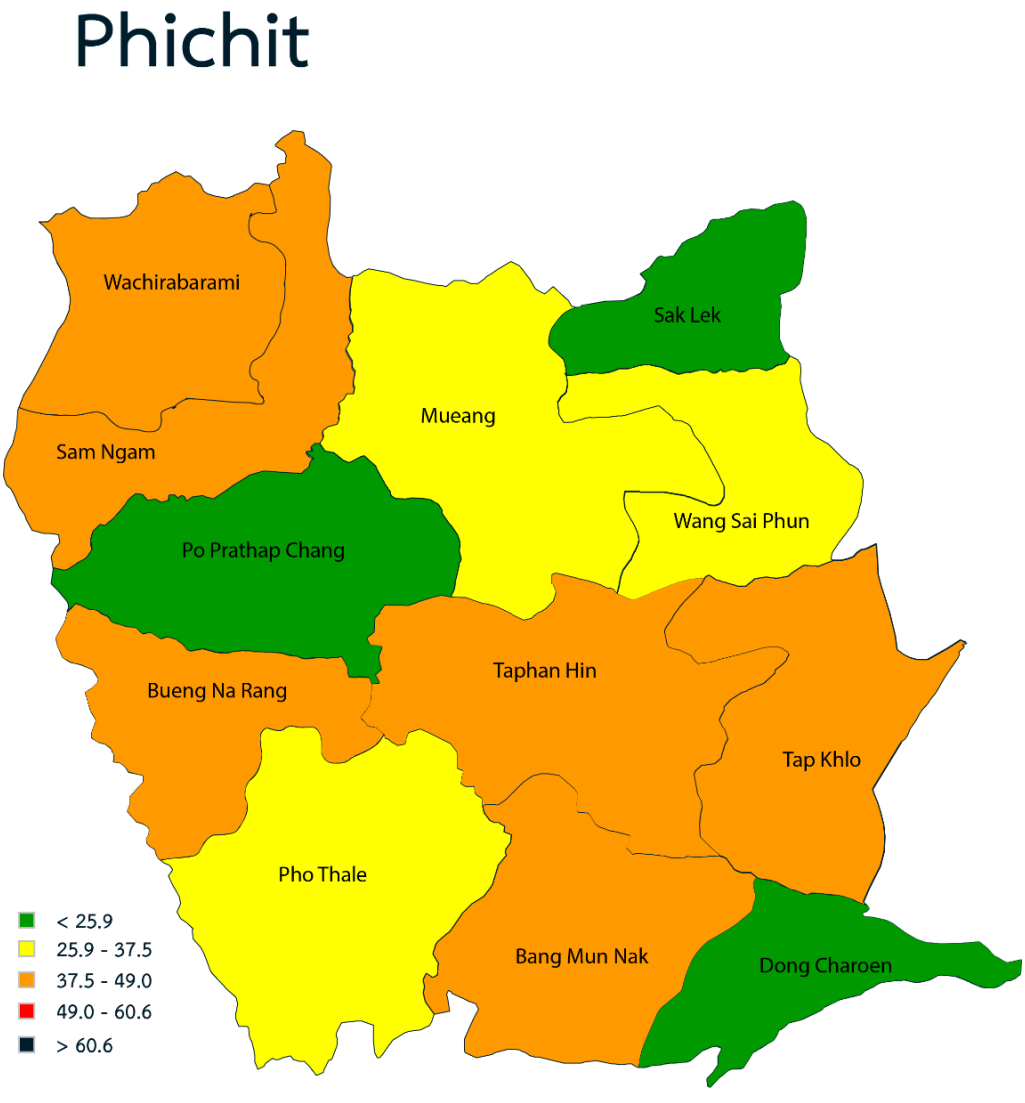


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district,Phichit

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Bueng Na Rang	13	45.15	Mueang	25	34.21
Wachirabarami	13	42.28	Wang Sai Phun	8	32.49
Taphan Hin	28	41.98	Pho Thale	16	28.88
Sam Ngam	17	40.22	Po Prathap Chang	10	22.69
Tap Khlo	17	39.02	Sak Lek	3	12.71
Bang Mun Nak	8	38.25	Dong Charoen	1	5.05

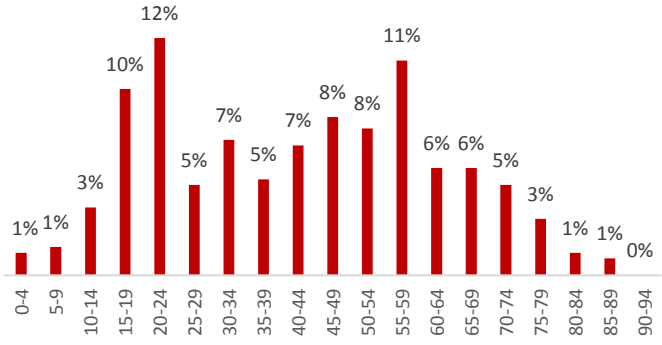


Road Traffic Death Rate by District

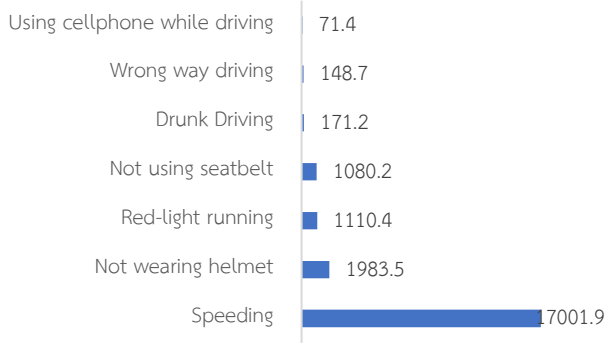
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Phitsanulok 2018

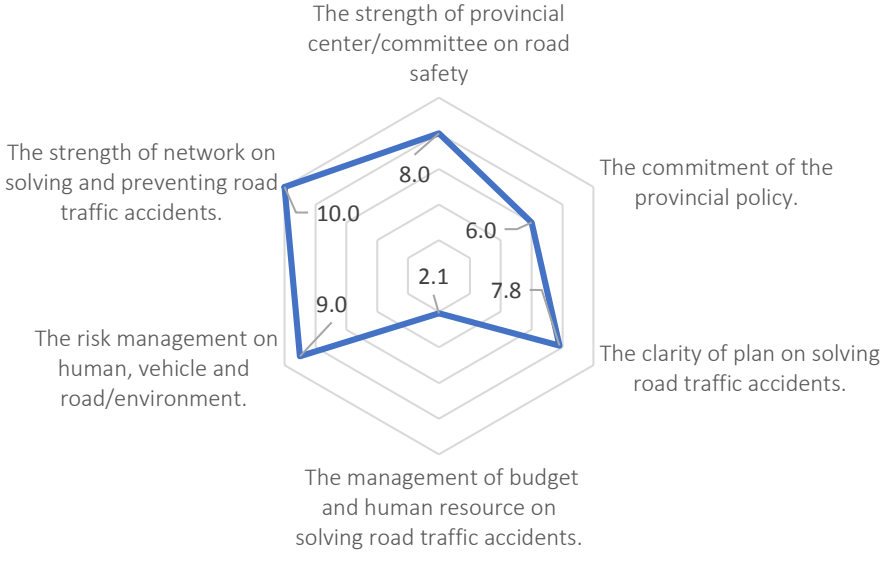
General Statistics			Accident Statistics		
Population	866,891	person (28)	Fatalities	362	Deaths (16)
registered vehicles	509,673	car (15)			
GPP*	93,046	million baht (29)			



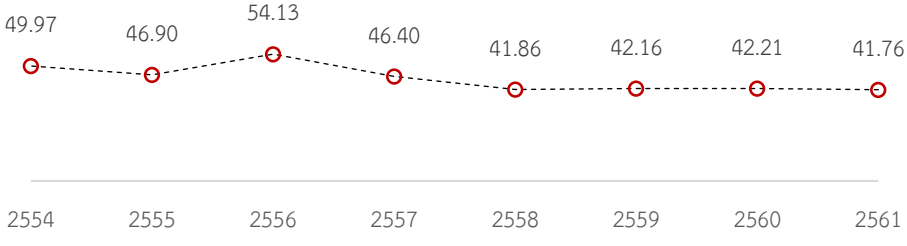
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

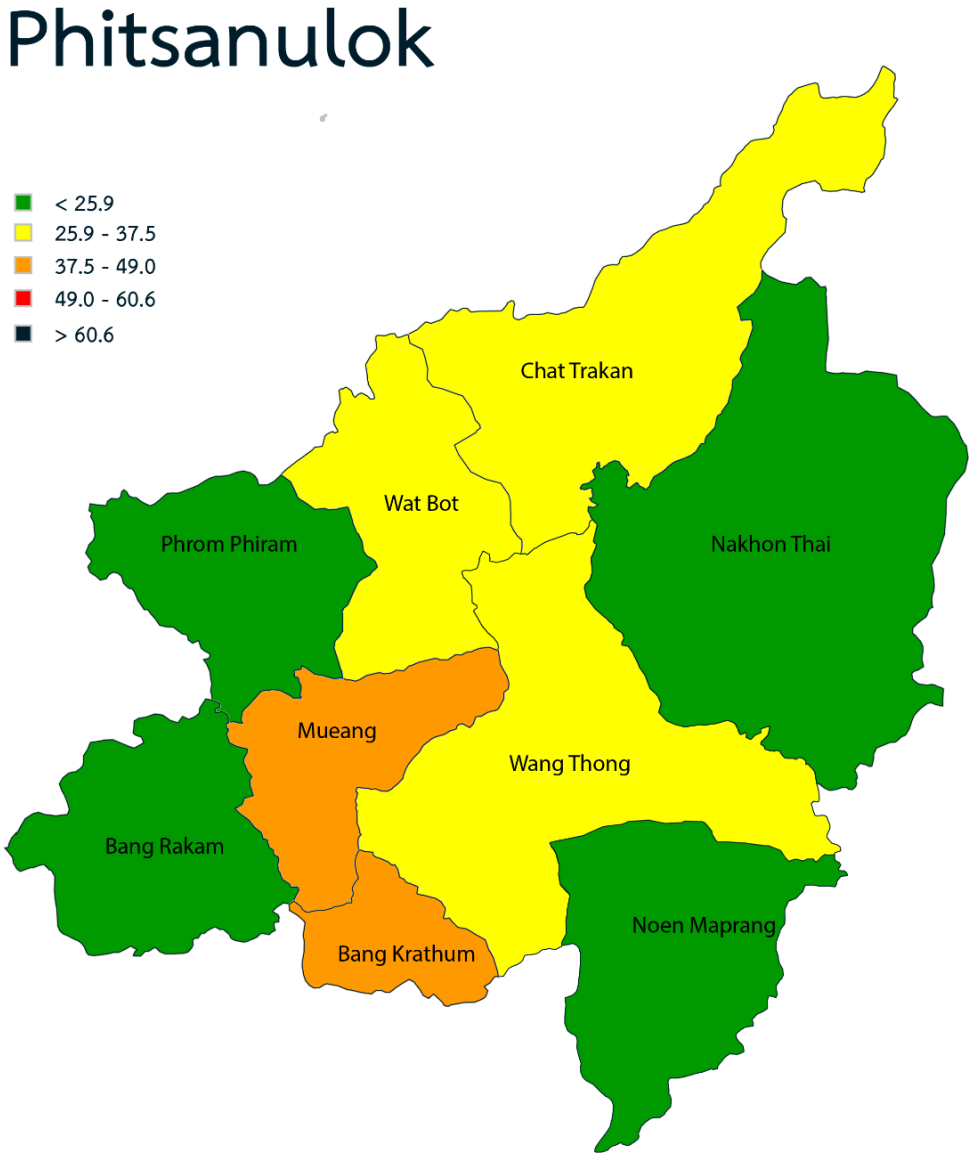


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Phitsanulok

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	80	45.48	Phrom Phiram	21	25.57
Bang Krathum	5	40.50	Noen Maprang	14	24.13
Wat Bot	12	31.78	Bang Rakam	14	14.78
Wang Thong	36	29.80	Nakhon Thai	10	14.69
Chat Trakan	11	26.68			

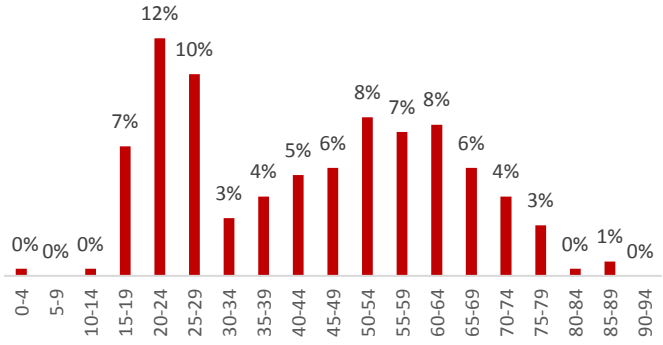


Road Traffic Death Rate by District

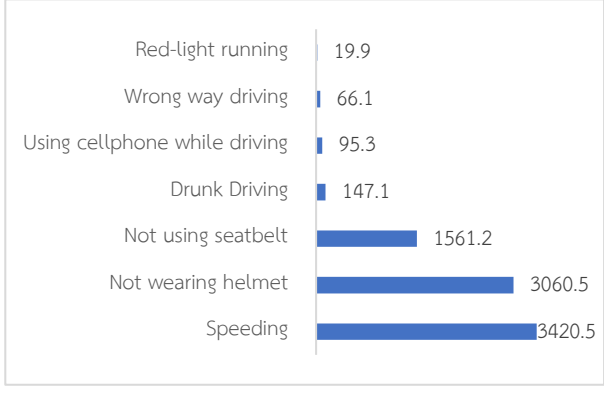
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Lampang 2018

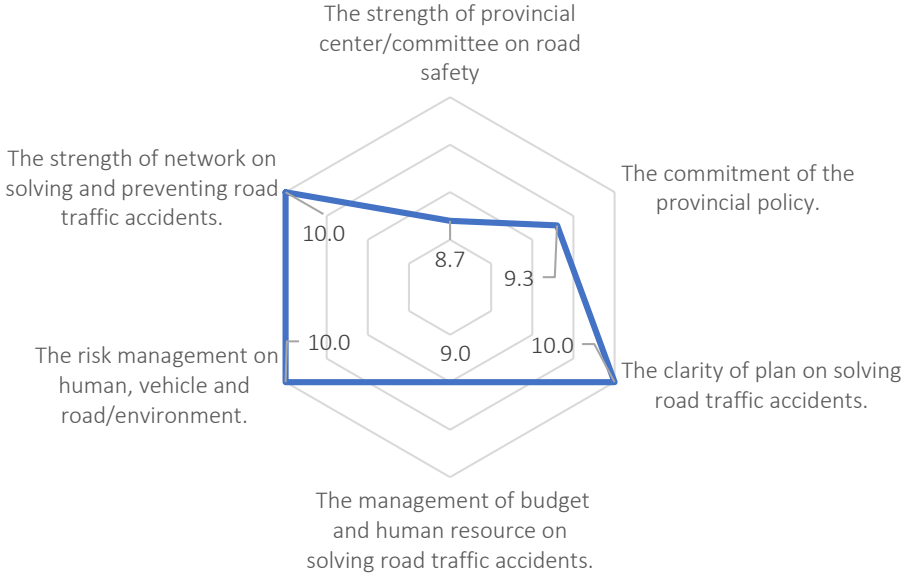
General Statistics			Accident Statistics		
Population	742,883	person (33)	Fatalities	237	Deaths (38)
registered vehicles	461,755	car (24)			
GPP*	68,199	million baht (43)			



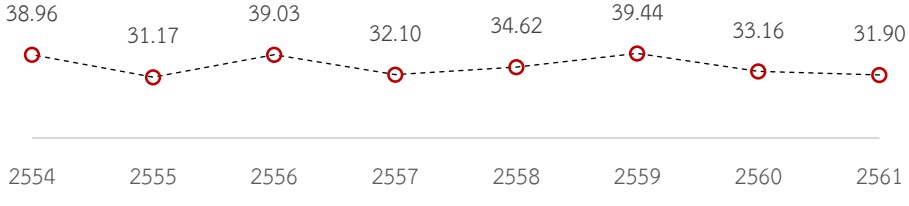
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

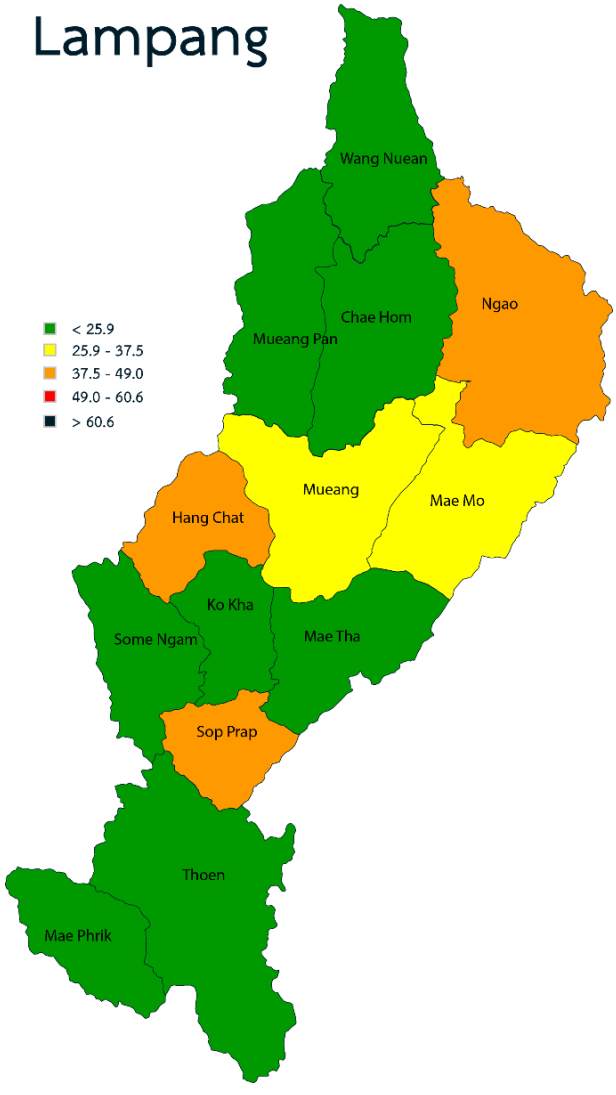


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Lampang

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mae Phrik	2	12.31	Mae Tha	21	18.76
Thoen	14	23.41	Mae Mo	14	27.44
Sop Prap	12	43.80	Ngao	14	43.12
Some Ngam	4	12.79	Wang Nuean	10	9.00
Ko Kha	12	19.94	Mueang Pan	3	8.99
Chae Hom	10	25.05	Hang Chat	19	37.63
Mueang	72	31.44			

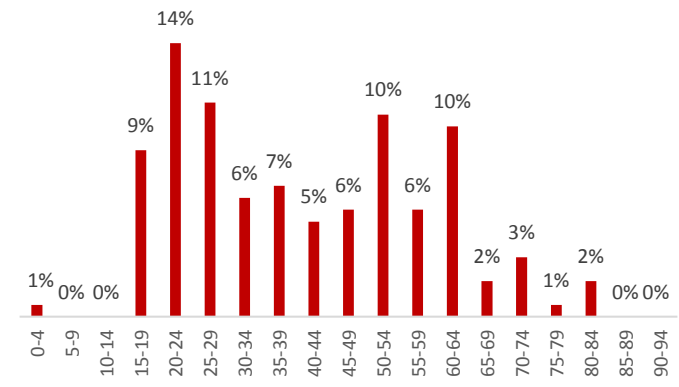


Road Traffic Death Rate by District

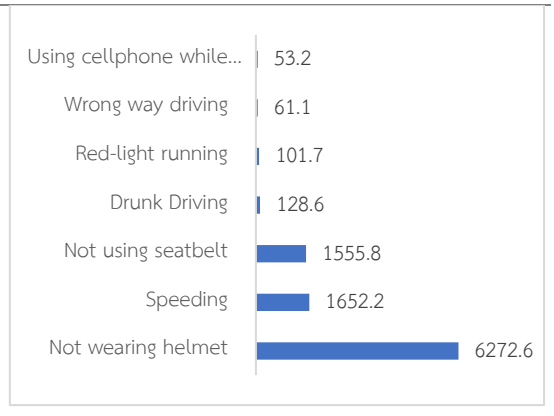
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Lamphun 2018

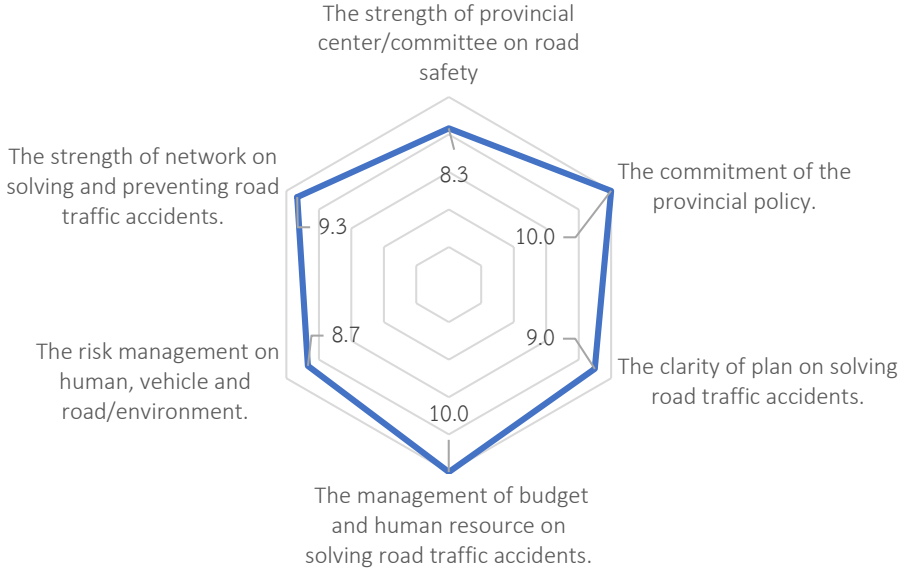
General Statistics			Accident Statistics		
Population	405,955	person (64)	Fatalities	154	Deaths (51)
registered vehicles	280,526	car (42)			
GPP*	77,851	million baht (42)			



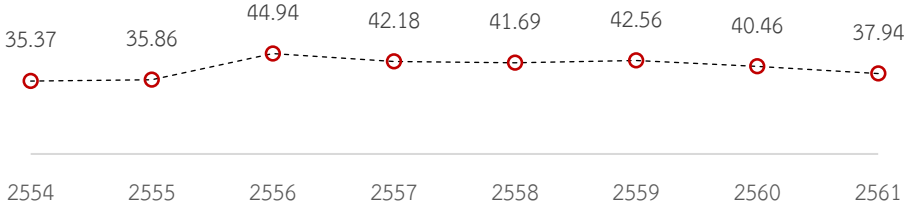
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

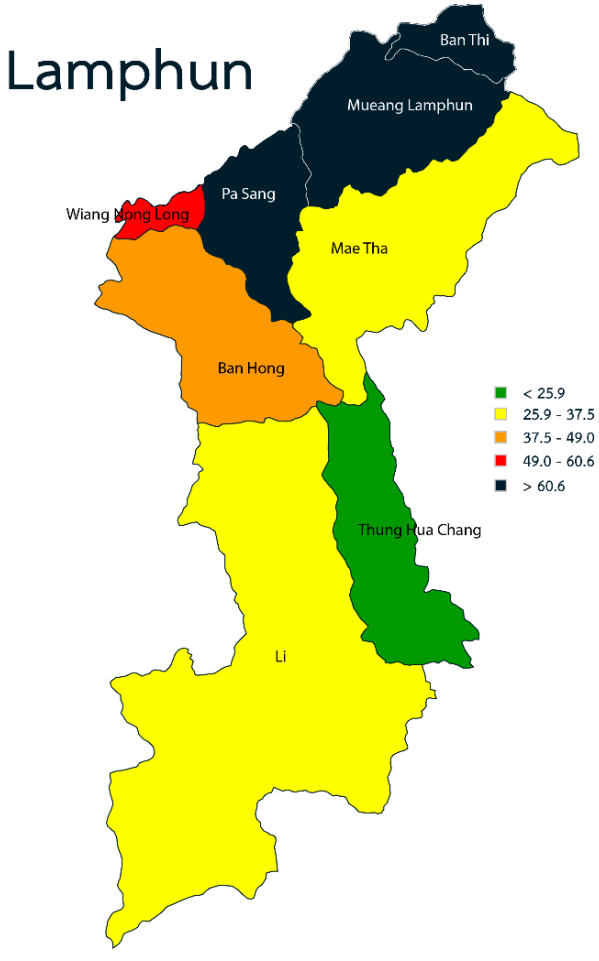


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Lamphun

District	Fatalities	Fatalities Rate per 100,000 population
Mueang Lamphun	80	136.55
Ban Thi	8	98.39
Pa Sang	24	81.14
Wiang Nong Long	5	50.10
Ban Hong	10	37.72
Mae Tha	8	31.21
Li	17	27.48
Thung Hua Chang	4	22.71

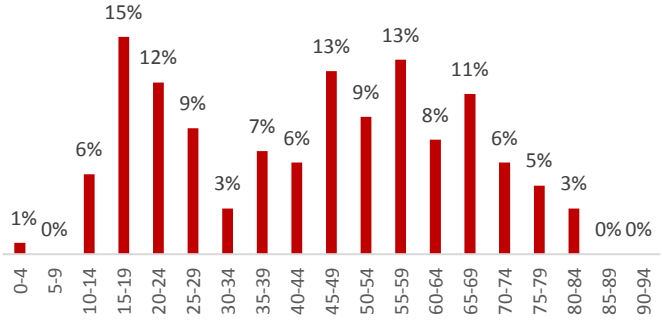


Road Traffic Death Rate by District

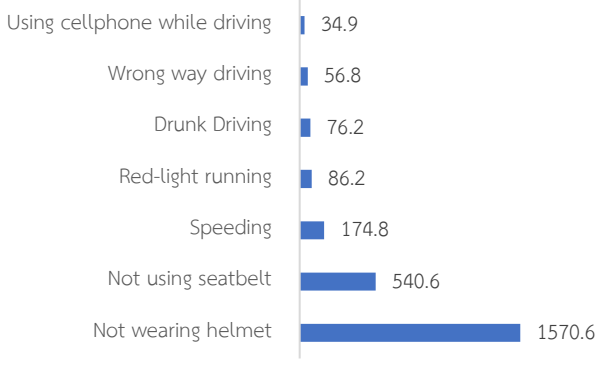
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Sukhothai 2018

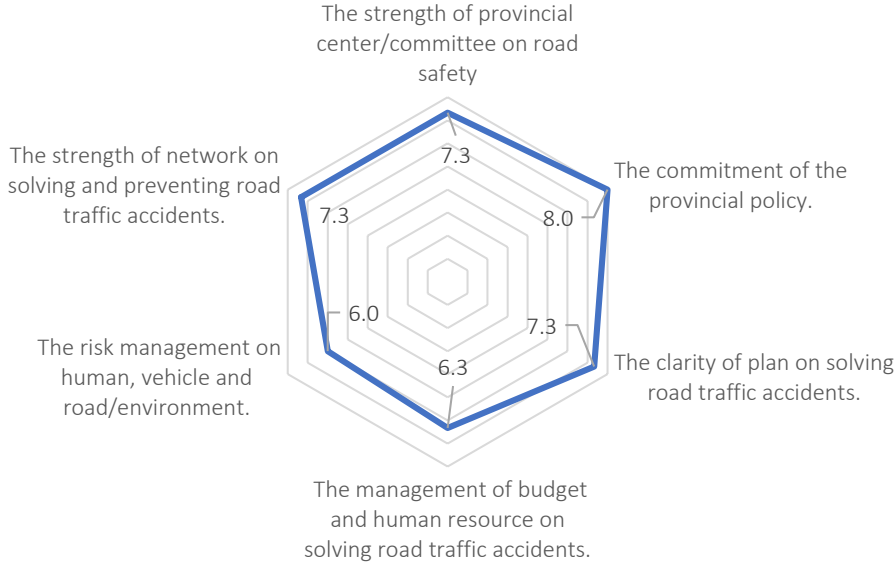
General Statistics			Accident Statistics		
Population	597,257	person (43)	Fatalities	175	Deaths (46)
registered vehicles	319,305	car (38)			
GPP*	45,153	million baht (53)			



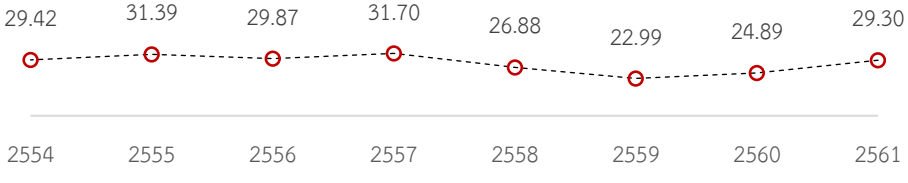
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

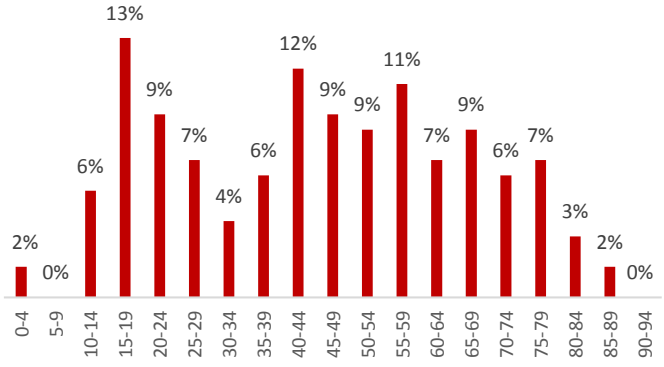


Road Traffic Death Rate per 100,000 population

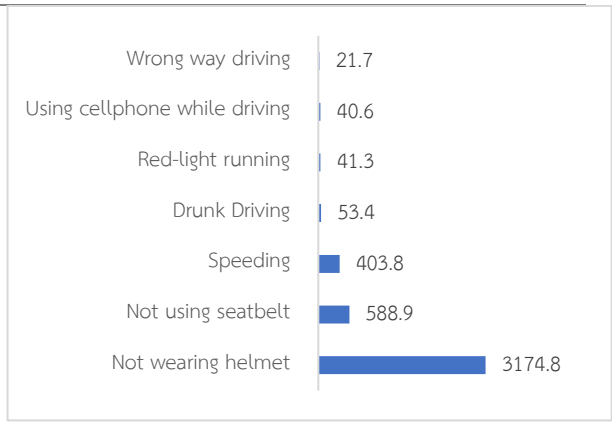
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Uttaradit 2018

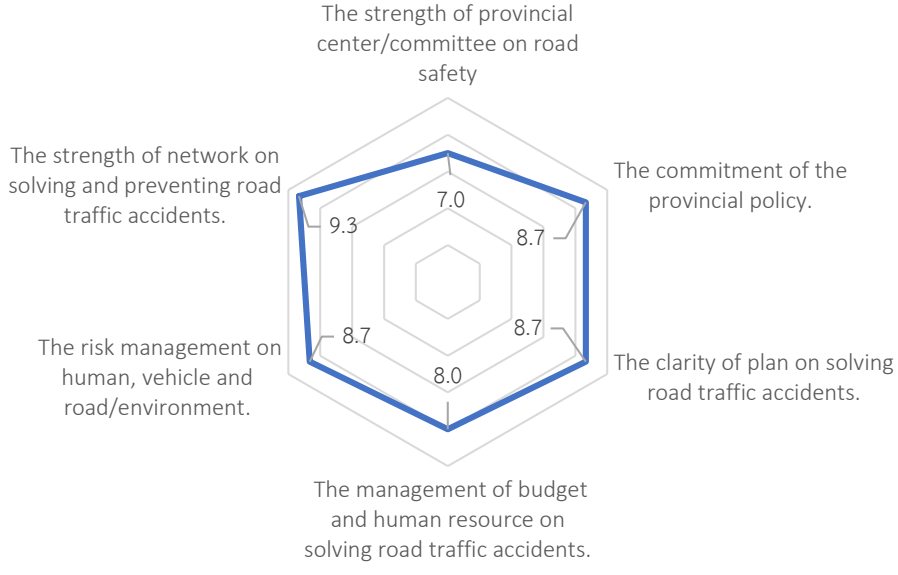
General Statistics			Accident Statistics		
Population	455,403	person (60)	Fatalities	171	Deaths (47)
registered vehicles	263,152	car (47)			
GPP*	38,106	million baht (59)			



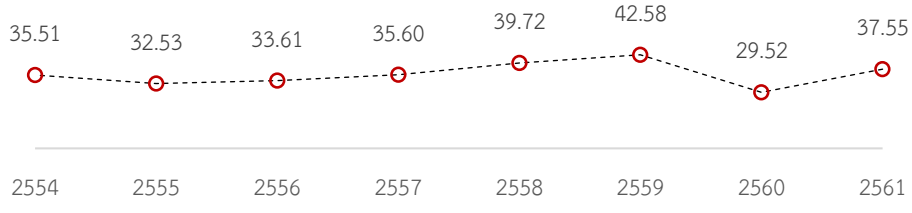
Fatalities by Age group



Fatalities by Road User Type



Analysis of Seft-Assesment on the Promptness of solving Road Traffic Accidents

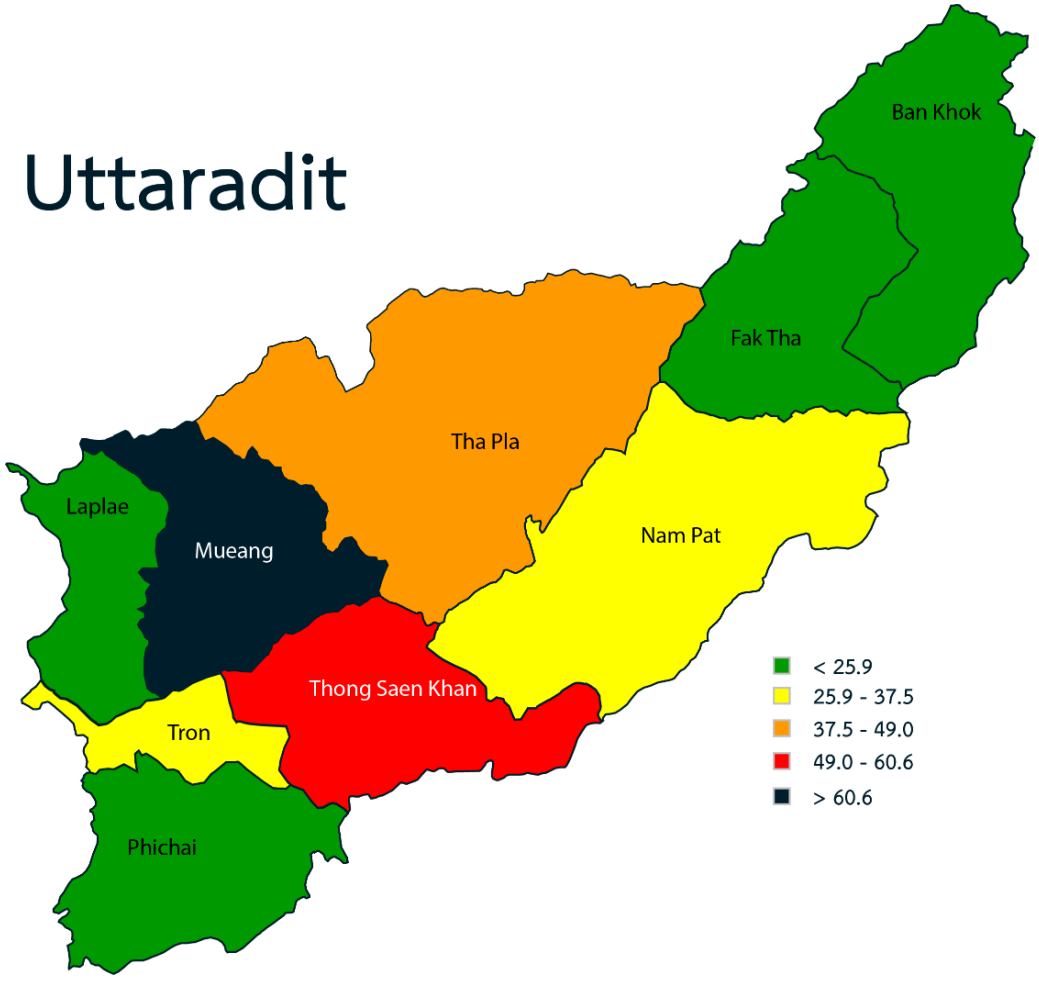


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Uttaradit

District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	104	70.16
Laplae	13	23.60
Tron	16	45.83
Phichai	18	23.70
Tha Pla	18	41.26
Nam Pat	9	24.67
Fak Tha	2	13.93
Thong Saen Khan	16	50.24
Ban Khok	3	21.36

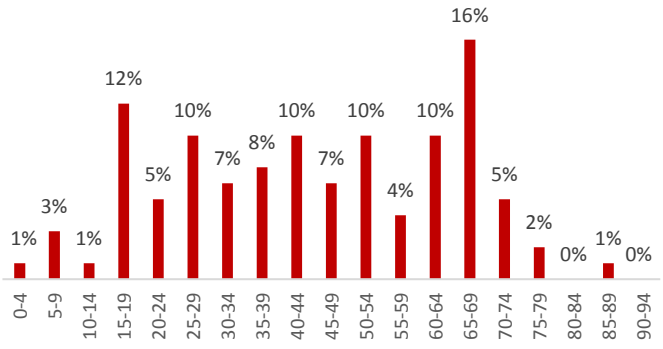


Road Traffic Death Rate by District

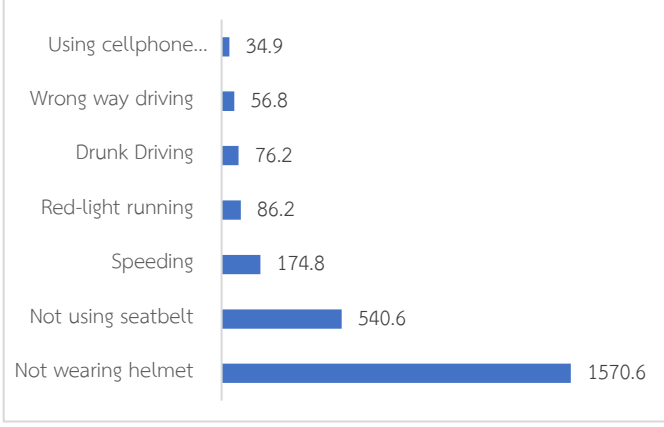
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Uthai Thani 2018

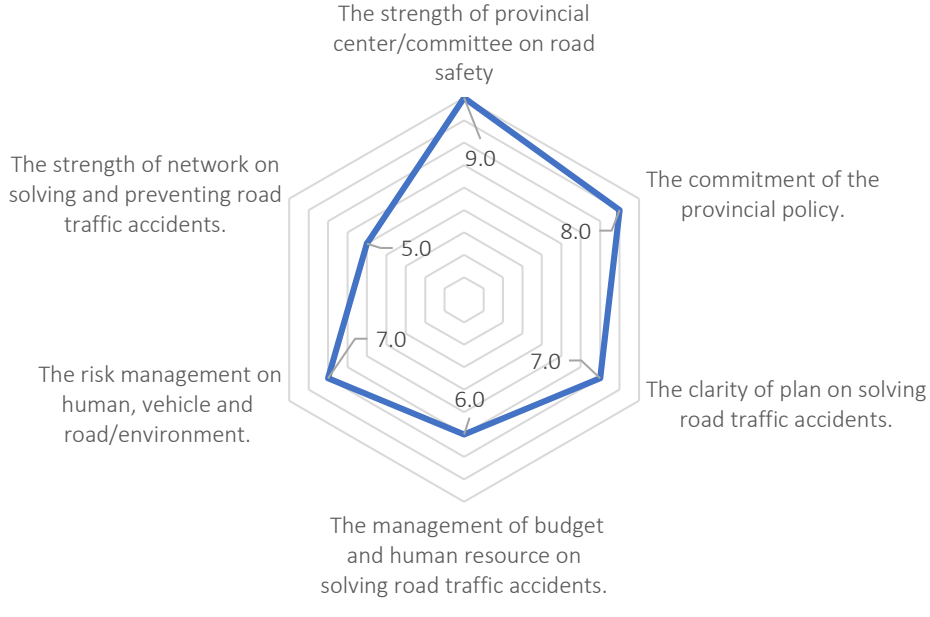
General Statistics			Accident Statistics		
Population	329,433	person (67)	Fatalities	111	Deaths (63)
registered vehicles	179,801	car (61)			
GPP*	24,339	million baht (65)			



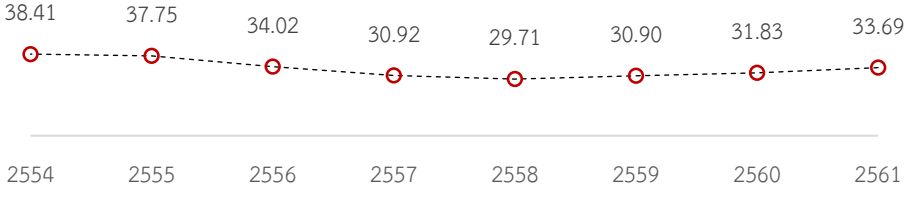
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents



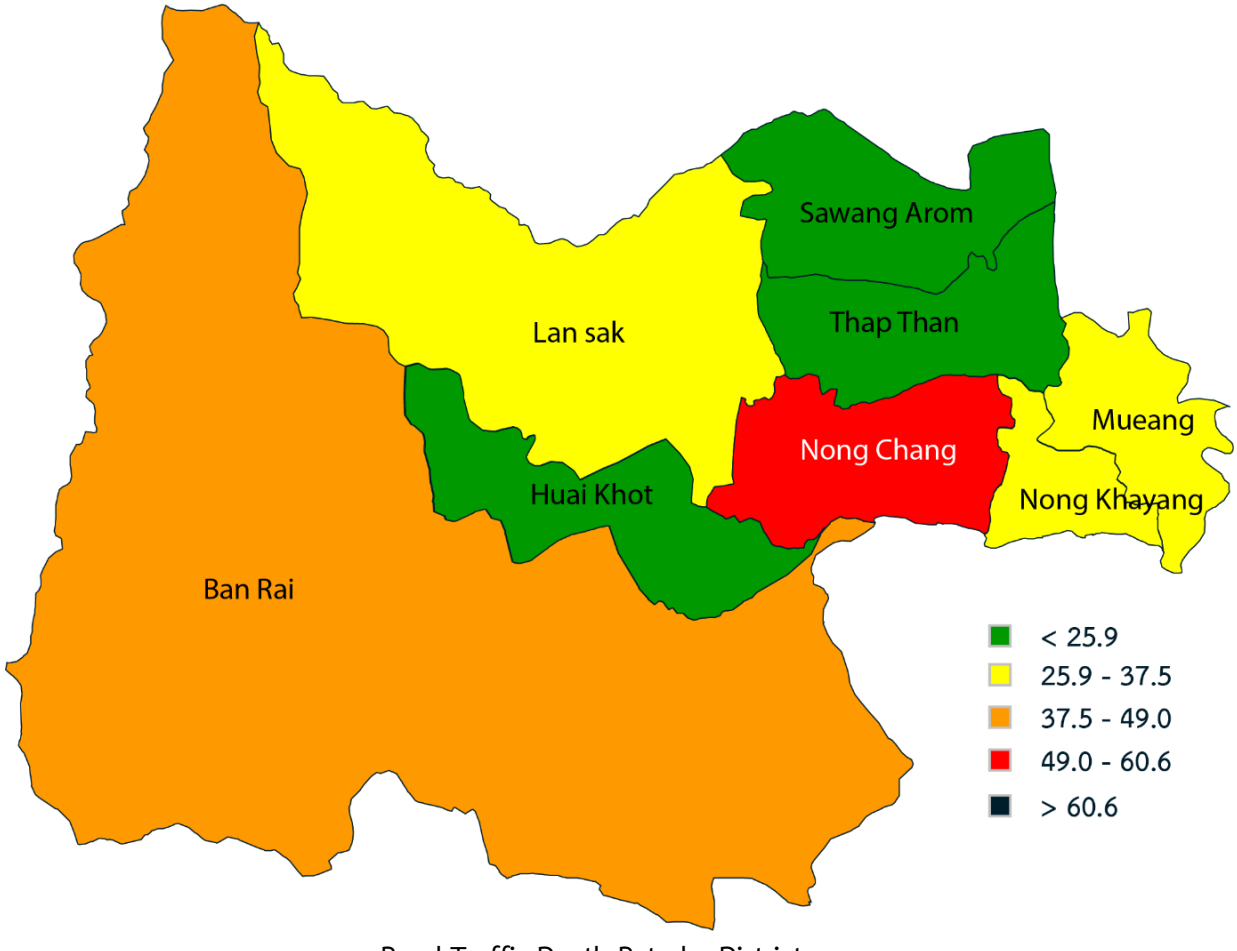
Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Uthai Thani

District	Fatalities Rate	Fatalities Rate per 100,000 population
Nong Khayang	5	31.08
Lan sak	17	28.97
Thap Than	8	20.73
Huai Khot	4	19.67
Sawang Arom	4	10.68
Mueang		
Nong Chang		
Ban Rai		

Uthai Thani



Road Traffic Death Rate by District

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chapter 4
Northeastern

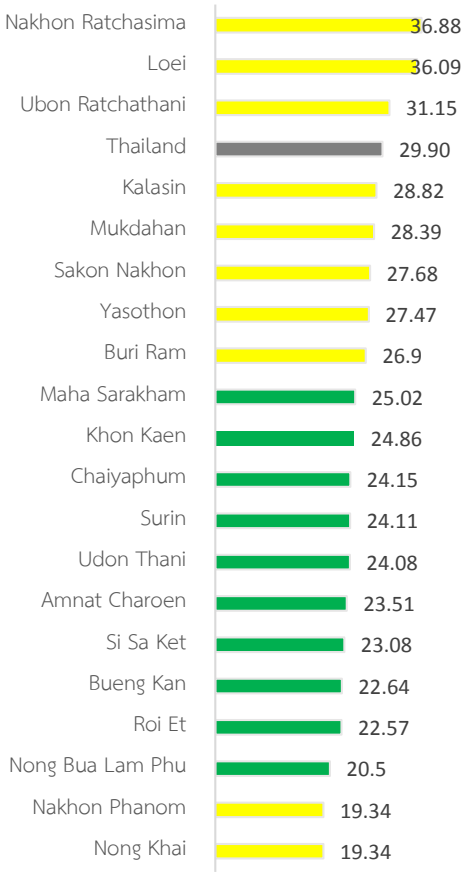
Thailand Road Safety Network categorizes northeastern region into 20 provinces, including Loei, Nong Khai, Bueng Kan, Nong Bua Lamphu, Udon Thani, Sakon Nakhon, Nakhon Phanom, Mokdahan, Kalasin, Khon Kaen, Chaiyaphum, Maha Sarakham, Roi Et, Yasothon, Amnat Charoen, Ubon Ratchathani, Si Sa Ket, Surin, Buri Ram and Nakhon Ratchasima. The 2018 general information of northeastern region is shown as follows.

- 22,015,239 population 33% of the country
- 8,456,001 registered vehicles 21% of the country
- 1,327,919 million baht of GPP 12% of the country

Road accident statistics of northeastern region in 2018 are;

- 5,921 Deaths 30% of the country

Note * Gross Provincial Product data, 2017



The average of road traffic death rate in northeastern region is 25.83, lower than 29.90 of country average. The highest death rate-province is Nakhon Ratchasima (36.88), followed by Loei and Ubon Ratchathani. There are Seventeen provinces that are under the country average death rate, By the first 5 provinces, is Nong Khai (19.34), followed by Nakhon Phanom, Nong Bua Lam Phu, Roi Et and Bueng Kan (**Figure 4.1**).

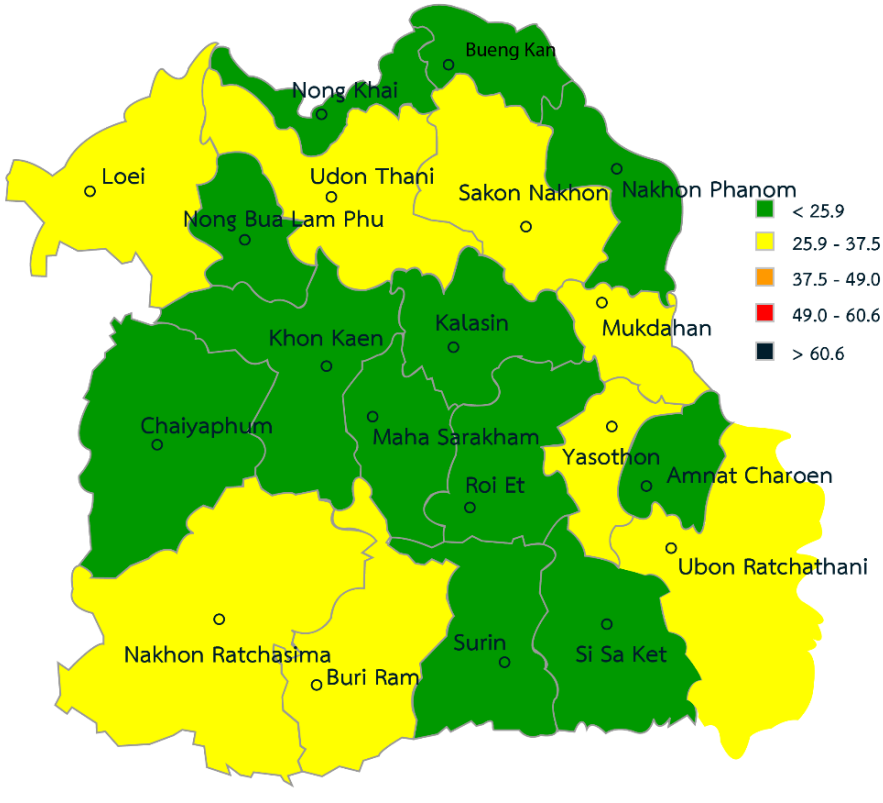
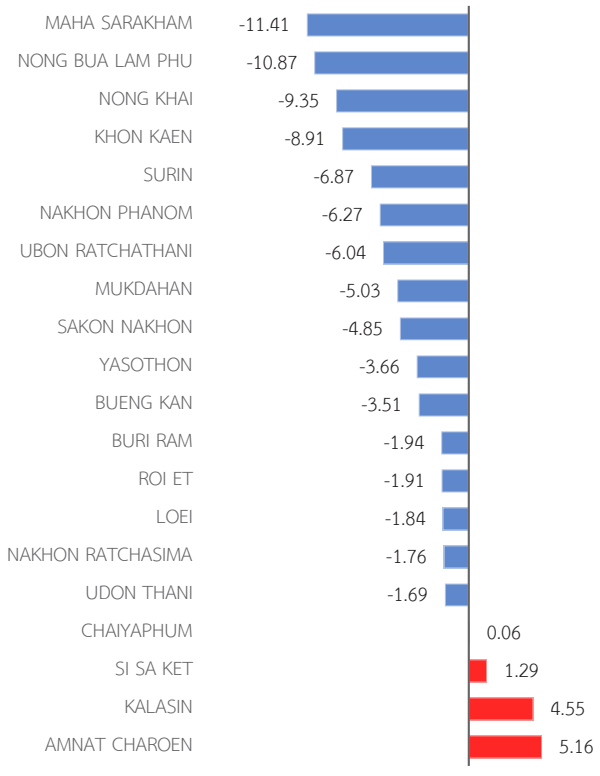


Figure 4.1 Northeastern road traffic death rate



Comparing between 2016 and 2018, northeastern region has an average death rate decreased by 3.98. The highest reduction rate-provinces are Maha Sarakham, Nong Bua Lam Phu and Nong Khai, While the province with increasing death rates is Amnat Charoen, Kalasin and Sisaket (**Figure 4.2**).

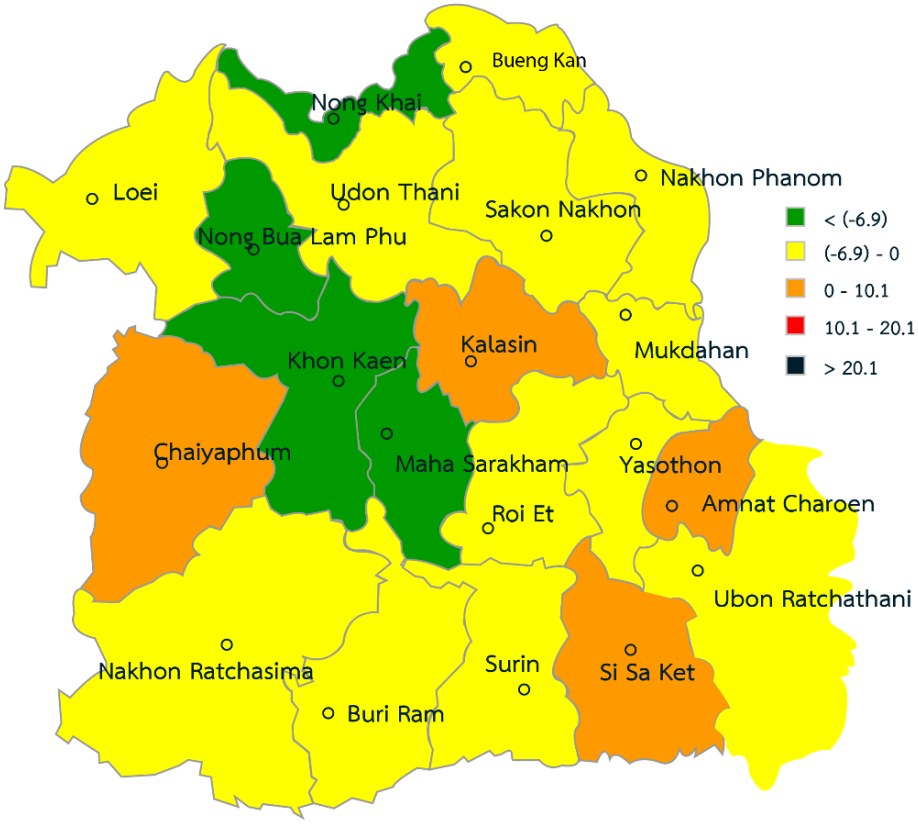


Figure 4.2 Changes in road traffic death rate comparing with 2016

4.1. Police Enforcement

The interpretation of the police enforcement statistic implies their effort on solving traffic violation problems. The police enforcement refers to the seven traffic violation cases shown as follows.

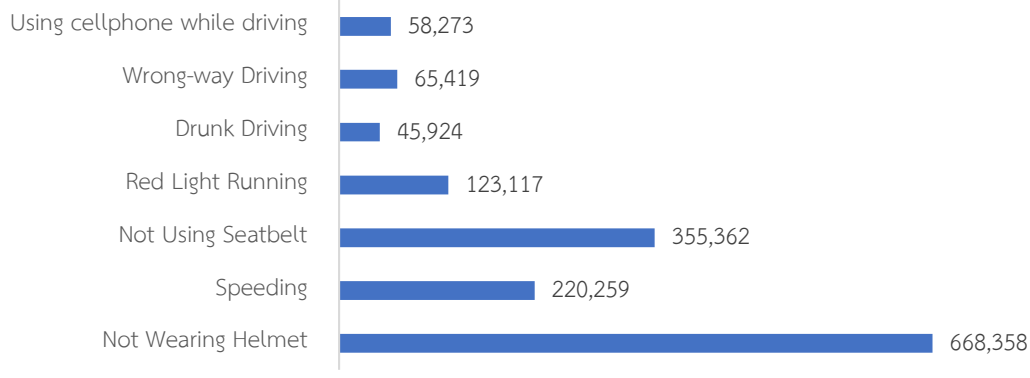


Figure 4.3 The statistic of seven traffic violation cases in northeastern region

The average of traffic violation case in northeastern region is lower than country average nearly 15% (Figure 4.4). The highest rate belongs to not wearing helmet (3417.4 per 100,000 population), while drunk driving shows the lowest rate (96.59 cases per 100,000 population).

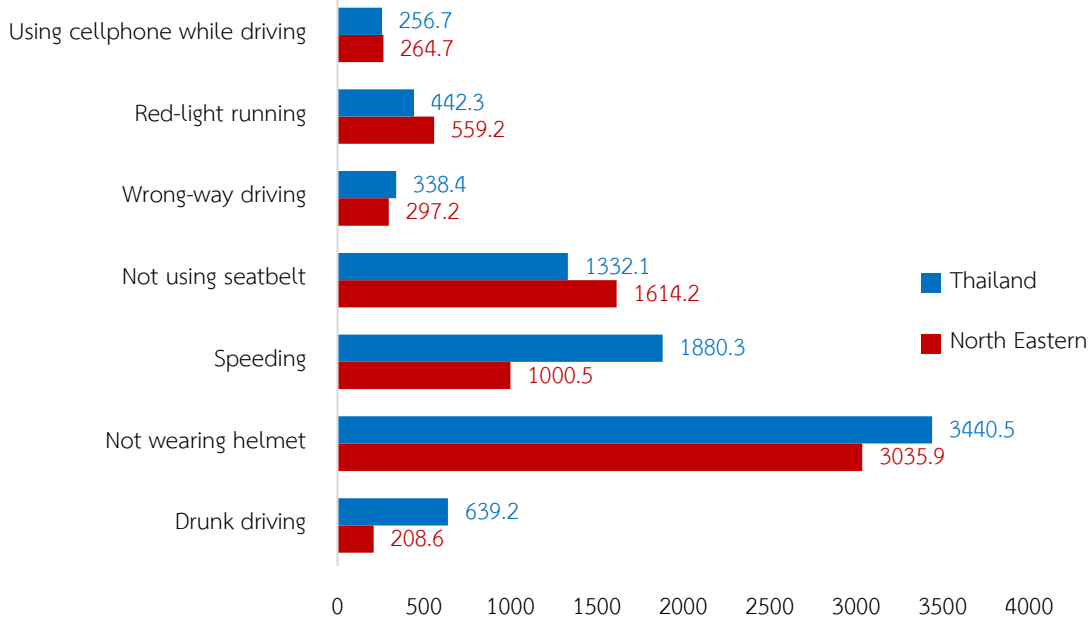


Figure 4.4 Traffic violation rate comparing between northeastern region and Thailand

Table 4.1 Traffic violation rate in northeastern region

Province	Drunk driving	Helmet	Speeding	Seatbelt	Wrong way	Red light running	Using phone
Loei	64.4	474.0	54.9	238.3	59.6	116.5	62.1
Kalasin	59.4	687.2	161.6	588.0	84.6	451.5	50.0
Khon Kaen	120.3	936.4	738.8	740.8	167.7	723.4	88.5
Chaiyaphum	302.2	4161.1	184.4	3601.1	97.9	72.9	109.9
Nakhon Phanom	377.0	2138.9	369.9	1172.7	213.6	220.0	88.9
Nakhon Ratchasima	177.4	4048.1	338.9	1924.1	545.4	888.6	502.0
Bueng Kan	174.6	1949.6	31.1	451.2	47.9	38.4	6.8
Buri Ram	351.7	2487.4	815.6	1459.9	421.1	349.2	290.4
Maha Sarakham	132.7	4012.3	3964.9	2232.9	341.8	703.3	234.6
Mokdahan	67.3	3321.5	405.9	2944.2	577.7	523.2	570.6
Yasothon	63.3	4912.7	904.7	1111.3	68.1	376.1	174.3
Roi Et	360.8	3122.1	658.7	3510.4	41.3	940.9	560.9
Si Sa Ket	79.0	2454.6	102.2	1237.7	131.9	216.0	92.5
Sakon Nakhon	242.7	2909.9	4246.6	2010.5	147.9	257.8	41.1
Surin	234.2	4205.5	3502.9	2082.4	375.5	616.3	224.9
Nong Khai	183.9	792.2	183.9	494.9	116.6	82.2	10.7
Nong Bua Lamphu	80.8	595.0	68.9	299.2	74.8	146.3	77.9
Amnat Charoen	153.5	6000.5	503.1	1214.7	180.1	82.9	618.3
Udon Thani	158.6	3562.6	701.3	811.5	317.8	894.9	367.4
Ubon Ratchathani	388.3	4869.5	600.6	1774.0	817.4	1056.0	523.0

Notes: Dash (-) means no data presented.

Table 4.1 presents the detail of seven traffic violation cases in northeastern region. The result shows that the drunk driving rate in northeastern region is 208.6 cases per 100,000 population, which is lower than country average 67% (638.7 cases per 100,000 population). The highest drunk driving rate-provinces are Ubon Ratchathani, Nakhon Phanom and Roi Et, while the lowest rate-provinces are Kalasin, Yasothon and Loei. According to **Figure 4.7**, there is no significant correlation between the number of drunk driving case and breathalyzer. An example of high case rate with low breathalyzer availabilities occurred in Roi Et, Buriram and Nakhon Phanom, while Maha Sarakham and Surin are an example of low case rate with high breathalyzer availabilities.

Speeding case rate in northeastern region is 1000.5 cases per 100,000 population, which is lower than country average (1880.3 cases per 100,000 population). Sakon Nakhon, Maha Sarakham and Loei have the higher rate than the country average. The lowest rate-provinces are Bueng Kan, Loei and Nong Bua Lam Phu. There is no significant correlation between the number of case and speed camera. Surin is an example of high speeding case rate with only a small number of speed cameras presented. (**Figure 4.8**)

Not wearing helmet case rate in the region is 3035.9 cases per 100,000 population, which is lower than country average (3440.5 cases per 100,000 population). The highest rate-provinces are Amnat Charoen, Yasothon and Ubon Ratchathani, while the lowest rate-provinces are Nong Bua Lamphu and Kalasin. There is no significant correlation between the number of cases and helmet wearers. An example of high case rate with surprisingly low helmet wearer rate occurred in Amnat Charoen, Yasothon and Chaiyaphum (**Figure 4.9**).

The detail of other cases, such as not using seatbelt, red light running, wrong-way driving and Using cellphone while driving are illustrated in **Figure 4.5** and **Figure 4.6.**

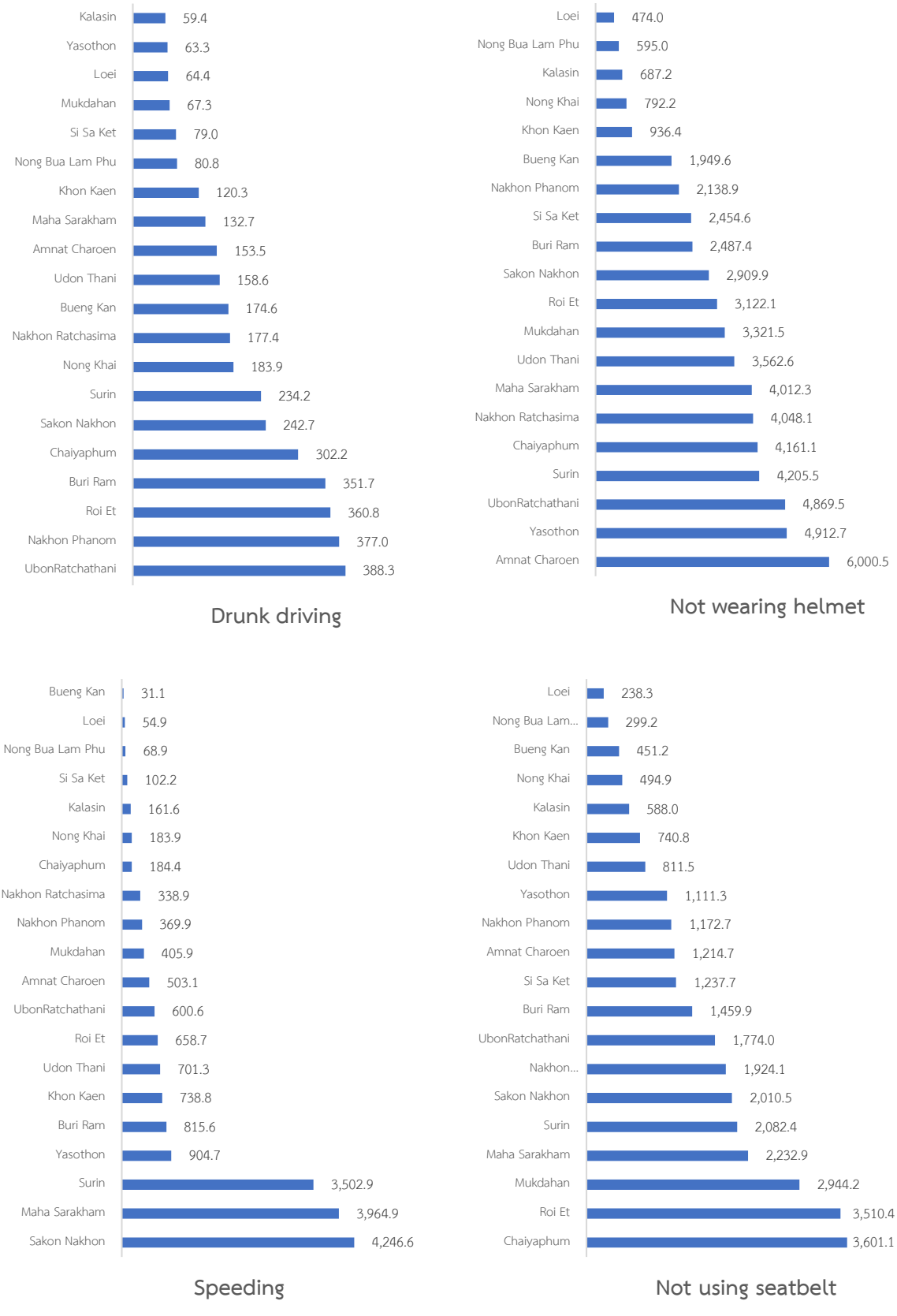
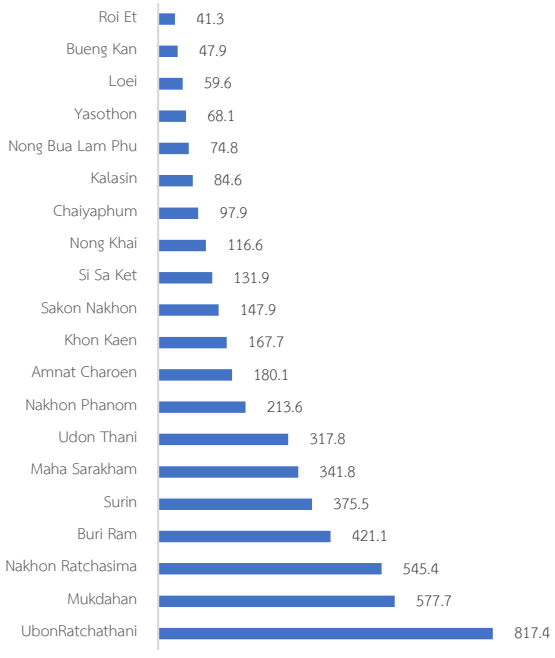
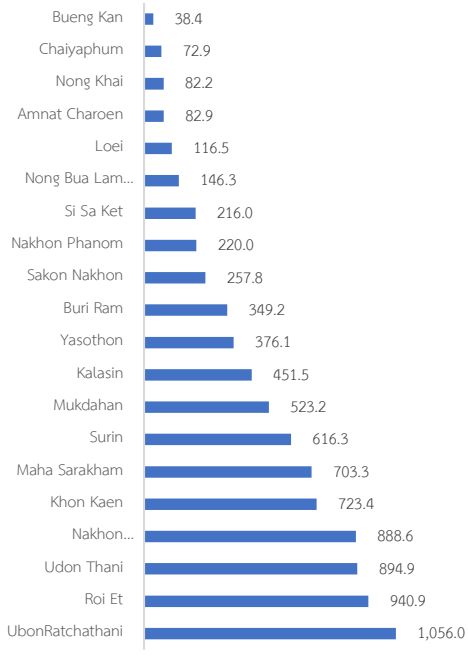


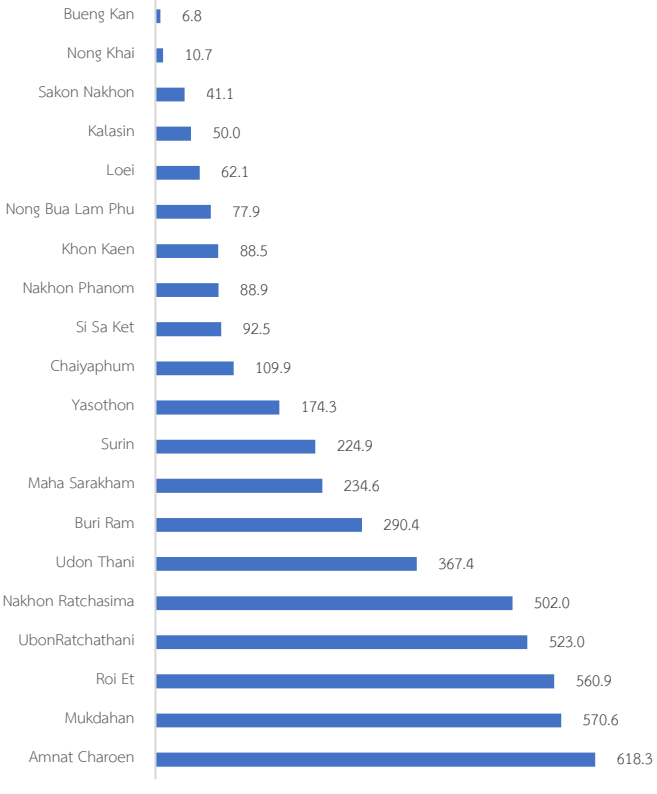
Figure 4.5 Traffic violation case rate per 100,000 population



Wrong-way driving



Red-light running



Using Cellphone whle driving

Figure 4.6 Traffic violation case rate per 100,000 population (cont.)

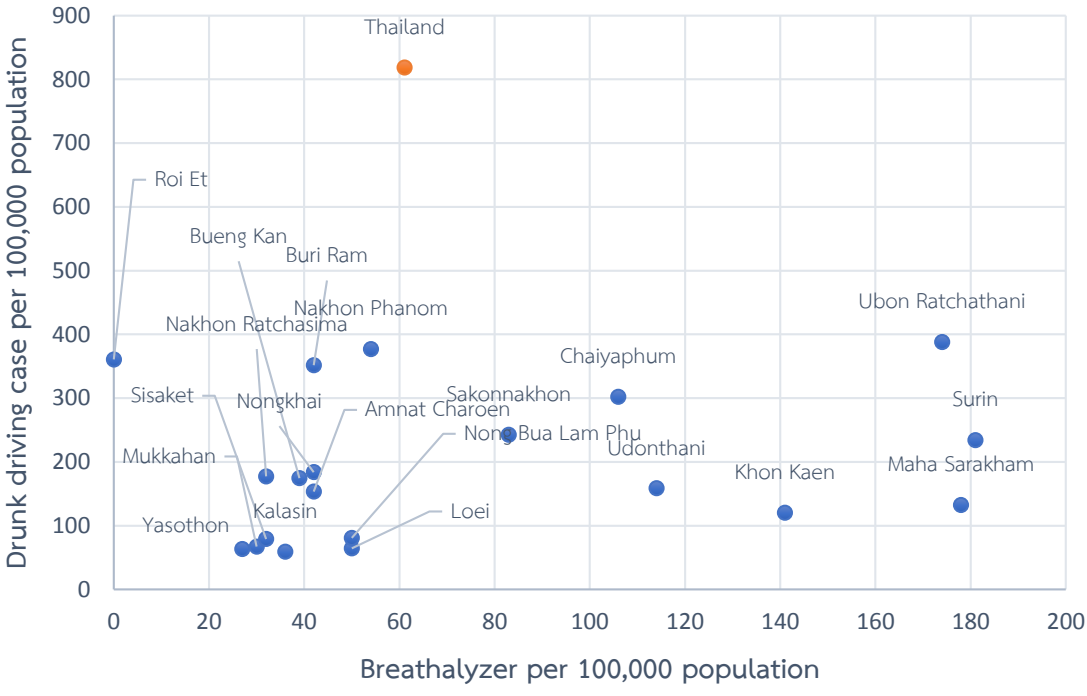


Figure 4.7 Drunk driving case rate and breathalyzer availability

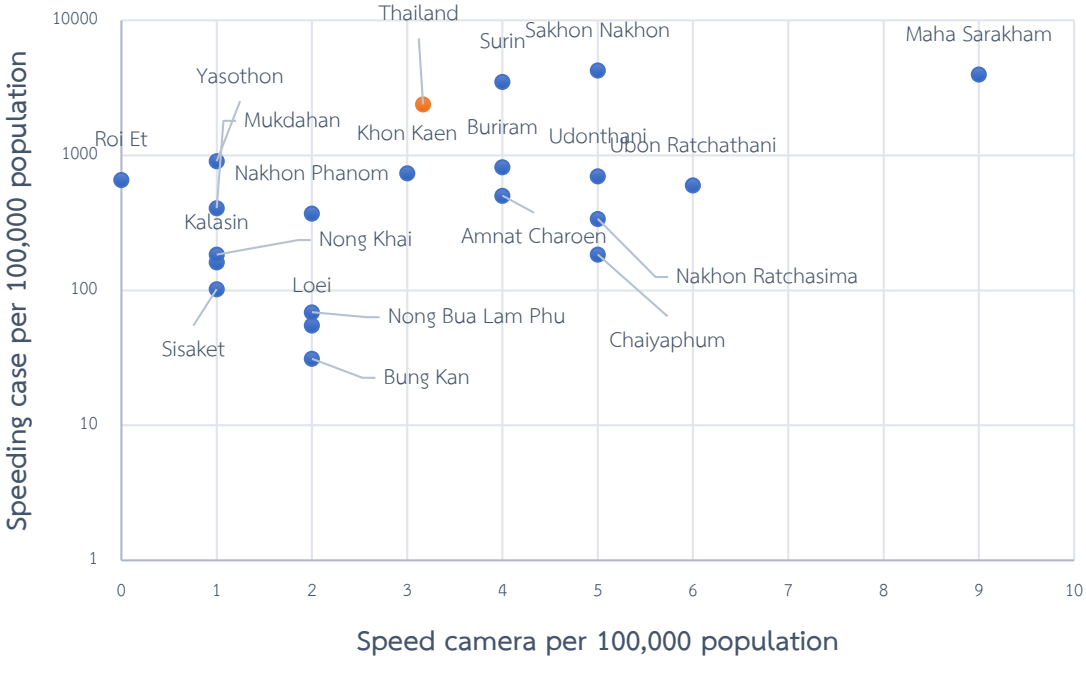


Figure 4.8 Speeding case rate and speed camera availability

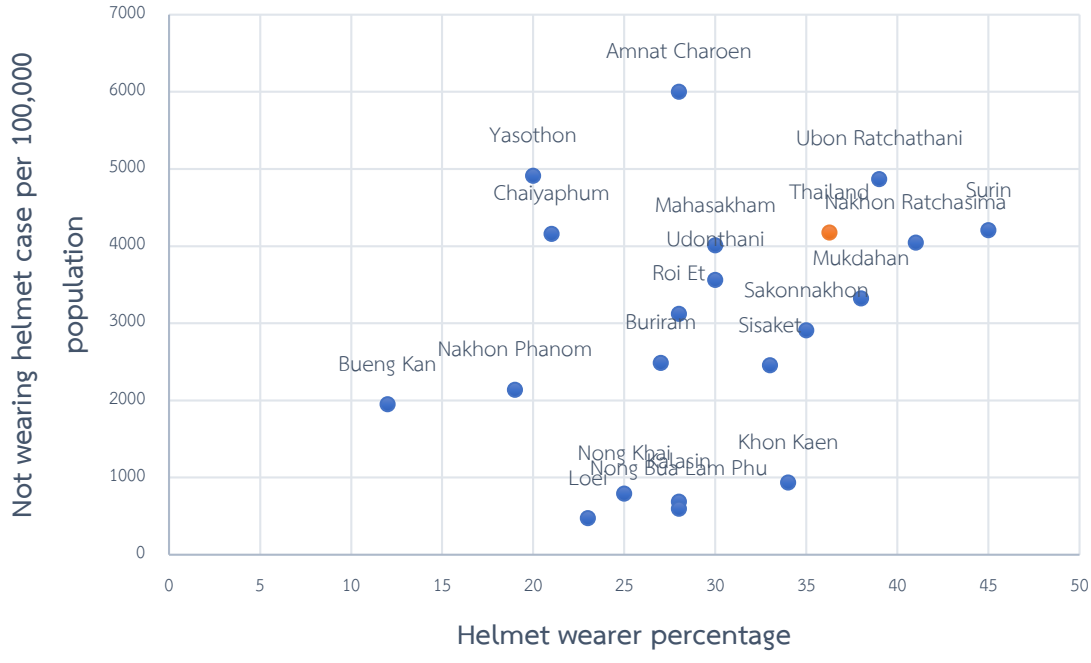
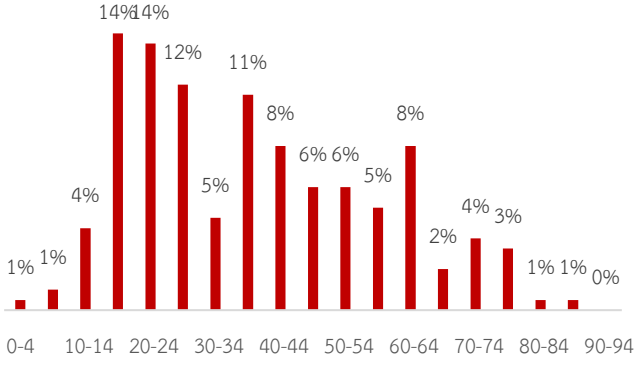


Figure 4.9 Not wearing helmet case rate and helmet wearer percentage

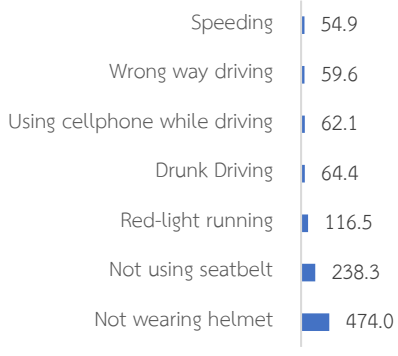
Source :Thairoads Foundation

Loei 2018

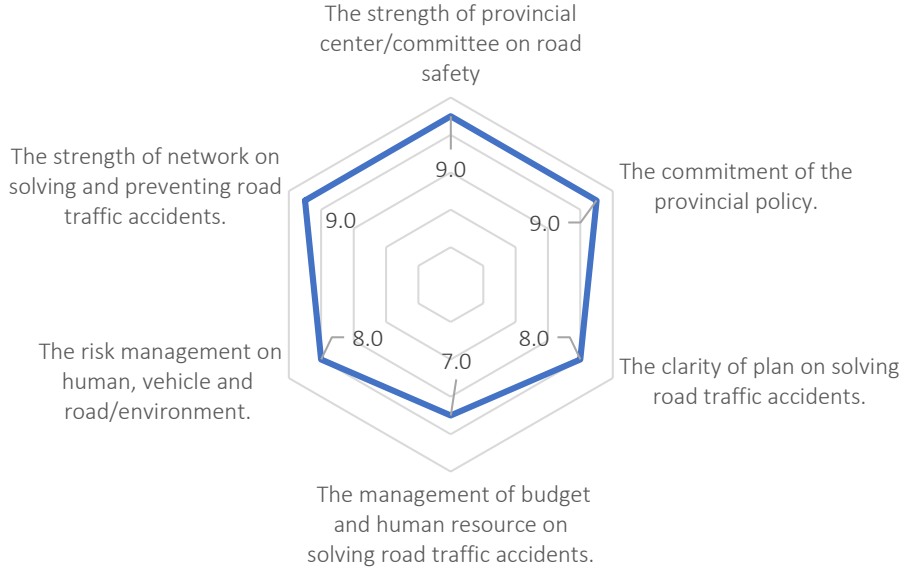
General Statistics			Accident Statistics		
Population	642,773	person (42)	Fatalities	232	Deaths (39)
registered vehicles	260,366	car (45)			
GPP*	52,670	million baht (49)			



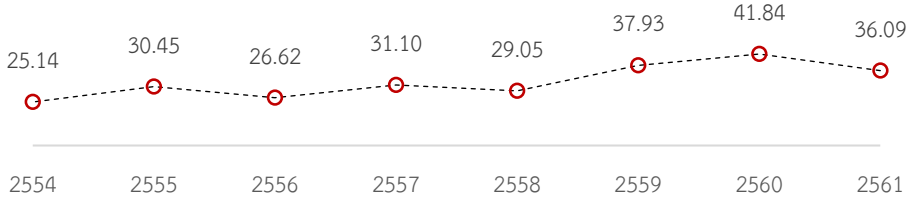
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

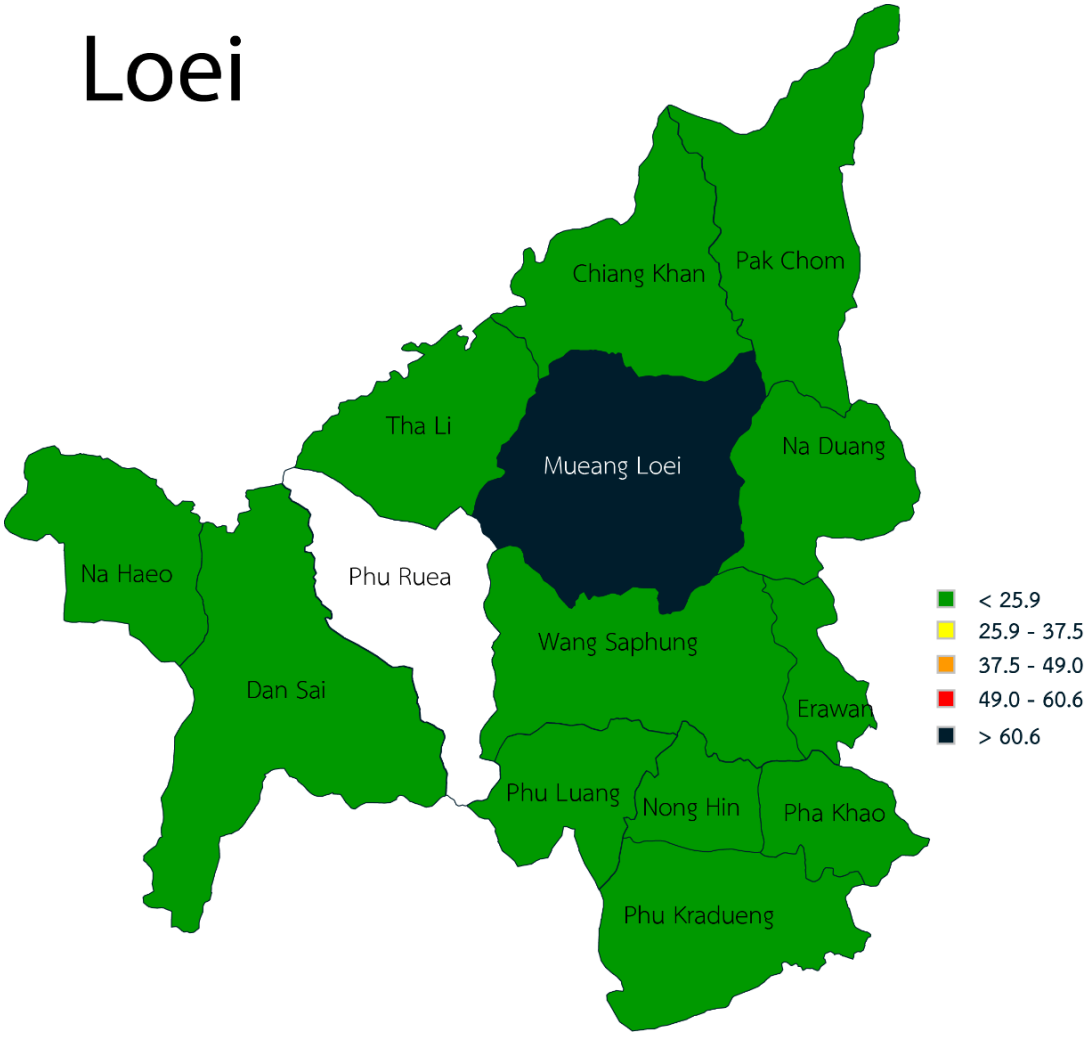


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Loei

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang Loei	99	79.90	Tha Li	2	18.76
Na Duang	1	3.78	Wang Saphung	28	27.44
Chiang Khan	14	22.88	Phu Kradueng	6	43.12
Pak Chom	9	21.44	Phu Luang	1	9.00
Dan Sai	9	17.31	Pha Khao	5	8.99
Na Haeo	1	8.62	Erawan	2	37.63
Phu Ruea	0		Nong Hin	1	3.99

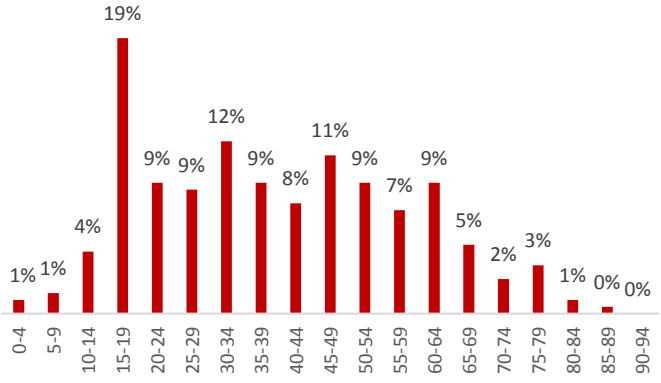


Road Traffic Death Rate by District

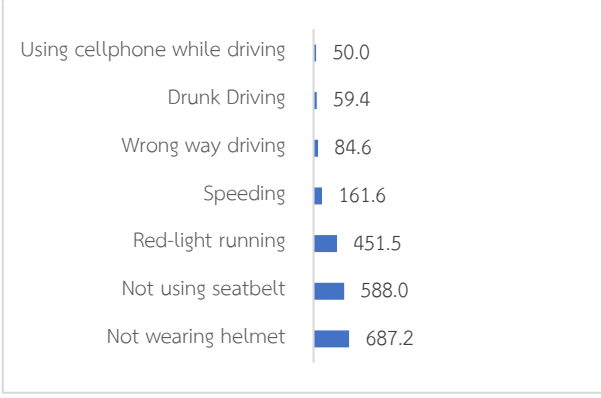
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Kalasin 2018

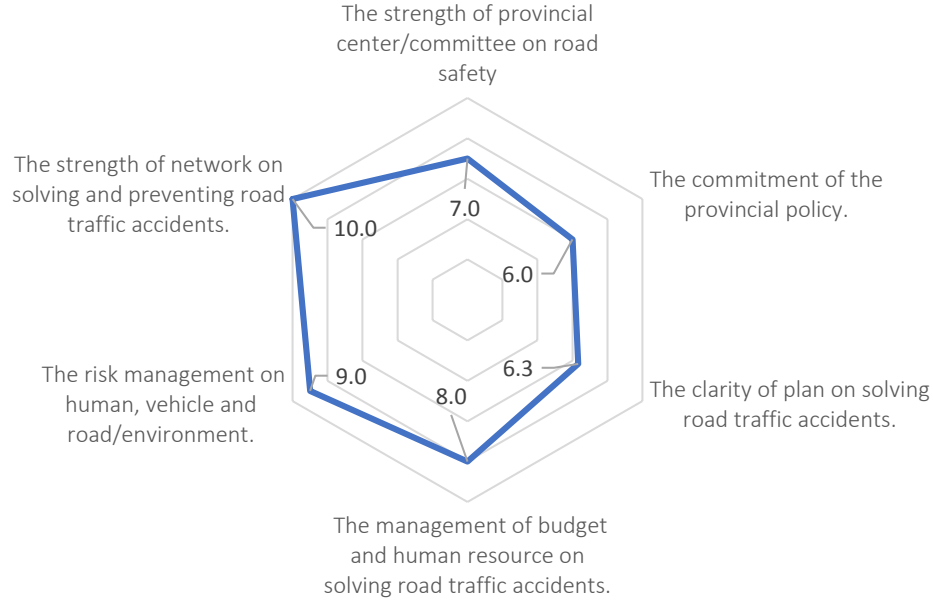
General Statistics			Accident Statistics		
Population	985,346	person (23)	Fatalities	284	Deaths (31)
registered vehicles	295,555	car (40)			
GPP*	55,836	million baht (46)			



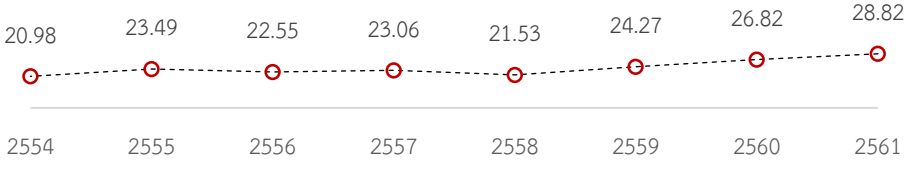
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

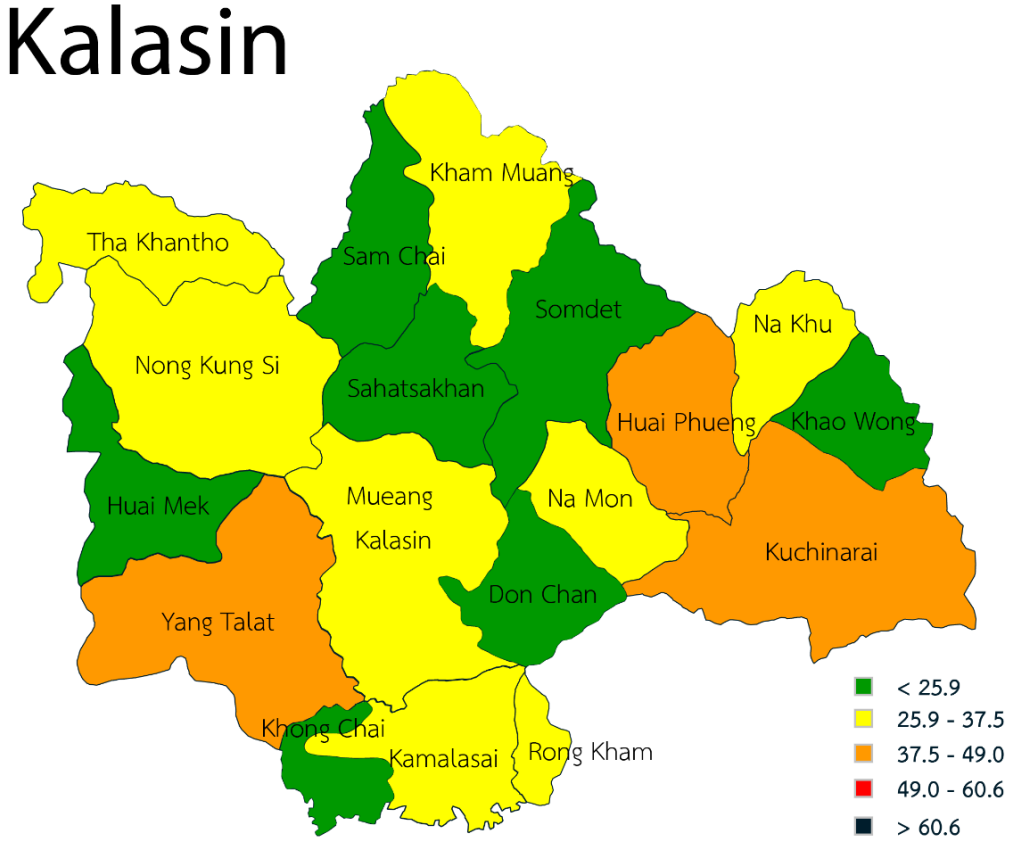


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Kalasin

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Huai Phueng	14	45.72	Kamalasai	19	27.04
Yang Talat	54	41.37	Kham Muang	13	26.68
Kuchinarai	41	40.27	Khao Wong	9	25.78
Na Khu	12	38.34	Sahatsakhan	10	23.31
Na Mon	13	36.00	Somdet	12	19.20
Mueang Kalasin	51	35.10	Huai Mek	6	11.72
Tha Khantho	12	31.87	Don Chan	2	7.78
Rong Kham	5	30.30	Khong Chai	2	7.34
Nong Kung Si	19	28.35	Sam Chai	1	3.89

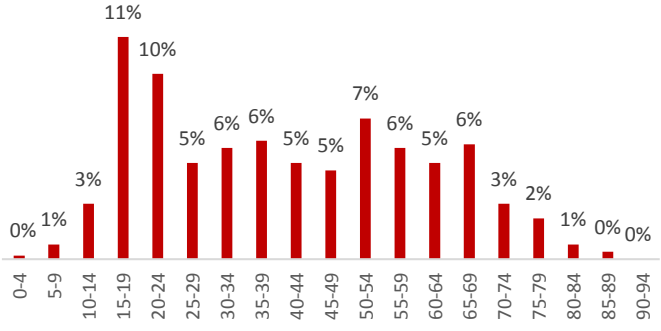


Road Traffic Death Rate by District

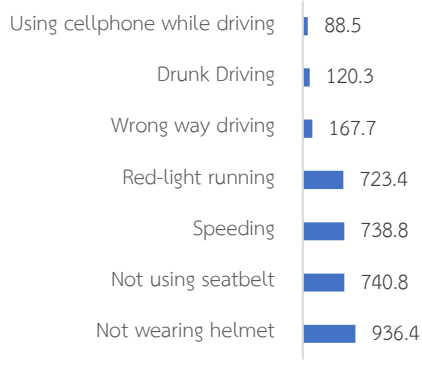
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Khon Kaen 2018

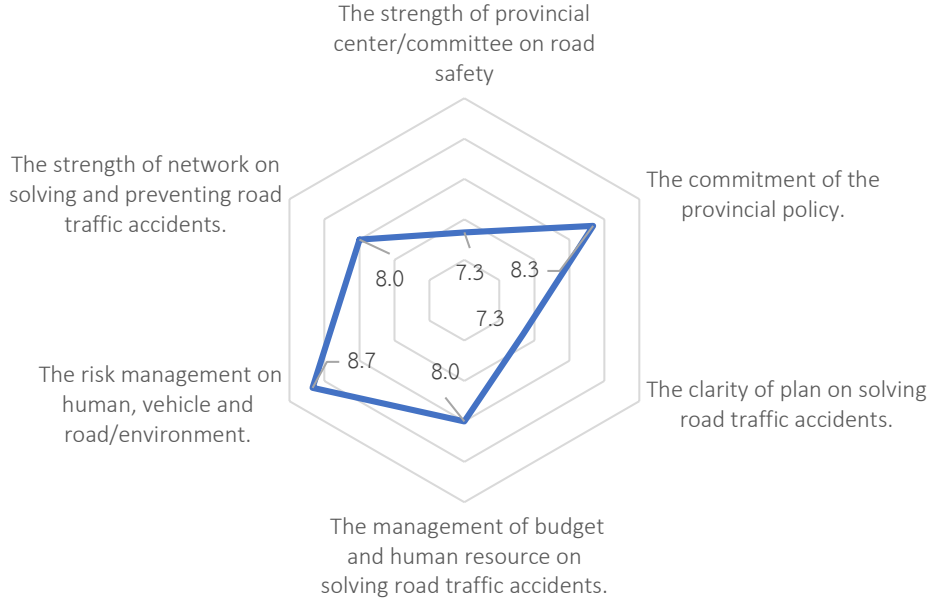
General Statistics			Accident Statistics		
Population	1,805,895	person (4)	Fatalities	449	Deaths (7)
registered vehicles	866,898	car (5)			
GPP*	204,122	million baht (18)			



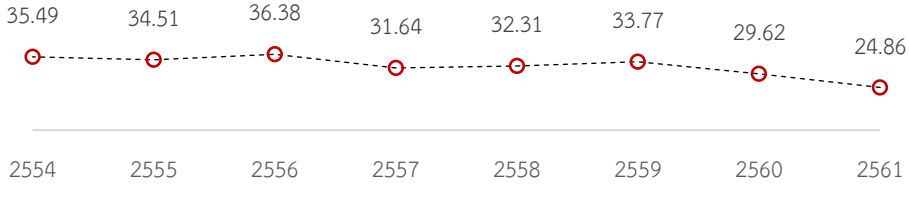
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

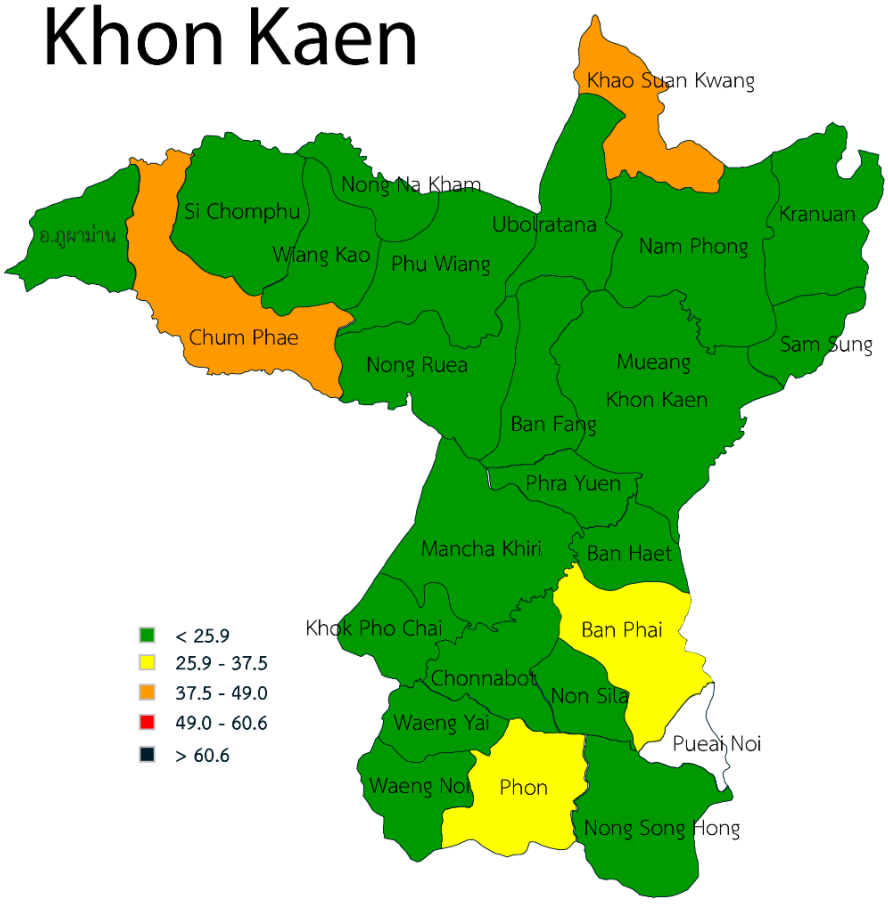


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Khon Kaen

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Khao Suan Kwang	18	46.99	Phu Wiang	10	13.92
Chum Phae	55	44.64	Nong Song Hong	10	13.00
Phon	30	34.62	Waeng Noi	5	11.90
Ban Phai	27	27.04	Phra Yuen	4	11.52
Mueang Khon Kaen	98	23.76	Ban Haet	3	9.13
Nam Phong	26	22.85	Ban Fang	5	9.11
Si Chomphu	17	21.82	Sam Sung	2	8.48
Waeng Yai	6	20.45	Chonnabot	4	8.29
Nong Ruea	19	20.34	Mancha Khiri	5	7.06
Ubolratana	9	20.19	Phu Pha Man	1	4.31
Kranuan	14	17.87	Nong Na Kham	1	4.20
Non Sila	4	15.07	Khok Pho Chai	1	2.72
Wiang Kao	3	15.05	Pueai Noi	0	

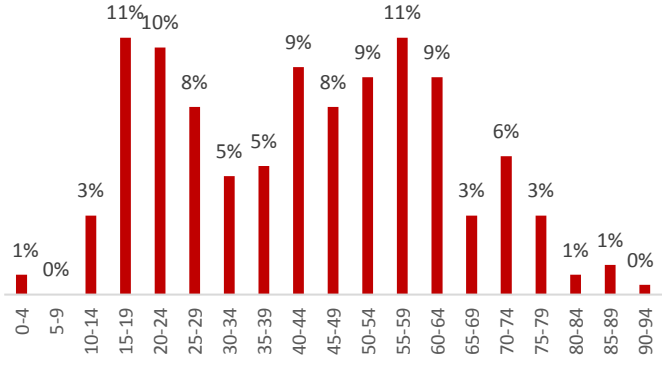


Road Traffic Death Rate by District

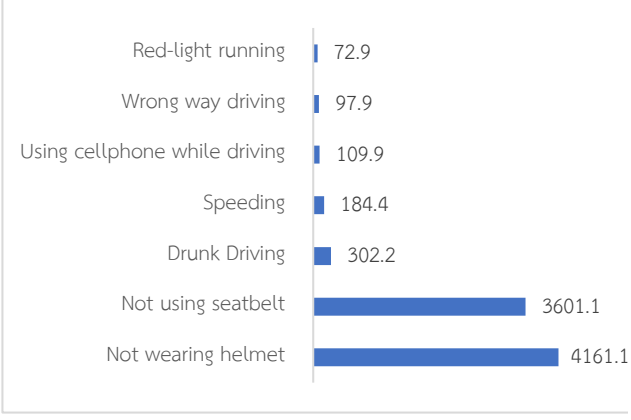
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chaiyaphum 2018

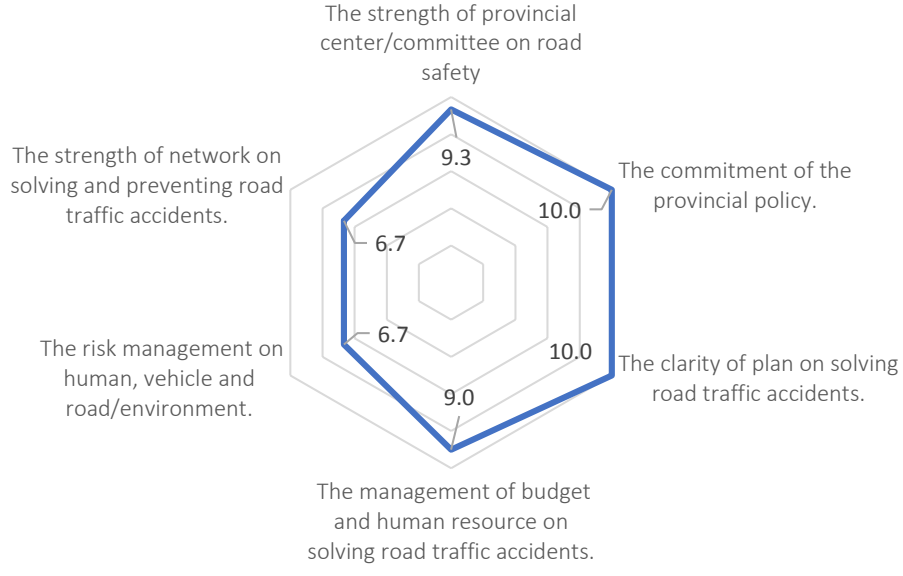
General Statistics			Accident Statistics		
Population	1,137,376	person (18)	Fatalities	275	Deaths (32)
registered vehicles	361,855	car (32)			
GPP*	60,087	million baht (44)			



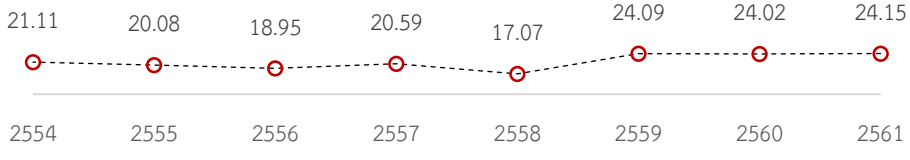
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

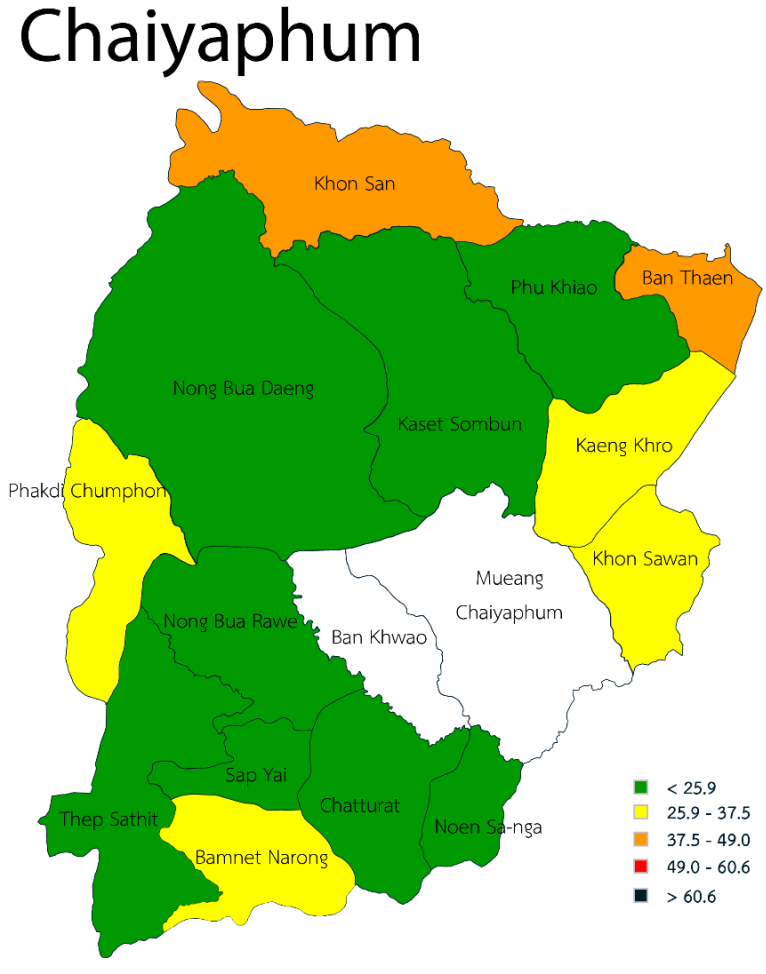


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Chaiyaphum

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang Chaiyaphum			Nong Bua Rawe	10	36.68
Ban Khwao			Thep Sathit	10	18.70
Khon Sawan	12	32.18	Phu Khiao	15	15.71
Kaset Sombun	15	19.72	Ban Thaen	12	37.56
Nong Bua Daeng	12	13.24	Kaeng Khro	22	33.74
Chatturat	13	25.41	Khon San	17	37.51
Bamnet Narong	12	29.27	Phakdi	7	31.81
Noen Sa-nga	4	21.16	Chumphon	6	54.65
			Sap Yai		

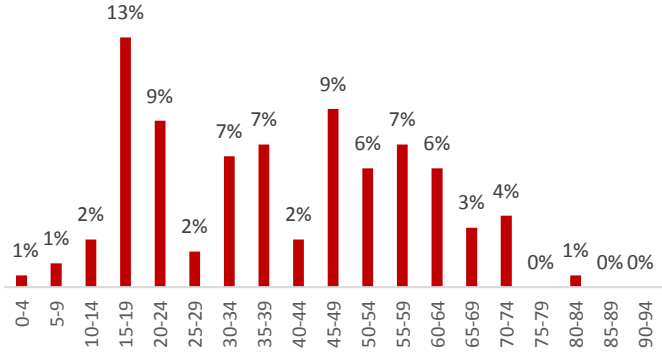


Road Traffic Death Rate by District

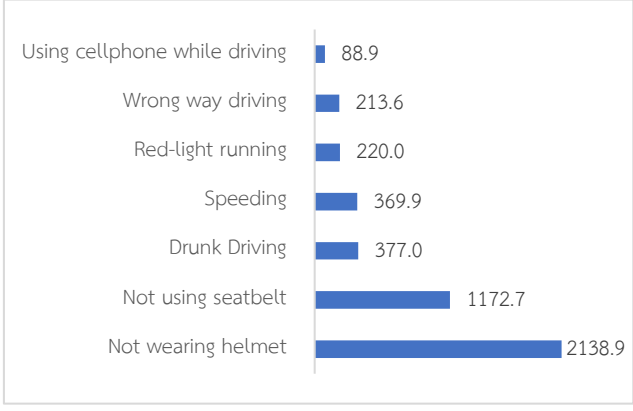
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Nakhon Phanom 2018

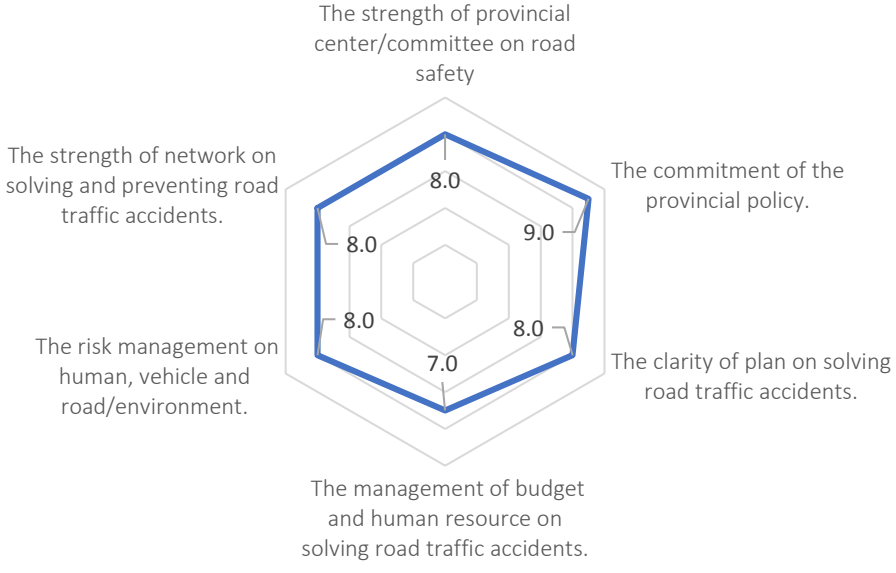
General Statistics			Accident Statistics		
Population	718,786	person (36)	Fatalities	139	Deaths (56)
registered vehicles	218,857	car (57)			
GPP*	42,892	million baht (56)			



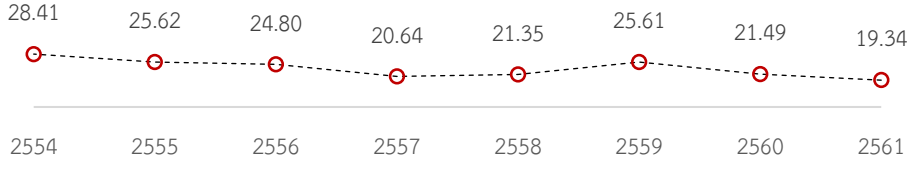
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

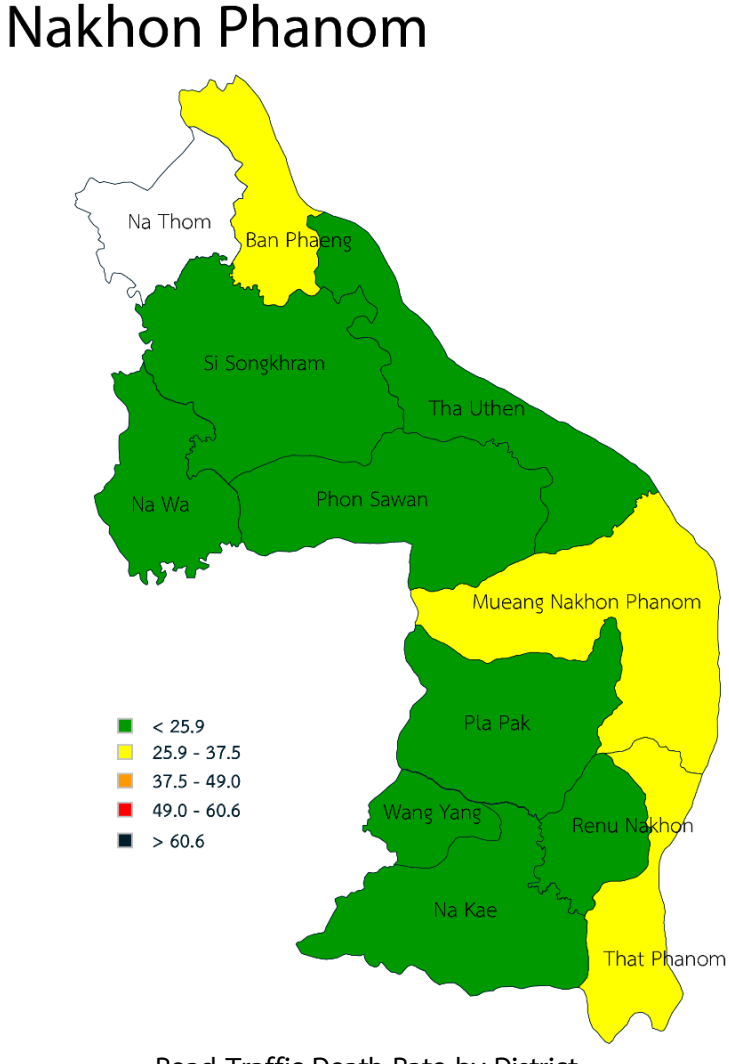


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Nakhon Phanom

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang Nakhon Phanom	51	36.41	Na Wa	7	13.29
Renu Nakhon	9	19.52	Ban Phaeng	11	31.40
Phon Sawan	8	14.05	Pla Pak	7	13.08
Tha Uthen	12	20.24	Wang Yang	2	12.96
That Phanom	27	33.02	Si Songkhram	11	15.67
Na Kae	17	22.66			
Na Thom	-	-			

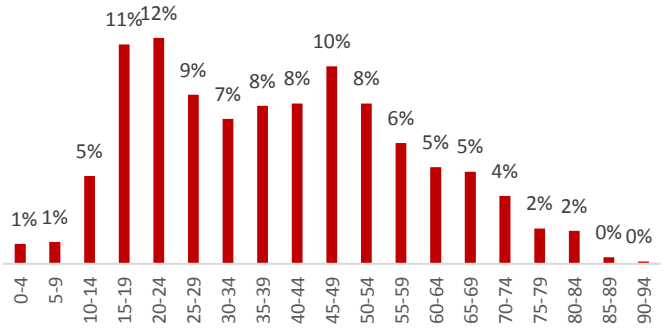


Road Traffic Death Rate by District

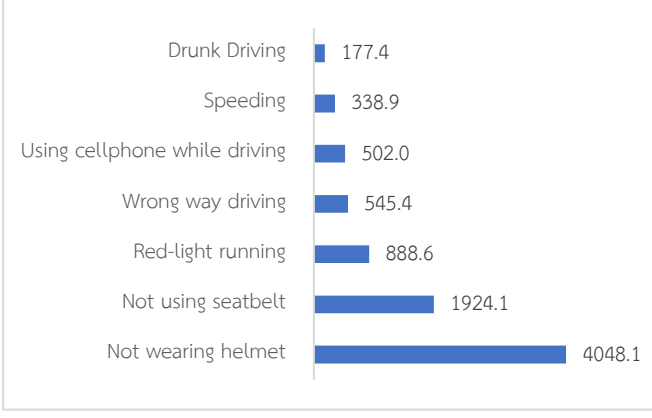
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Nakhon Ratchasima 2018

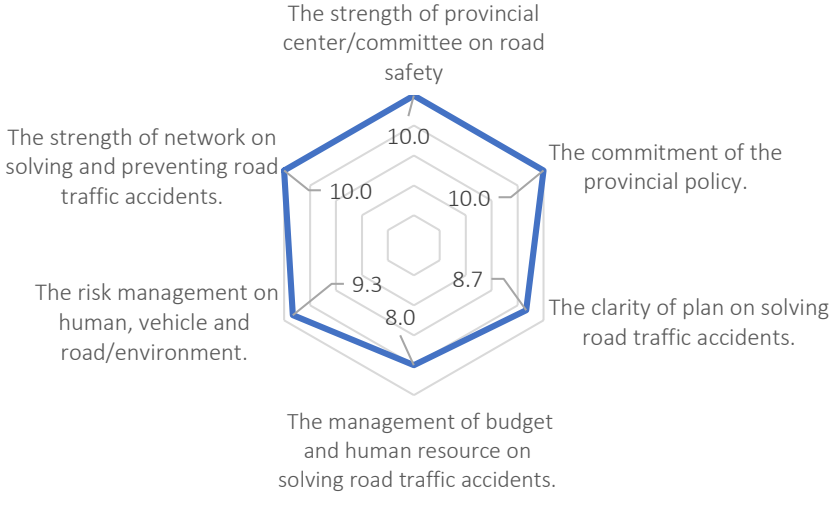
General Statistics			Accident Statistics		
Population	2,646,401	person (2)	Fatalities	976	Deaths (1)
registered vehicles	1,368,421	car (4)			
GPP*	274,898	million baht (12)			



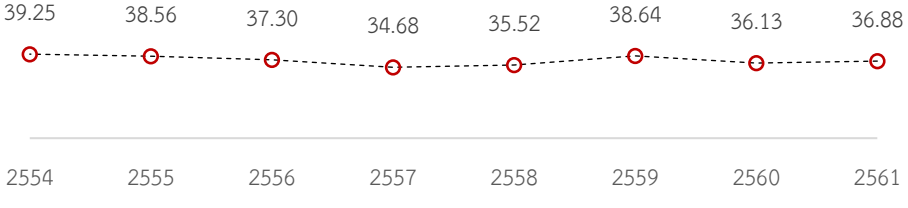
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

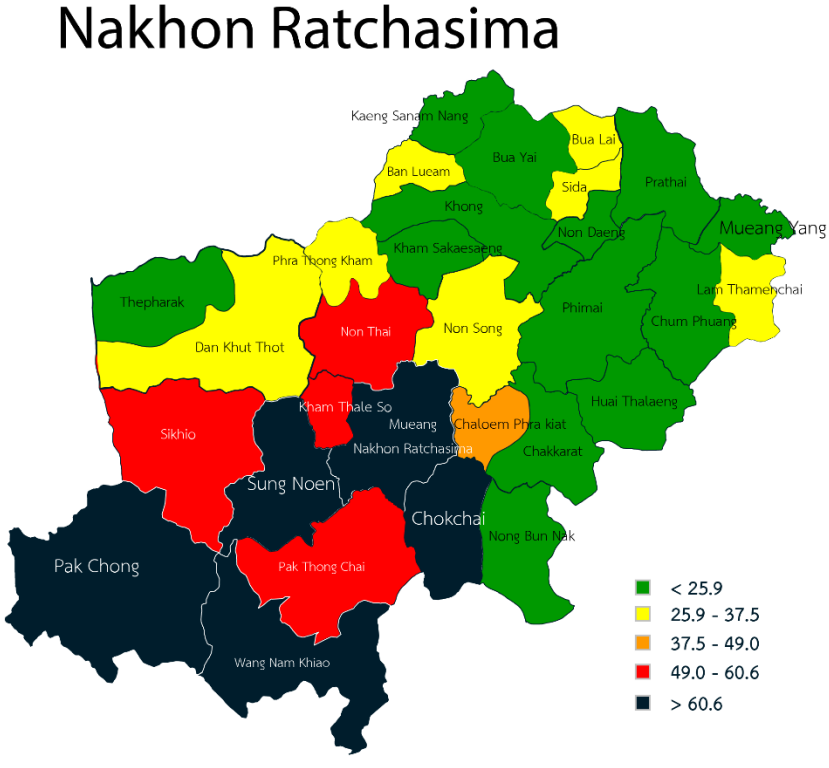


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Nakhon Ratchasima

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Sung Noen	64	90.83	Non Sung	27	32.12
Wang Nam Khiao	36	85.14	Sida	6	30.24
Pak Chong	90	74.58	Bua Lai	6	28.13
Chok Chai	34	70.24	Kham Sakaesaeng	9	27.54
Mueang Nakhon Ratchasima	145	66.35	Chum Phuang	18	24.65
Non Thai	31	57.50	Prathai	17	24.14
Pak Thong Chai	52	57.00	Phimai	25	21.04
Sikhio	48	56.79	Chakkarat	14	21.04
Kham Thale So	13	51.46	Non Daeng	4	19.35
Chaloem Phra Kiat	14	46.14	Khong	14	19.09
Dan Khun Thot	49	45.48	Huai Thalaeng	13	18.84
Khon Buri	33	41.84	Nong Bun Nak	10	16.78
Phra Thong Kham	15	41.59	Kaeng Sanam Nang	5	13.75
Lam Thamenchai	11	39.82	Thepharak	3	12.13
Ban Lueam	6	35.23	Mueang Yang	2	10.28
Soeng Sang	19	34.15	Bua Yai	6	9.01

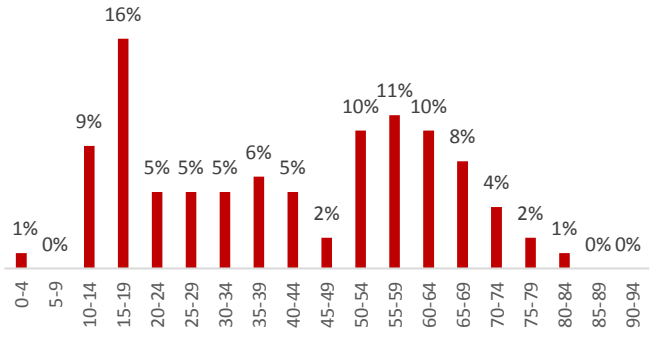


Road Traffic Death Rate by District

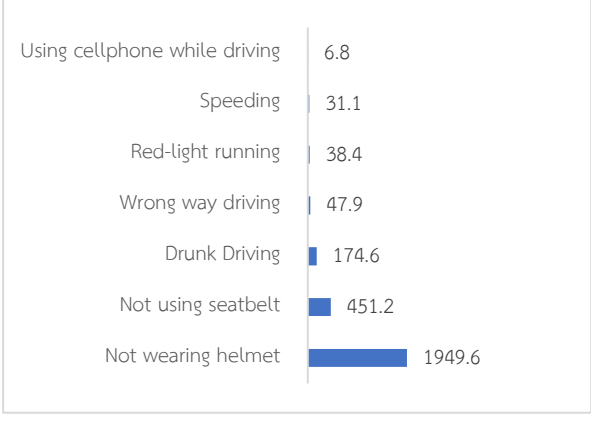
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Bueng Kan 2018

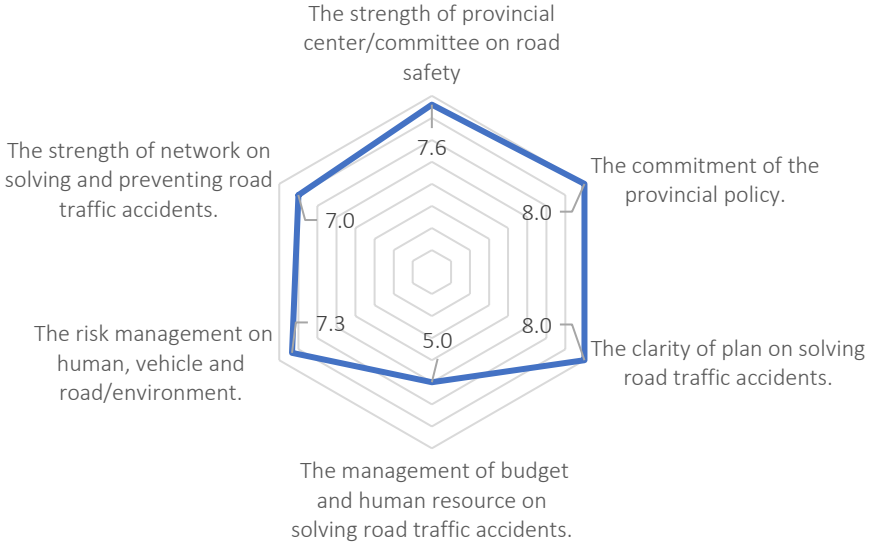
General Statistics			Accident Statistics		
Population	423,940	person (62)	Fatalities	96	Deaths (68)
registered vehicles	115,752	car (74)			
GPP*	27,167	million baht (68)			



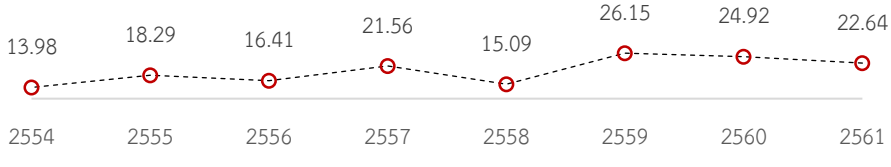
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

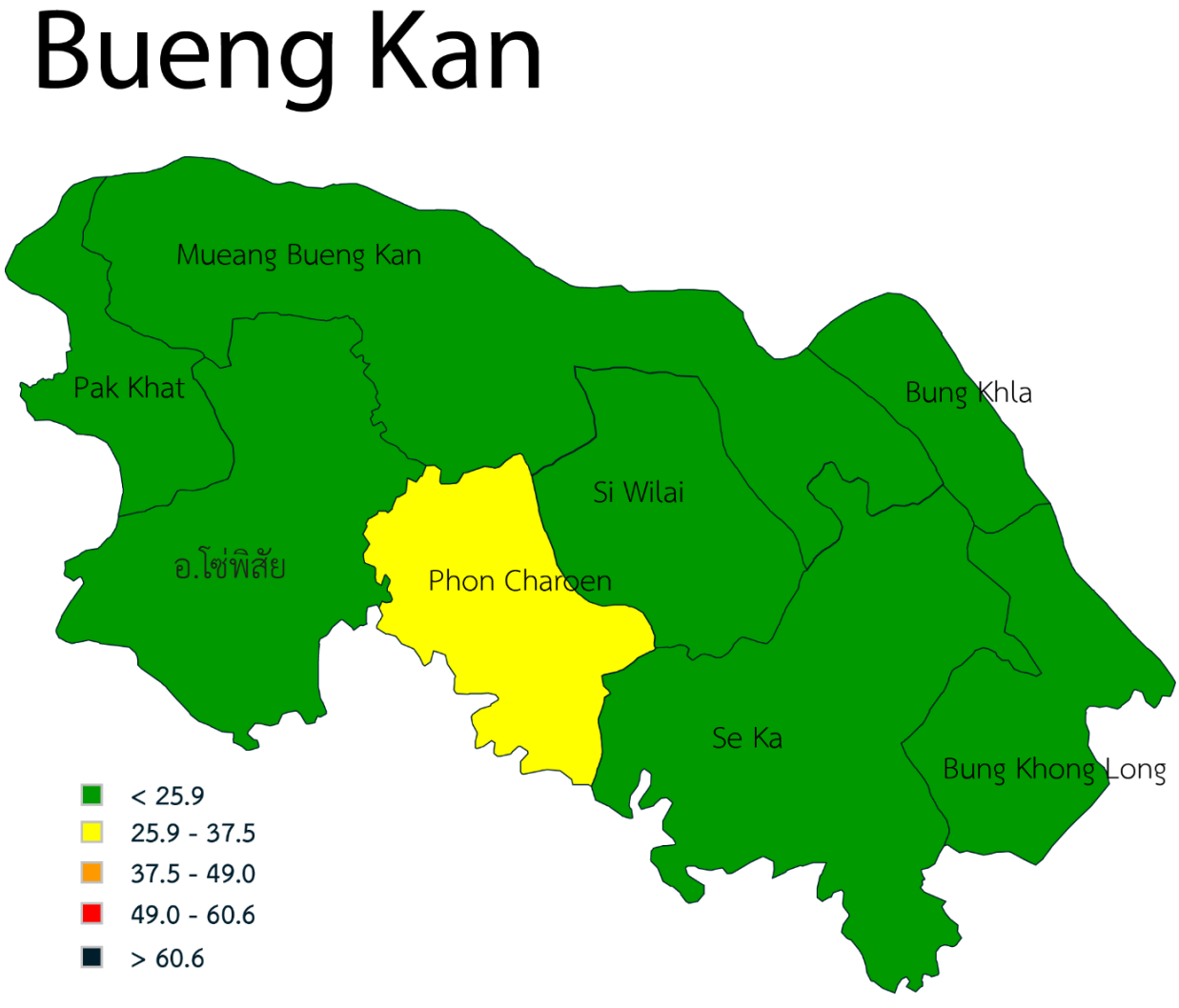


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Bueng Kan

District	Fatalities	Fatalities Rate per 100,000 population
	Rate	
Phon Charoen	16	36.71
Si Wilai	10	25.04
Mueang Bueng Kan	21	22.63
Pak Khat	8	22.35
Bung Khla	3	20.96
Bung Khong Long	6	15.91
Seka	13	15.75
So Phisai	8	11.23

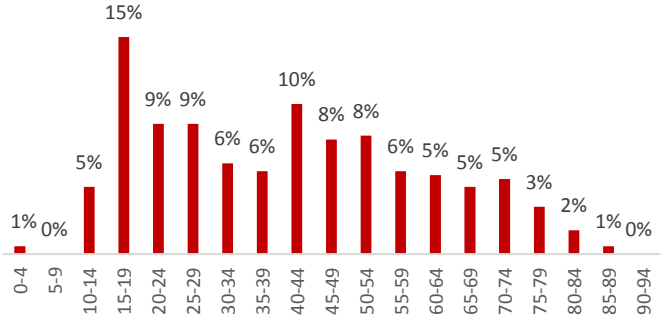


Road Traffic Death Rate by District

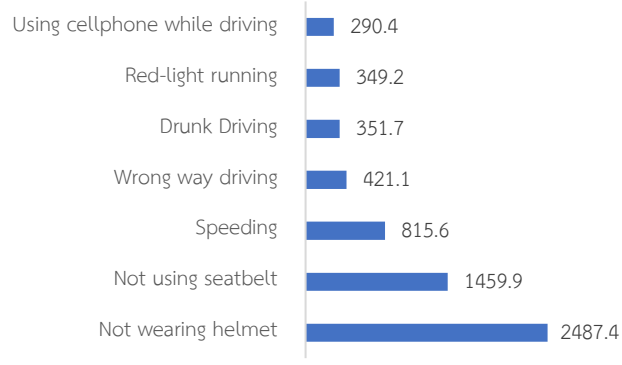
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Buri ram 2018

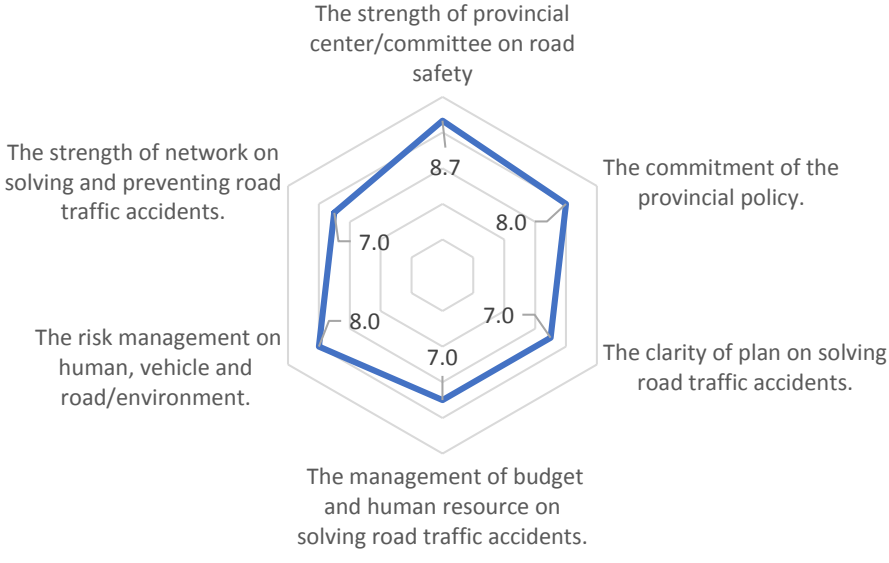
General Statistics			Accident Statistics		
Population	1,594,850	person (6)	Fatalities	429	Deaths (10)
registered vehicles	514,304	car (14)			
GPP*	84,333	million baht (33)			



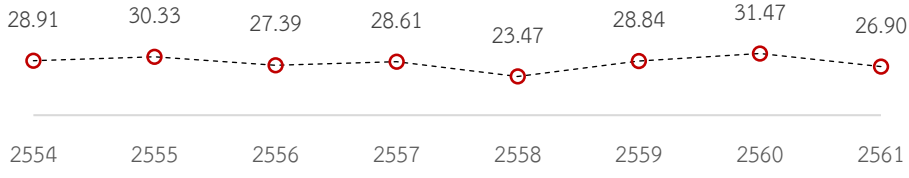
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

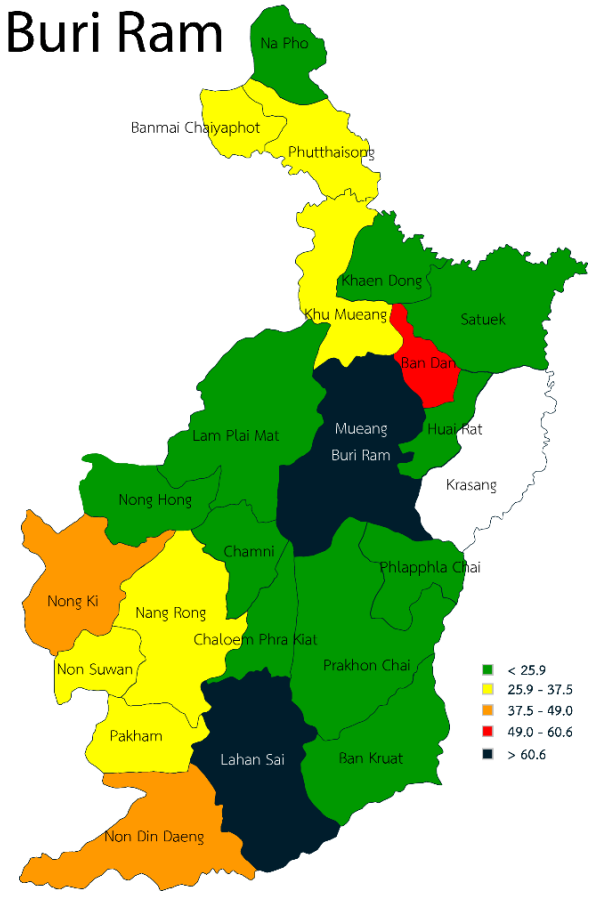


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Buri Ram

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang Buri Ram	137	78.48	Satuek	24	23.72
Lahan Sai	12	60.65	Ban Kruat	9	21.87
Ban Dan	10	51.54	Lam Plai Mat	23	19.93
Nong Ki	28	49.00	Nong Hong	7	19.55
Non Din Daeng	8	42.94	Khaen Dong	5	18.20
Nang Rong	31	33.43	Na Pho	5	17.19
Phutthaisong	14	33.24	Chaloem Phra Kiat	2	16.23
Khu Mueang	17	28.62	Chamni	5	14.10
Non Suwan	6	27.39	Huai Rat	4	12.32
Ban Mai Chaiyaphot	6	26.58	Prakhon Chai	11	8.64
Pakham	10	25.93	Krasang		
Phlapphla Chai	7	25.04			

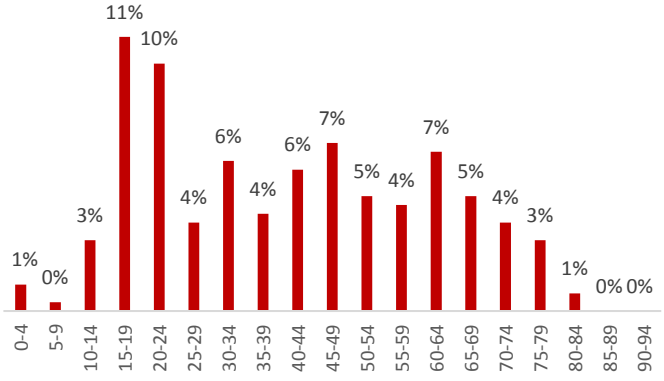


Road Traffic Death Rate by District

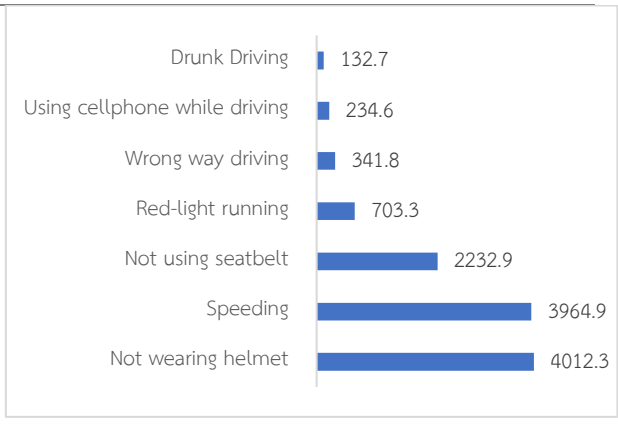
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Maha Sarakham 2018

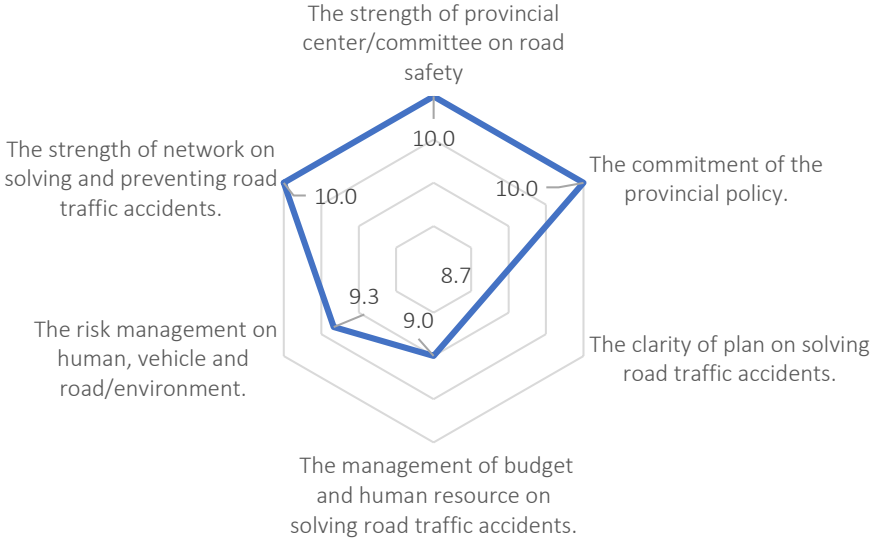
General Statistics			Accident Statistics		
Population	963,047	person (24)	Fatalities	241	Deaths (37)
registered vehicles	342,525	car (35)			
GPP*	56,002	million baht (45)			



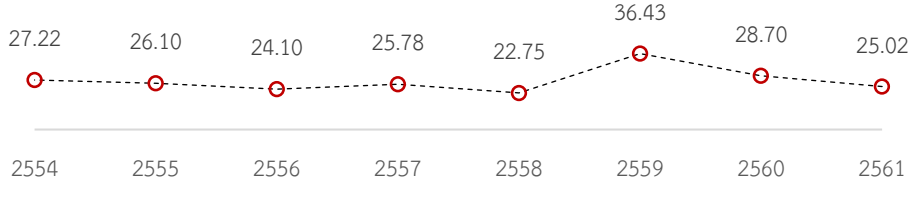
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

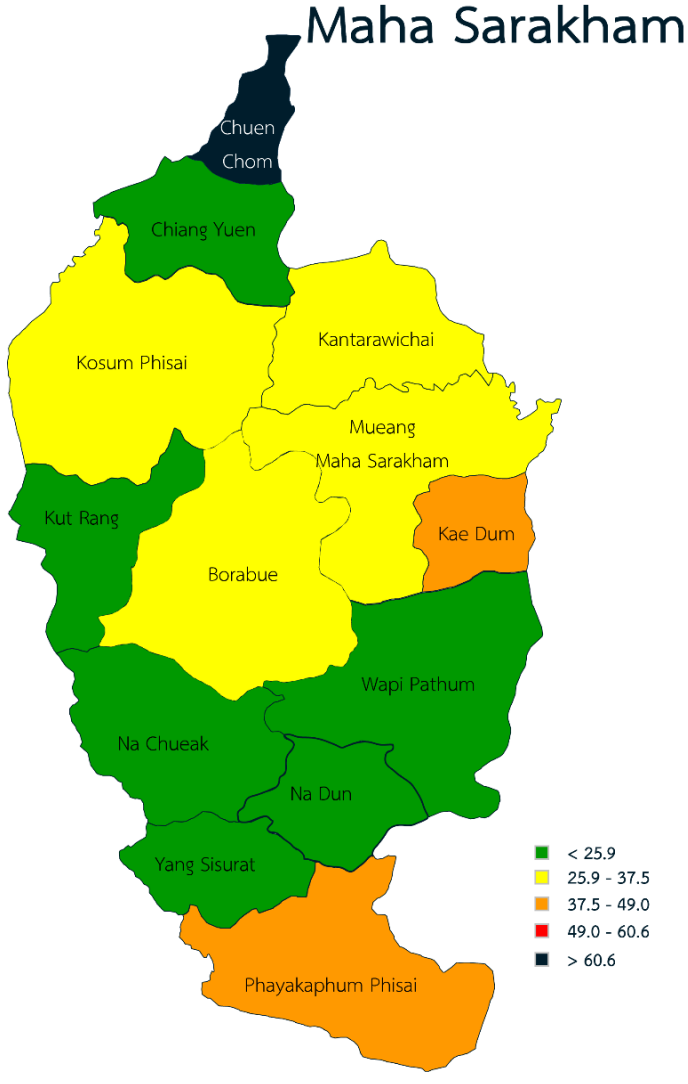


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Maha Sarakham

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Chuen Chom	12	69.12	Na Dun	6	22.98
Kae Dam	9	43.64	Chiang Yuen	9	19.91
Phayakkhaphum Phisai	24	40.45	Wapi Pathum	16	19.02
Borabue	32	40.42	Kut Rang	4	15.04
Kosum Phisai	31	34.94	Yang Sisurat	3	12.68
Kantharawichai	29	29.95	Na Chueak	1	2.36
Mueang Maha Sarakham	36	26.75			

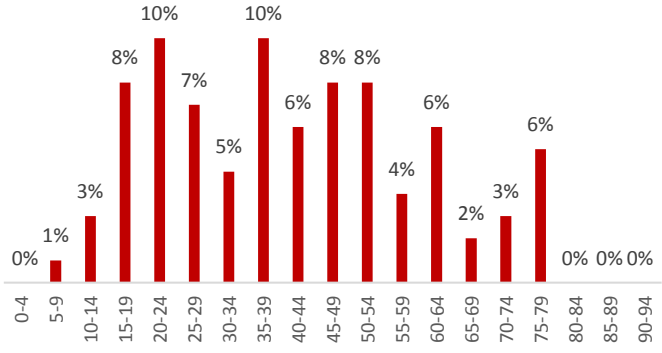


Road Traffic Death Rate by District

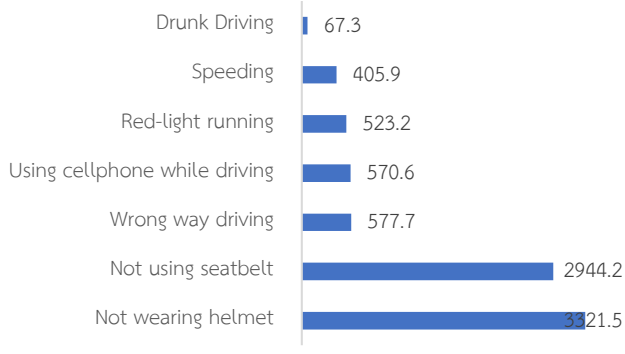
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Mukdahan 2018

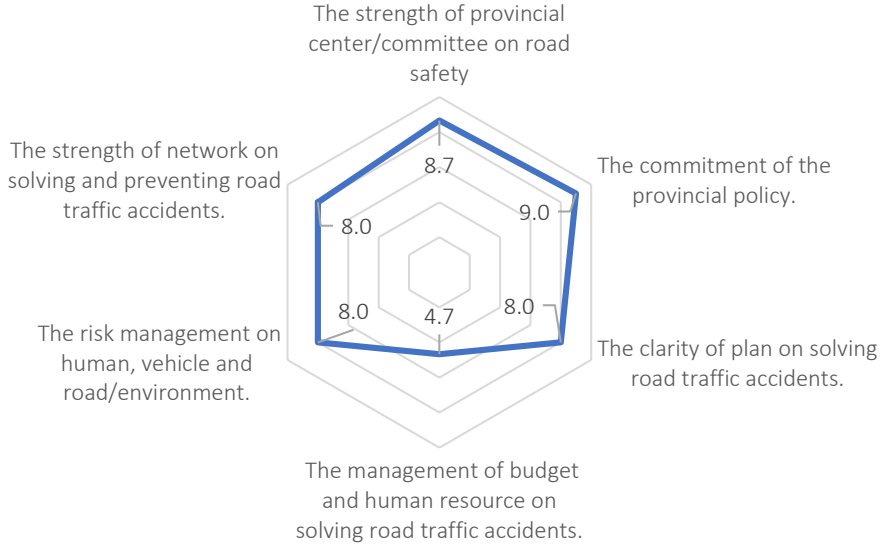
General Statistics			Accident Statistics		
Population	352,282	person (66)	Fatalities	100	Deaths (67)
registered vehicles	161,397	car (64)			
GPP*	25,799	million baht (73)			



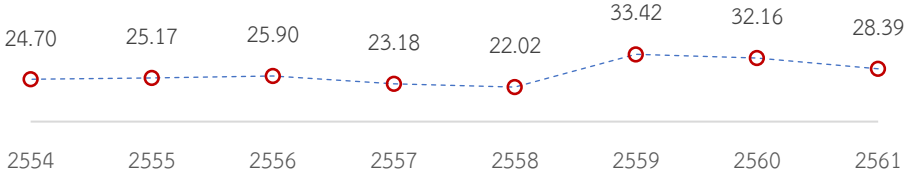
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

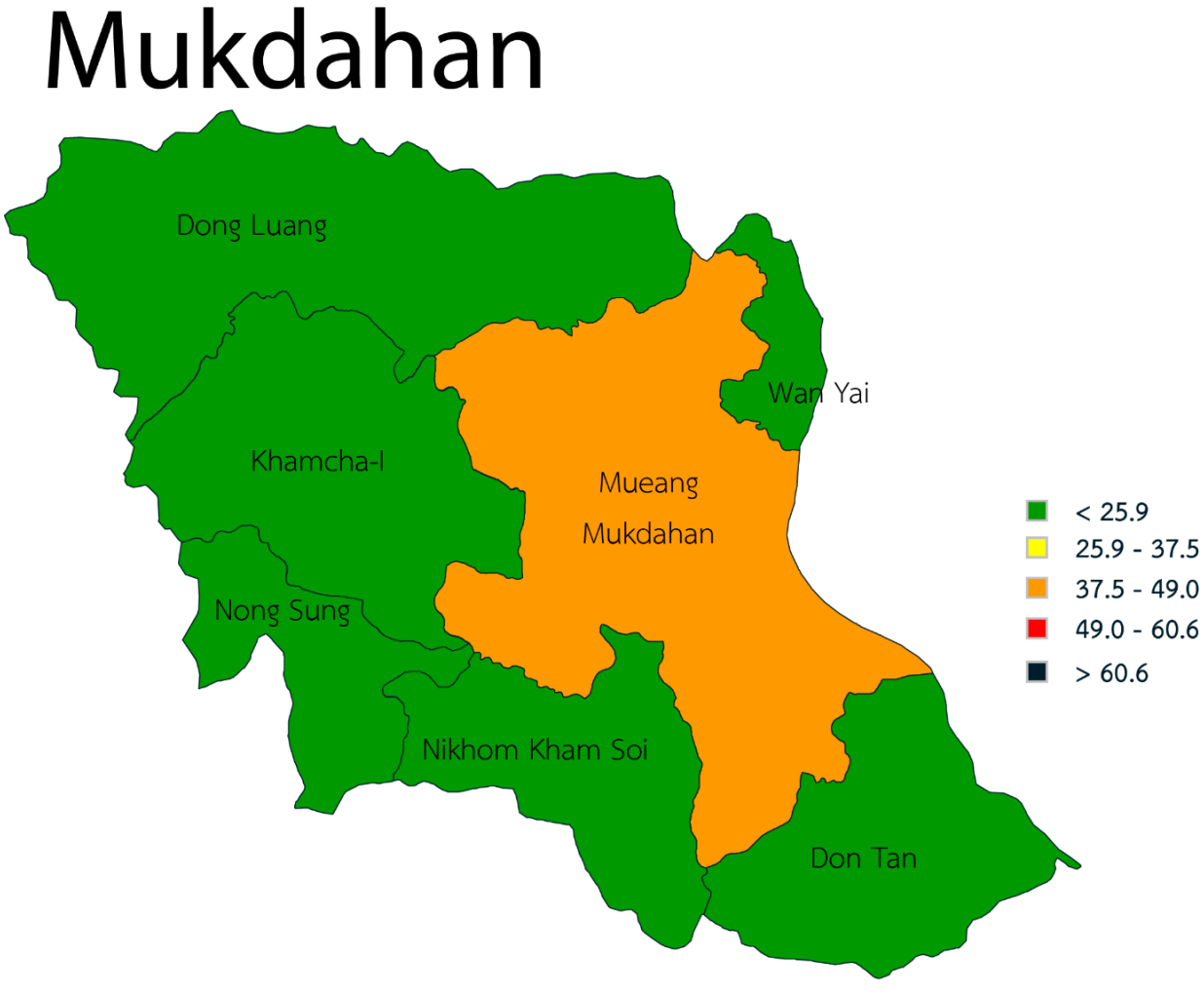


Road Traffice Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Mukdahan

District	Fatalities	Fatalities Rate per 100,000 population
	Rate	
Mueang Mukdahan	57	42.37
Dong Luang	9	23.11
Don Tan	9	20.41
Nikhom Kham Soi	7	15.76
Wan Yai	3	15.29
Khamcha-I	7	14.76
Nong Sung	3	14.41

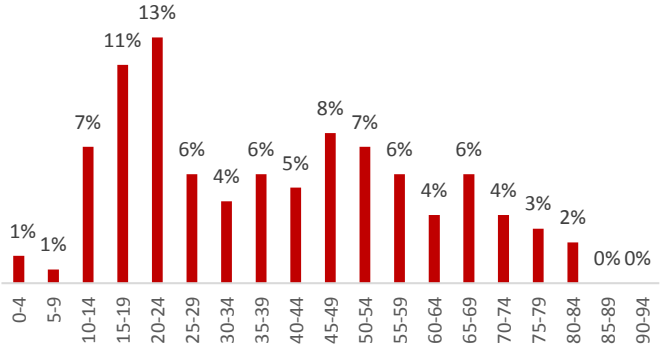


Road Traffic Death Rate by District

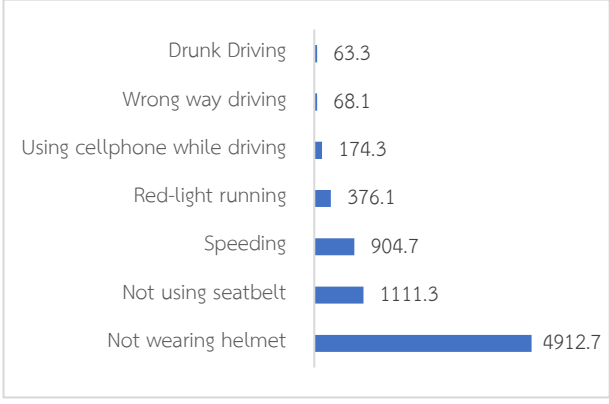
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Yasothon 2018

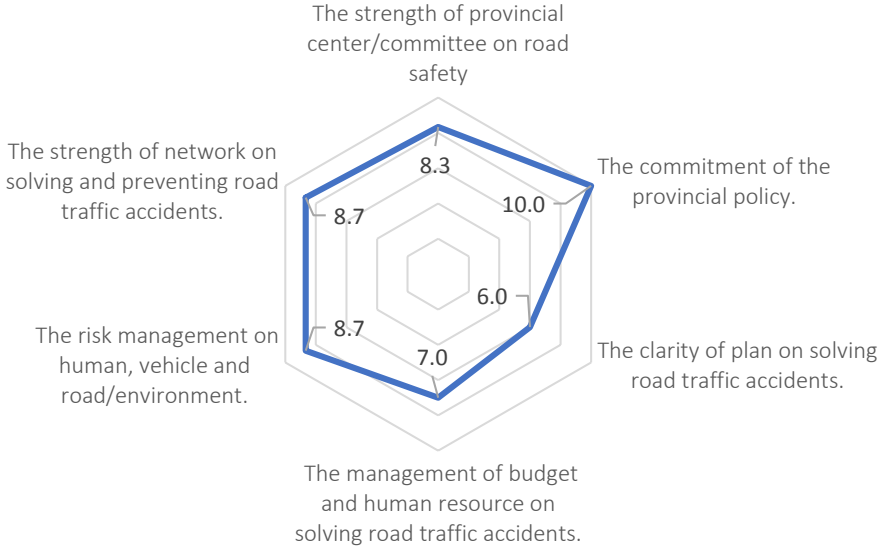
General Statistics			Accident Statistics		
Population	538,729	person (48)	Fatalities	148	Deaths (53)
registered vehicles	210,767	car (59)			
GPP*	26,039	million baht (72)			



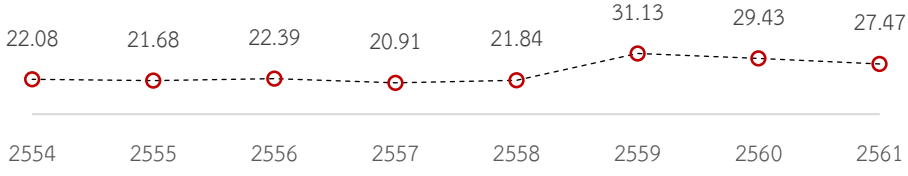
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

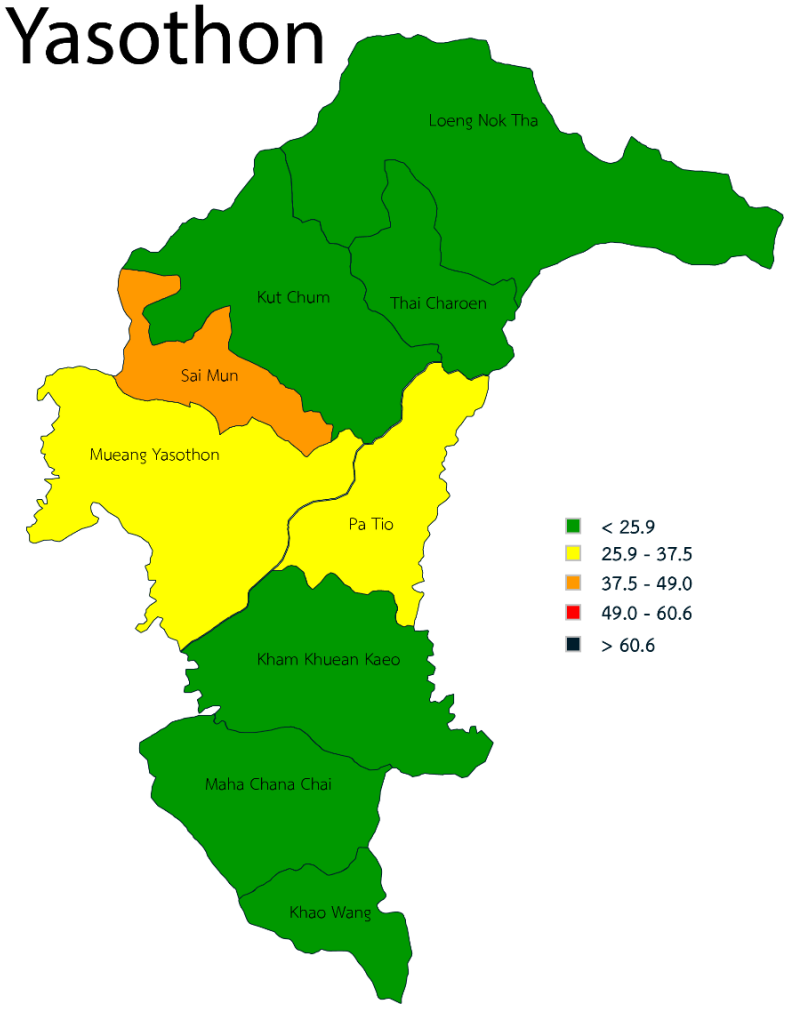


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Yahothon

District	Fatalities Rate	Fatalities Rate per 100,000 population
Sai Mun	13	41.96
Pa Tio	11	31.32
Mueang Yasothon	39	30.31
Maha Chana Chai	13	22.92
Kut Chum	14	21.07
Loeng Nok Tha	17	17.71
Kham Khuean Kaeo	11	16.53
Thai Charoen	4	13.15
Kho Wang	2	6.98

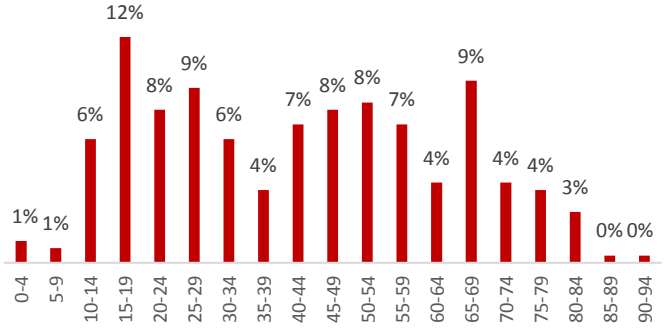


Road Traffice Death Rate by District

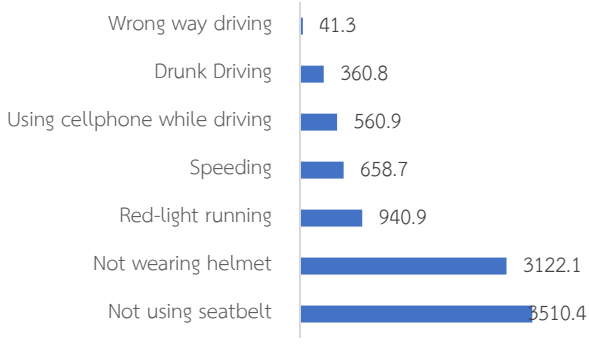
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Roi Et 2018

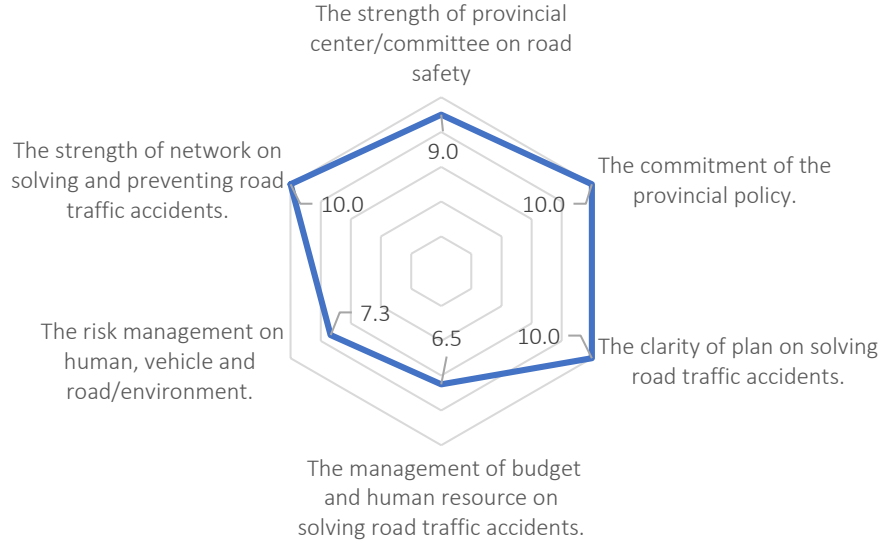
General Statistics			Accident Statistics		
Population	1,307,208	person (14)	Fatalities	295	Deaths (30)
registered vehicles	408,459	car (28)			
GPP*	73,485	million baht (37)			



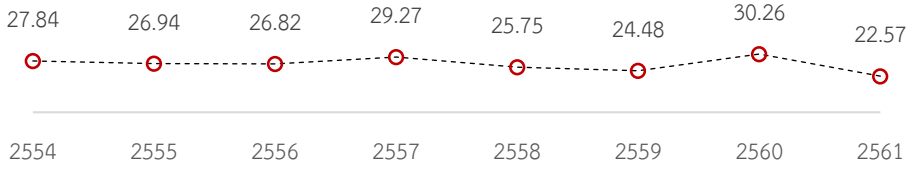
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

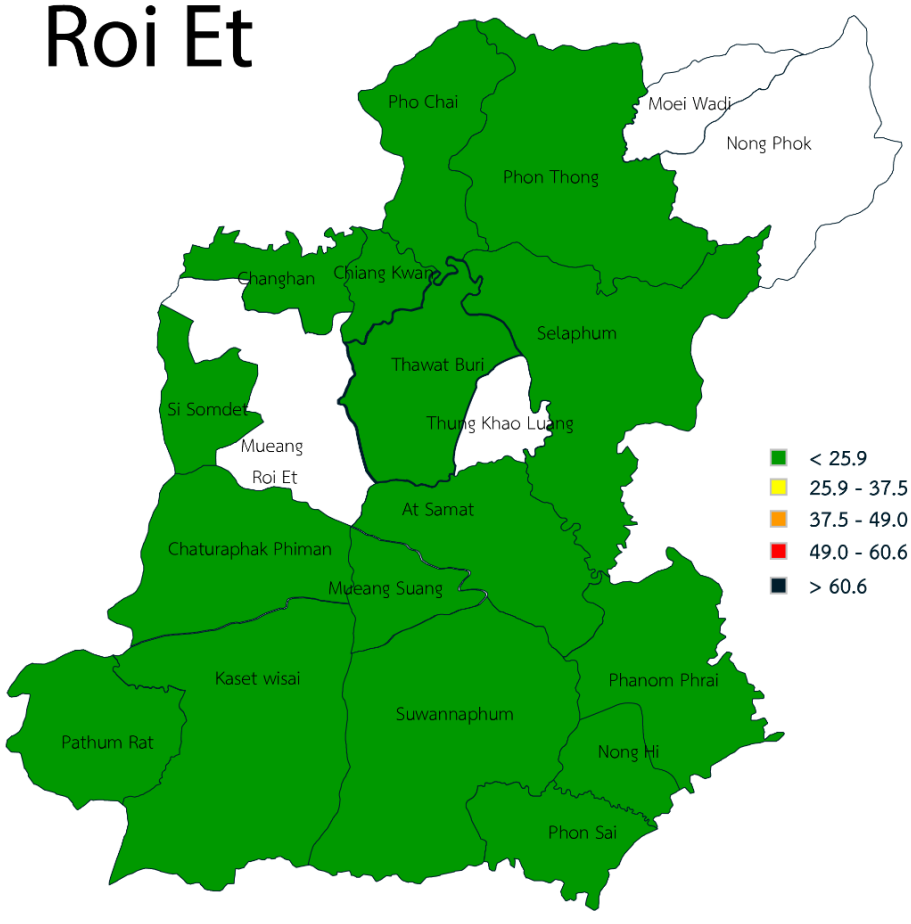


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Roi Et

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Nong Hi	6	24.66	Phanom Phrai	7	9.84
Thawat Buri	16	23.39	Kaset Wisai	9	9.17
Mueang Suang	5	21.58	Chaturaphak Phiman	12	9.04
Suwannaphum	21	18.09	Pho Chai	3	4.81
Phon Thong	16	15.02	Selaphum	7	4.24
At Samat	11	14.80	Phon Sai	1	3.57
Chiang Khwan	4	14.50	Mueang Roi Et		
Si Somdet	5	13.74	Nong Phok		
Pathum Rat	6	11.04	Moei Wadi		
Changhan	5	10.94	Thung Khao Luang		

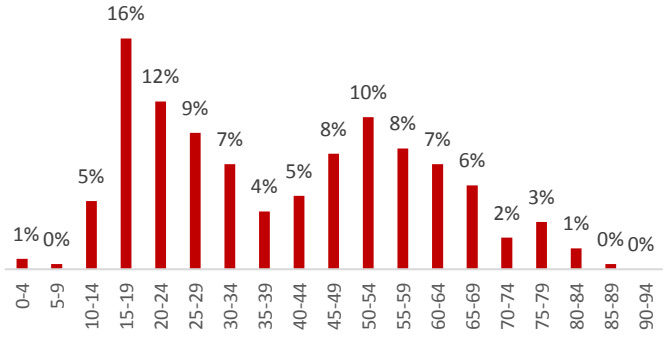


Road Traffic Death Rate by District

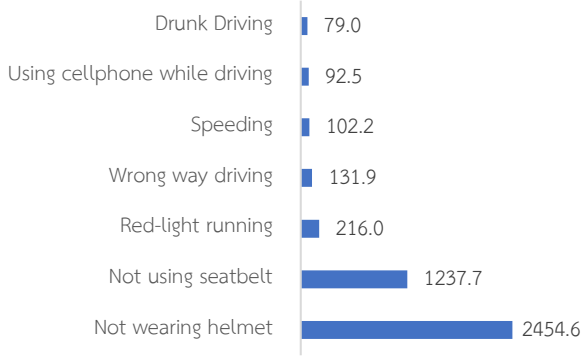
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Si Sa Ket 2018

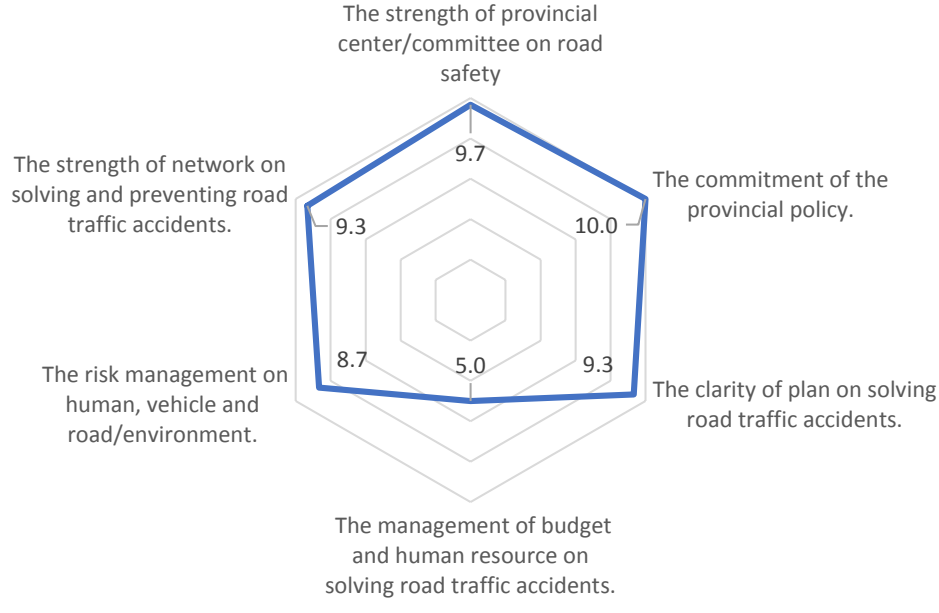
General Statistics			Accident Statistics		
Population	1,473,011	person (10)	Fatalities	340	Deaths (20)
registered vehicles	414,593	car (27)			
GPP*	69,574	million baht (41)			



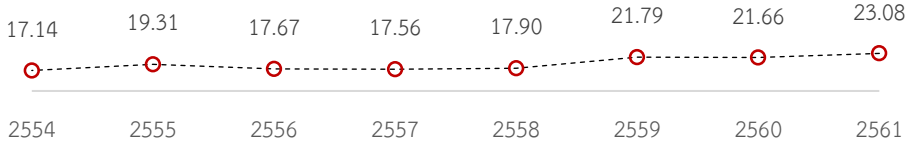
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

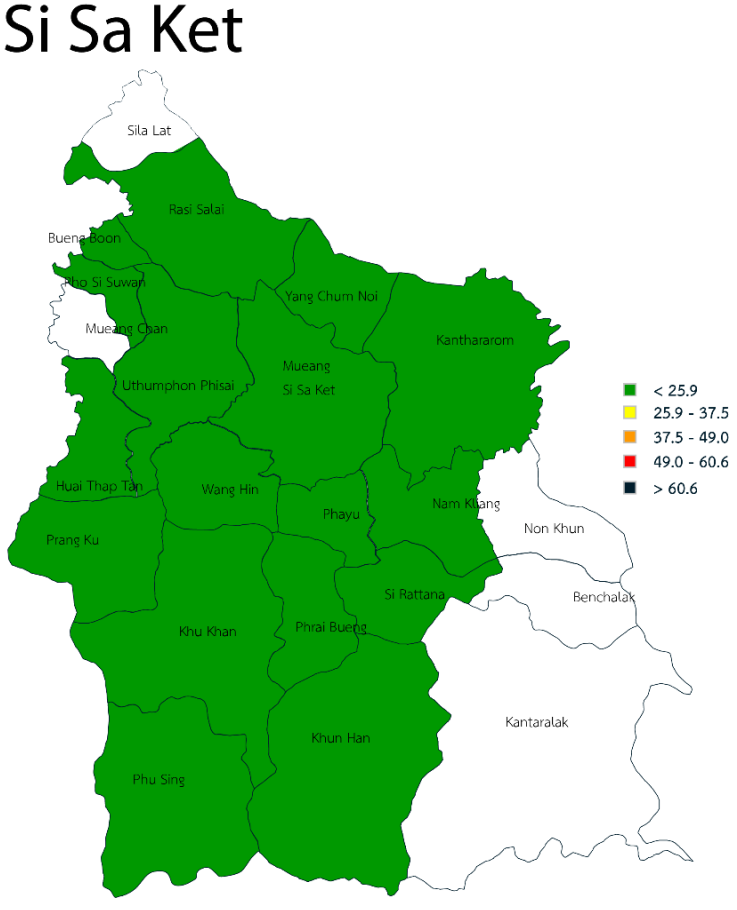


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Si Sa Ket

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Wang Hin	12	23.89	Bueng Bun	1	9.00
Mueang Si Sa Ket	21	23.85	Prang Ku	5	7.81
Kanthararom	20	21.31	Huai Thap Than	3	7.06
Phayu	6	18.73	Yang Chum Noi	2	6.60
Kantharalak	34	16.82	Khun Han	7	6.47
Uthumphon Phisai	17	16.72	Nam Kliang	2	4.49
Rasi Salai	13	16.14	Benchalak		
Khukhan	16	10.88	Mueang Chan		
Phrai Bueng	4	10.74	Pho Si Suwan		
Si Rattana	5	9.37	Non Khun		
Phu Sing	5	9.19	Sila Lat		

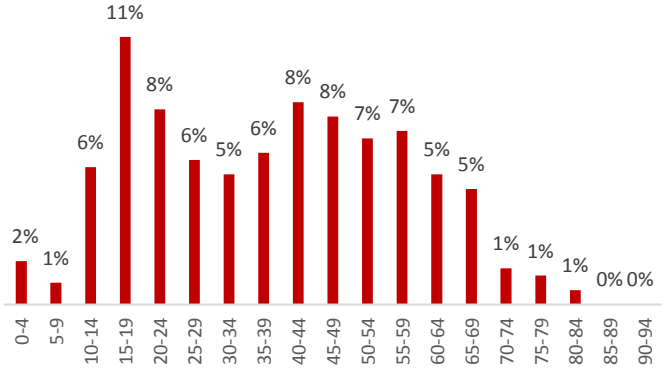


Road Traffic Death Rate by District

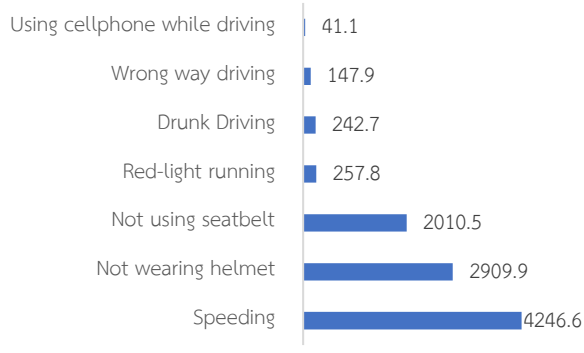
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Sakon Nakhon 2018

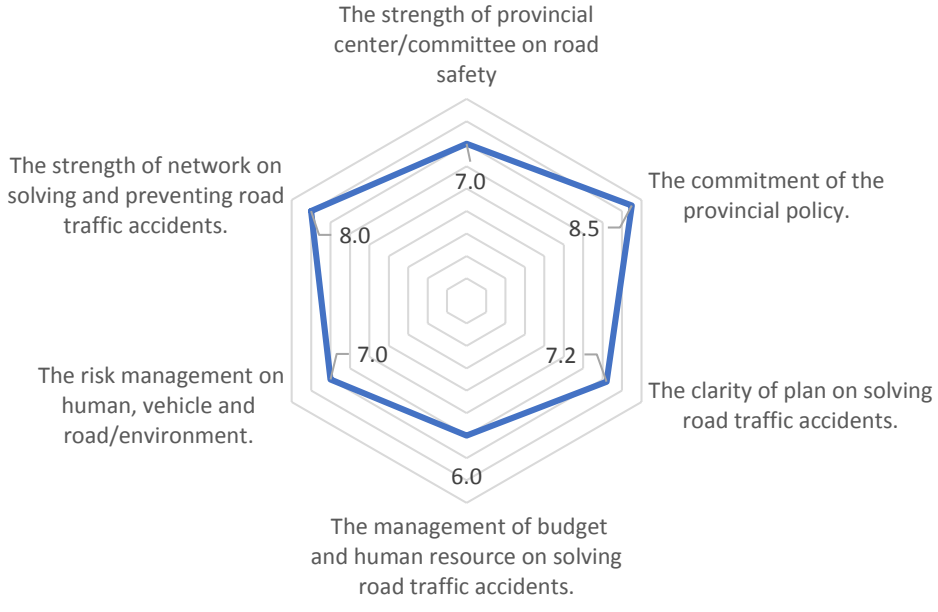
General Statistics			Accident Statistics		
Population	1,152,282	person (17)	Fatalities	319	Deaths (24)
registered vehicles	485,511	car (20)			
GPP*	55,634	million baht (48)			



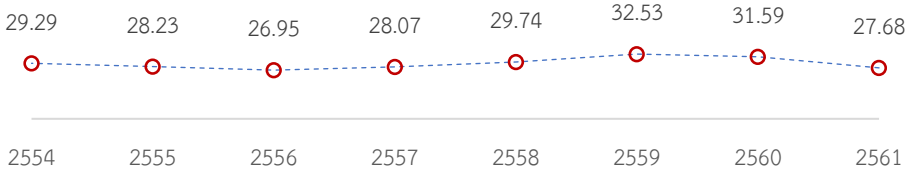
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

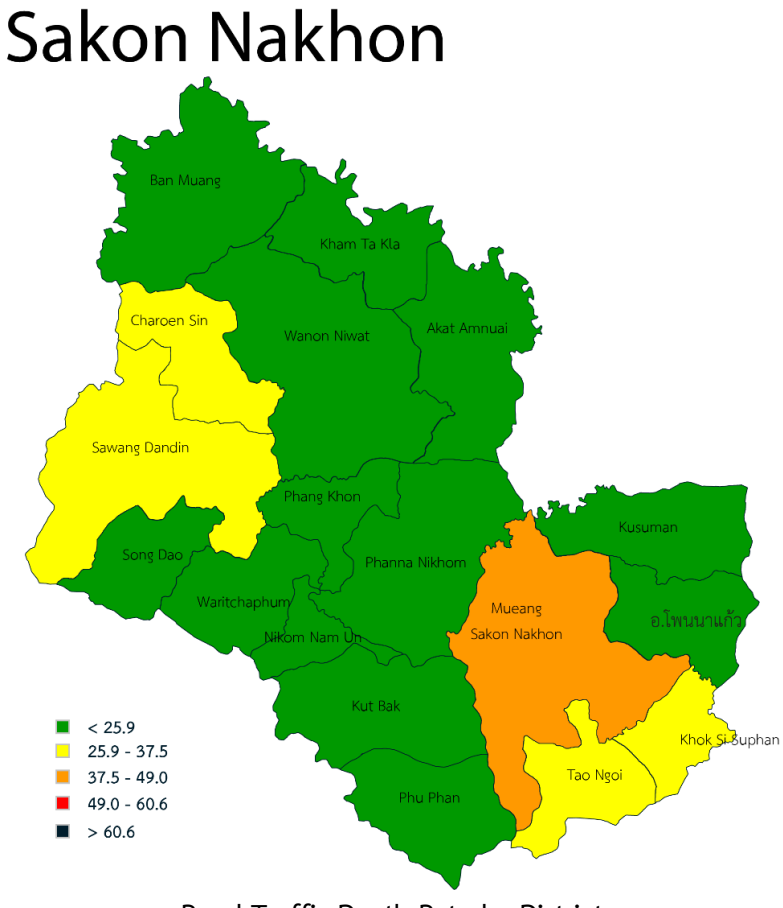


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Sakon Nakhon

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang Sakon Nakhon	75	38.28	Phanna Nikhom	16	19.88
Tao Ngoi	9	37.08	Song Dao	6	17.26
Charoen Sin	16	35.47	Ban Muang	12	16.92
Sawang Dandin	43	28.39	Phon Na Kaeo	6	16.31
Khok Si Suphan	9	26.37	Akat Amnuai	11	15.39
Kusuman	11	23.12	Waritchaphum	8	15.18
Wanon Niwat	29	23.07	Kut Bak	5	15.12
Phu Phan	8	21.69	Phang Khon	8	15.10
Kham Ta Kla	8	20.01	Nikom Nam Un	2	13.40

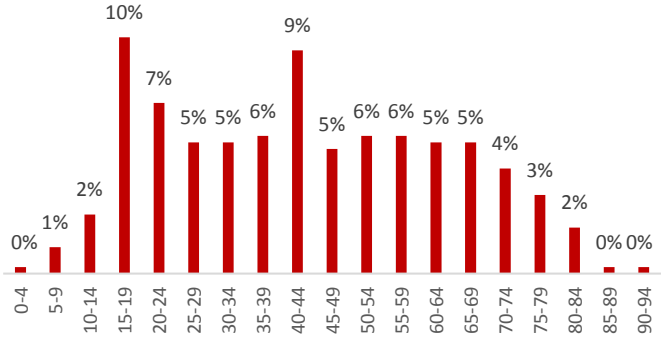


Road Traffic Death Rate by District

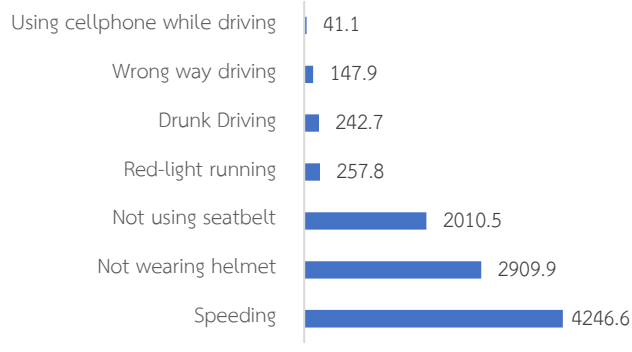
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Surin 2018

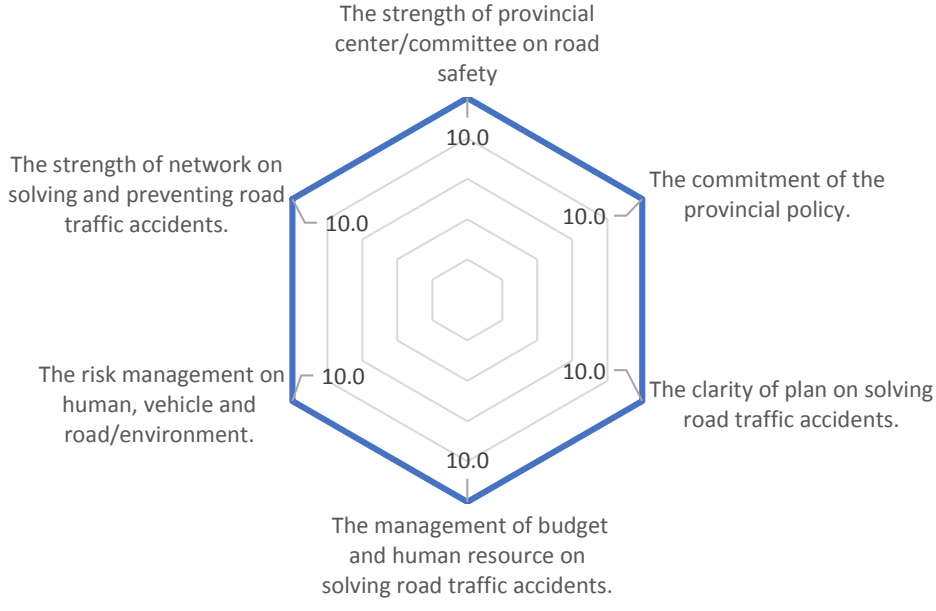
General Statistics			Accident Statistics		
Population	1,397,857	person (12)	Fatalities	337	Deaths (22)
registered vehicles	464,721	car (22)			
GPP*	72,883	million baht (39)			



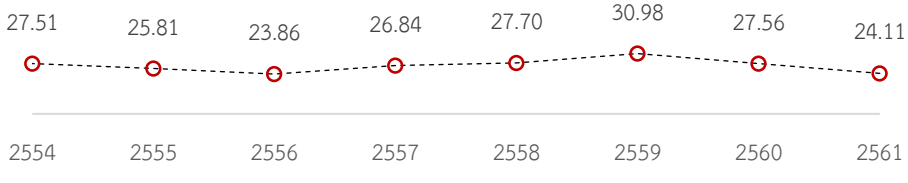
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents



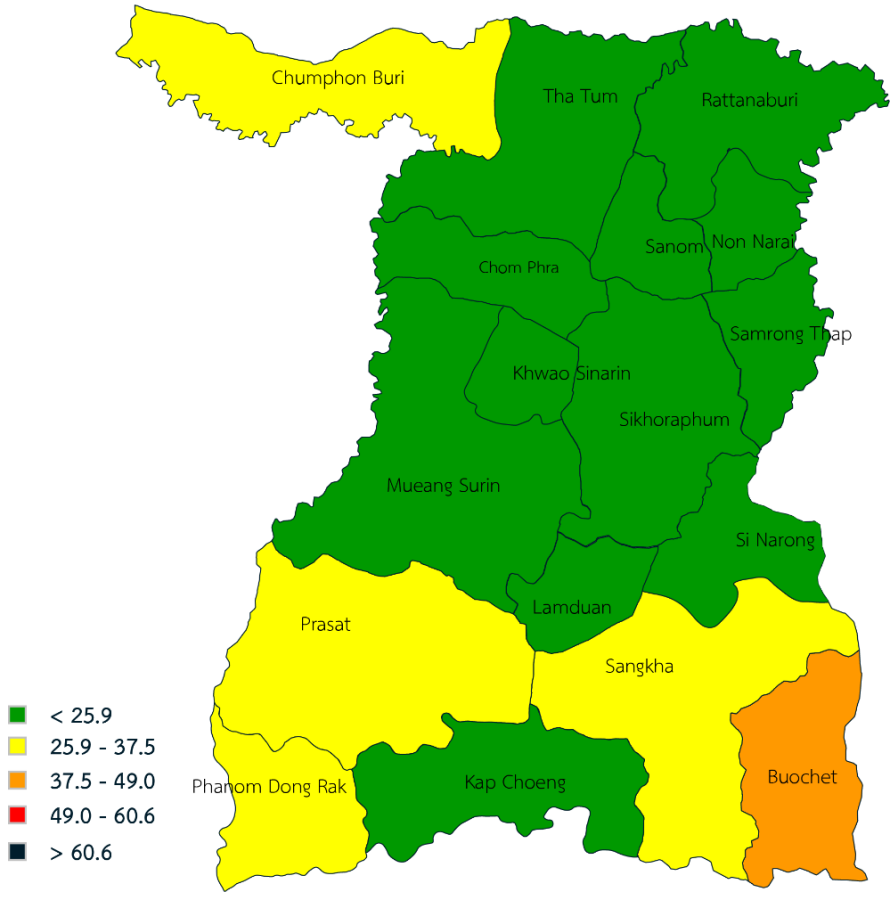
Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Surin

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Buachet	16	40.61	Rattanaburi	17	18.11
Phanom Dong Rak	12	35.06	Samrong Thap	9	17.76
Prasat	53	34.75	Sanom	7	17.75
Chumphon Buri	20	30.12	Tha Tum	17	16.70
Sangkha	33	27.43	Lamduan	5	16.68
Mueang Surin	85	25.03	Non Narai	2	6.64
Kap Choeng	15	24.97	Khwao Sinarin	2	6.28
Chom Phra	13	20.76	Sikhoraphum	31	3.29
Si Narong	8	19.68			

Surin

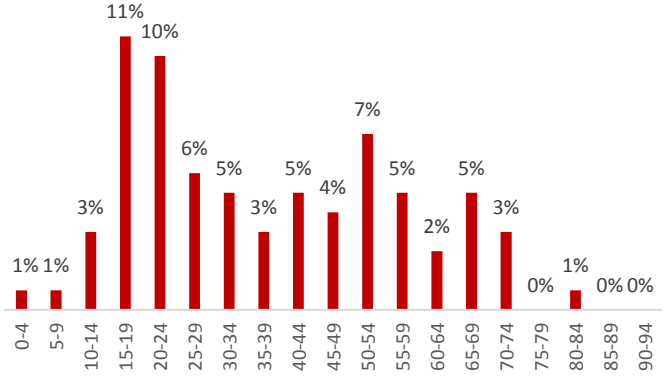


Road Traffic Death Rate by District

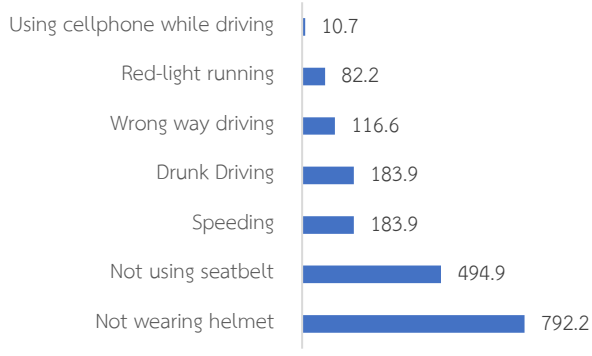
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Nong Khai 2018

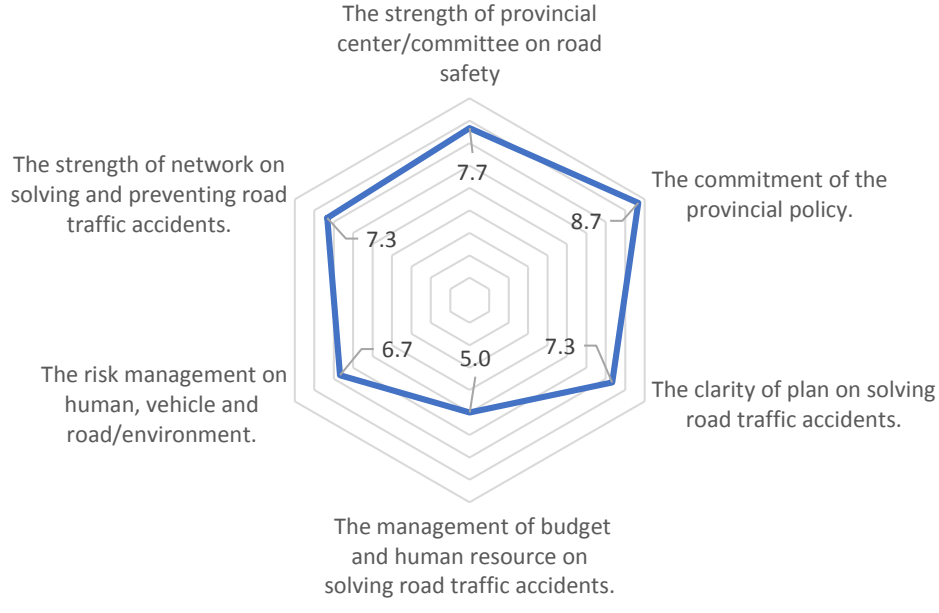
General Statistics			Accident Statistics		
Population	522,103	person (52)	Fatalities	101	Deaths (65)
registered vehicles	214,176	car (58)			
GPP*	40,053	million baht (58)			



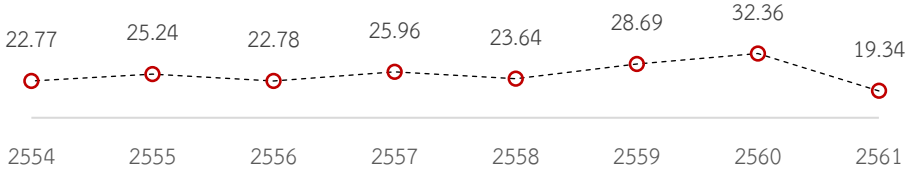
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

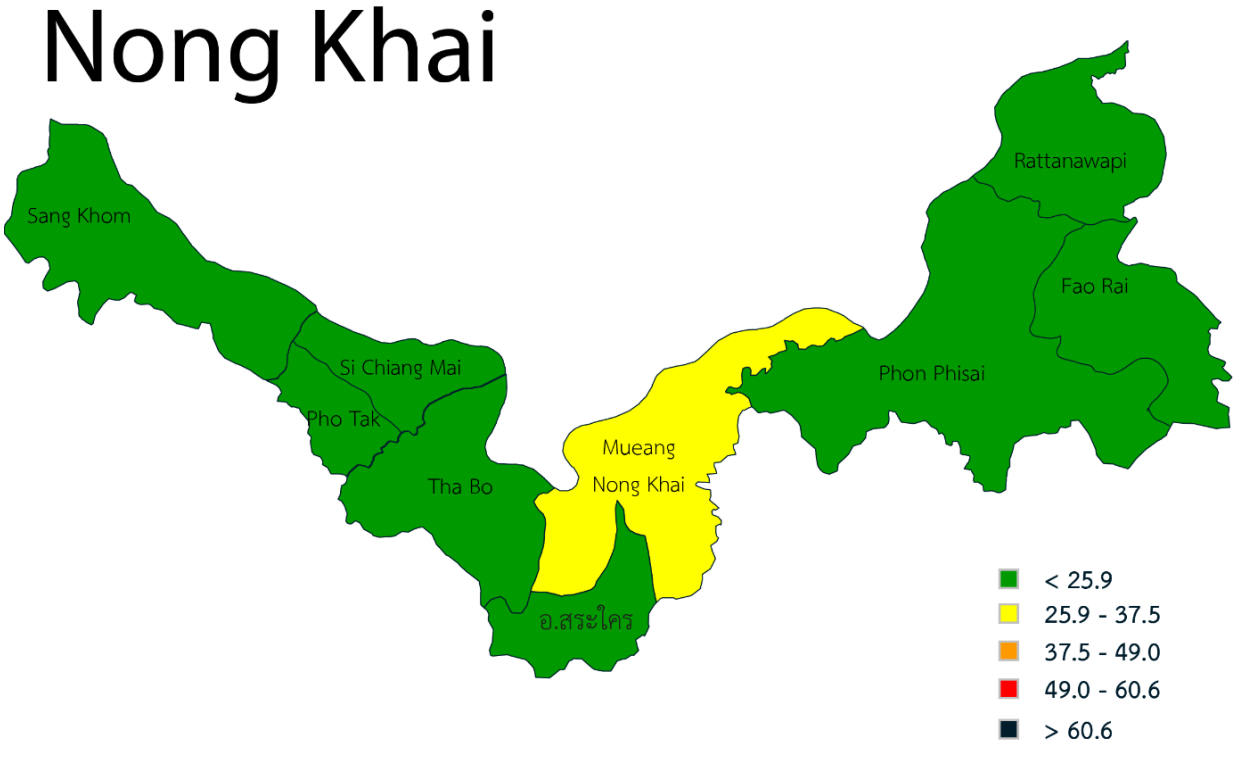


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Nong Khai

District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang Nong Khai	48	31.87
Tha Bo	21	25.28
Sangkhom	6	23.72
Phon Phisai	23	23.27
Si Chiang Mai	6	19.42
Rattanawapi	7	18.06
Fao Rai	8	15.31
Sakhrai	2	7.47
Pho Tak	1	6.52

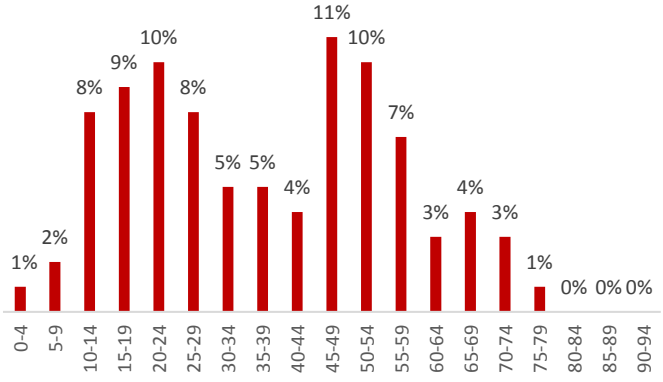


Road Traffic Death Rate by District

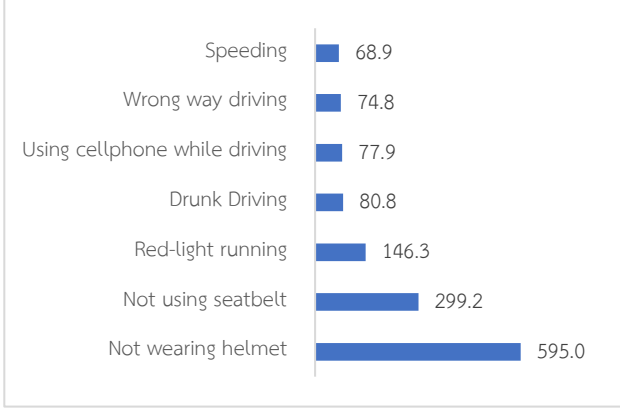
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Nong Bua Lam Phu 2018

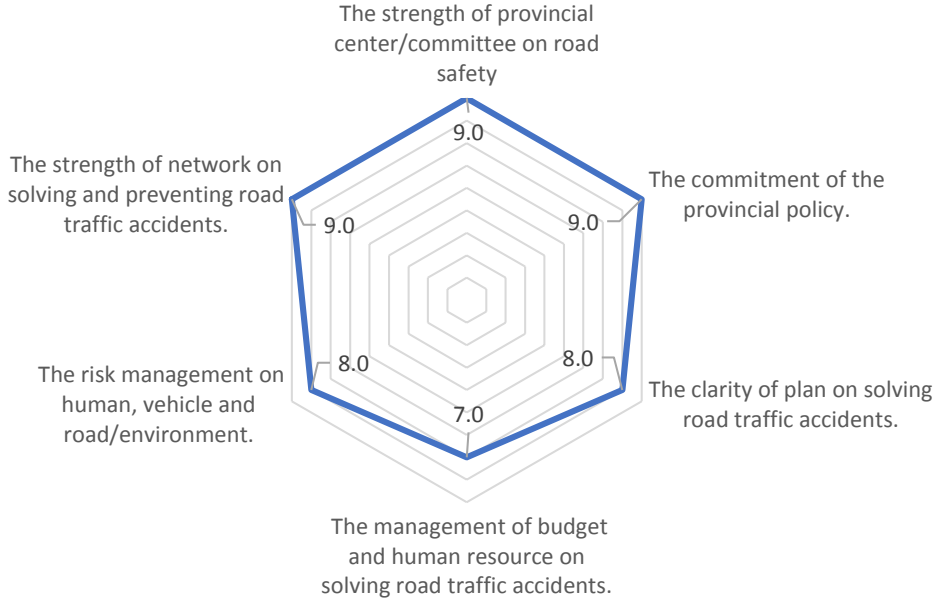
General Statistics			Accident Statistics		
Population	512,117	person (53)	Fatalities	105	Deaths (64)
registered vehicles	162,973	car (63)			
GPP*	25,187	million baht (74)			



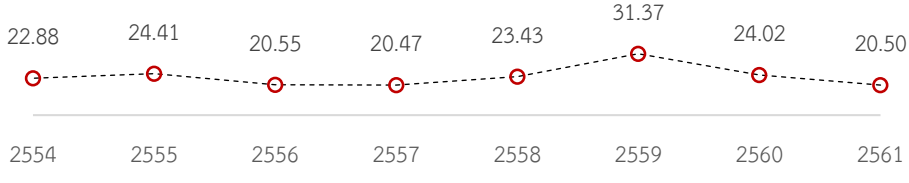
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

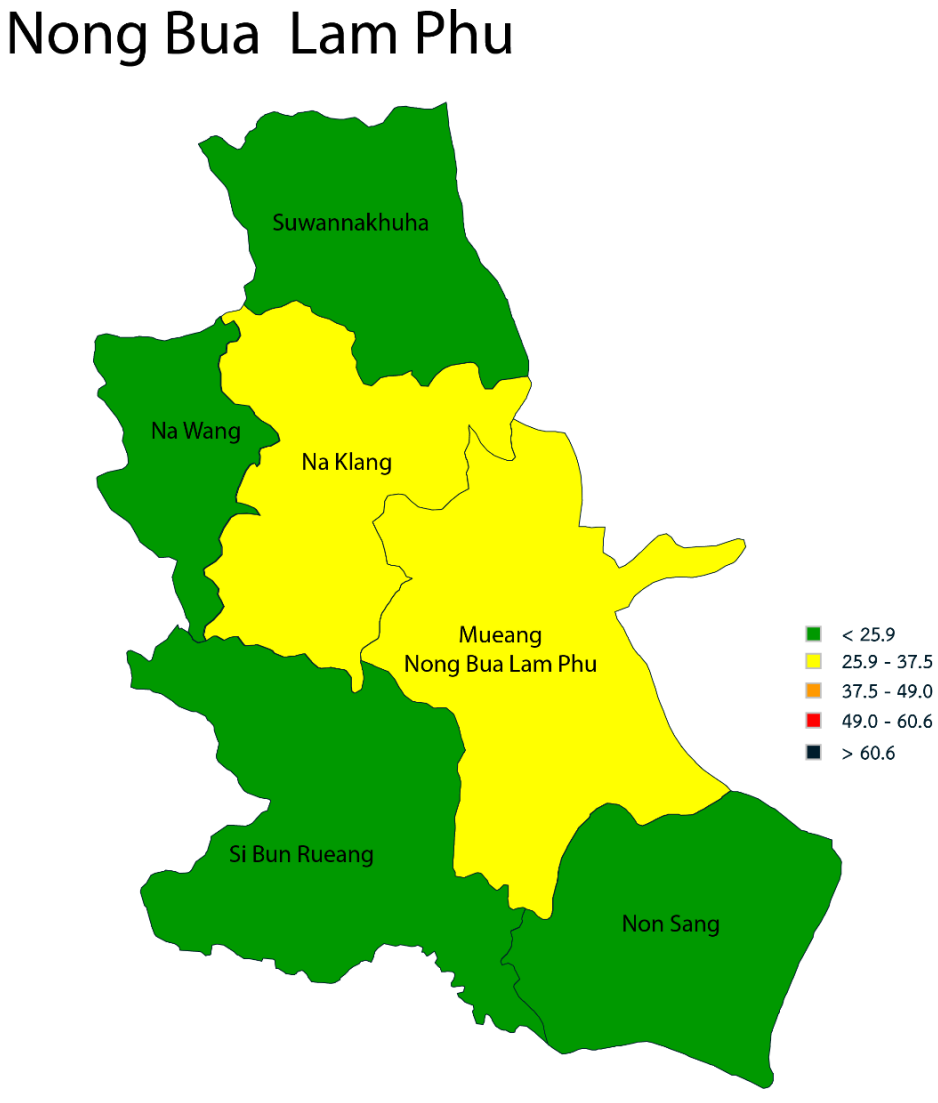


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Nong Bua Lam Phu

District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	41	30.09
Na Klang	25	26.83
Si Bun Rueang	25	22.73
Non Sang	15	22.69
Na Wang	8	20.89
Suwannakhuha	9	13.19

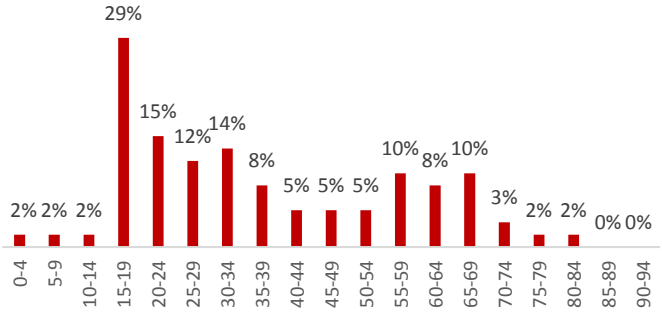


Road Traffic Death Rate by District

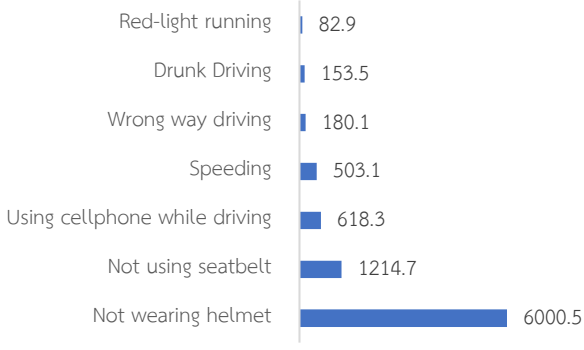
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Amnat Charoen 2018

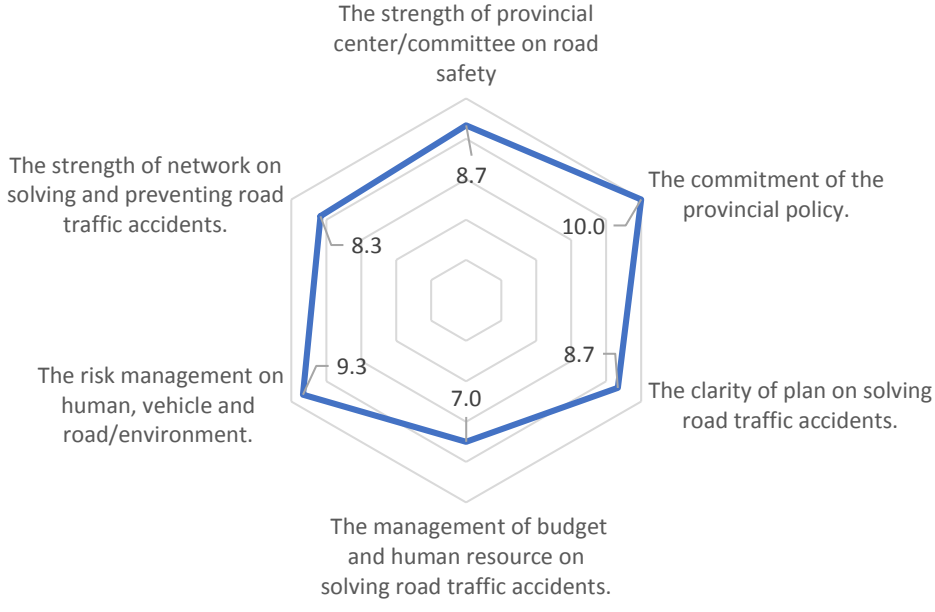
General Statistics			Accident Statistics		
Population	378,621	person (65)	Fatalities	89	Deaths (69)
registered vehicles	127,025	car (72)			
GPP*	403,603	million baht (5)			



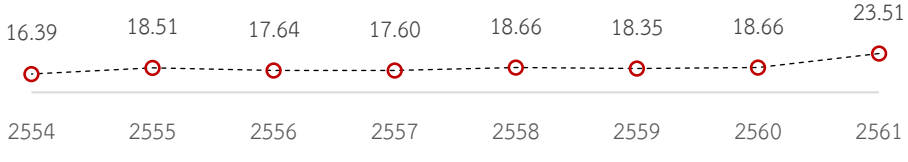
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

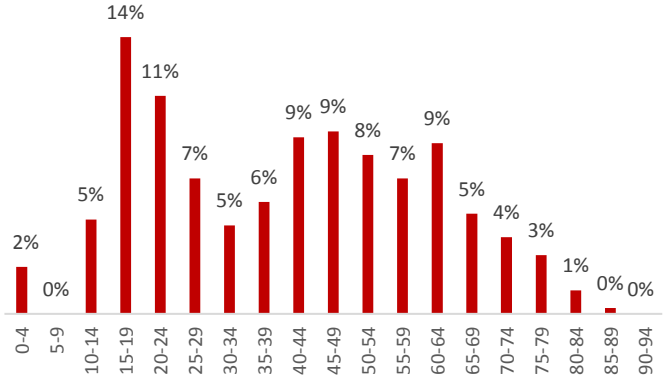


Road Traffic Death Rate per 100,000 population

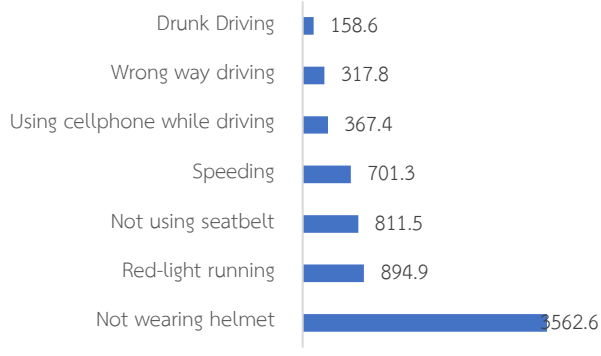
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Udon Thani 2018

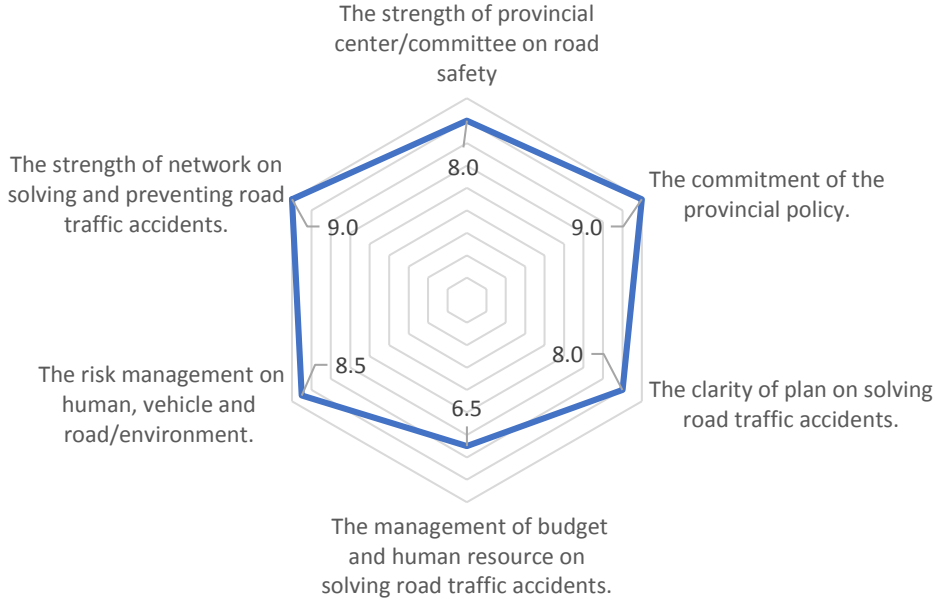
General Statistics			Accident Statistics		
Population	1,586,666	person (7)	Fatalities	382	Deaths (12)
registered vehicles	688,167	car (10)			
GPP*	111,264	million baht (24)			



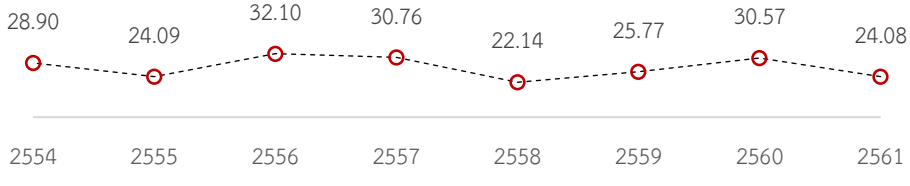
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents



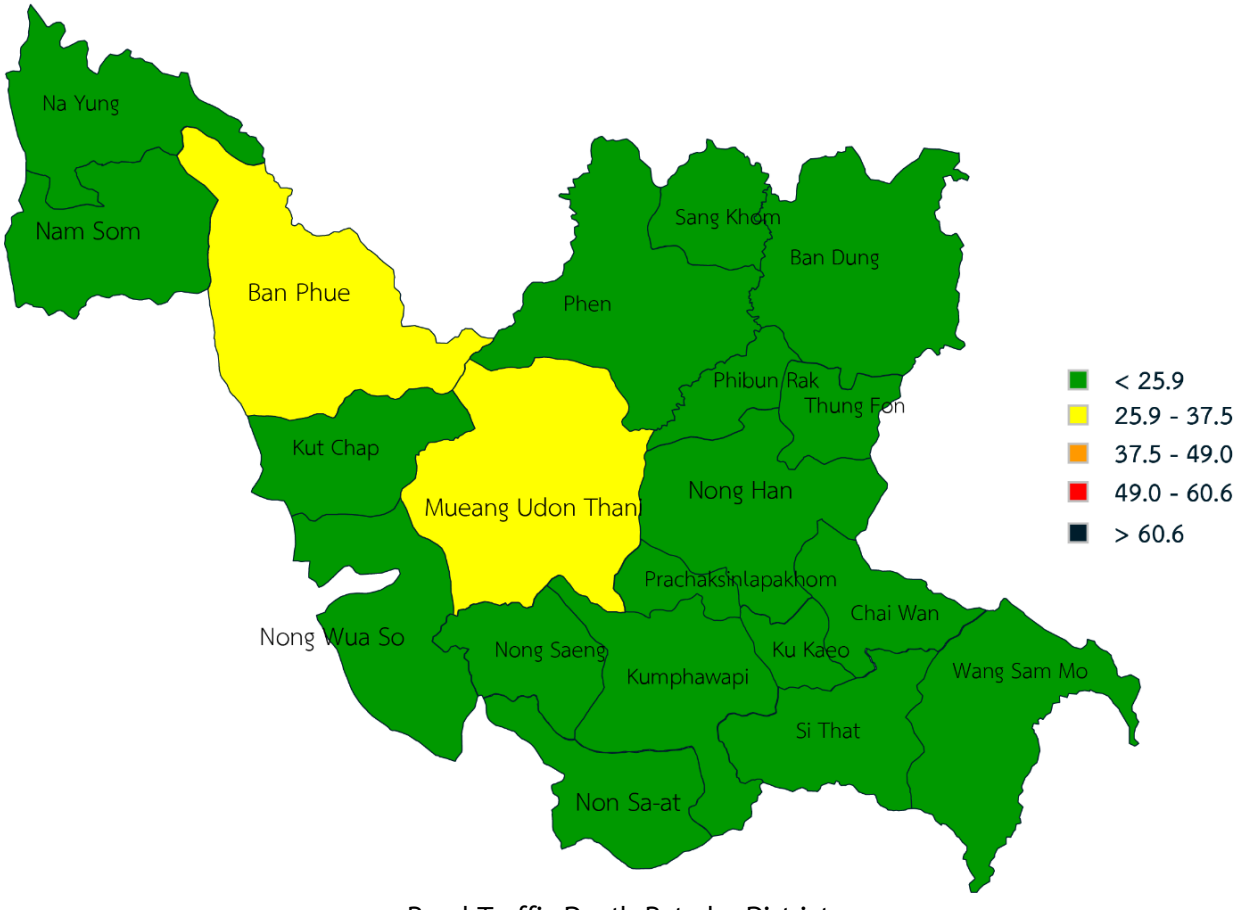
Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Udon Thani

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Ban Phue	39	35.63	Nong Saeng	5	18.32
Mueang Udon Thani	126	32.20	Chai Wan	7	17.80
Phen	28	24.28	Phibun Rak	4	16.31
Nong Wua So	15	23.95	Si That	7	14.34
Ban Dung	30	23.78	Ku Kaeo	3	13.64
Nong Han	27	23.18	Kumphawapi	16	12.93
Sang Khom	6	20.69	Thung Fon	4	12.50
Nam Som	12	20.42	Kut Chap	7	10.68
Non Sa-at	10	20.01	Wang Sam Mo	6	10.20
Prachaksinlapakhom	5	19.72	Na Yung	2	7.05

Udon Thani

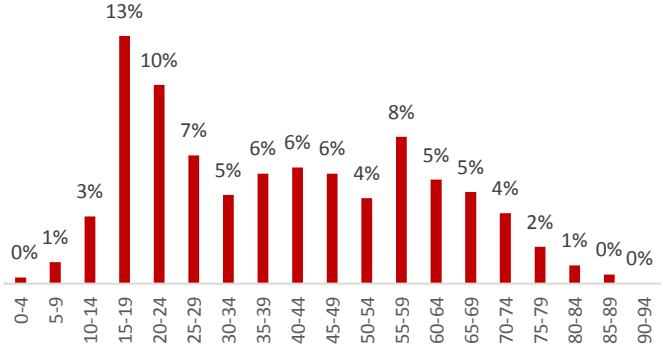


Road Traffic Death Rate by District

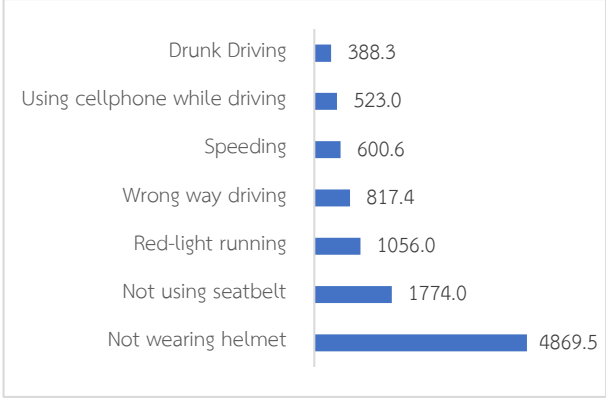
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Ubon Ratchathani 2018

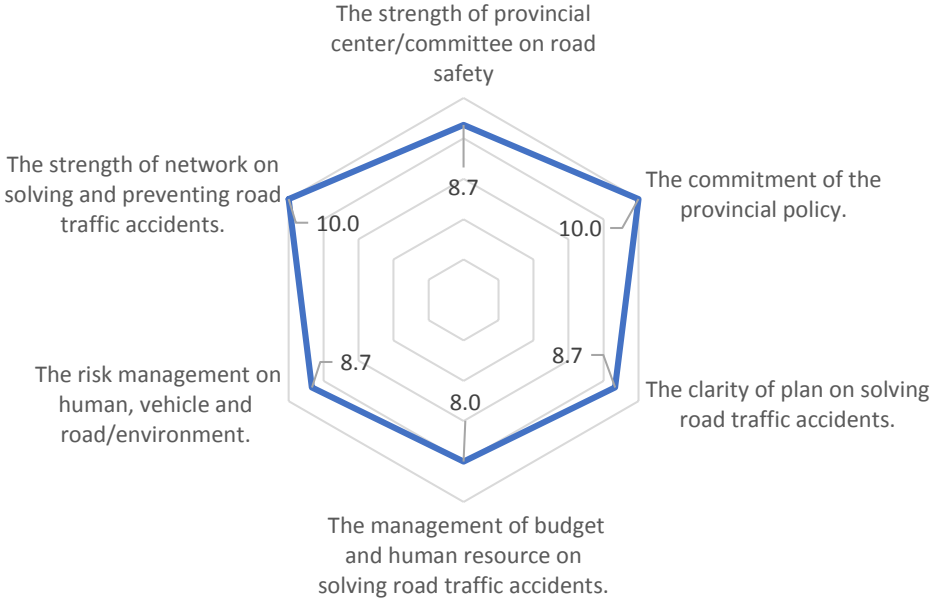
General Statistics			Accident Statistics		
Population	1,874,548	person (3)	Fatalities	584	Deaths (4)
registered vehicles	738,943	car (8)			
GPP*	120,494	million baht (22)			



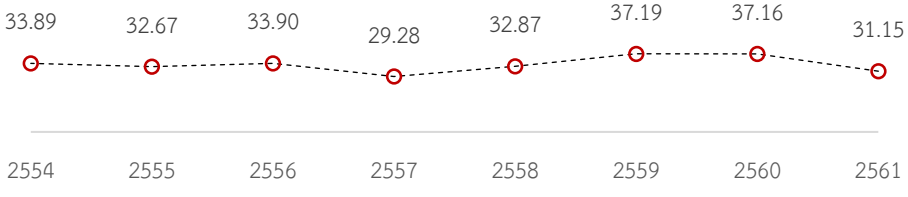
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

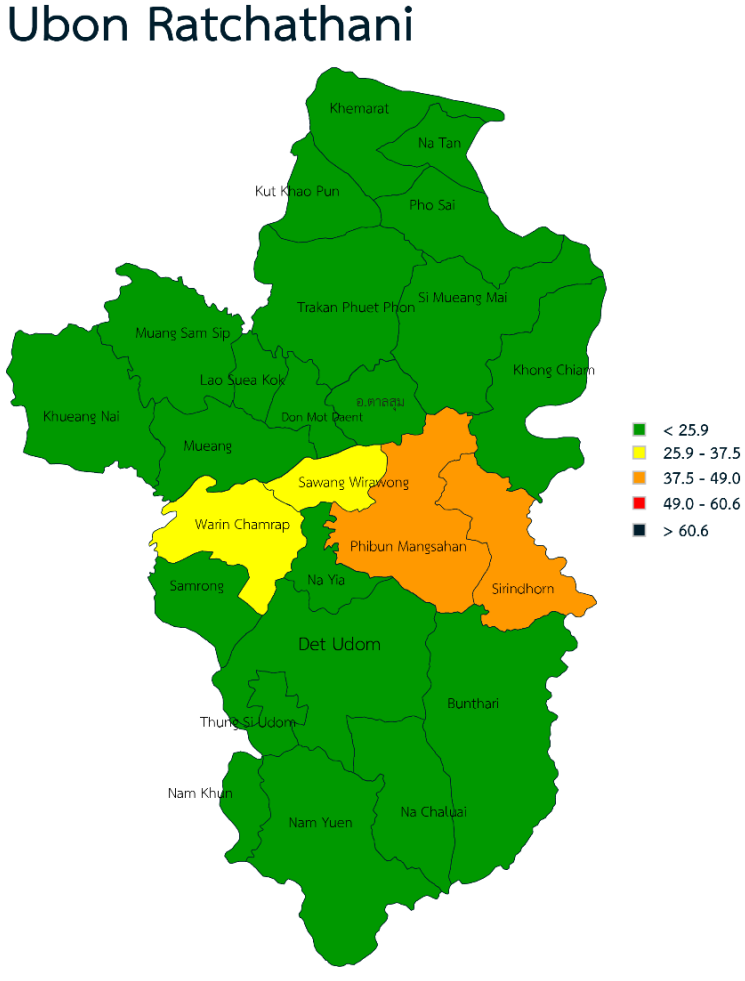


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Ubon Ratchathani

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Sirindhorn	25	46.04	Na Yia	4	14.84
Sawang Wirawong	11	35.41	Khemarat	12	14.82
Phibun Mangsahan	33	27.03	Samrong	8	14.78
Warin Chamrap	42	26.10	Si Mueang Mai	10	14.17
Nam Yuen	17	24.07	Thung Si Udom	4	13.85
Khueang Nai	26	24.01	Na Tan	4	10.61
Mueang	54	21.20	Khong Chiam	4	10.60
Kut Khaopun	8	19.36	Na Chaluai	6	10.30
Muang Sam Sip	16	18.85	Tan Sum	3	9.11
Don Mot Daeng	5	18.31	Nam Khun	3	9.07
Buntharik	17	18.09	Pho Sai	4	8.60
Det Udom	28	17.23	Lao Suea Kok	2	7.22
Trakan Phuet Phon	19	16.44			



Road Traffic Death Rate by District

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chapter 5
Central

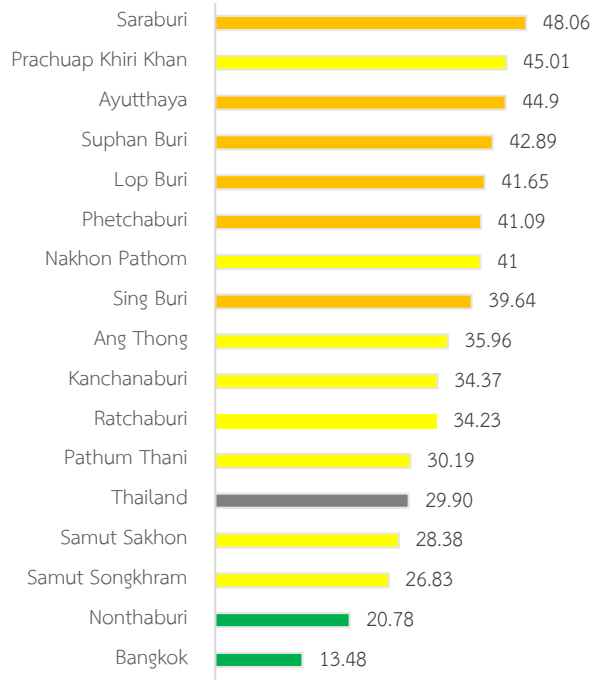
Central region is considered influential to country's overall economy, which consists of 16 provinces, including Nonthaburi, Pathum Thani, Ang Thong, Saraburi, Ayutthaya, Lop Buri, Sing Buri, Kanchanaburi, Nakhon Phathom, Ratchaburi, Suphan Buri, Prachuap Khiri Khan, Phetchaburi, Samut Songkhram, Samut Sakhon and Bangkok. The 2016 general information of central region is shown as follows.

- 15,780,734 population — 26% of the country
- 14,984,459registered vehicles — 38% of the country
- 7,409,681 million baht of GPP — 48% of the country

Road accident statistics of central region in 2016 are;

- 4,555 deaths — 23% of the country

Note * Gross Provincial Product data, 2017



Central region has rather high road traffic death rate comparing to other regions, holding the rate of 35.53 cases per 100,000 population. Only four provinces are reported lower than country rate (29.90 cases per 100,000 population), including Bangkok, Nonthaburi, Samut Songkhram and Samut Sakhon. The highest death rate-provinces are Saraburi and Prachuap Khiri Khan (**Figure 5.1**).

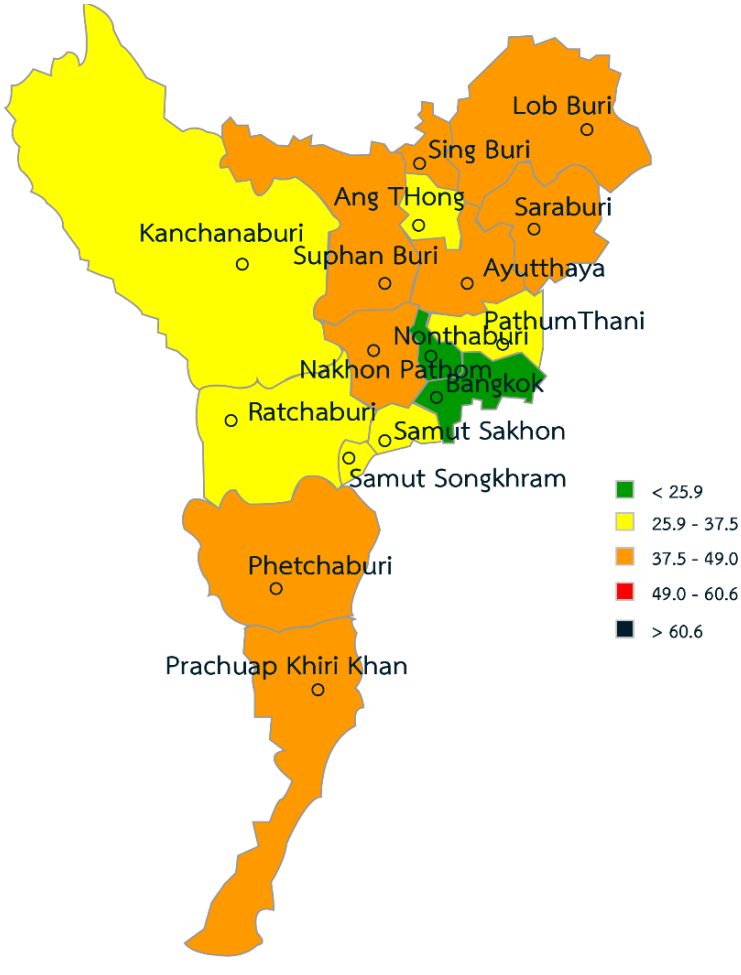
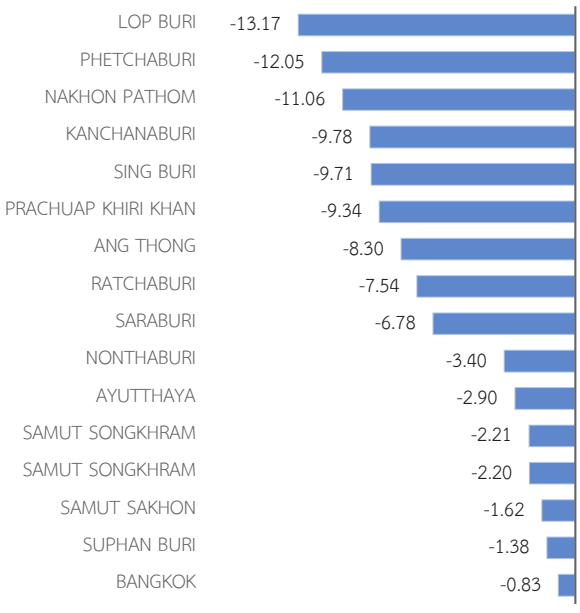


Figure 5.1 Central road traffic death rate 2018



Comparing between 2016 and 2018, central region has an average death rate decreased all province. The highest reduction rate-provinces are Lop Buri, Phetburi and Nakhon Phatom, while Bangkok, Suphanburi and Samut Sakhon are reported the lowest decrease rate-provinces (**Figure 5.2**).

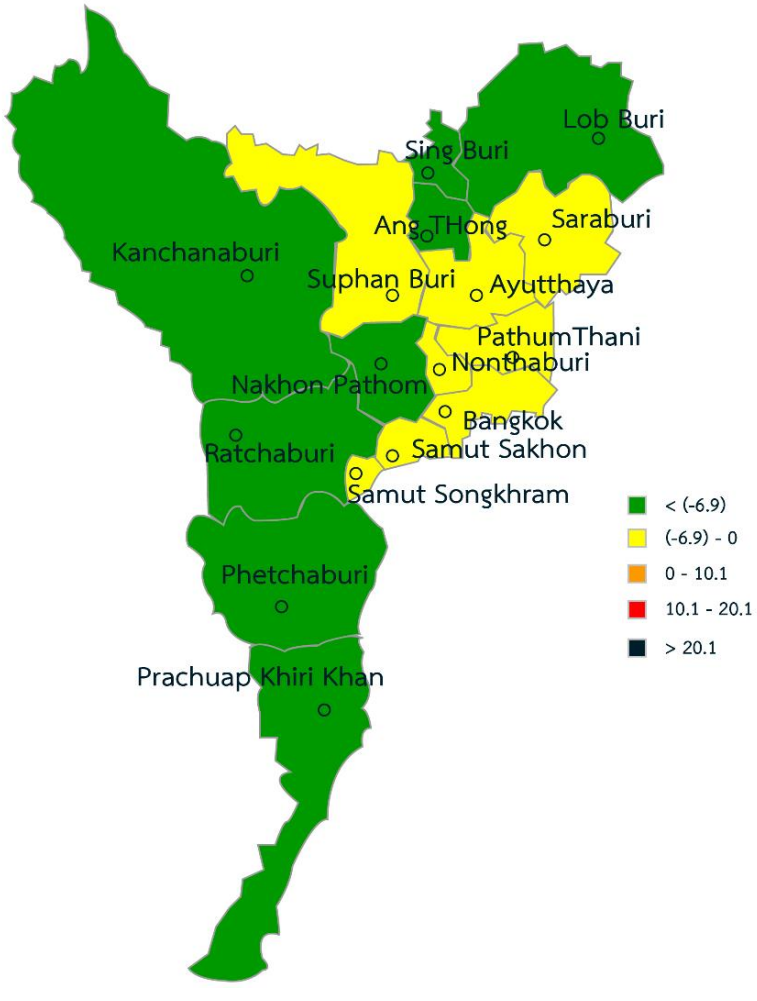


Figure 5.2 Changes in central road traffic death rate comparing with 2016

5.1. Police Enforcement

The interpretation of the police enforcement statistic implies their effort on solving traffic violation problems. The police enforcement refers to the seven traffic violation cases shown as follows.

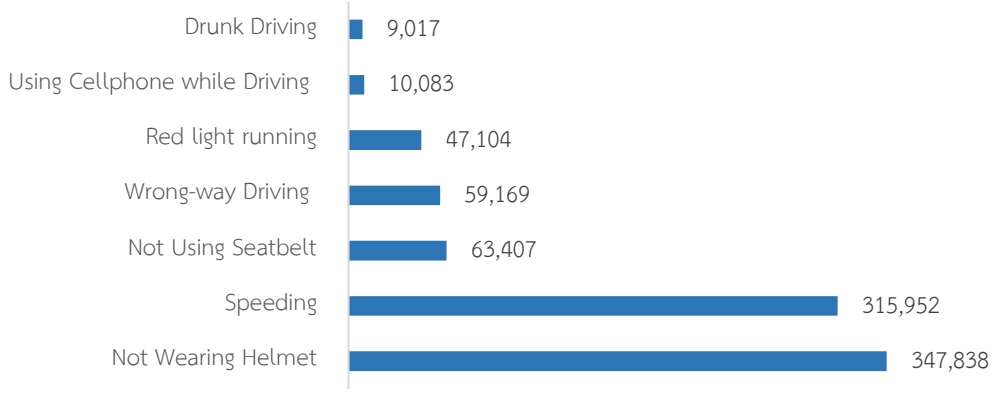


Figure 5.3 The statistic of seven traffic violation cases in central region

The average of traffic violation case in central region is lower than country average nearly 27.6% (**Figure 5.4**). The highest rate belongs to not wearing helmet (2158.1 cases per 100,000 population), while drunk driving shows the lowest rate (55.9 cases per 100,000 population). The detail of seven traffic violation cases of each province is described in **Table 5.1.**

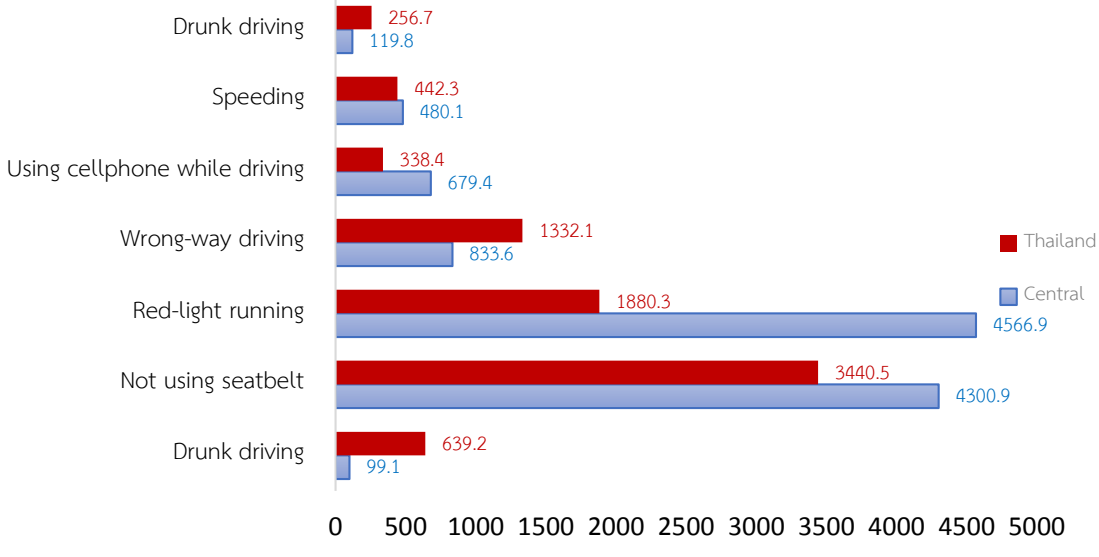


Figure 5.4 Traffic violation rate comparing between central region and Thailand

Table 5.1 Traffic violation rate in central region

Province	Drunk driving	Helmet	Speeding	Seatbelt	Wrong way	Red light running	Using Cellphone
Phetchaburi	-	-	-	-	-	-	-
Kanchanaburi	-	-	-	-	-	-	-
Nakhon Pathom	28.68	255.71	47.22	92.25	20.61	56.70	13.63
Nonthaburi	-	-	-	-	-	-	-
Pathumthani	108.37	5593.44	3185.52	741.91	2142.59	669.93	227.29
Prachuap Khiri Khan	160.89	1480.46	-	779.68	267.30	151.42	87.28
Ayutthaya	210.54	9285.44	15437.93	654.24	622.43	2654.26	70.22
Ratchaburi	97.65	3156.20	214.53	596.21	384.08	547.78	108.30
Lop Buri	64.05	8006.11	4327.48	1111.46	566.08	253.19	181.35
Samut Songkhram	105.78	2103.81	189.38	798.28	284.84	169.25	99.59
Samut Sakhon	-	-	-	-	-	-	-
Saraburi	282.01	8168.22	7693.98	2995.55	1508.01	1218.56	403.71
Sing Buri	25.79	4160.44	43.94	364.41	274.15	251.70	96.00
Suphanburi	161.30	896.29	275.36	275.71	283.49	36.05	38.76
Ang Thong	43.44	12805.16	23387.69	2427.72	2478.28	231.80	231.80

Notes: Dash (-) means no data presented.

According to **Table 5.1**, the drunk driving case rate in central region is 57.7 cases per 100,000 population, which is lower than country average (639.2 cases per 100,000 population). The highest rate-provinces are Saraburi, Ayutthaya and Suphan Buri, while the lowest rate-provinces are Nakhon Pathom, Ang Thong and Lop Buri. There is no significant correlation between the number of drunk driving case and breathalyzer. An example of high case rate with low breathalyzer availabilities occurred in Lop Buri and Ayutthaya, while Nakhon Pathom and Prachuap Khiri Khan are an example of low case rate with high breathalyzer availabilities (**Figure 5.7**).

Speeding case rate in central region is 2021.3 cases per 100,000 population, which is higher slightly than country average (1880.3 cases per 100,000 population). Ang Thong, Ayutthaya and Lop Buri have the higher rate than the country average. The lowest rate-provinces are Sing Buri, Nakhon Pathom and Samut Songkhram. Excluding Phetchaburi and Suphan Buri, there seem to be significant correlation between the number of case

and speed camera. For examples, Lop Buri have high speeding case rate but low speed camera availability, while Sing Buri have low speeding case rate with surprisingly high speed camera availability (**Figure 5.8**).

Not wearing helmet case rate in the region is 2,225.0 cases per 100,000 population, which is lower than country average (3,440.5 cases per 100,000 population). The highest rate-provinces are Ang Thong, Ayutthaya and Saraburi, while the lowest rate-provinces are Nakhon Pathom, Suphanburi and Prachuap Khiri Khan. There is no significant correlation between the number of cases and helmet wearers. An example of high case rate with surprisingly low helmet wearer rate occurred in Ang Thong and Ayutthaya, while Nakhon Pathom and Samut Songkhram are an example of low case rate with surprisingly middle helmet wearer rate (**Figure 5.9**).

The detail of other cases, such as not using seatbelt, red light running, wrong-way driving and Using cellphone while driving are illustrated in **Figure 5.5** and **Figure 5.6.**

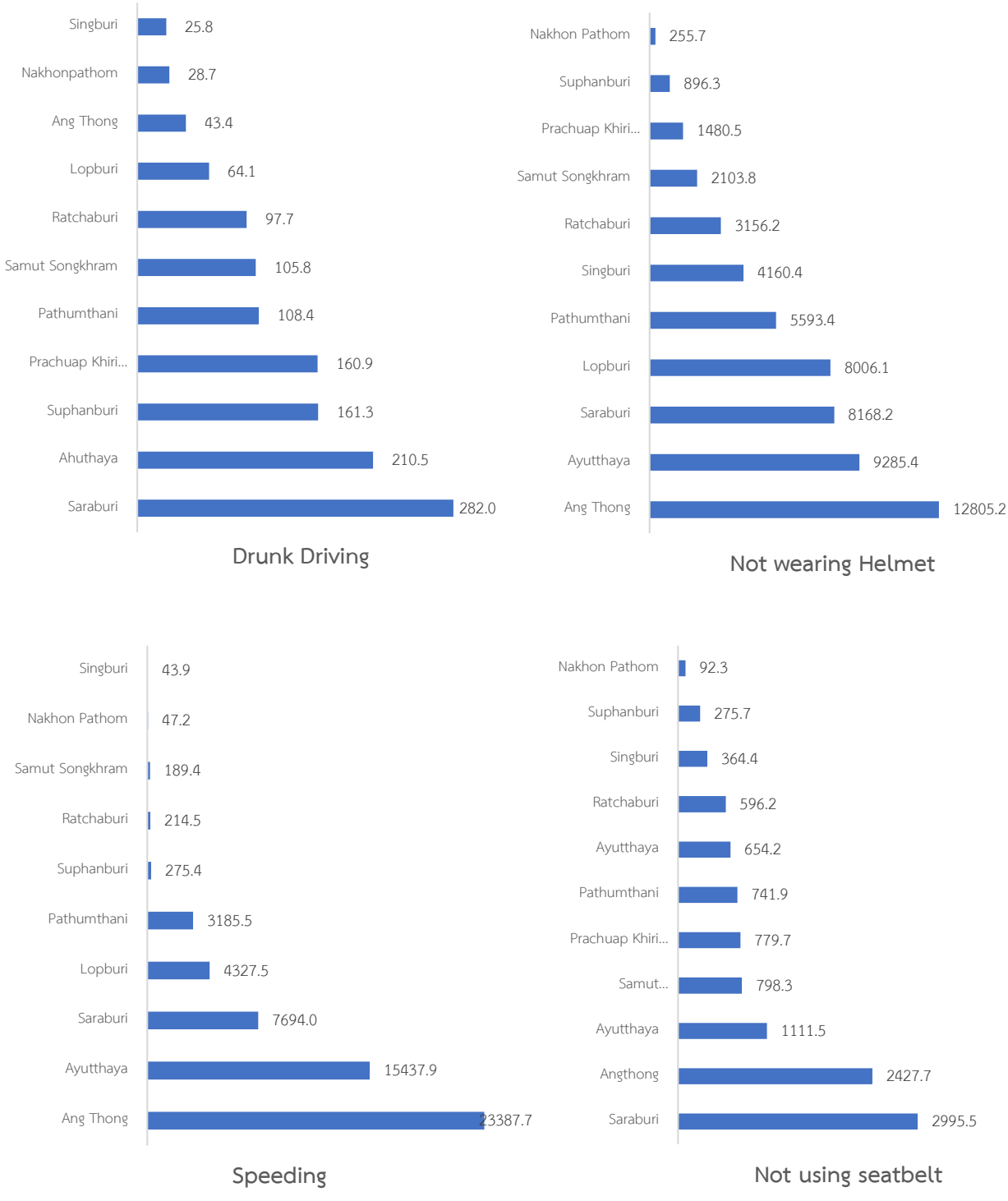


Figure 5.5 Traffic violation case rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

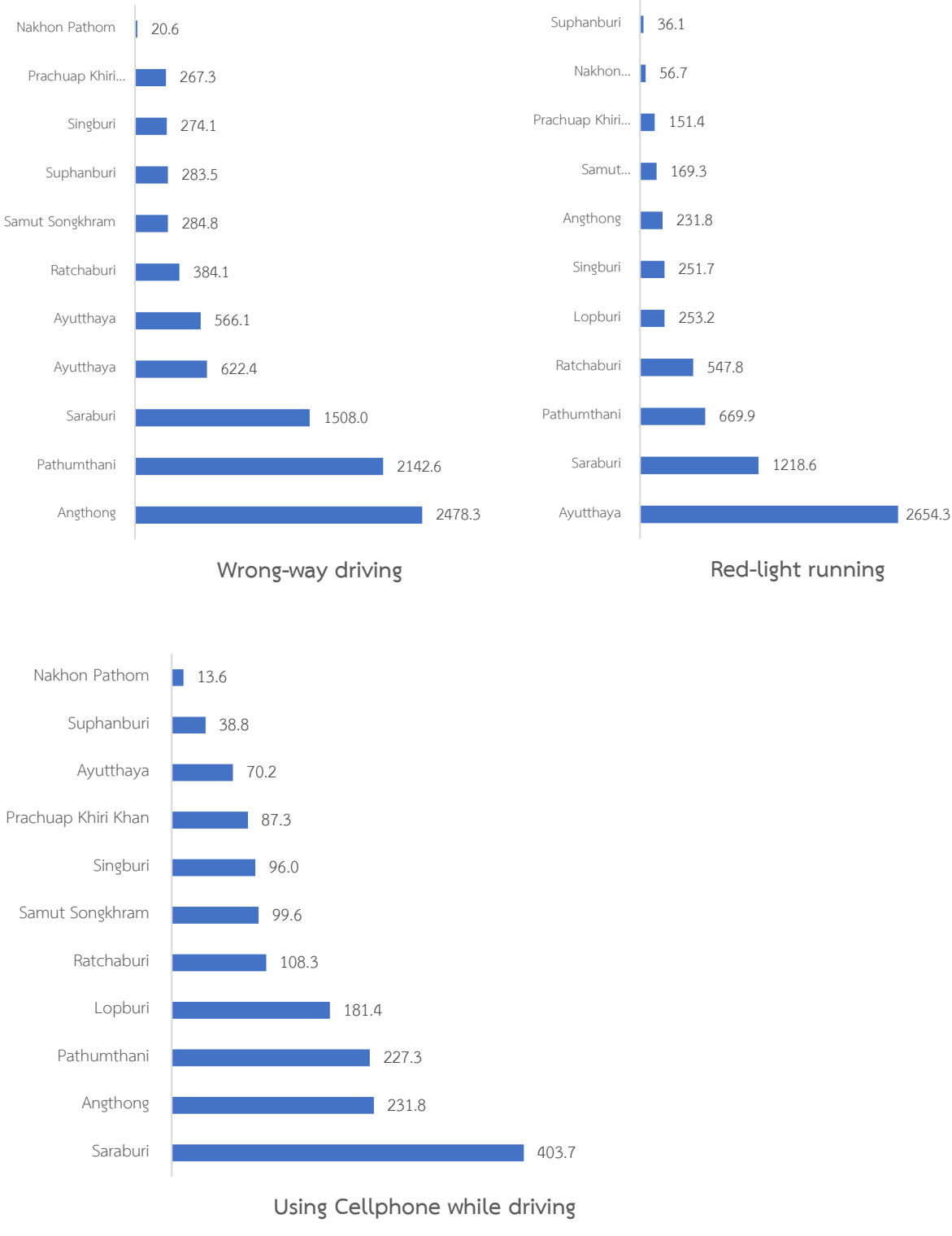


Figure 5.6 Traffic violation case rate per 100,000 population (cont.)

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

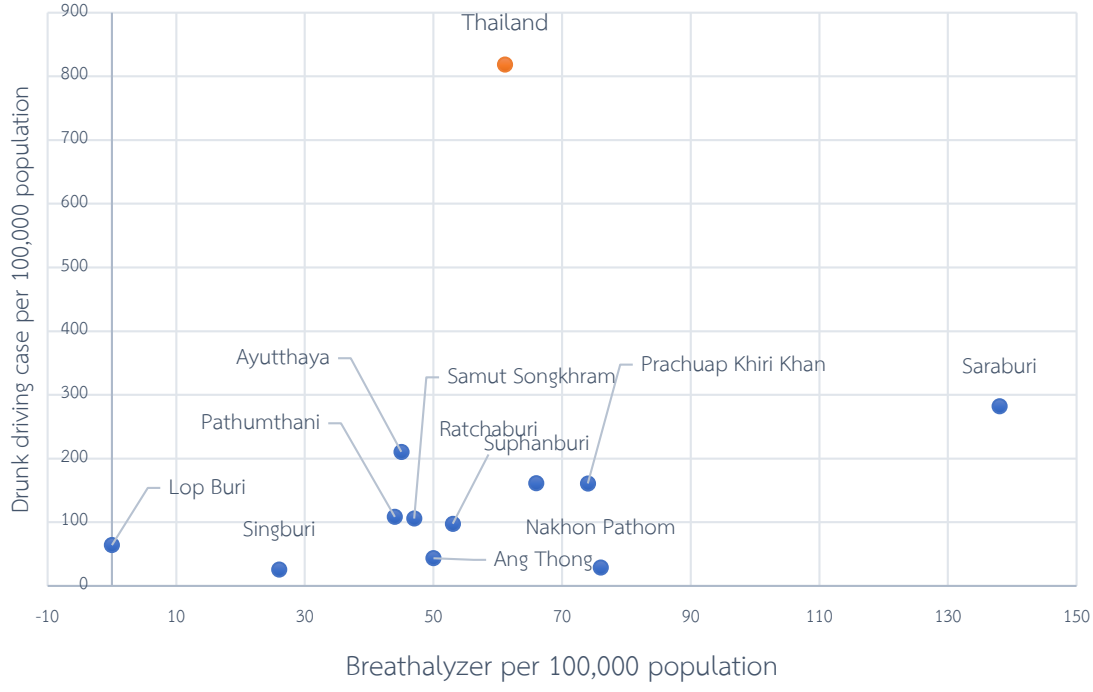


Figure 5.7 Drunk driving case rate and breathalyzer availability

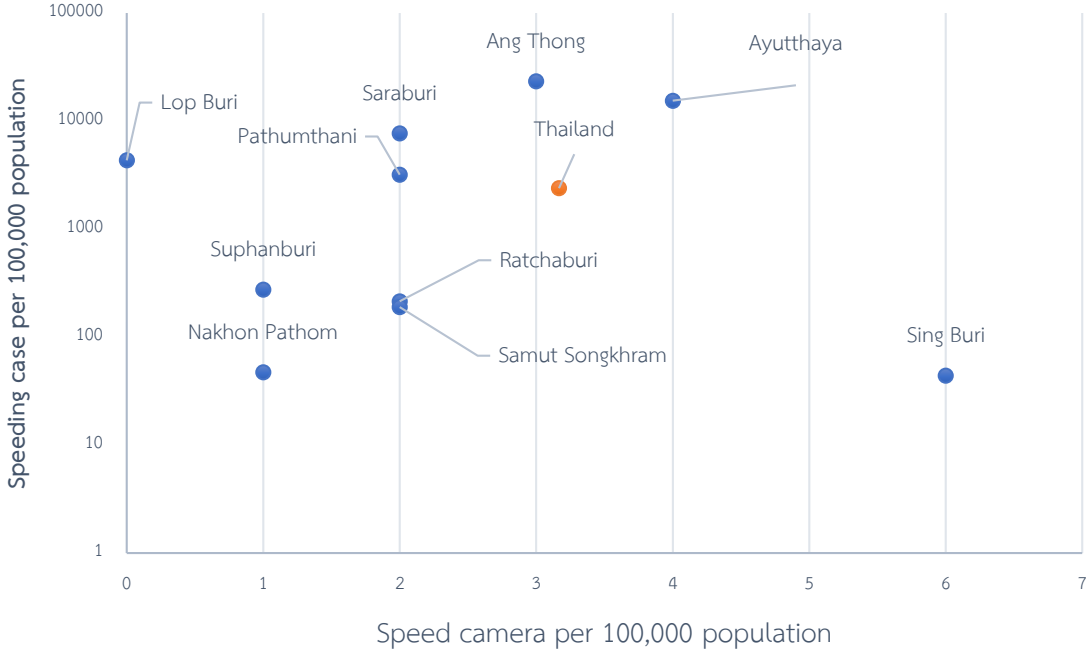


Figure 5.8 Speeding case rate and speed camera availability

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

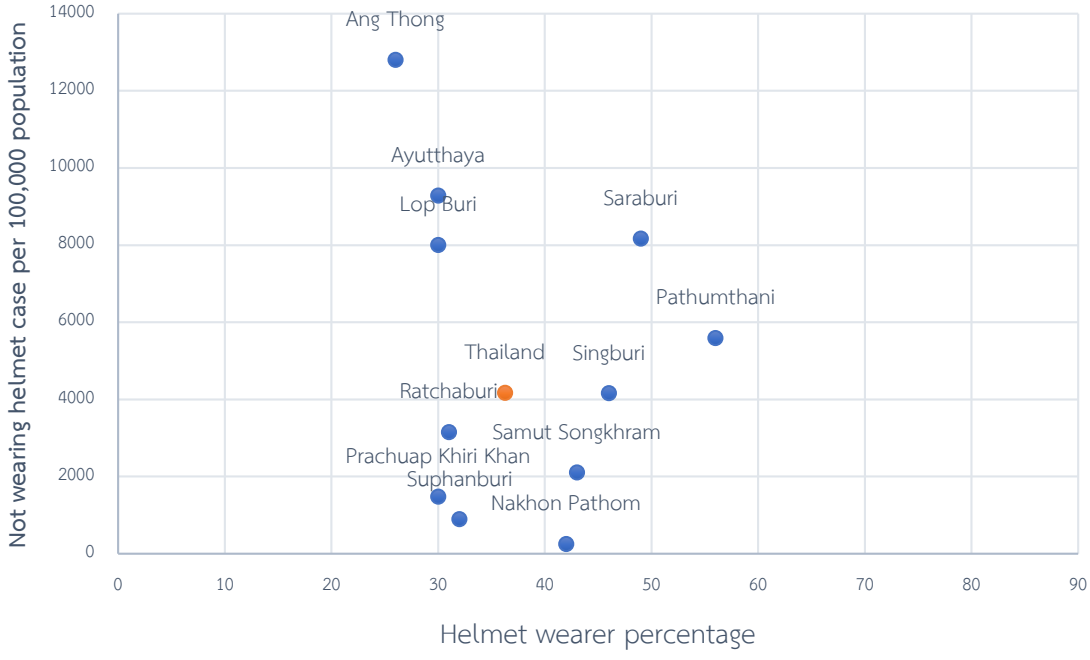


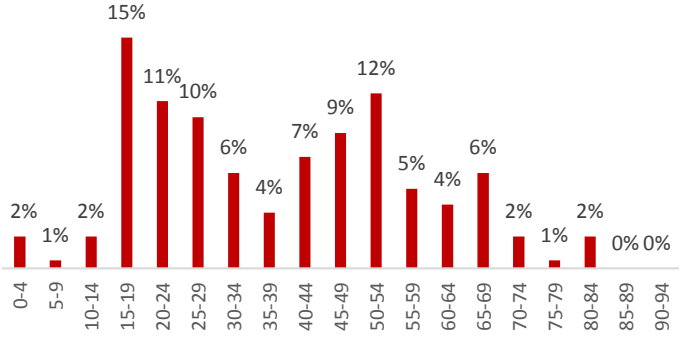
Figure 5.9 Not wearing helmet case rate and helmet wearer percentage

Source :Thairoads Foundation

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

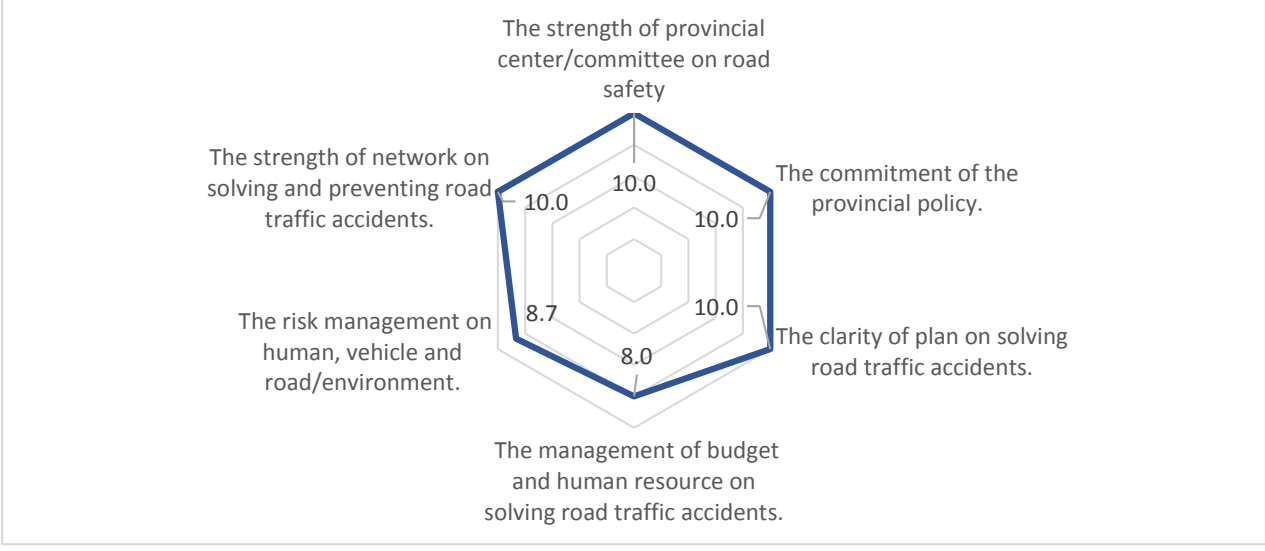
Phetchaburi 2018

General Statistics			Accident Statistics		
Population	484,294	person (56)	Fatalities	199	Deaths (42)
registered vehicles	331,535	car (37)			
GPP*	68,489	million baht (42)			

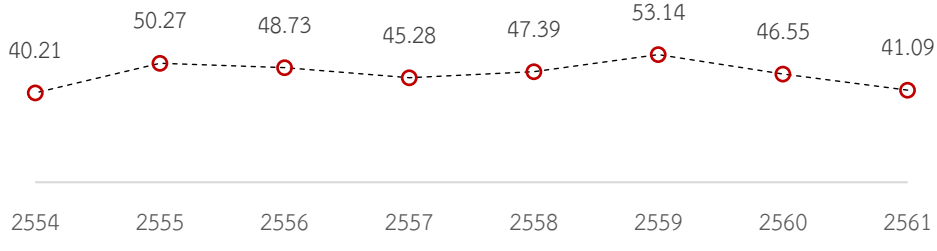


Fatalities by Age group

Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

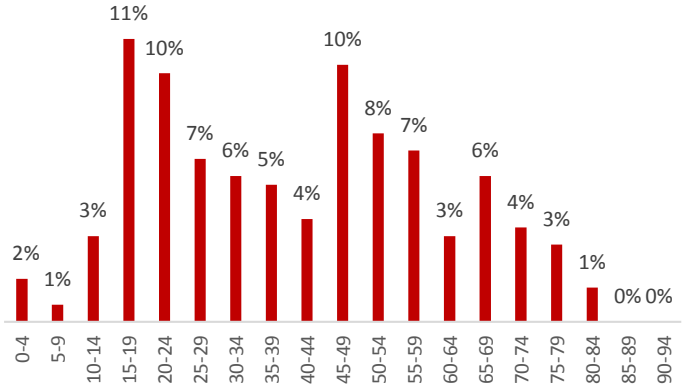


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

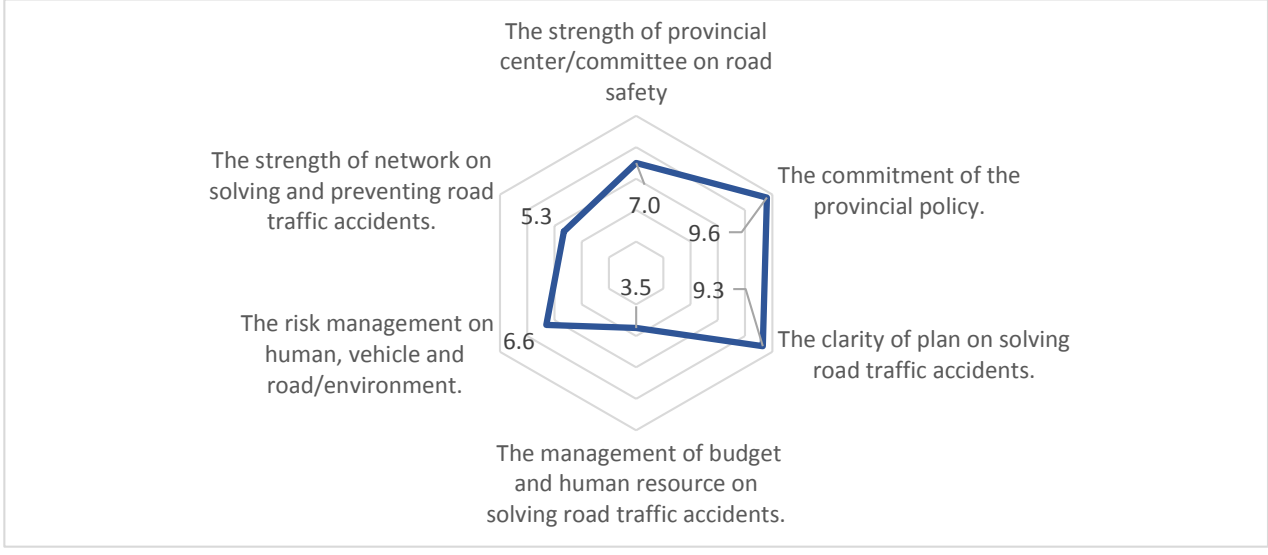
Kanchanaburi 2018

General Statistics			Accident Statistics		
Population	893,151	person (26)	Fatalities	307	Deaths (28)
registered vehicles	408,178	car (30)			
GPP*	97,294	million baht (28)			

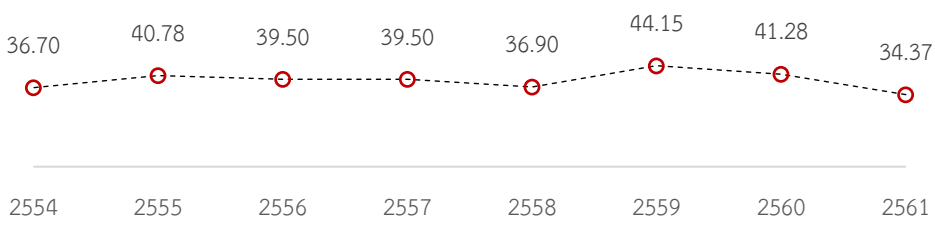


Fatalities by Age group

Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

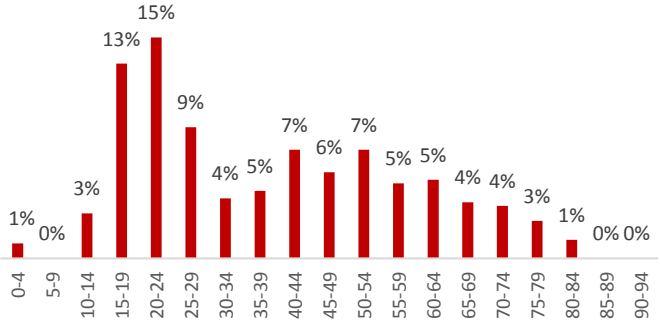


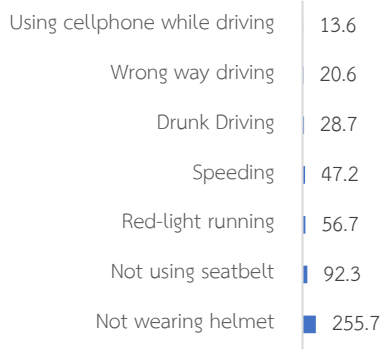
Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Nakhon Pathom 2018

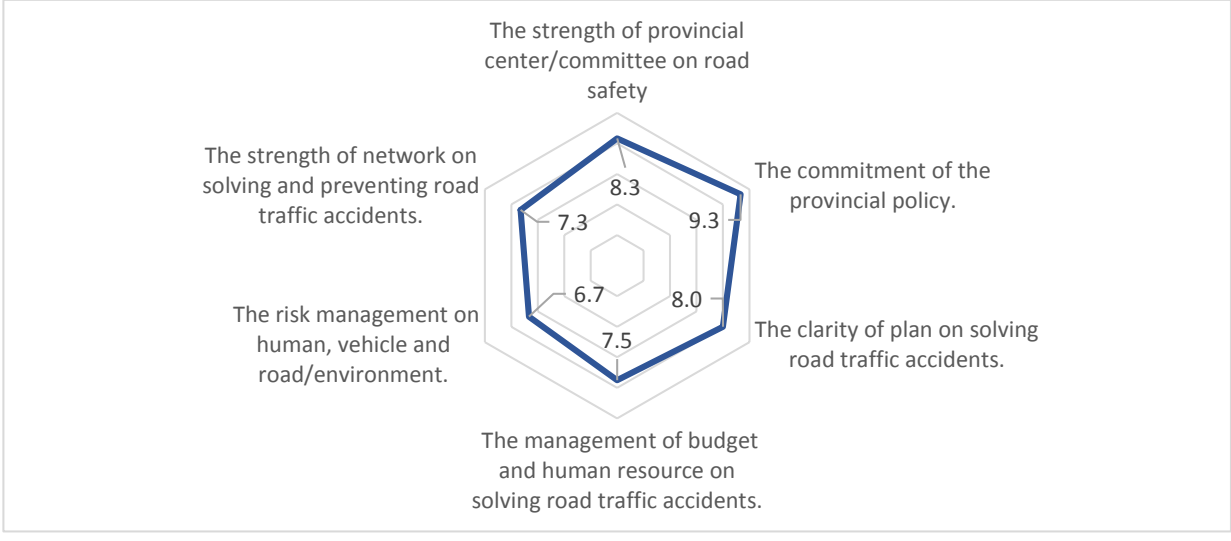
General Statistics			Accident Statistics		
Population	917,053	person (25)	Fatalities	376	Deaths (13)
registered vehicles	487,791	car (19)			
GPP*	332,628	million baht (9)			



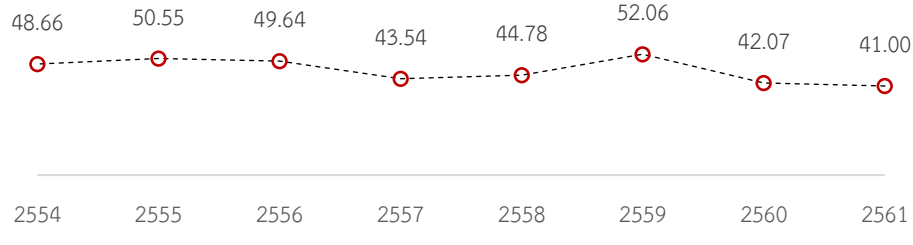


Fatalities by Age group

Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

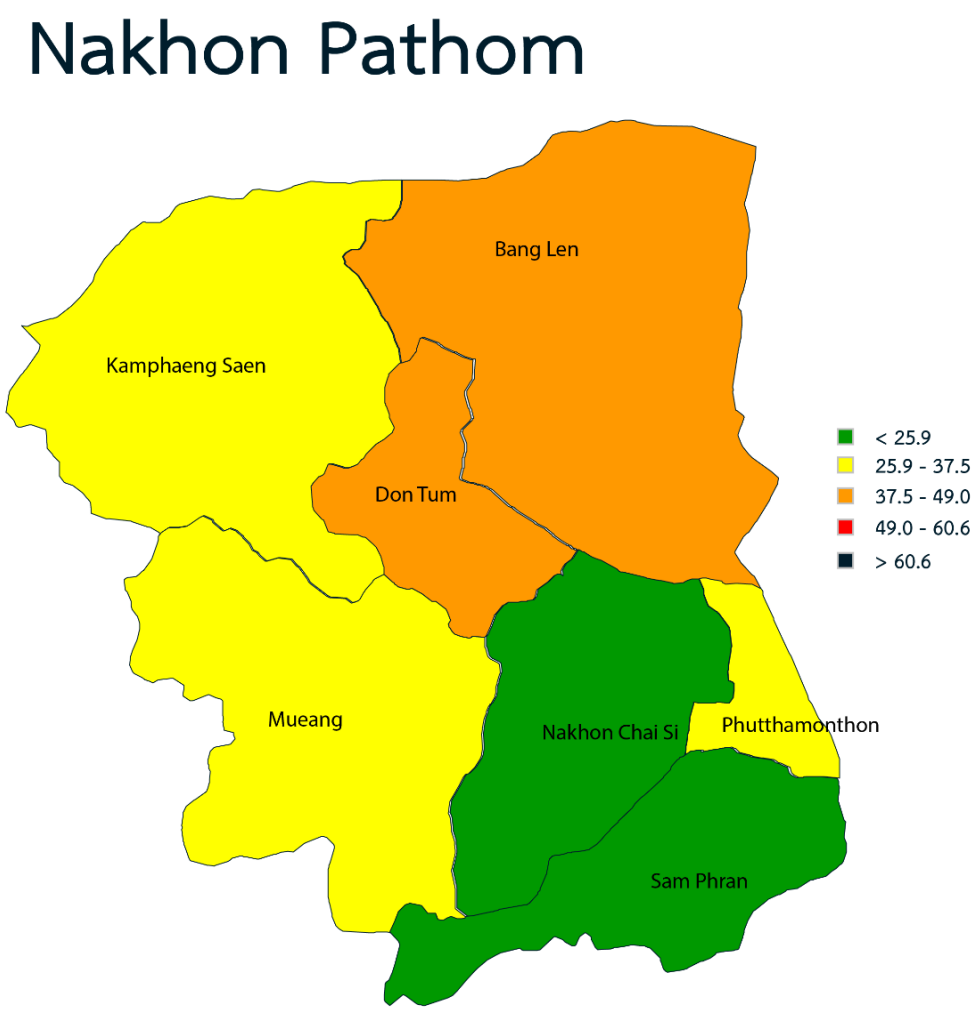


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Nakhon Pathom

District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	88	31.78
Kamphaeng Saen	42	32.42
Sam Phran	54	25.57
Nakhon Chai Si	17	15.32
Bang Len	36	38.35
Don Tum	20	40.99
Phutthamonthon	13	31.35

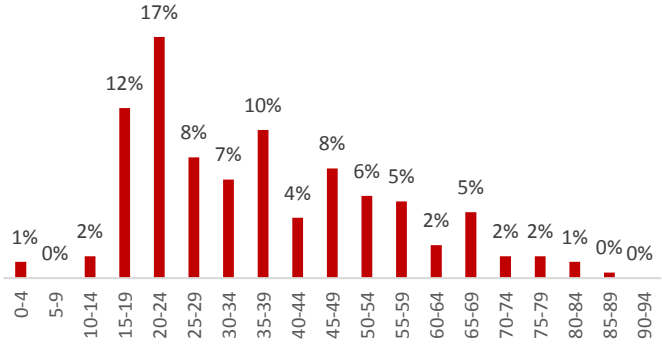


Road Traffic Death Rate by District

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

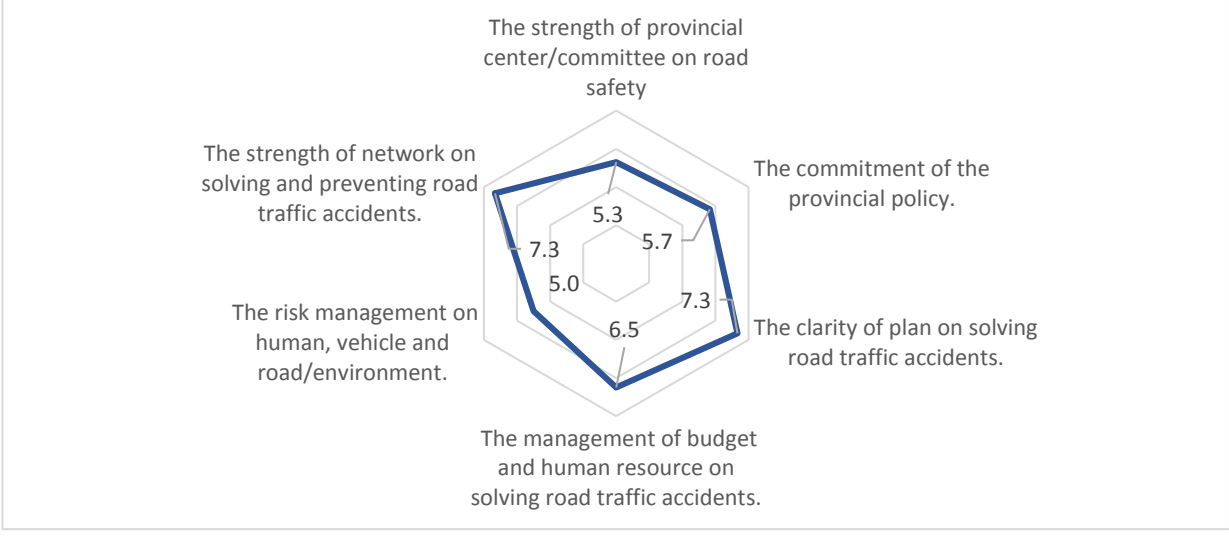
Nonthaburi 2018

General Statistics			Accident Statistics		
Population	1,246,295	person (16)	Fatalities	259	Deaths (34)
registered vehicles	189,270	car (60)			
GPP*	316,625	million baht (10)			

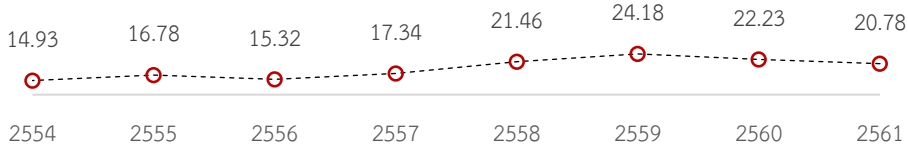


Fatalities by Age group

Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

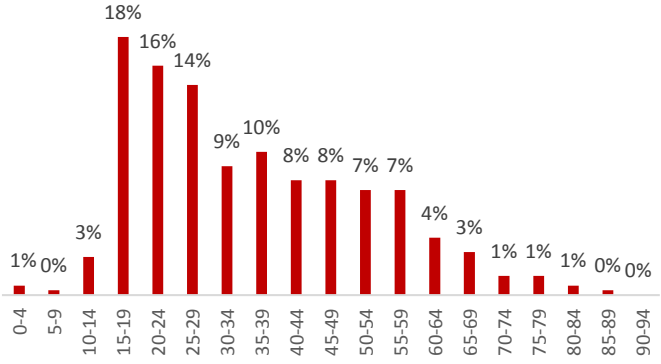


Road Traffic Death Rate per 100,000 population

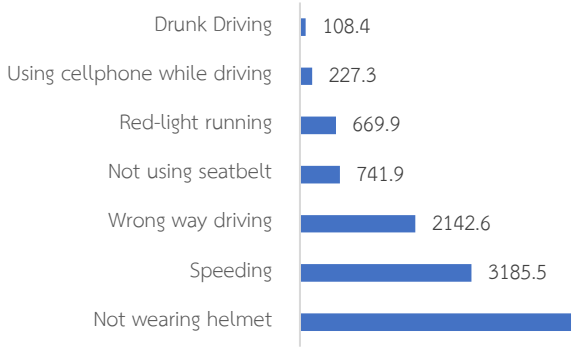
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Pathumthani 2018

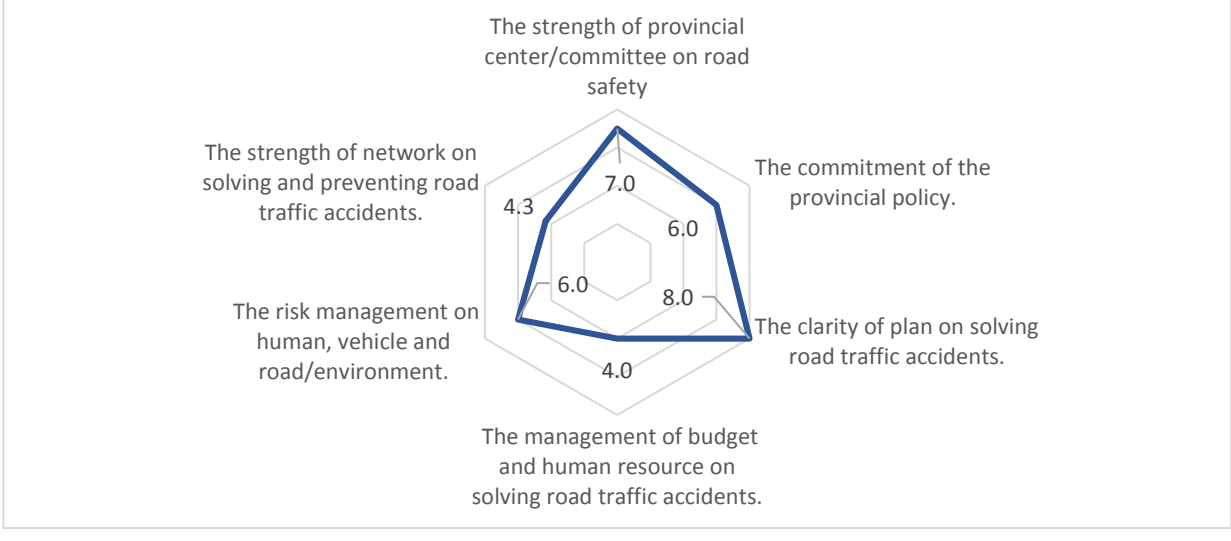
General Statistics			Accident Statistics		
Population	1,146,092	person (18)	Fatalities	346	Deaths (19)
registered vehicles	161,386	car (65)			
GPP*	380,688	million baht (7)			



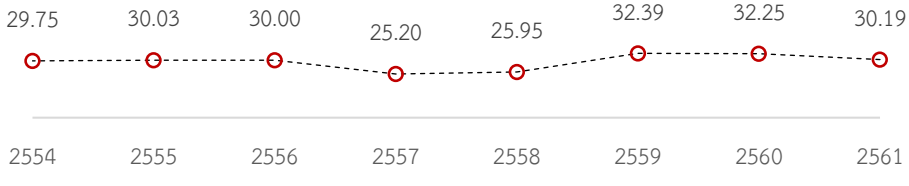
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

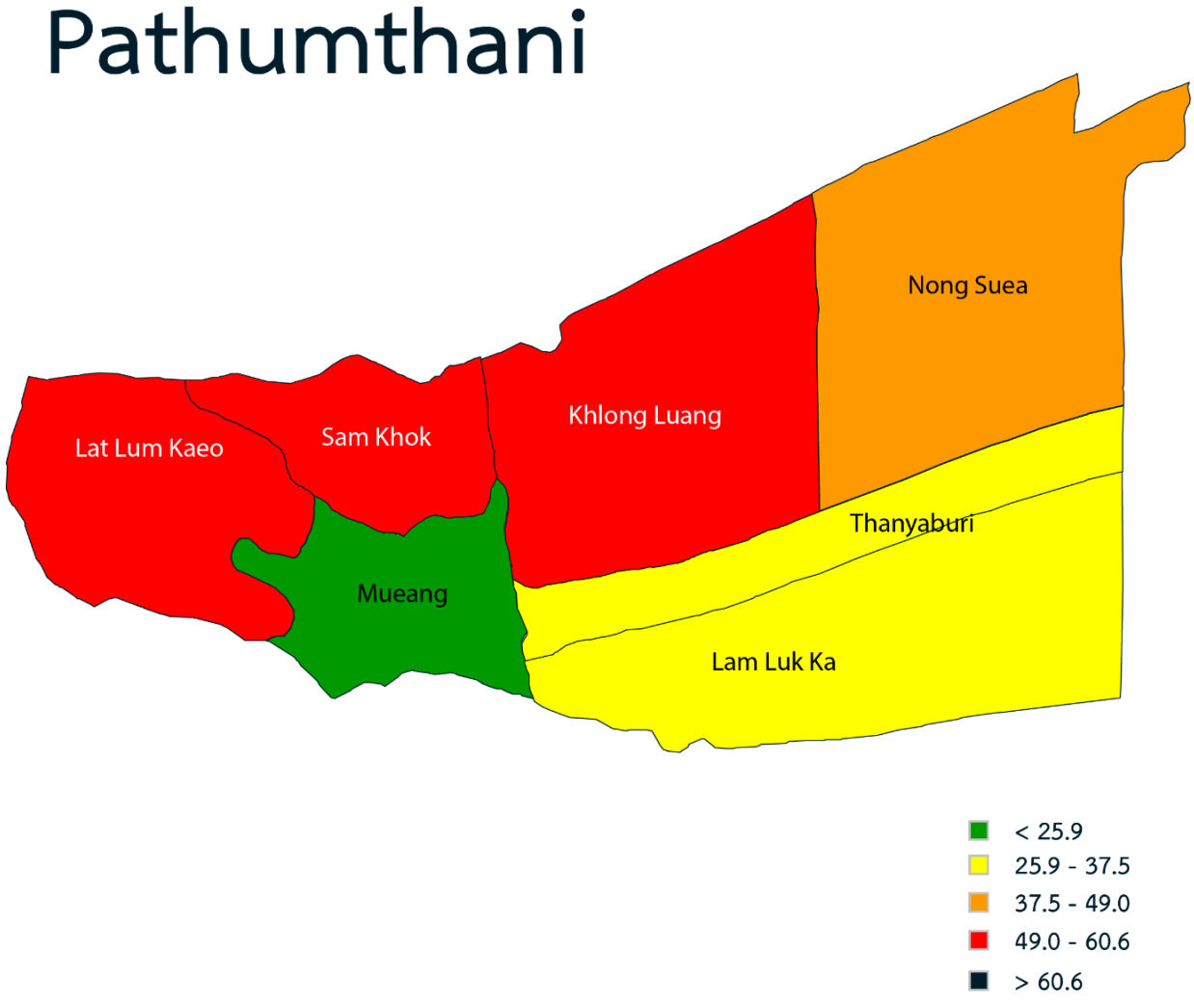


Road Traffice Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Pathumthani

District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	44	22.33
Sam Khok	22	49.36
Lat Lum Kaeo	32	52.10
Lam Luk Ka	72	25.96
Khlong Luang	86	61.15
Thanyaburi	63	30.37
Nong Suea	20	39.39

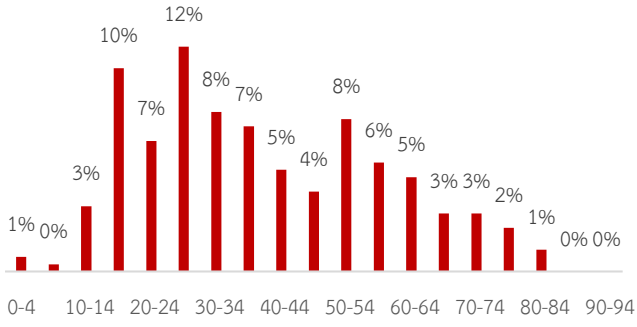


Road Traffic Death Rate by District

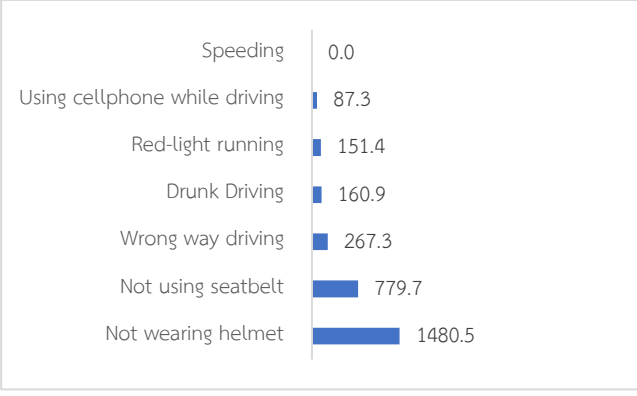
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Prachuap Khiri Khan 2018

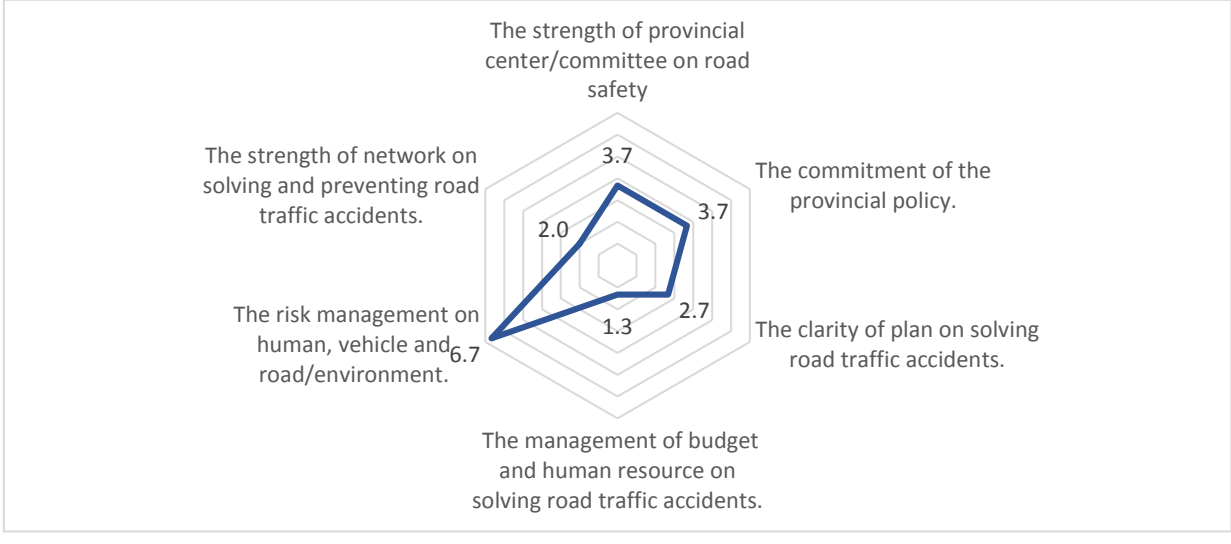
General Statistics			Accident Statistics		
Population	548,815	person (46)	Fatalities	247	Deaths (36)
registered vehicles	339,137	car (36)			
GPP*	92,112	million baht (28)			



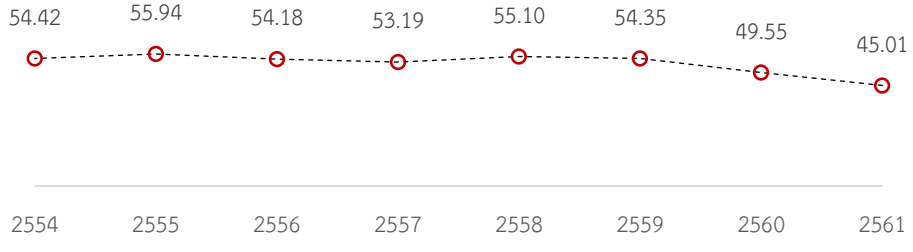
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

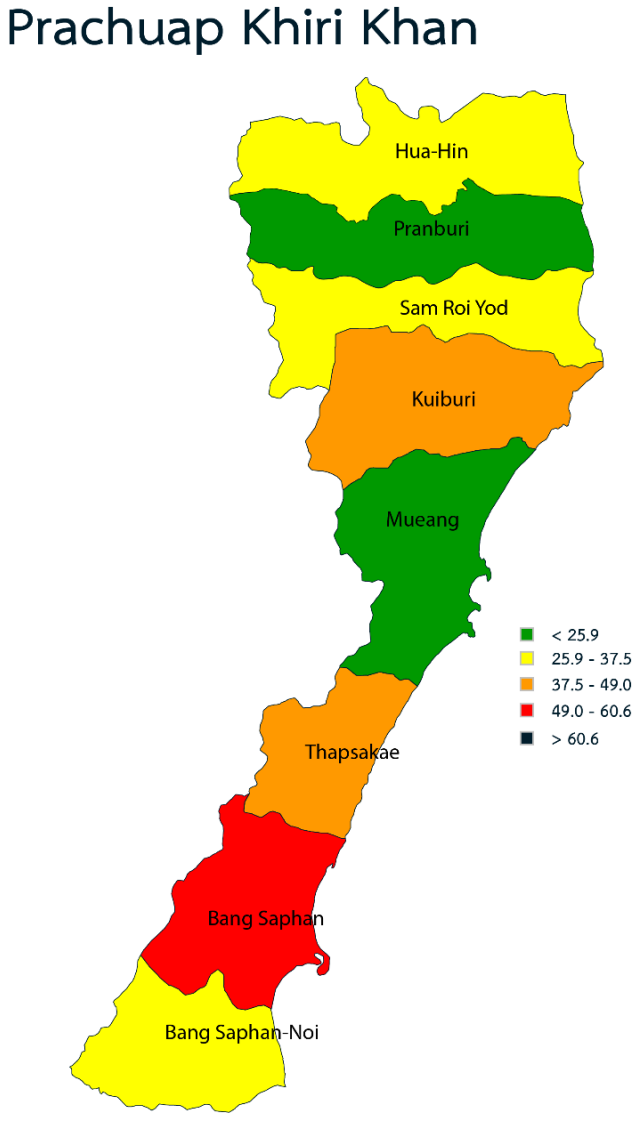


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Prachuap Khiri Khan

District	Fatalities	Fatalities Rate per 100,000 population
	Rate	
Mueang	20	21.81
Kuiburi	21	48.13
Thapsakae	19	37.99
Bang Saphan	42	54.53
Bang Saphan-Noi	11	27.41
Pranburi	19	24.33
Hua-Hin	44	37.36
Sam Roi Yod	17	33.70

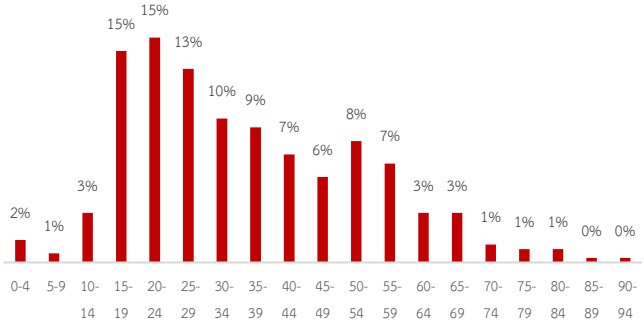


Road Traffic Death Rate by District

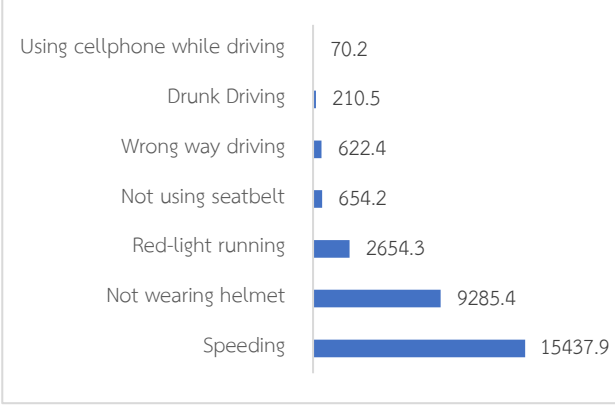
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Ayutthaya 2018

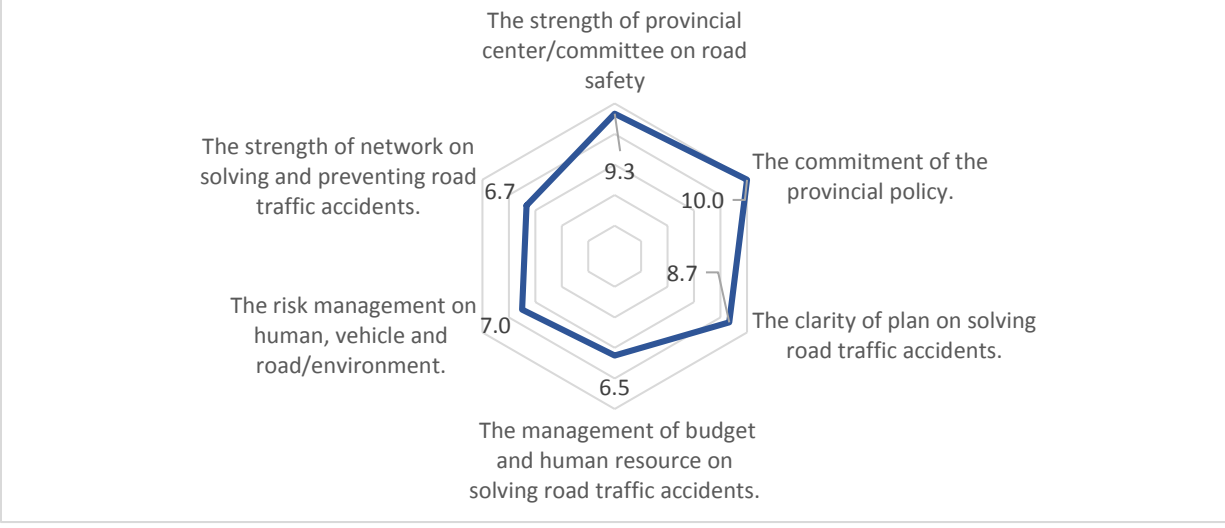
General Statistics			Accident Statistics		
Population	817,441	person (30)	Fatalities	367	Deaths (14)
registered vehicles	465,993	car (21)			
GPP*	27,791	million baht (6)			



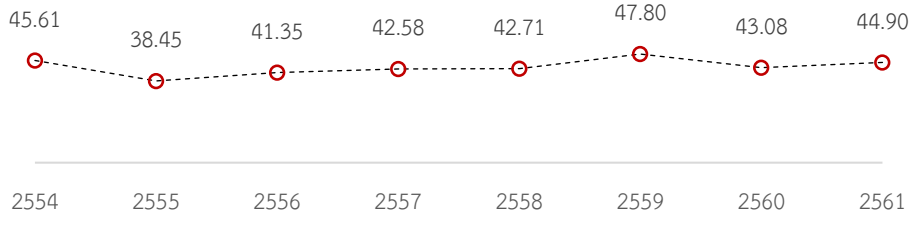
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

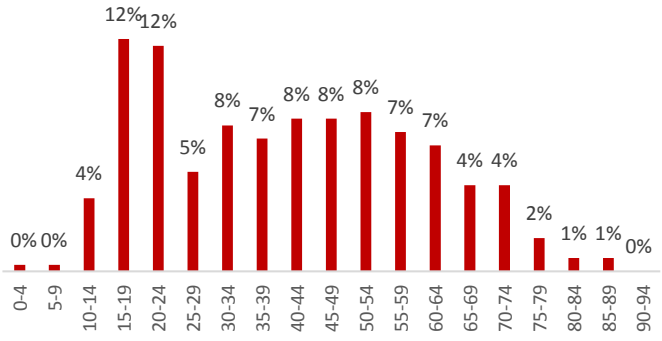


Road Traffic Death Rate per 100,000 population

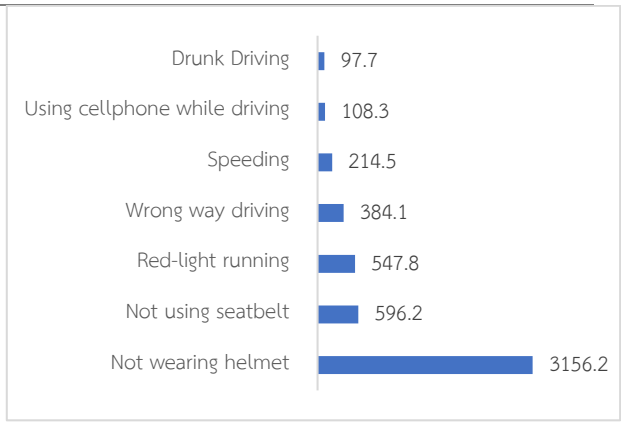
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Ratchaburi 2018

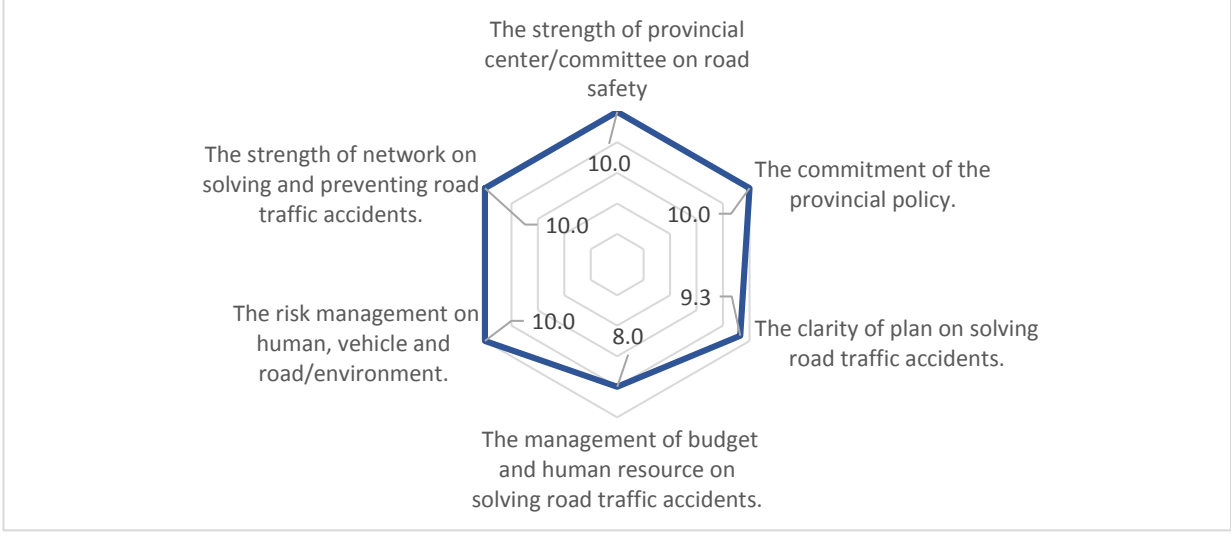
General Statistics			Accident Statistics		
Population	873,518	person (27)	Fatalities	299	Deaths (29)
registered vehicles	505,772	car (16)			
GPP*	172,591	million baht (19)			



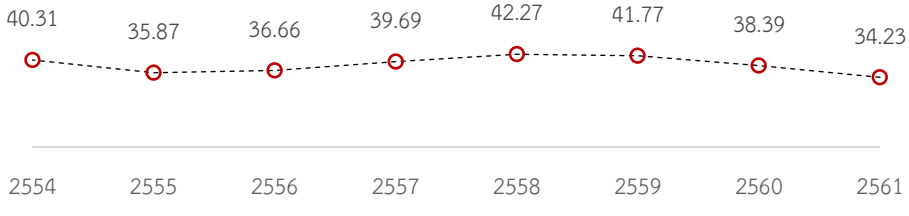
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

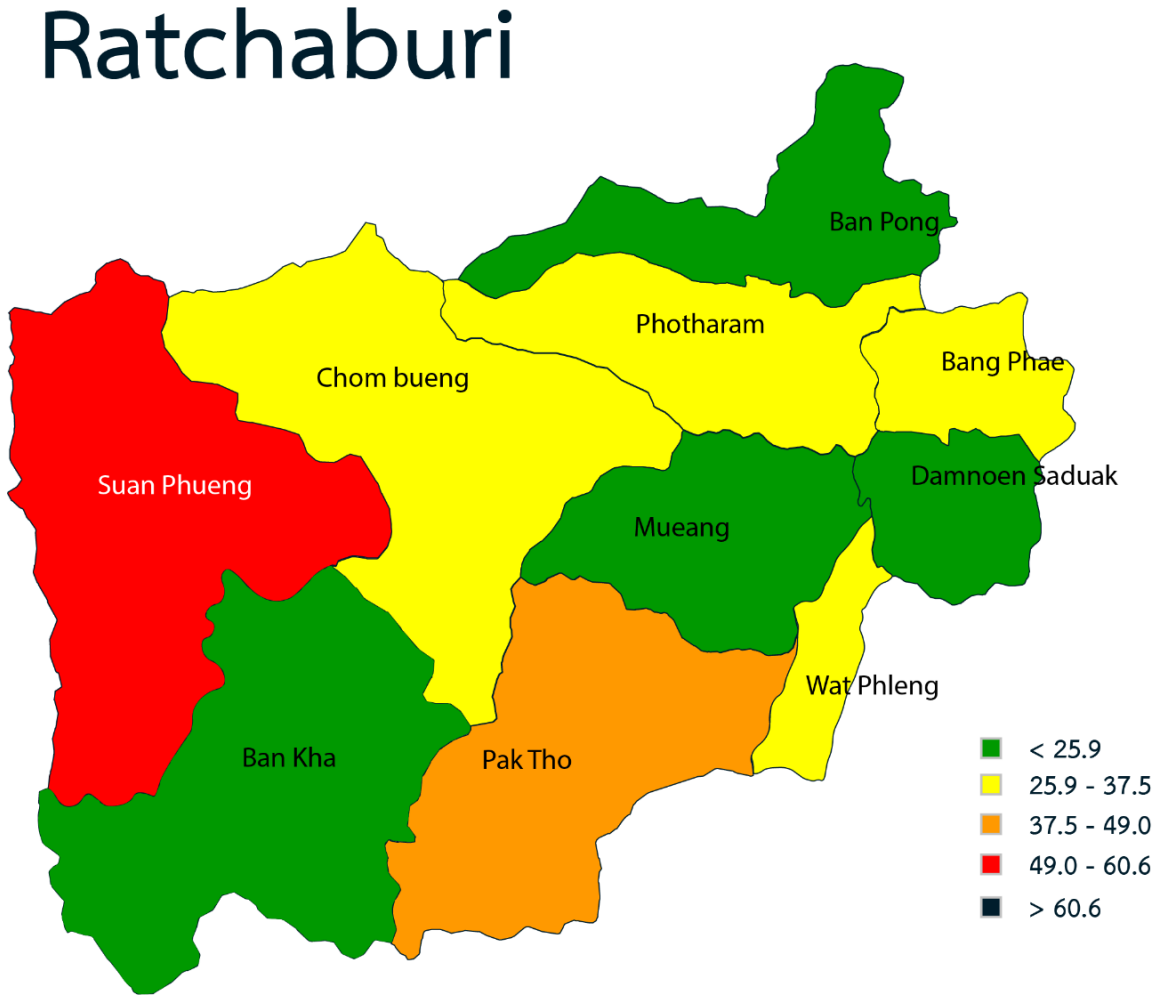


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Ratchaburi

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	45	22.39	Pak Tho	18	40.40
Ban Pong	45	26.27	Chom bueng	19	28.54
Photharam	45	33.18	Wat Phleng	5	41.12
Damnoen Saduak	21	22.66	Suan Phueng	17	49.99
Bang Phae	18	28.34	Ban Kha	4	17.52

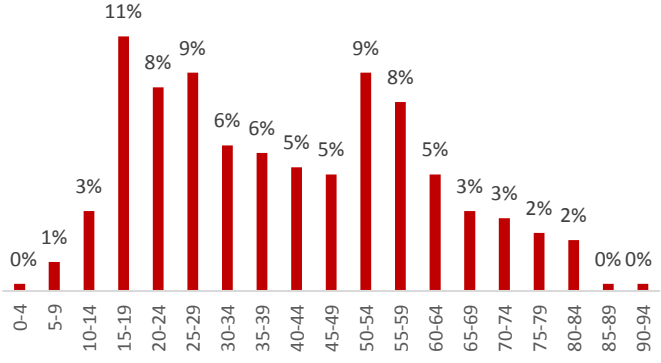


Road Traffic Death Rate by District

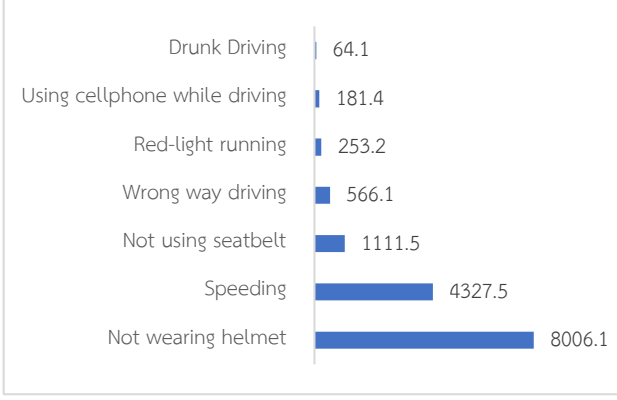
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Lob Buri 2018

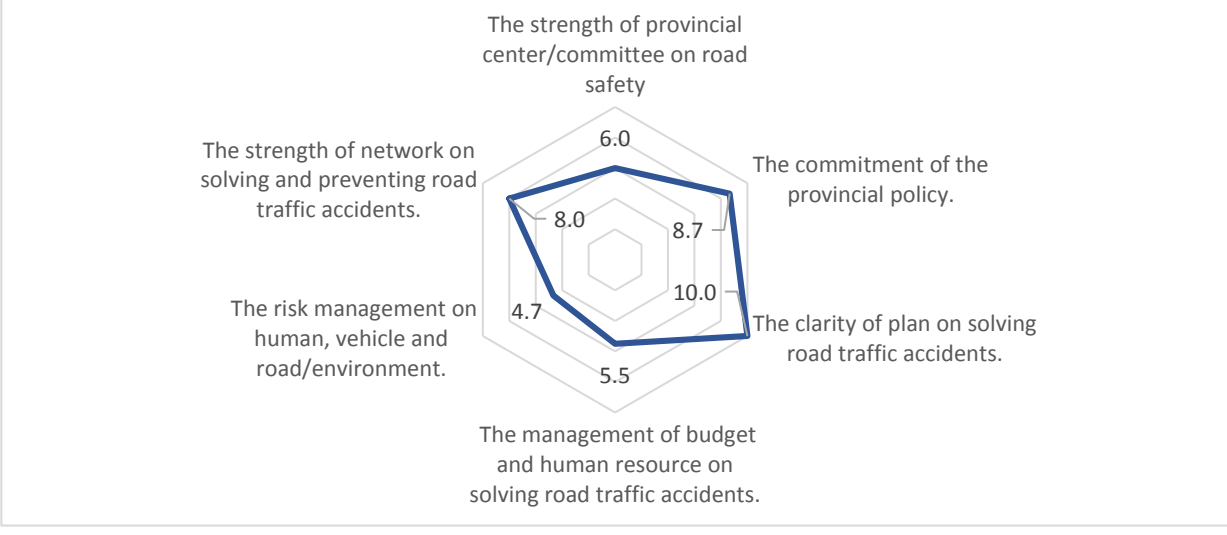
General Statistics			Accident Statistics		
Population	758,733	person (32)	Fatalities	316	Deaths (25)
registered vehicles	428,090	car (26)			
GPP*	111,921	million baht (23)			



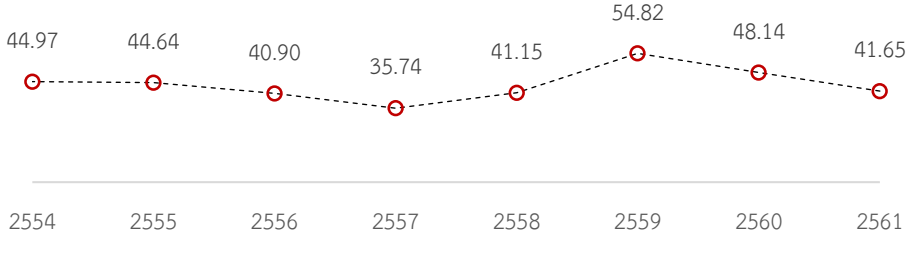
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

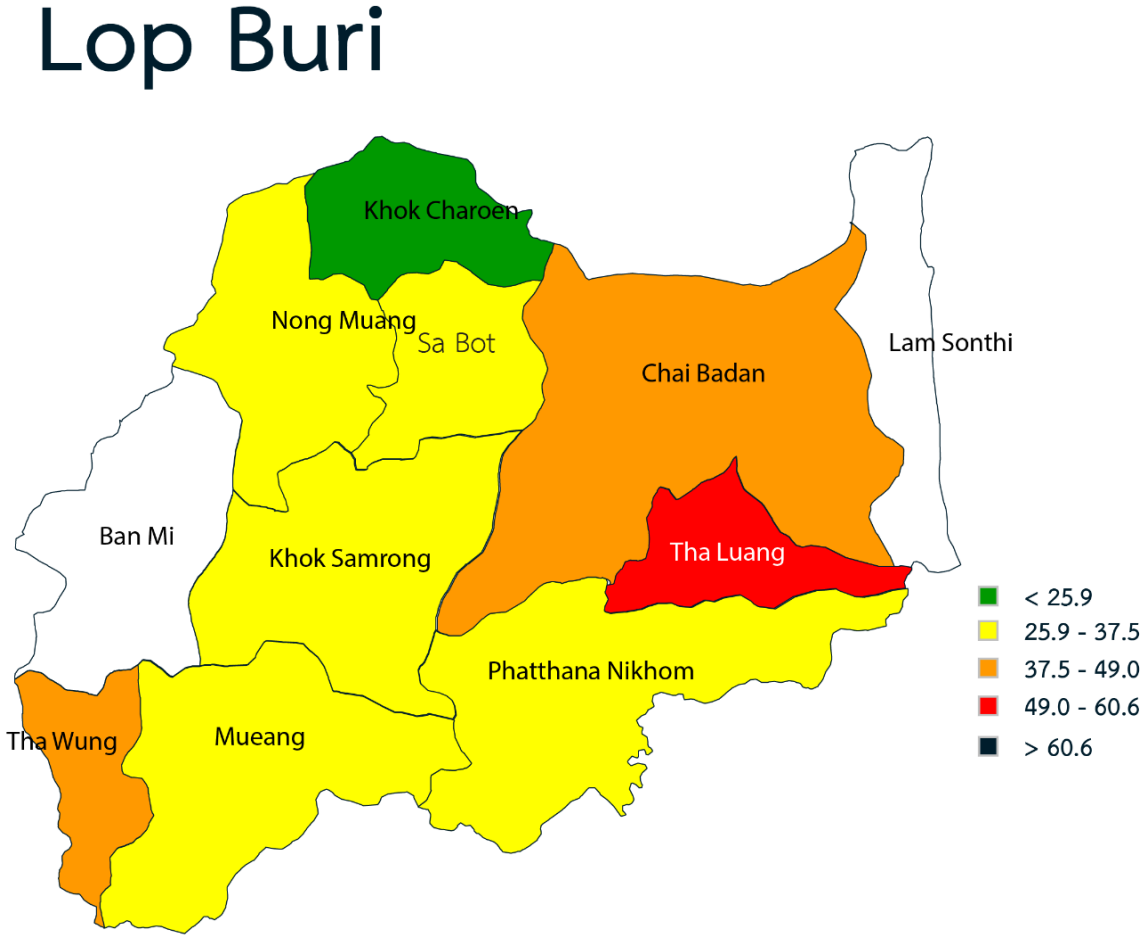


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Lop Buri

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	48	34.54	Khok Samrong	7	38.54
Tha Luang	21	57.82	Nong Muang	8	30.28
Chai Badan	6	41.43	Khok Charoen	2	16.44
Phatthana Nikhom	23	35.91	Sa Bot	1	32.48
Tha Wung	6	48.95			

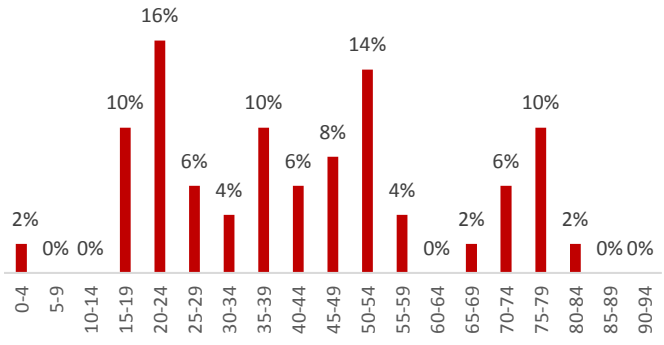


Road Traffic Death Rate by District

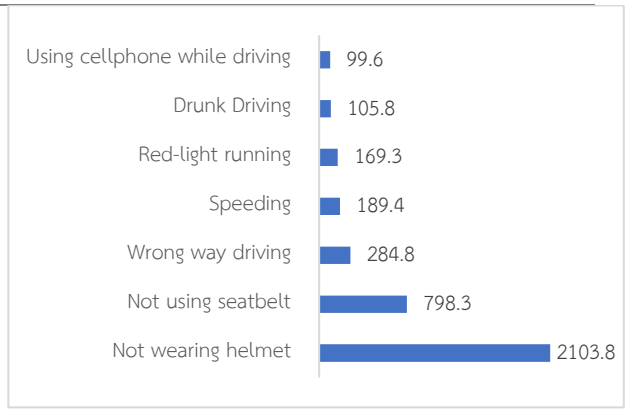
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Samut Songkhram 2018

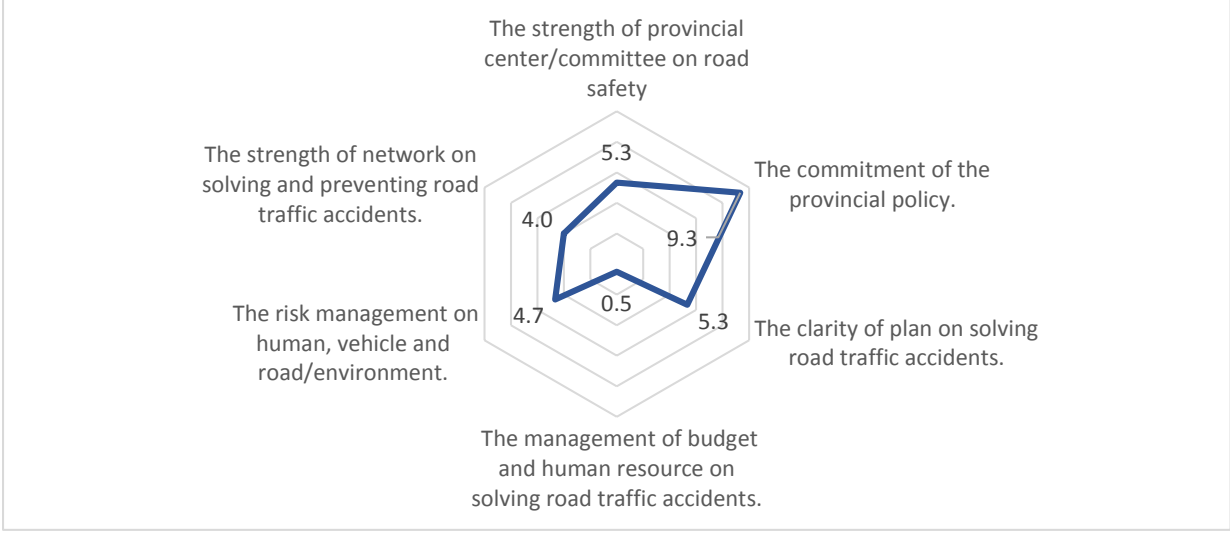
General Statistics			Accident Statistics		
Population	193,791	person (76)	Fatalities	52	Deaths (75)
registered vehicles	75,662	car (76)			
GPP*	21,881	million baht (75)			



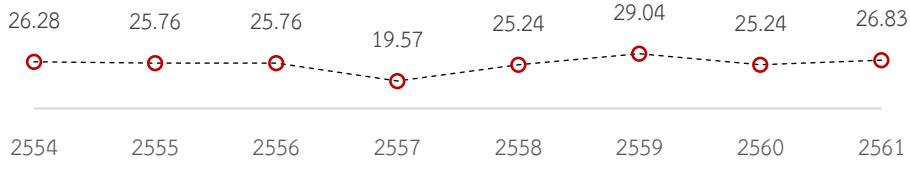
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

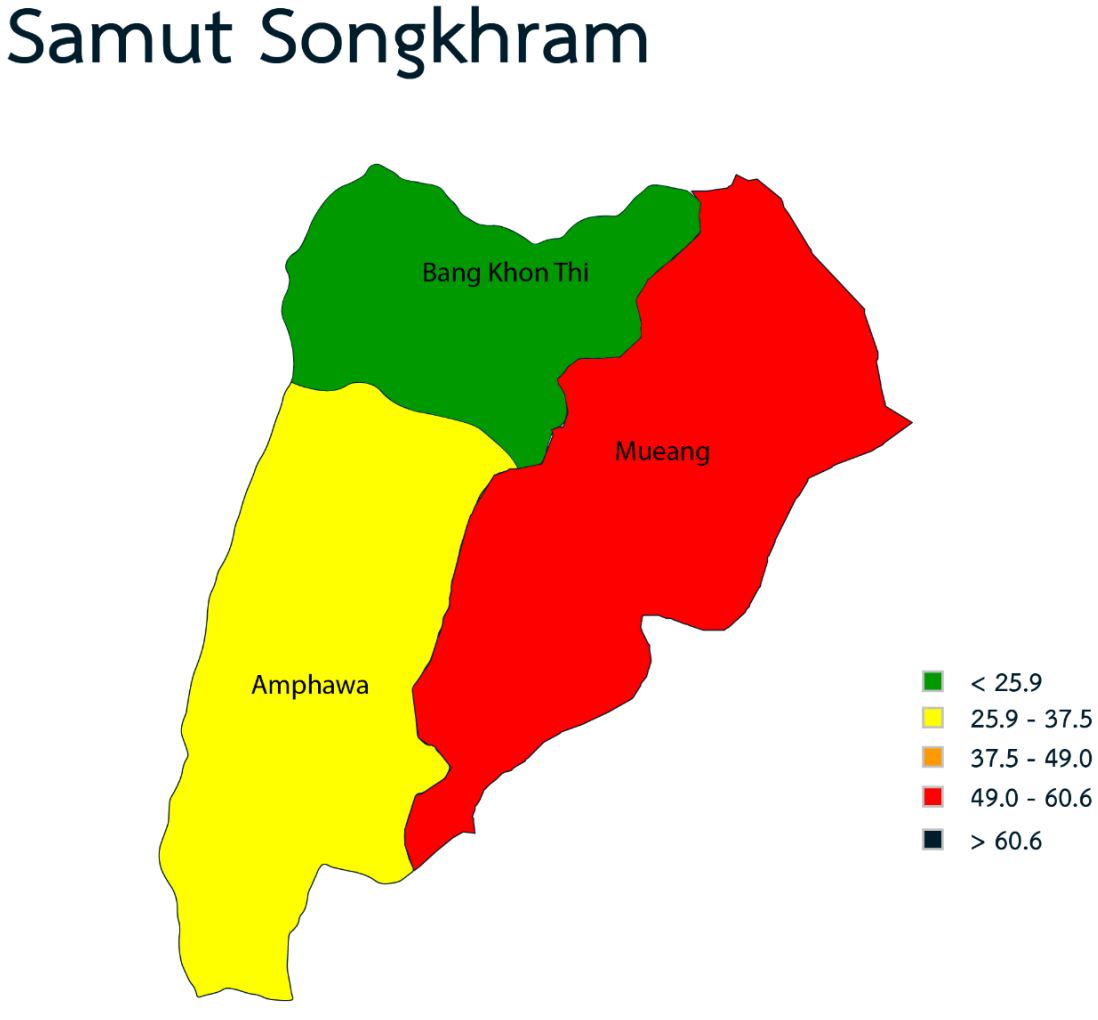


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Samut Songkhram

District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	39	49.79
Amphawa	16	33.01
Bang Khon Thi	3	10.74

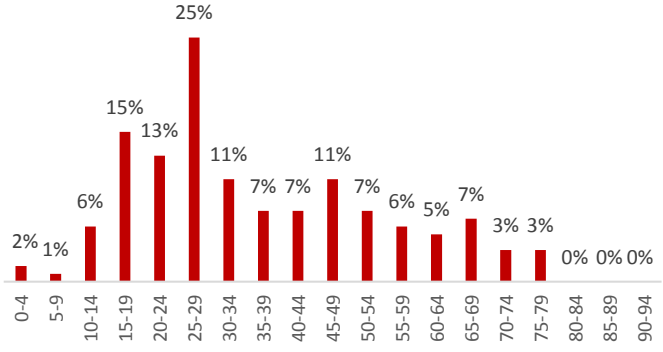


Road Traffic Death Rate by District

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

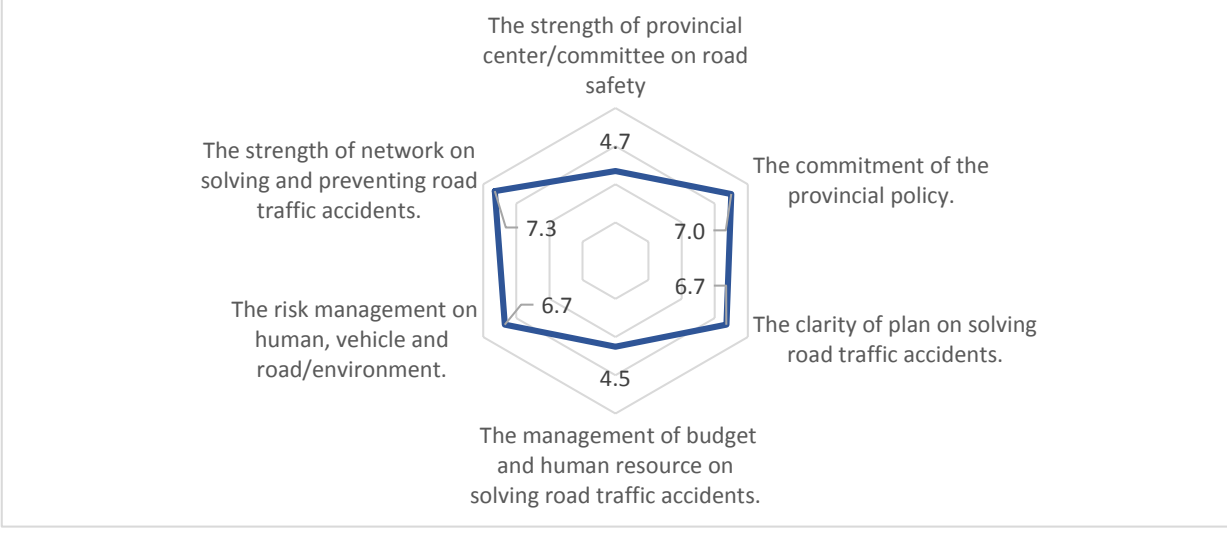
Samut Sakhon 2018

General Statistics			Accident Statistics		
Population	577,964	person (44)	Fatalities	164	Deaths (48)
registered vehicles	239,788	car (52)			
GPP*	398,104	million baht (6)			

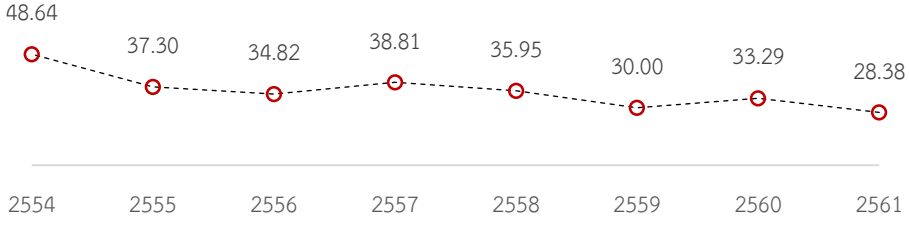


Fatalities by Age group

Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

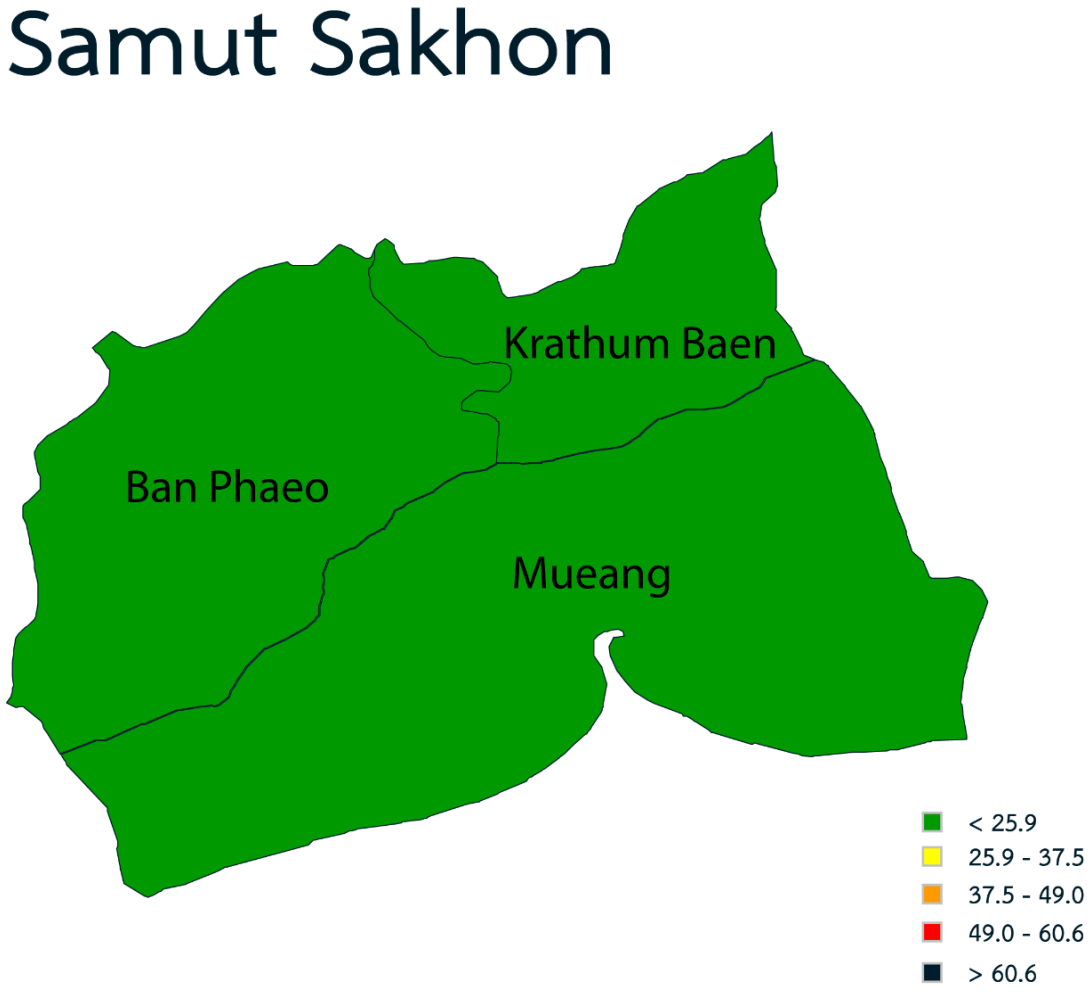


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Samut Sakhon

District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	43	1.10
Krathum Baen	16	0.92
Ban Phaeo	15	0.71



Road Traffic Death Rate by District

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

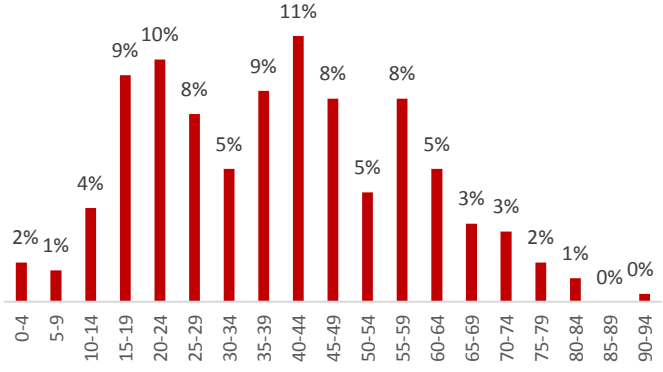
Saraburi 2018

General Statistics

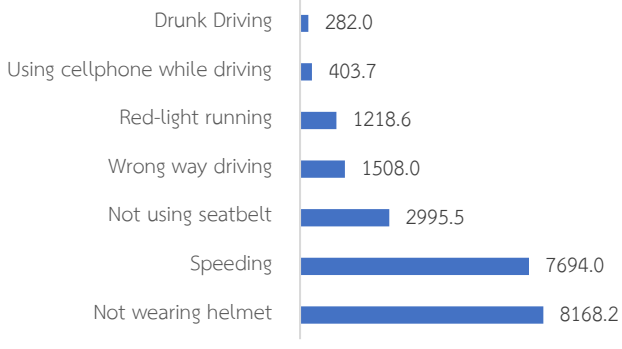
Population	645,024	person (40)
registered vehicles	436,507	car (25)
GPP*	236,636	million baht (14)

Accident Statistics

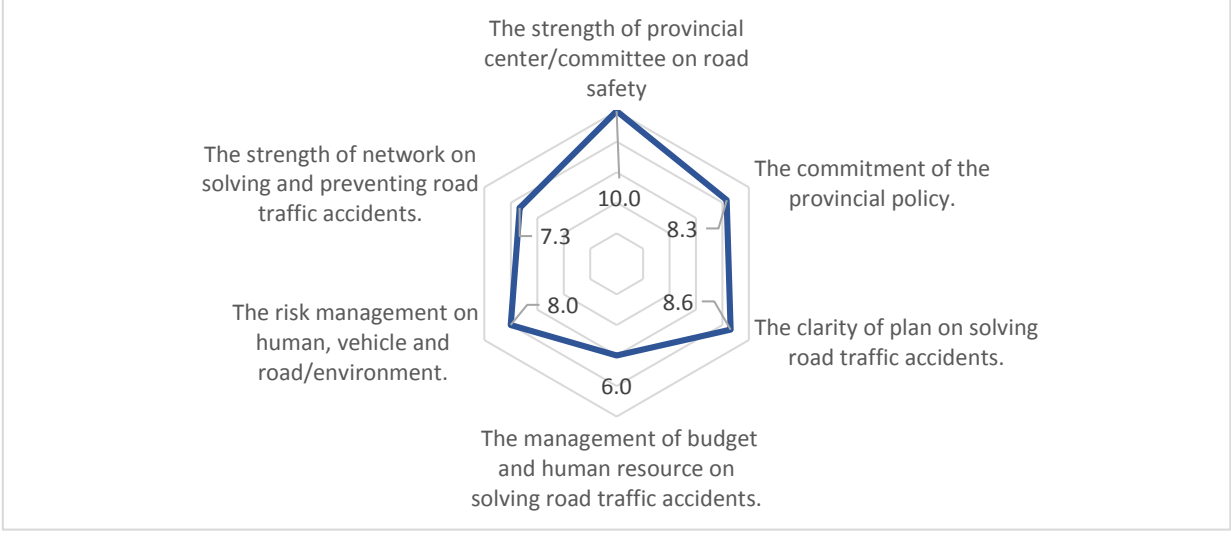
Fatalities	310	Deaths (27)



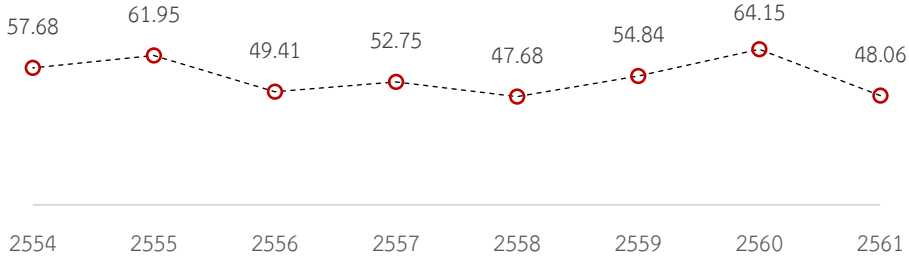
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

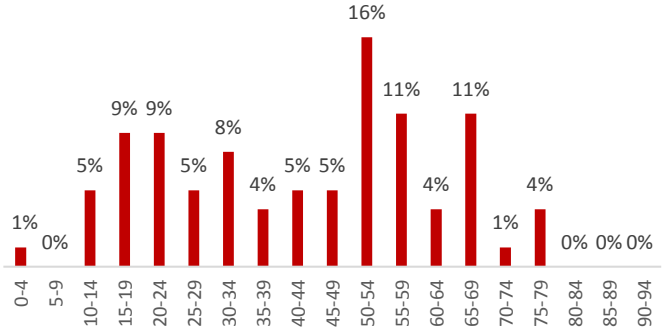


Road Traffic Death Rate per 100,000 population

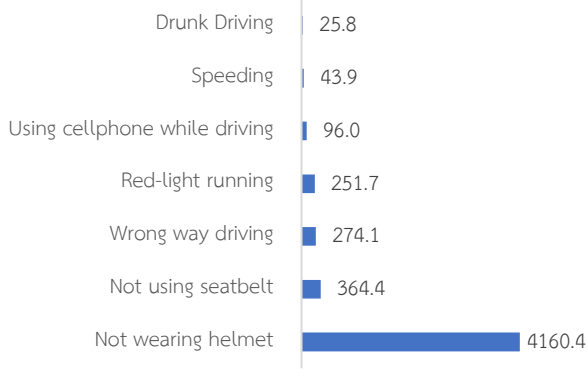
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Sing Buri 2018

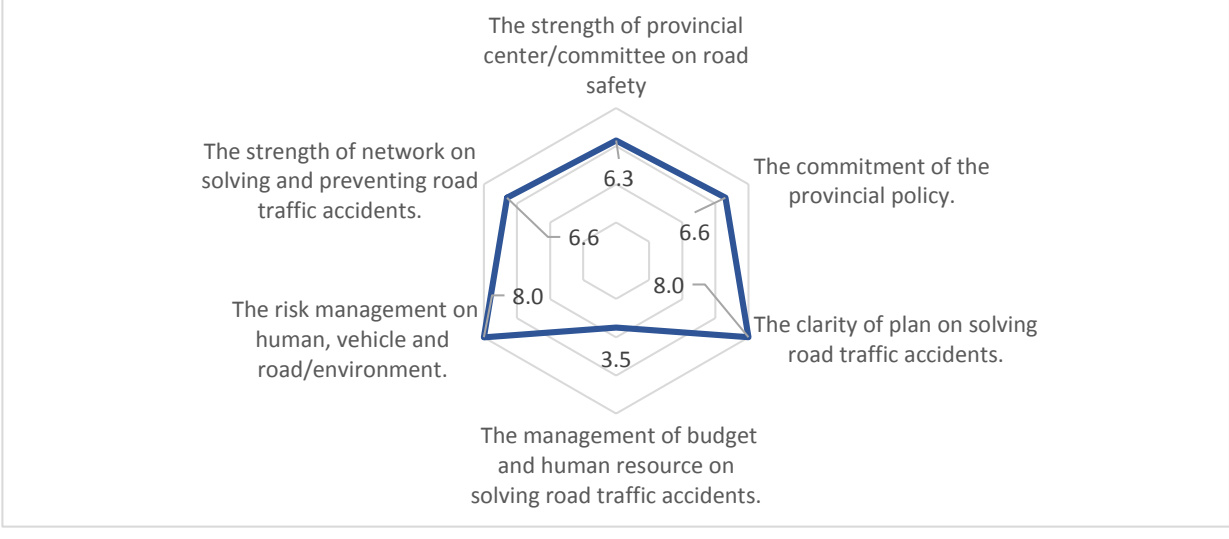
General Statistics			Accident Statistics		
Population	209,377	person (75)	Fatalities	83	Deaths (71)
registered vehicles	139,463	car (68)			
GPP*	26,505	million baht (71)			



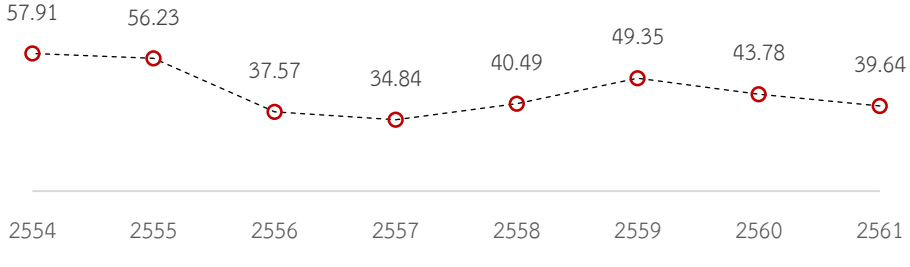
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving on Road Traffic Accidents

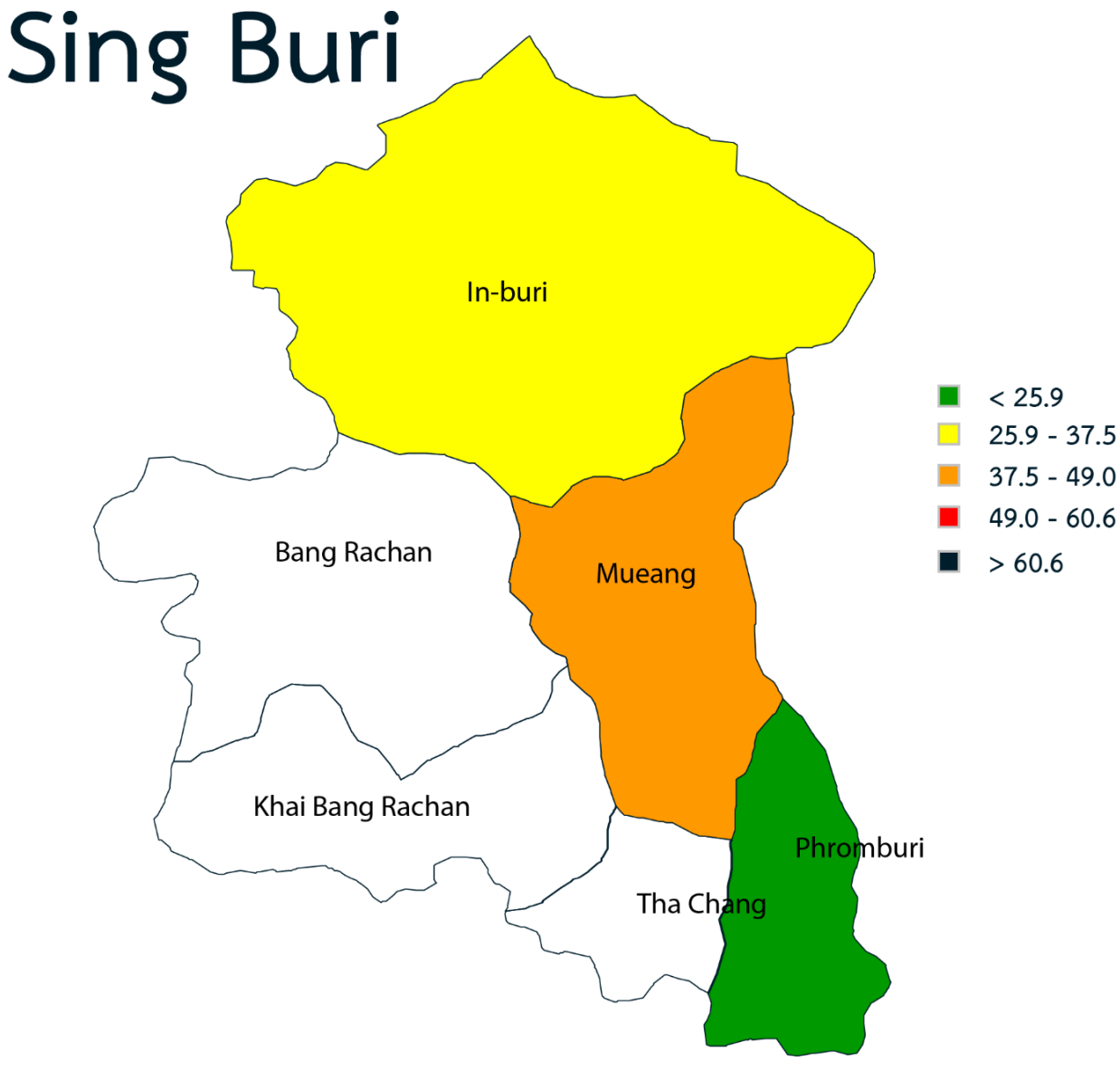


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Sing Buri

District	Fatalities Rate	Fatalities Rate per 100,000 population
Phromburi	7	29.66
In-buri	18	32.72
Mueang	21	38.67
Bang Rachan		
Khai Bang Rachan		
Tha Chang		

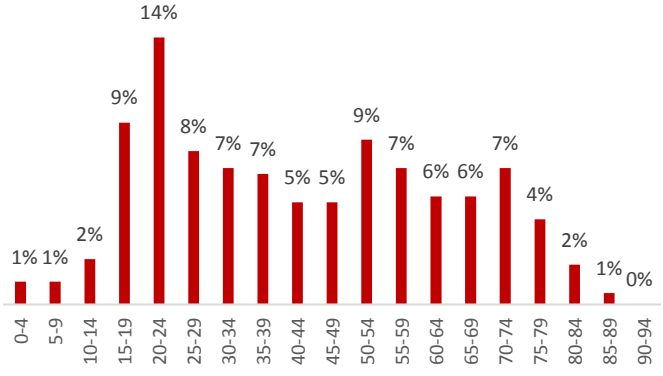


Road Traffic Death Rate by District

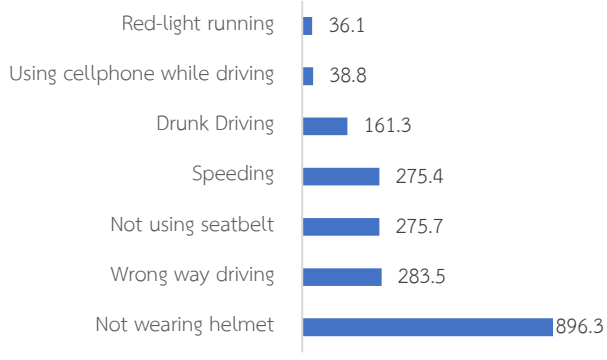
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Suphan Buri 2018

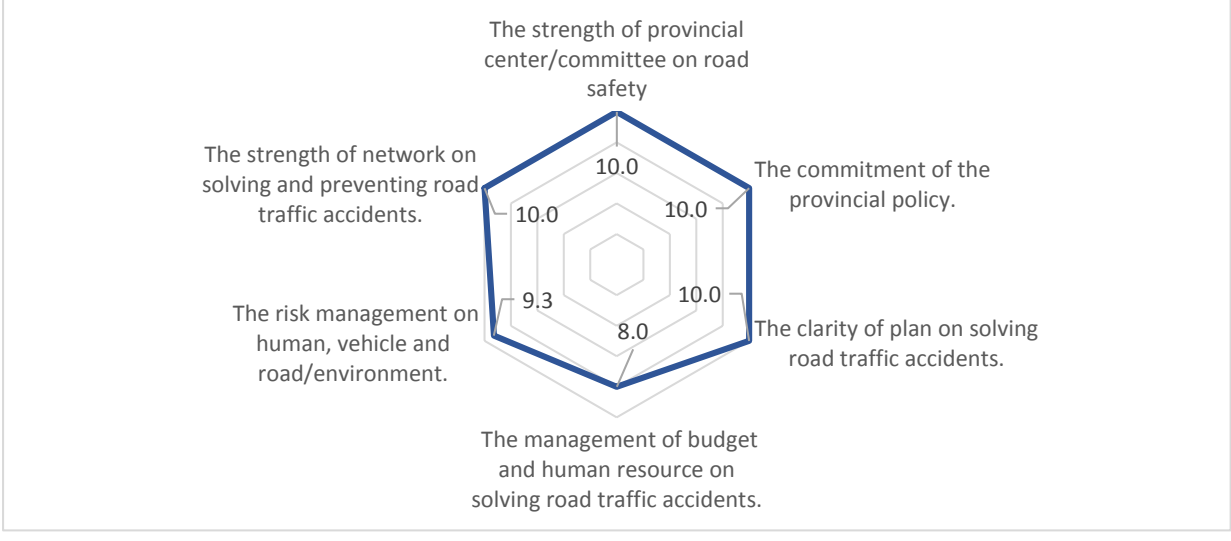
General Statistics			Accident Statistics		
Population	848,720	person (29)	Fatalities	364	Deaths (15)
registered vehicles	493,364	car (17)			
GPP*	86,744	million baht (32)			



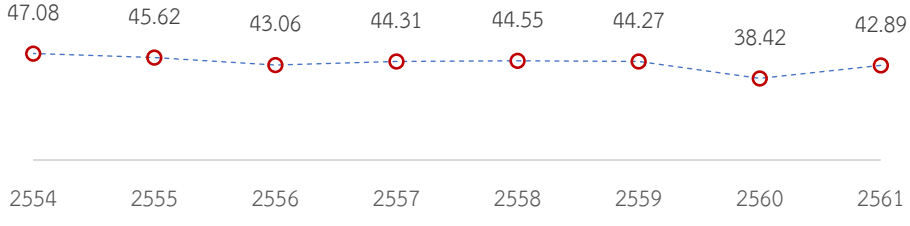
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Road Traffic Accidents

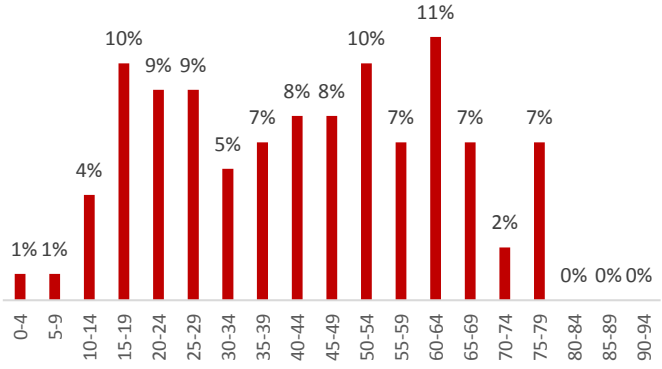


Road Traffice Death Rate per 100,000 population

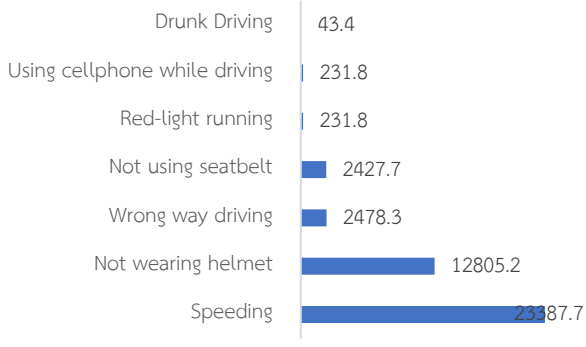
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Ang Thong 2018

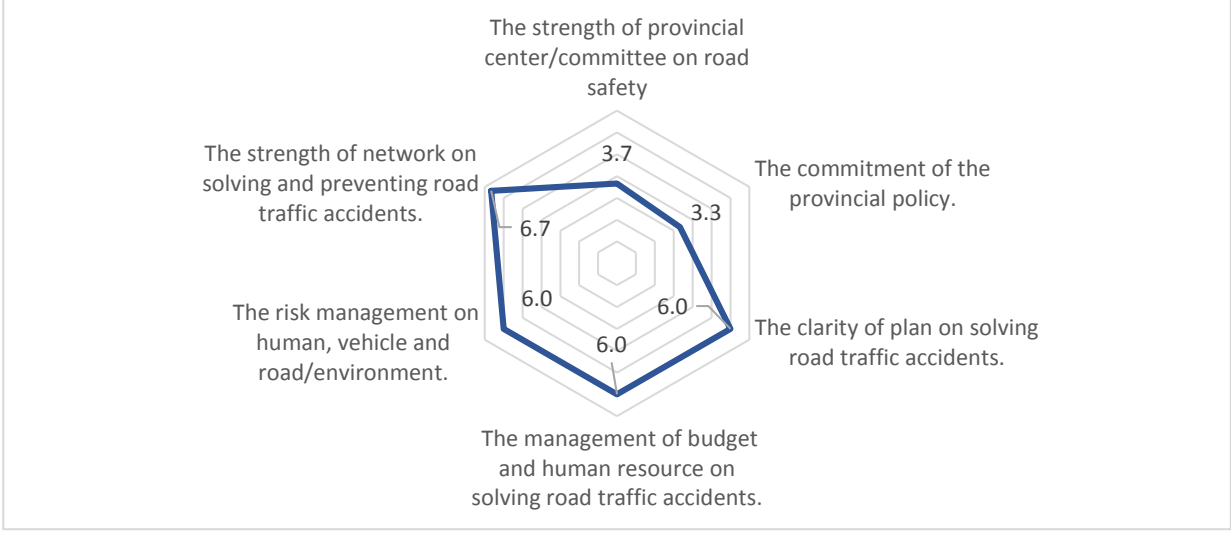
General Statistics			Accident Statistics		
Population	280,840	person (71)	Fatalities	101	Deaths (66)
registered vehicles	154,193	car (67)			
GPP*	17,655	million baht (76)			



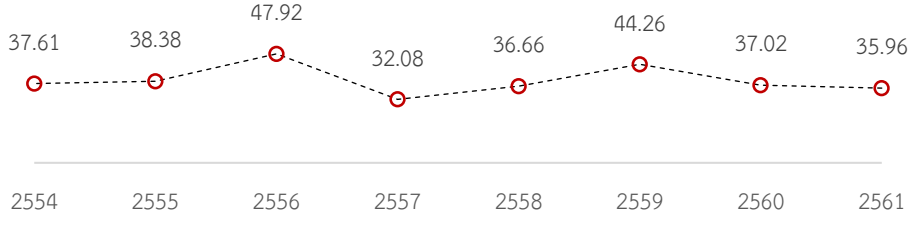
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

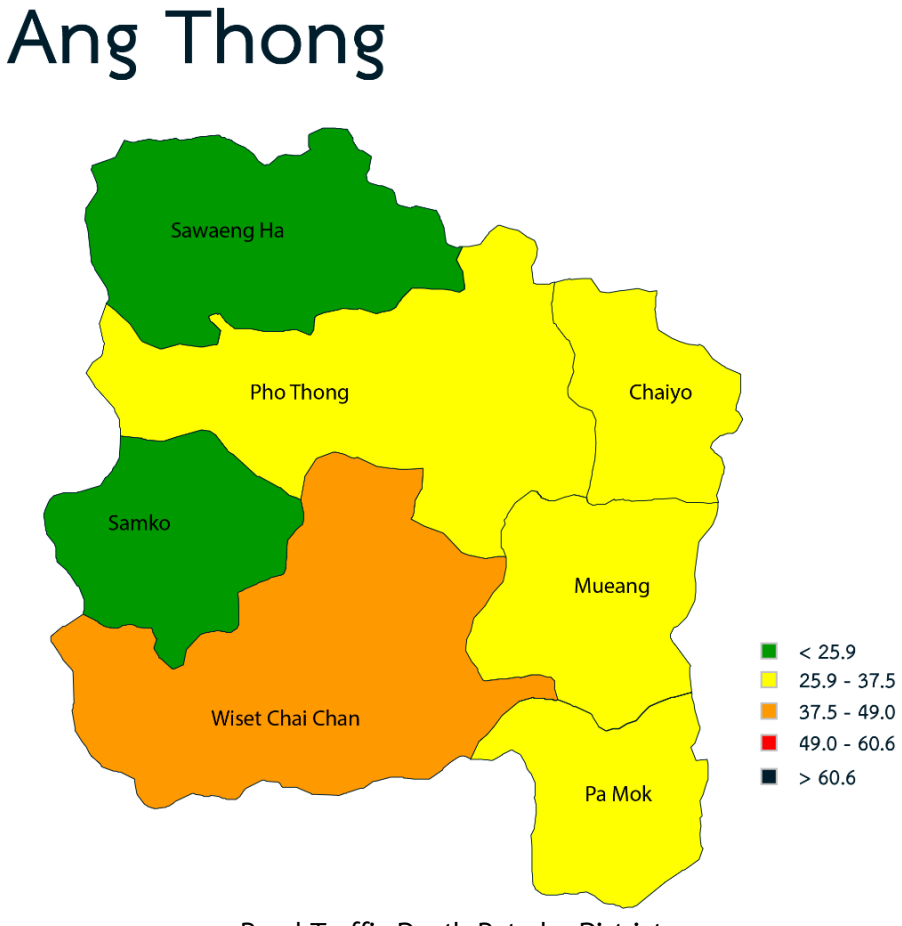


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Ang Thong

District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	21	37.18
Wiset Chai Chan	26	39.44
Pho Thong	16	29.83
Pa Mok	8	28.42
Sawaeng Ha	8	23.13
Chaiyo	8	35.24
Samko	3	15.58



Road Traffic Death Rate by District

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

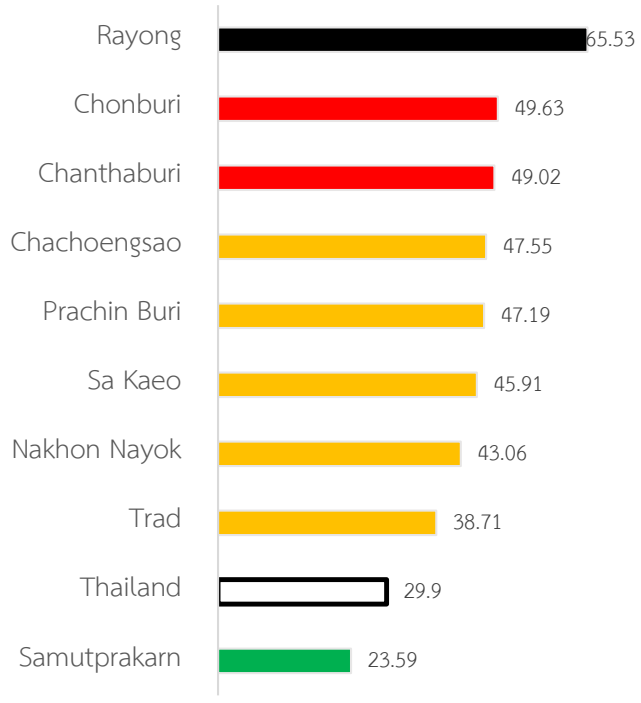
Chapter 6
Eastern

Eastern region is considered influential to country's overall economy, which consists of nine provinces, including Chachoengsao, Nakhon Nayok, Prachin Buri, Samut Prakan, Sa Kaeo, Chanthaburi, Chonburi, Trat and Rayong. The 2016 general information of eastern region is shown as follows.

- 6,719,635 population 11% of the country
- 4,162,844 registered vehicles 11% of the country
- 3,574,352 million baht of GPP 23% of the country

Road accident statistics of eastern region in 2018 are;

- 2,844 deaths 14% of the country



Eastern region is considered the highest road traffic death rate comparing to other regions, holding the rate of 45.58 cases per 100,000 population. Samut Prakan is the only province reported lower than country rate . The highest death rate-provinces are Rayong, Chonburi and Chanthaburi (**Figure 6.1**).

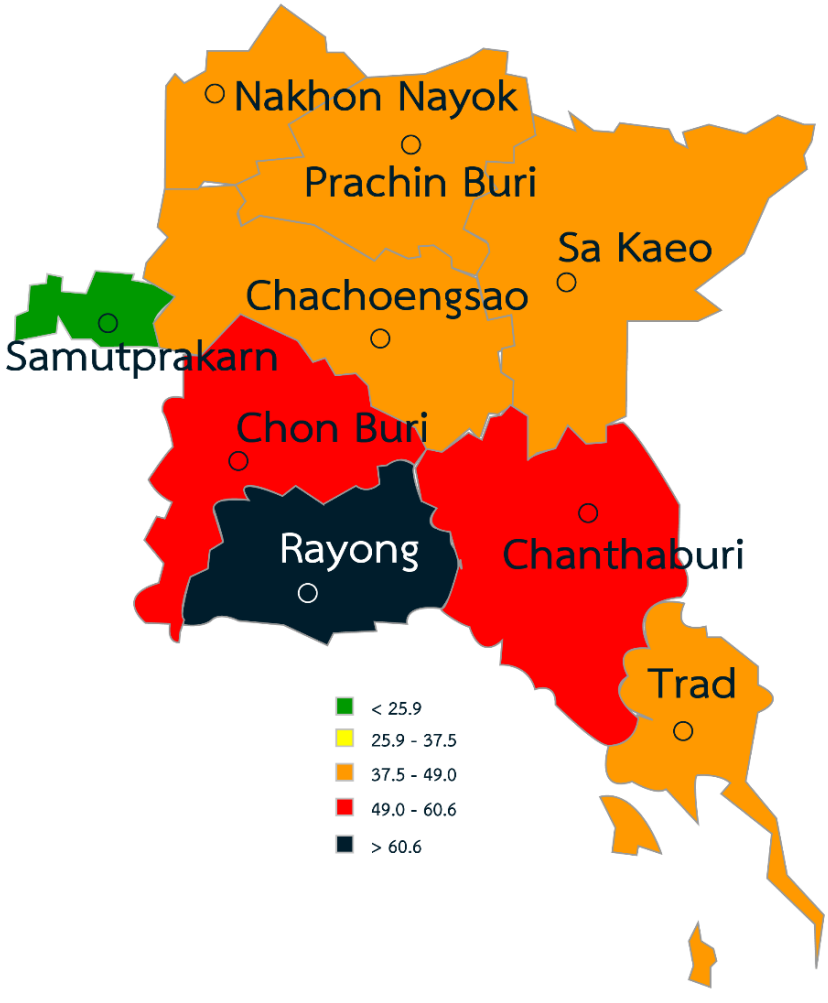
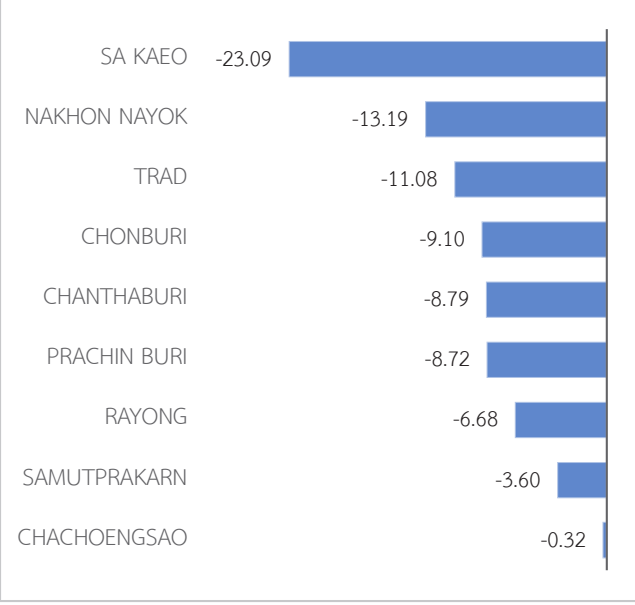


Figure 6.1 Eastern road traffic death rate



In 2018, the overall road traffic death rate in eastern region are decreased. Comparing between 2016 and 2018, eastern region has an average death rate decreased by 7.61. The highest reduction rate-provinces are Sa Kaeo, Nakhon Nayok and Trad. (**Figure 6.2**)

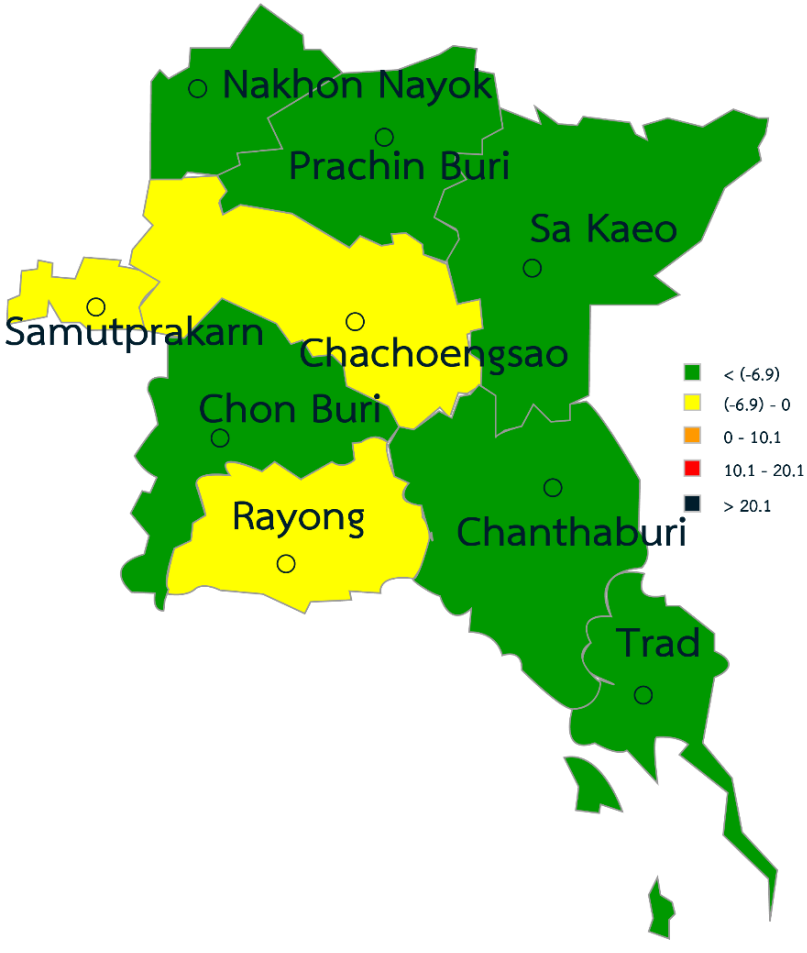


Figure 6.2 Changes in eastern road traffic death rate comparing with 2016

6.1. Police Enforcement

The interpretation of the police enforcement statistic implies their effort on solving traffic violation problems. The police enforcement refers to the seven traffic violation cases shown as follows.

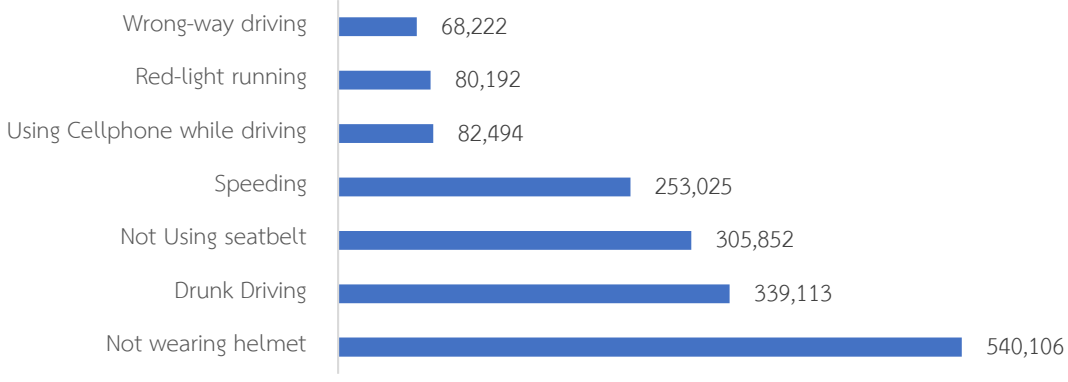


Figure 6.3 The statistic of seven traffic violation cases in eastern region

The average of traffic violation case in eastern region is considerably higher than country average nearly 212% (**Figure 6.4**). The highest rate belongs to not wearing helmet (8462.1 cases per 100,000 population), while Wrong-way driving shows the lowest rate (1068.9 cases per 100,000 population). The detail of seven traffic violation cases of each province is described in **Table 6.1**.

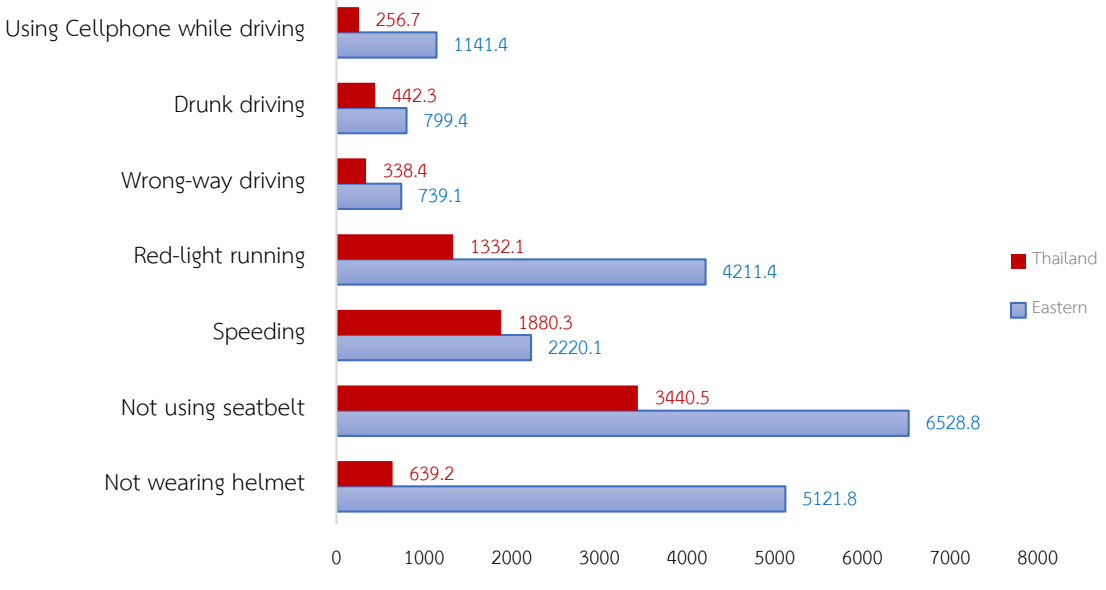


Figure 6.4 Traffic violation rate comparing between eastern region and Thailand

Table 6.1 Traffic violation rate in eastern region

Province	Drunk driving	Helmet	Speeding	Seatbelt	Wrong way	Red light running	Using phone
Chanthaburi	66.9	2855.8	847.7	1075.3	111.3	148.2	43.1
Chacheongsao	85.3	2588.4	340.1	1166.0	357.2	229.5	79.0
Chonburi	630.8	15665.4	4048.5	4558.9	2348.4	4049.6	1408.1
Trad	19.1	888.6	271.0	339.7	33.5	14.4	21.3
Nakhon Nayok	143.79	3386.10	449.84	1096.53	1001.18	929.67	771.26
Prachinburi	117.0	1951.6	133.2	454.8	153.8	111.9	40.9
Rayong	44606.2	23633.0	60.8	26762.2	718.6	1014.1	7328.9
Samutprakarn	365.7	5143.3	13659.3	1487.3	1587.8	488.3	464.9
Sa Kaeo	61.0	2647.4	170.0	961.7	340.0	209.2	115.1

Notes: Dash (-) means no data presented.

According to **Table 6.1**, the drunk driving case rate in eastern region is 5313.1 cases per 100,000 population, which is higher than country average (643.9 cases per 100,000 population). The highest rate-provinces are Rayong, Chonburi and Samut Prakan. There seem to be no significant correlation between the number of drunk driving case and breathalyzer. An example of high case rate with low breathalyzer availabilities occurred in Rayong (**Figure 6.7**).

Speeding case rate in eastern region is 566.19 cases per 100,000 population, which is higher than country average (520.02 cases per 100,000 population). Chonburi, Samut Prakan and Nakhon Nayok have the higher rate than the country average. The lowest rate-provinces are Kanchanaburi, Sa Kaeo and Prachin Buri. There seem to be no significant correlation between the number of case and speed camera. An example of low case rate with high speed camera availabilities occurred in Nakhon Nayok and Chachoengsao (**Figure 6.8**).

Not wearing helmet case rate in the region is 3,502.33 cases per 100,000 population, which is higher than country average (2,403.12 cases per 100,000 population). The highest rate-provinces are Chonburi, Rayong and Sa Kaeo, while the lowest rate-provinces are Samut Prakan, Trat and Nakhon Nayok. There seem to be a significant correlation between the number of cases and helmet wearers. An example of high case rate with high helmet wearer rate occurred in Rayong and Samut Prakarn, while low case rate and low helmet wearer rate occurred in Chanthaburi and Sa Kaeo (**Figure 6.9**).

The detail of other cases, such as not using seatbelt, red light running, wrong way driving and using cellphone while driving are illustrated in **Figure 6.5** and **6.6.**

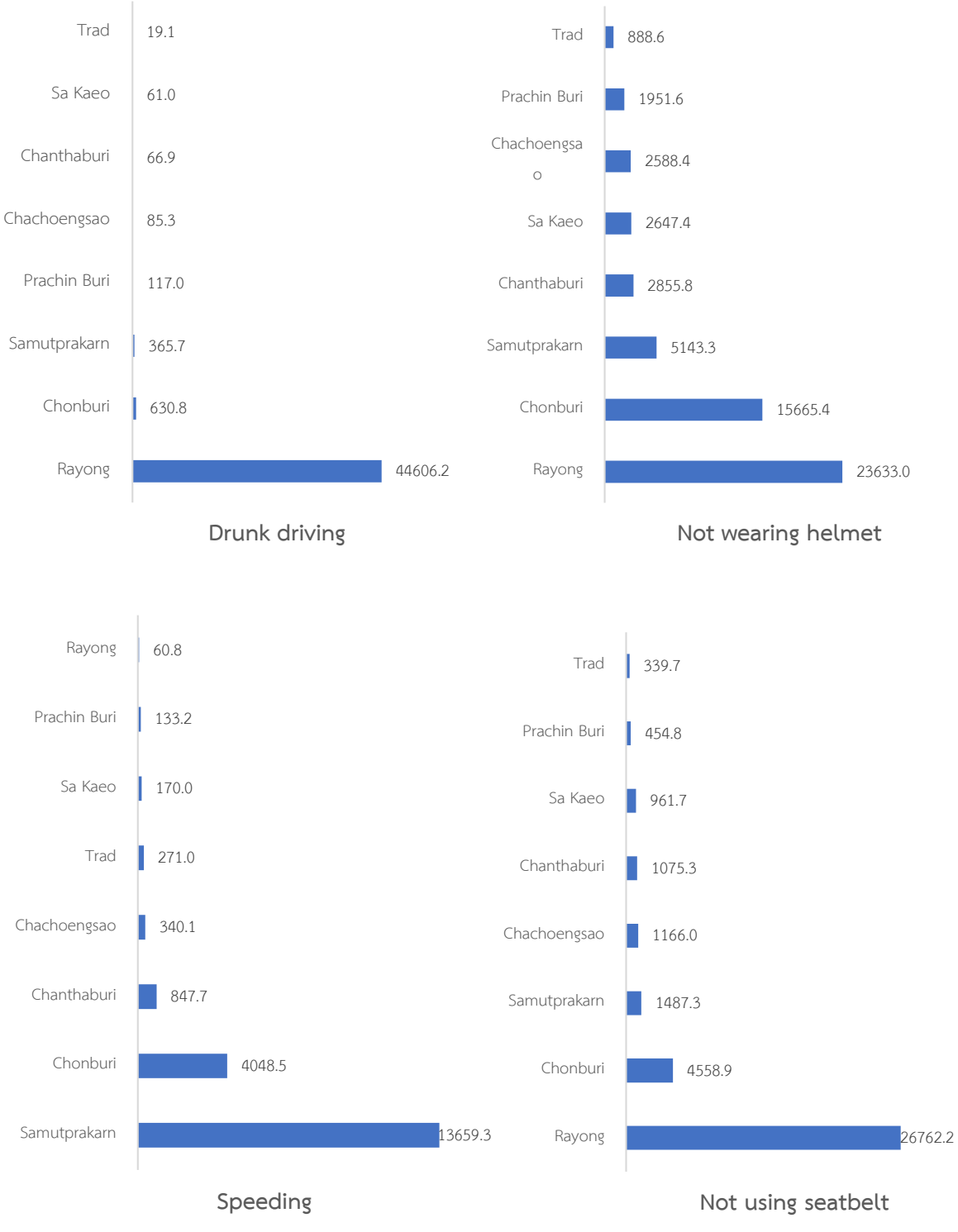


Figure 6.5 Traffic violation case rate per 100,000 population

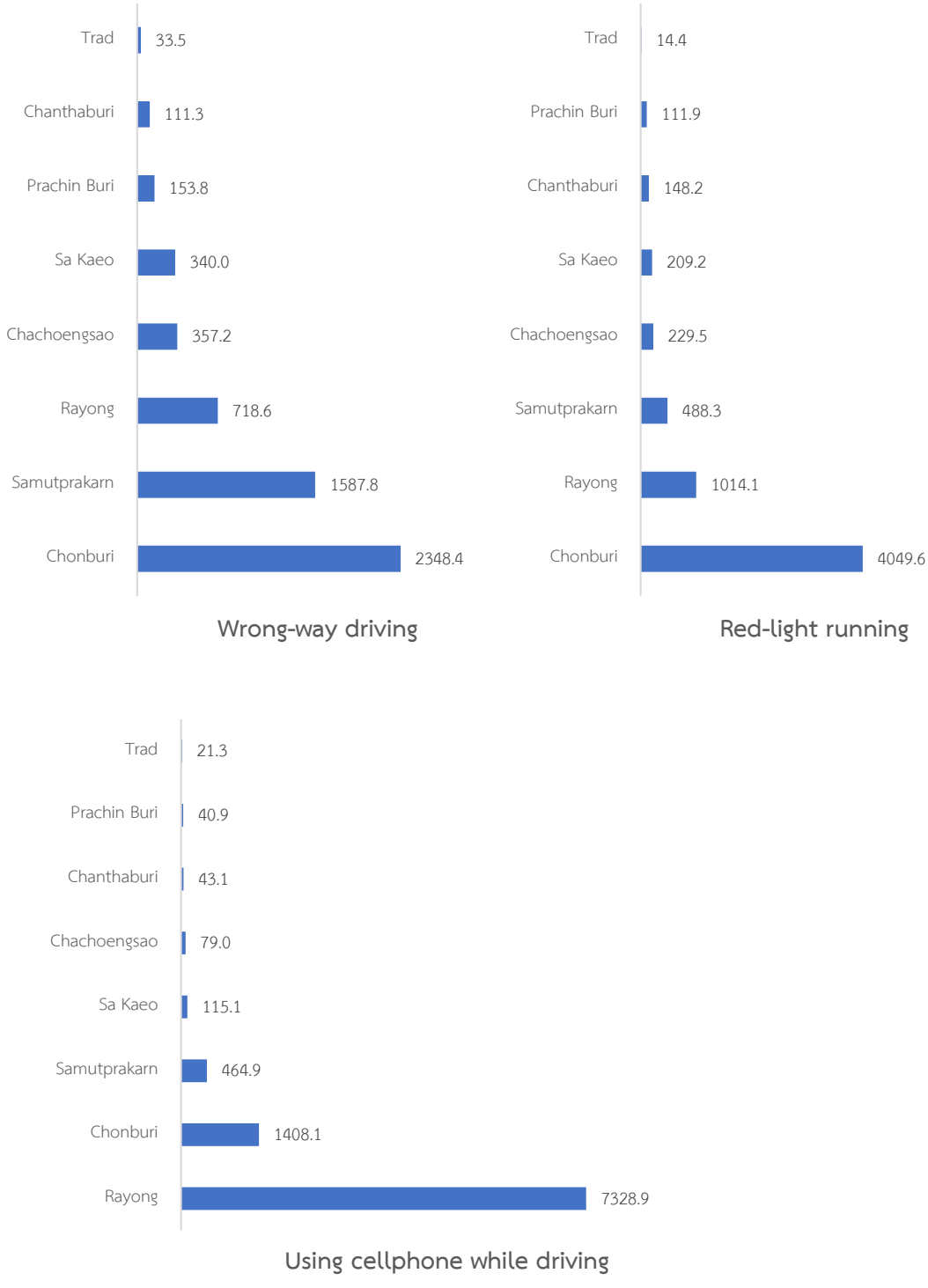


Figure 6.6 Traffic violation case rate per 100,000 population (cont.)

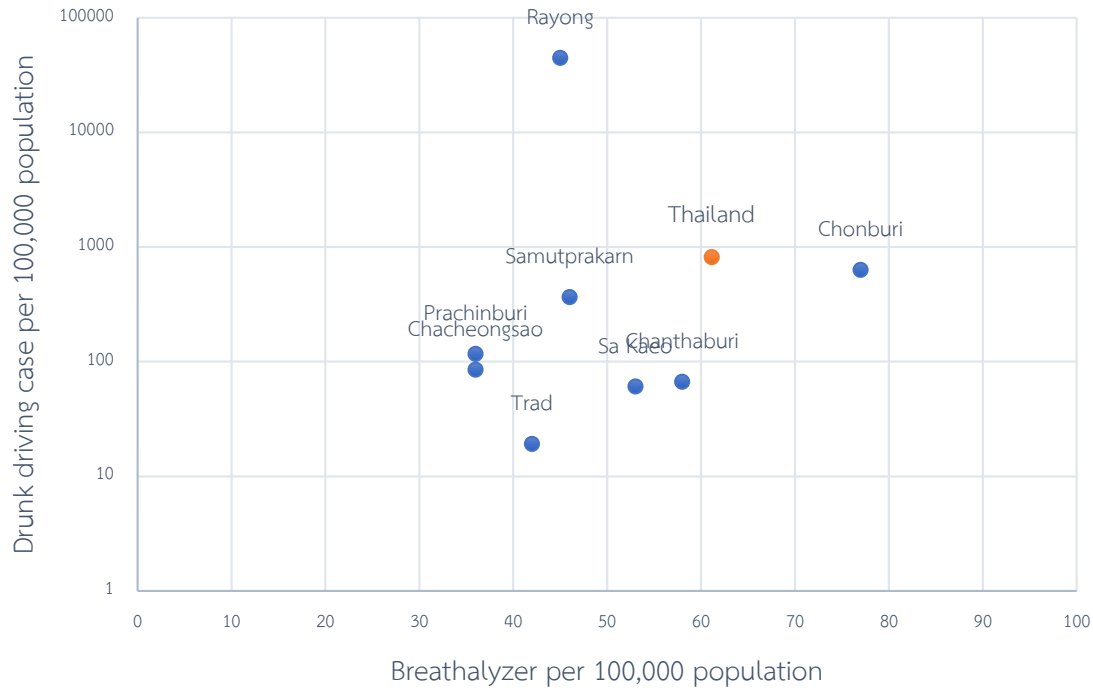


Figure 6.7 Drunk driving case rate and breathalyzer availability

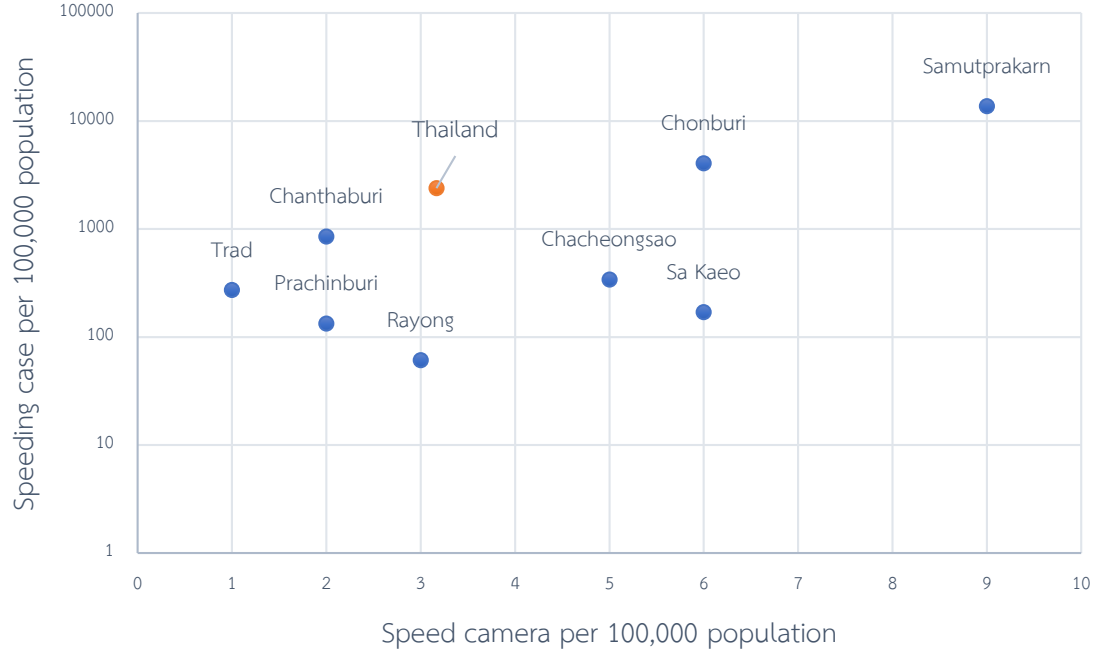


Figure 6.8 Speeding case rate and speed camera availability

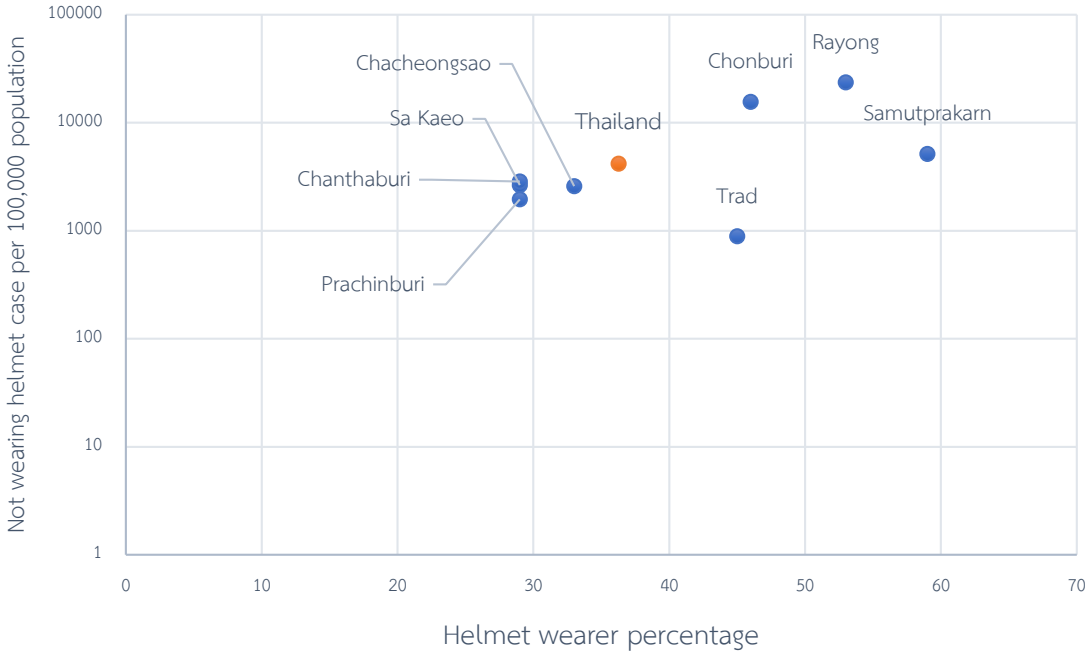
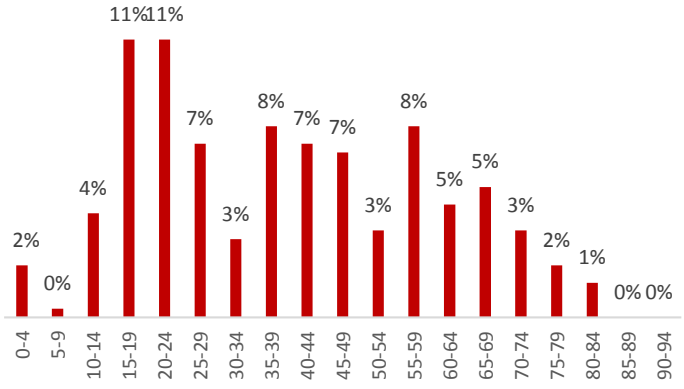


Figure 6.9 Not wearing helmet case rate and helmet wearer percentage

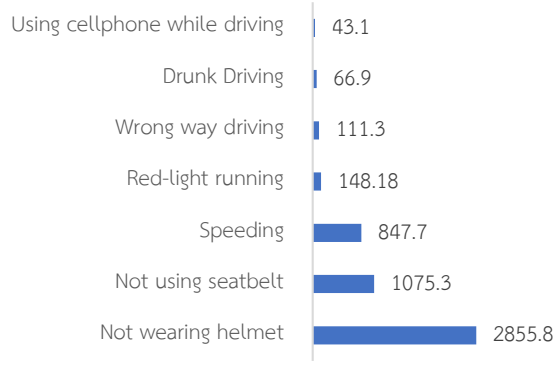
Source :Thairoads Foundation

Chanburi 2018

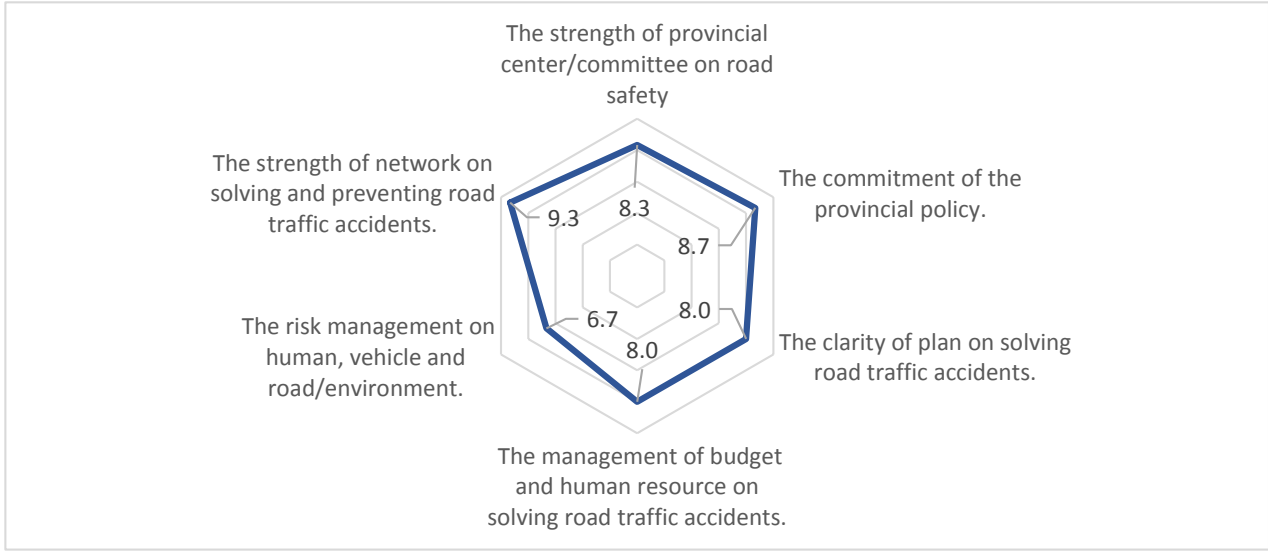
General Statistics			Accident Statistics		
Population	536,496	person (49)	Fatalities	263	Deaths (33)
registered vehicles	389,958	car (31)			
GPP*	138,443	million baht (21)			



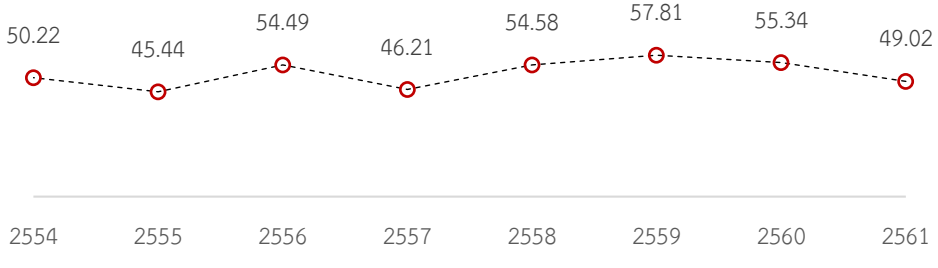
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

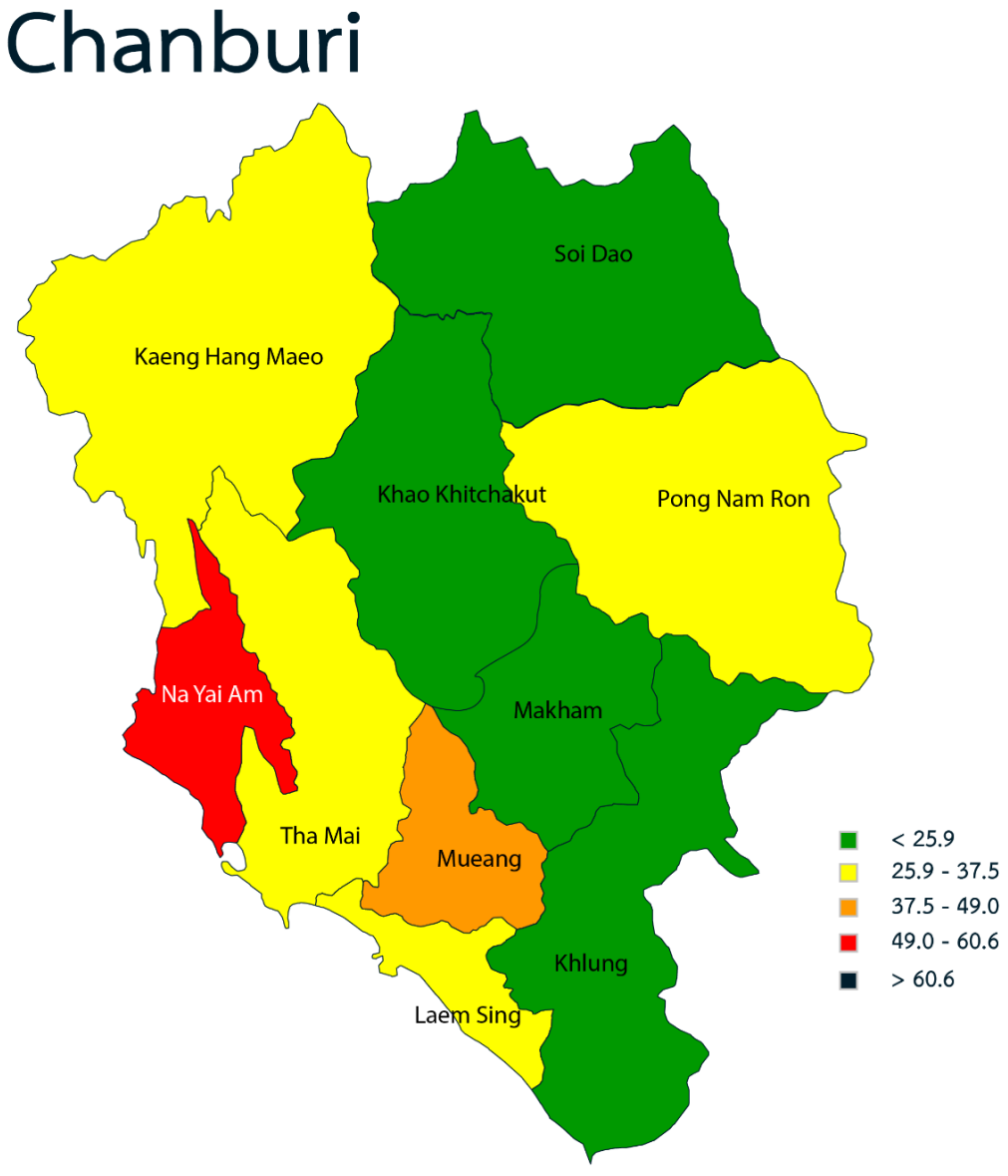


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Chanburi

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Na Yai Am	14	55.79	Kaeng Hang Maeo	8	28.08
Mueang	37	38.19	Khlung	9	23.77
Pong Nam Ron	13	36.56	Soi Dao	7	14.01
Laem Sing	7	33.84	Khao Khitchakut	2	9.12
Tha Mai	19	33.71	Makham	2	8.79

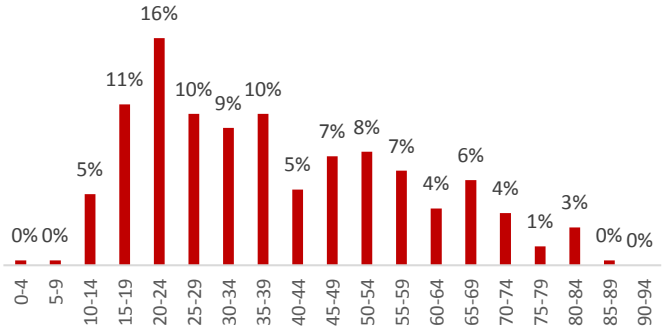


Road Traffic Death Rate by District

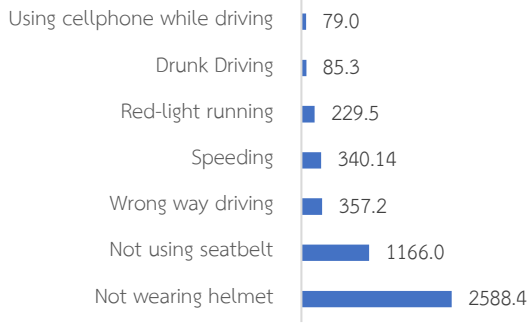
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chachoengsao 2018

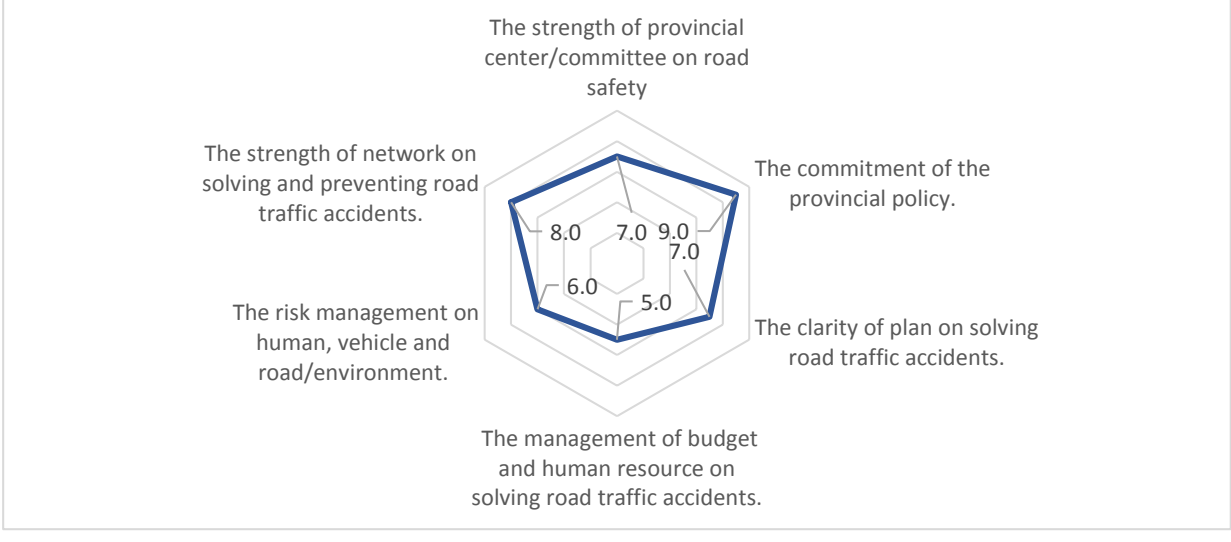
General Statistics			Accident Statistics		
Population	715,009	person (38)	Fatalities	340	Deaths (21)
registered vehicles	408,212	car (29)			
GPP*	341,116	million baht (8)			



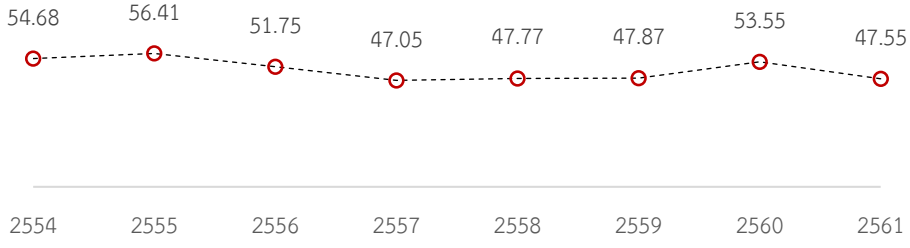
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents



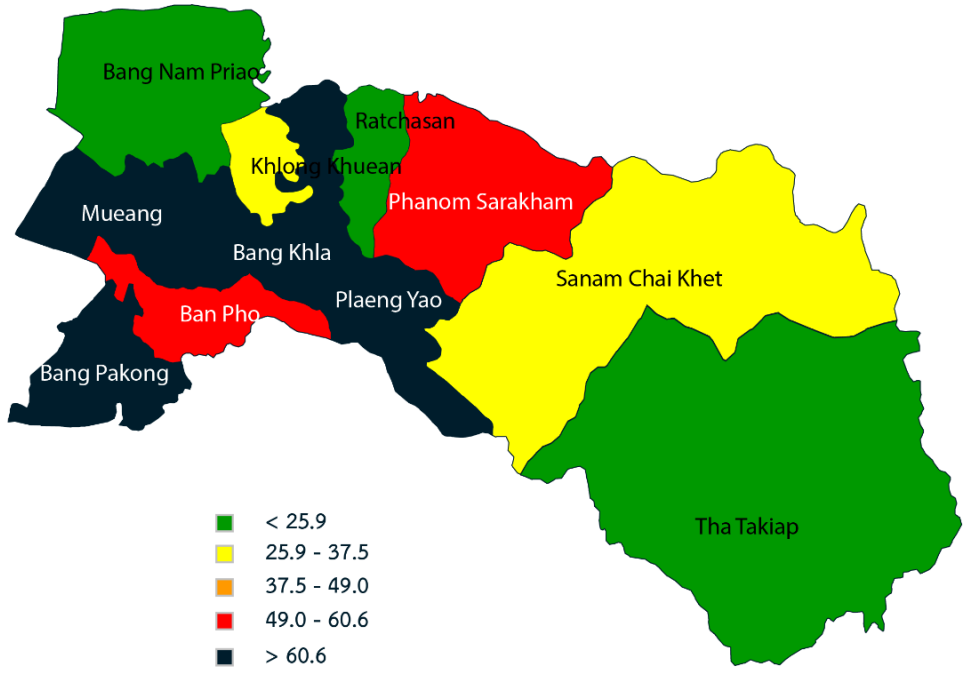
Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Chachoengsao

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Bang Pakong	48	90.16	Khlong Khuean	4	31.05
Plaeng Yao	14	70.89	Sanam Chai Khet	20	28.65
Bang Khla	21	69.15	Bang Nam Priao	17	23.71
Mueang	74	62.13	Ratchasan	3	23.68
Phanom Sarakham	37	52.94	Tha Takiap	9	19.43
Ban Pho	23	50.87			

Chachoengsao

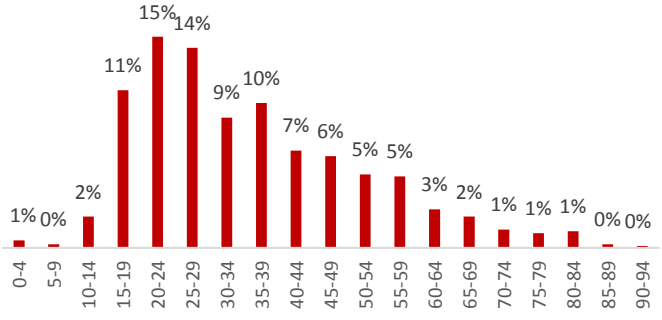


Road Traffic Death Rate by District

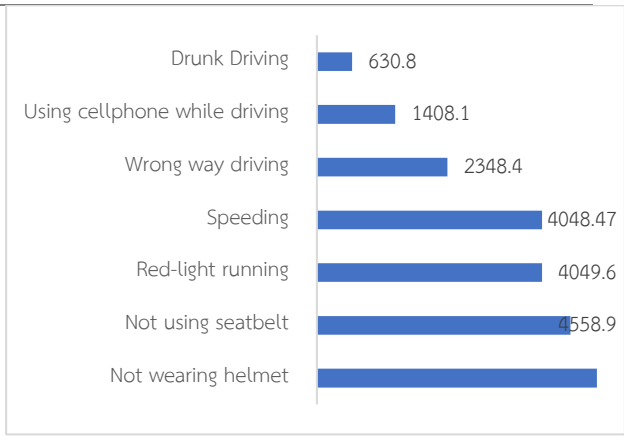
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chonburi 2018

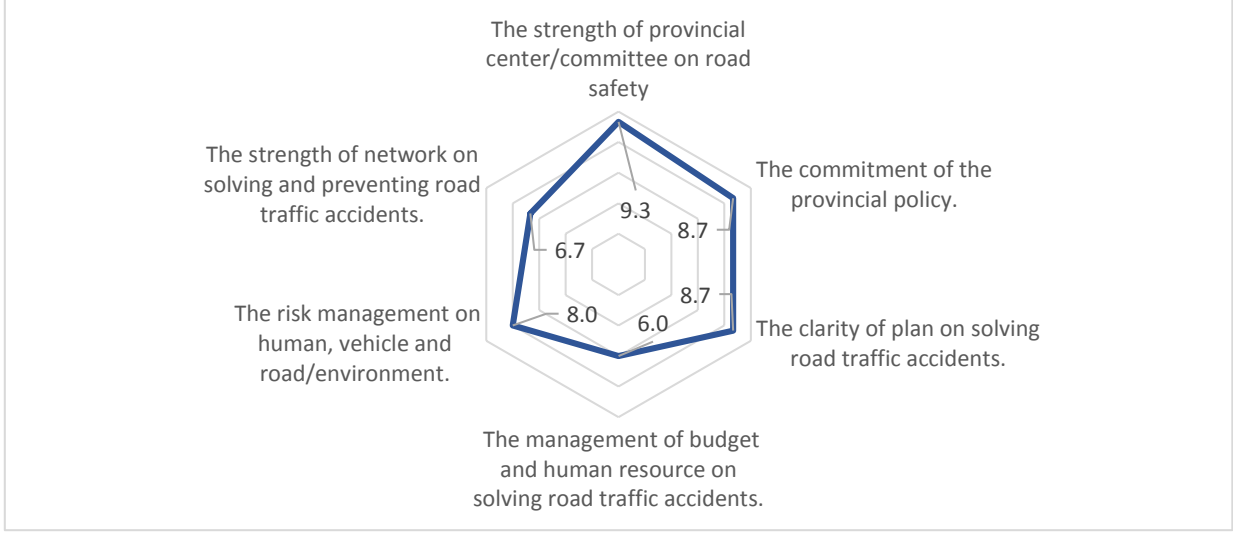
General Statistics			Accident Statistics		
Population	1,535,445	person (9)	Fatalities	762	Deaths (3)
registered vehicles	1,570,782	car (2)			
GPP*	976,460	million baht (3)			



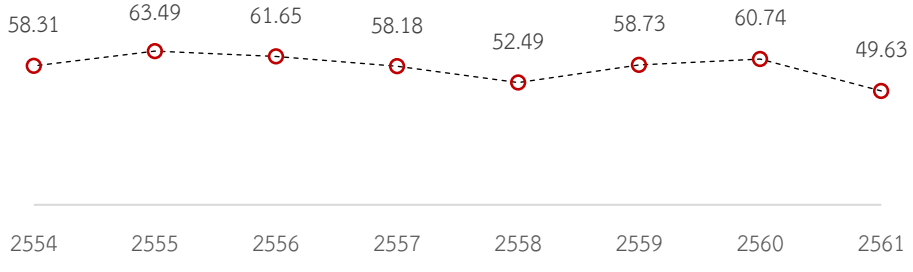
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

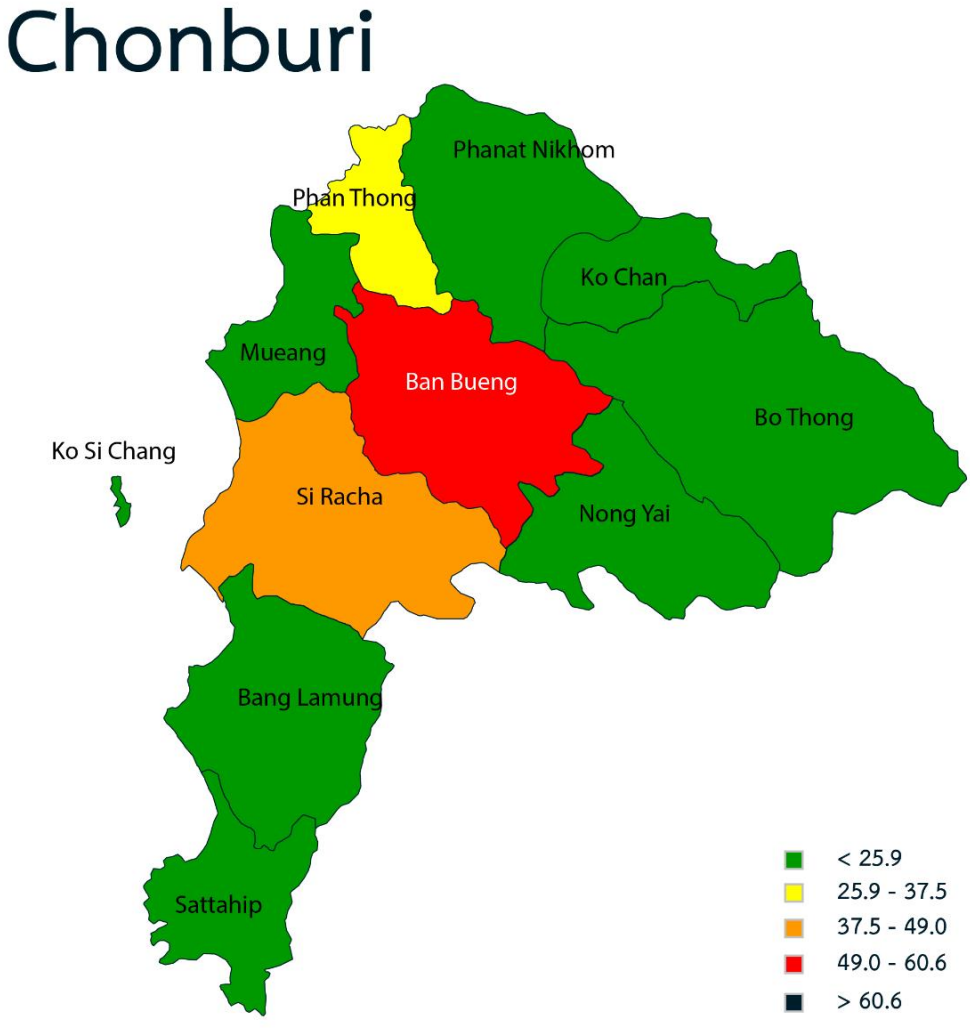


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Chonburi

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	69	20.78	Si Racha	117	39.15
Ban Bueng	52	49.36	Ko Si Chang	0	0.00
Nong Yai	5	21.56	Sattahip	21	12.79
Bang Lamung	78	25.33	Bo Thong	5	10.10
Phan Thong	20	28.98	Ko Chan	6	16.27
Phanat Nikhom	16	12.89			

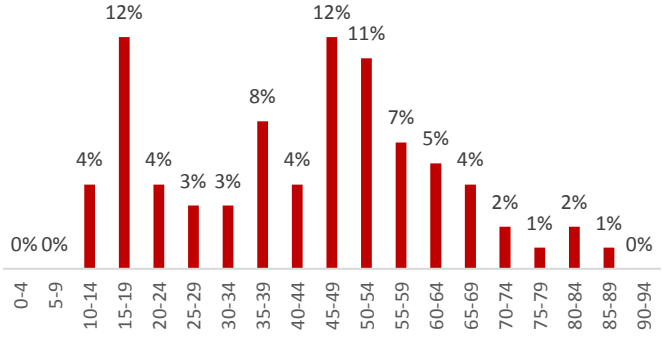


Road Traffic Death Rate by District

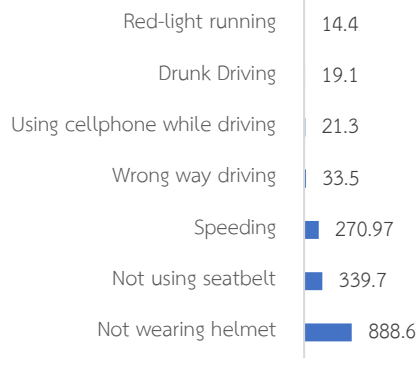
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Trad 2018

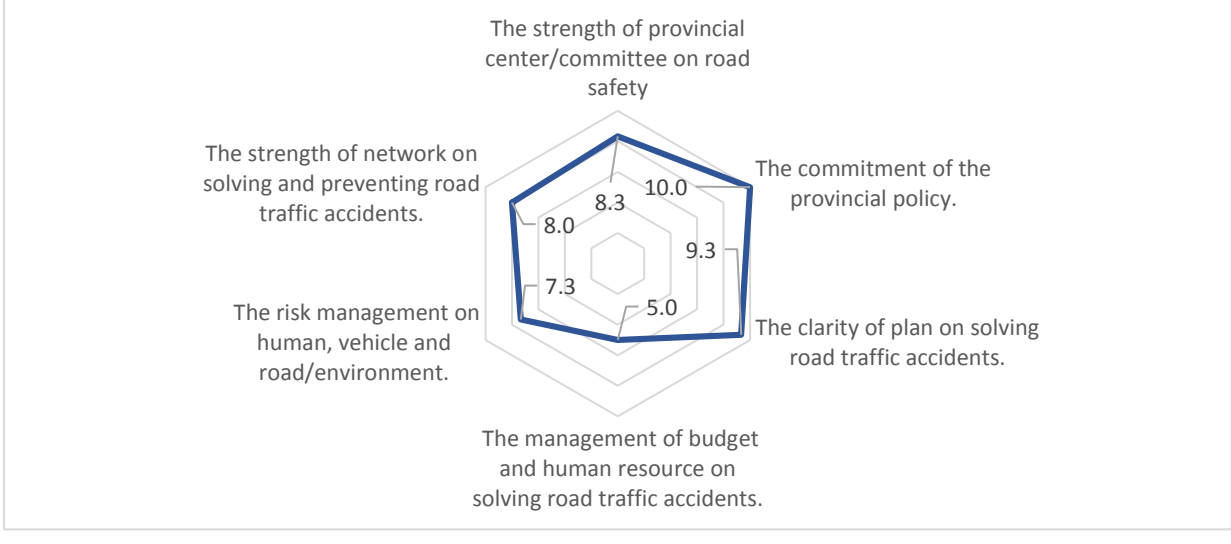
General Statistics			Accident Statistics		
Population	229,914	person (74)	Fatalities	89	Deaths (70)
registered vehicles	133,199	car (69)			
GPP*	46,965	million baht (51)			



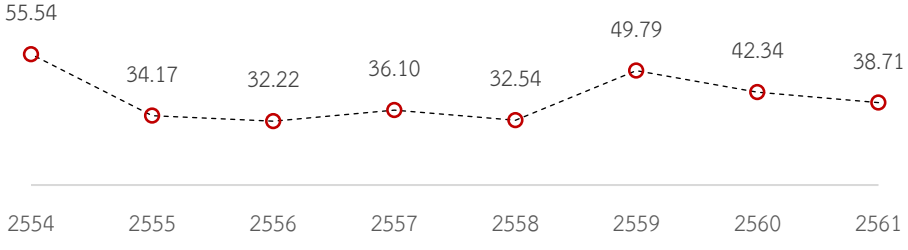
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

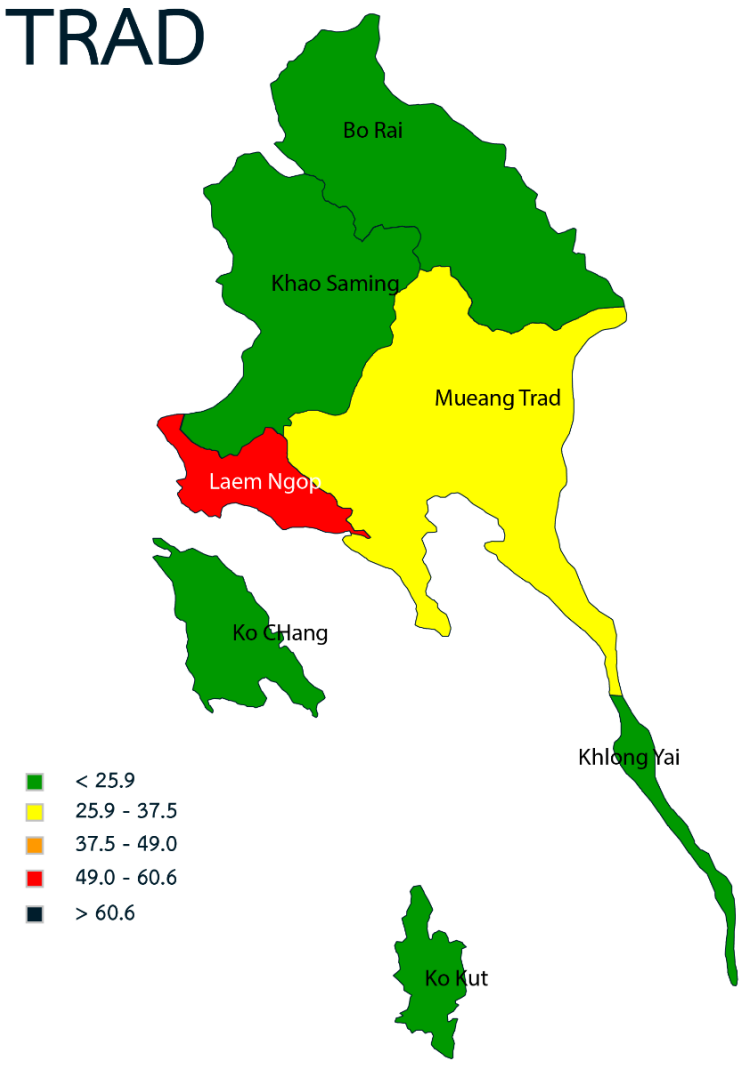


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Trad

District	Fatalities	Fatalities Rate per 100,000 population
	Rate	
Laem Ngop	7	50.68
Mueang Trad	20	28.37
Khao Saming	10	25.31
Khlong Yai	2	18.10
Bo Rai	3	16.53
Ko CHang	1	12.73
Ko Kut	-	-

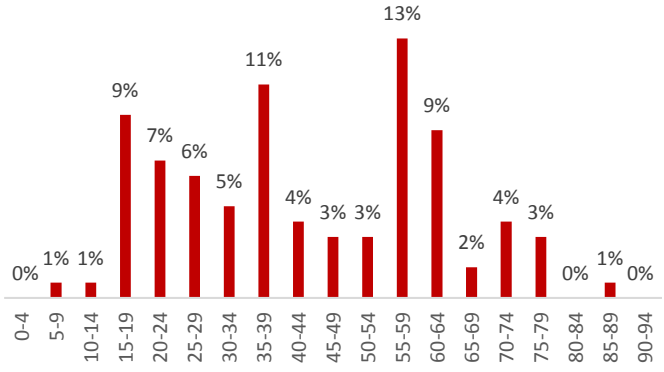


Road Traffic Death Rate by District

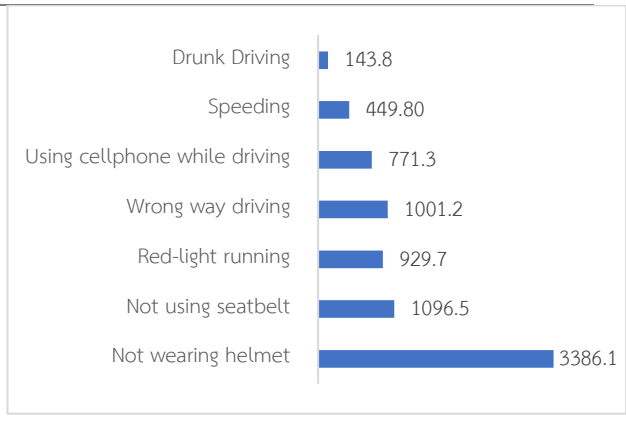
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Nakhon Nayok 2018

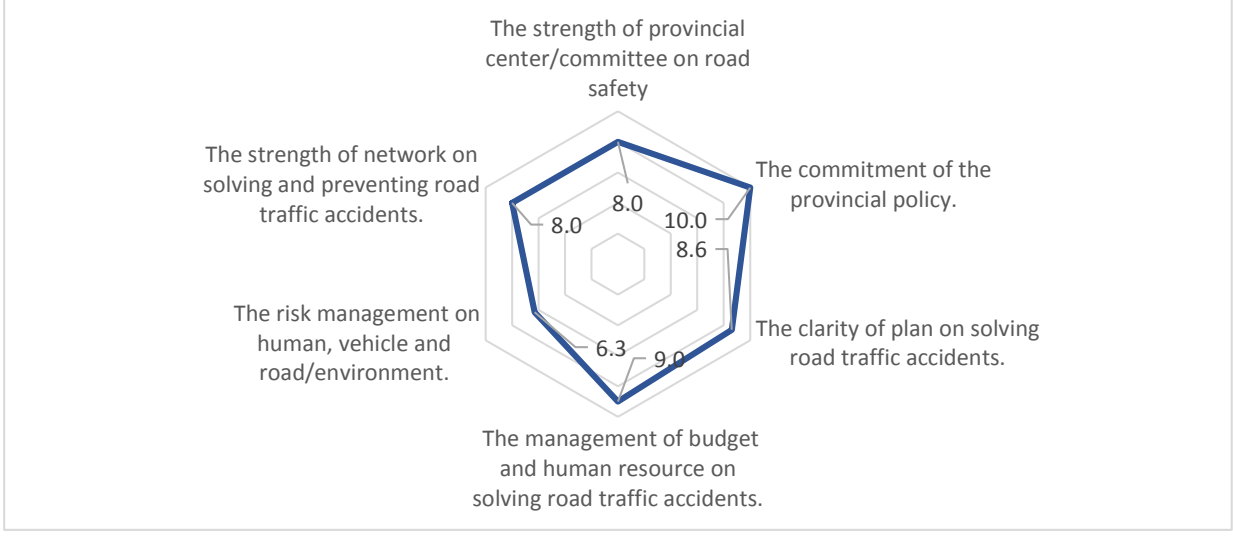
General Statistics			Accident Statistics		
Population	260,093	person (73)	Fatalities	112	Deaths (61)
registered vehicles	130,408	car (71)			
GPP*	26,836	million baht (69)			



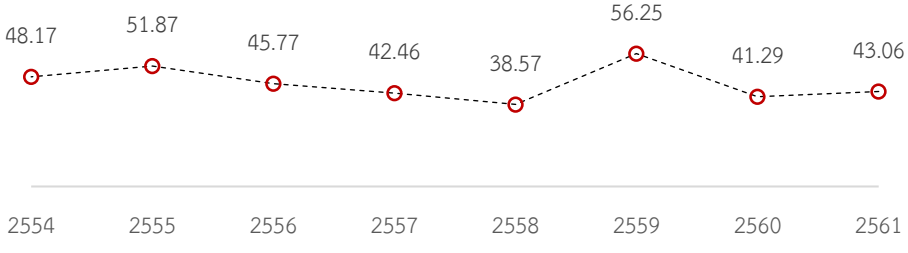
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

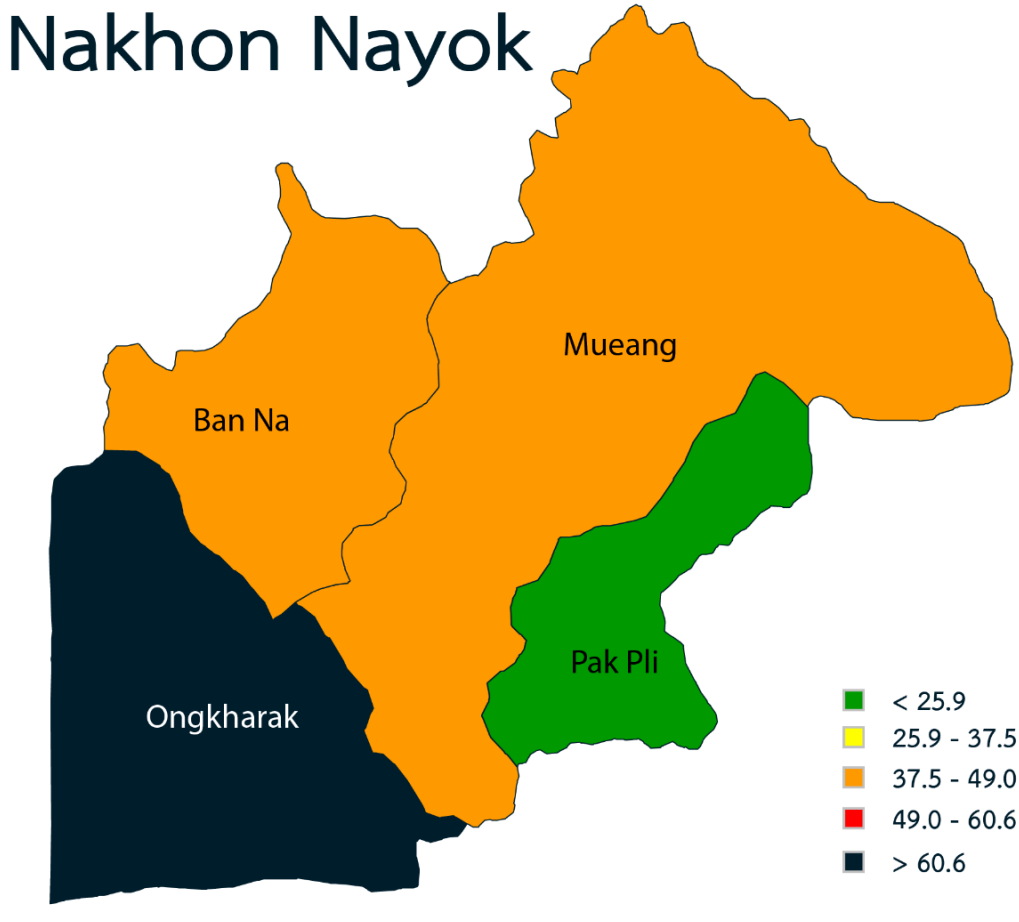


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Nakhon Nayok

District	Fatalities Rate	Fatalities Rate per 100,000 population
Ongkharak	21	86.15
Mueang	46	45.88
Ban Na	31	45.12
Pak Pli	6	9.50

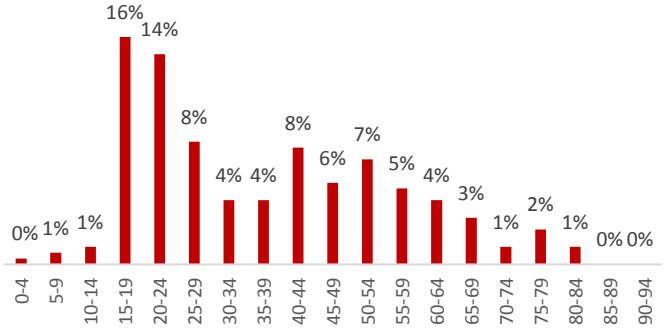


Road Traffic Death Rate by District

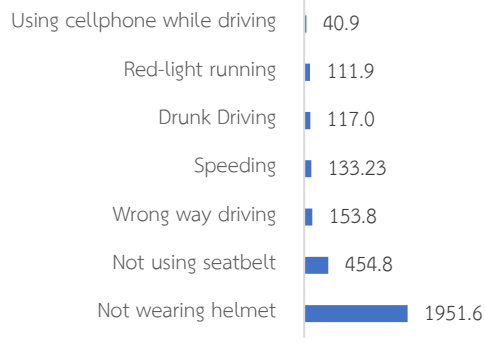
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Prachinburi 2018

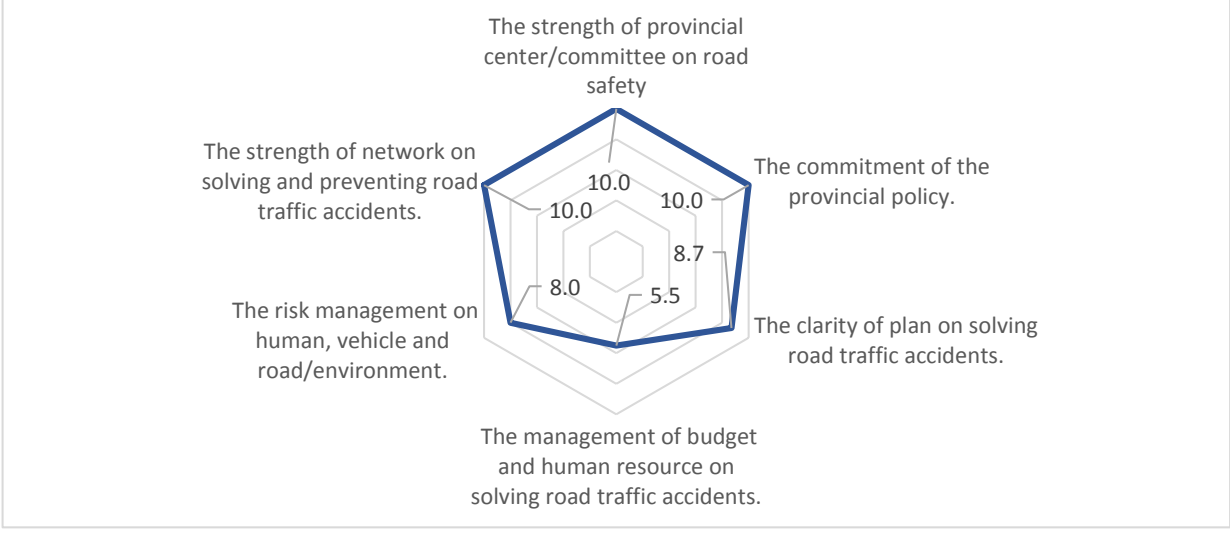
General Statistics			Accident Statistics		
Population	491,640	person (55)	Fatalities	232	Deaths (40)
registered vehicles	271,510	car (46)			
GPP*	297,250	million baht (11)			



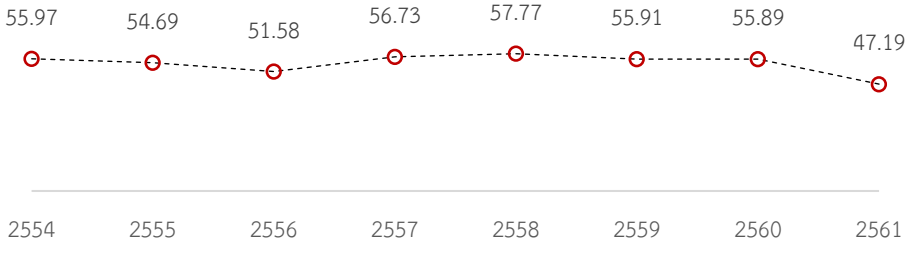
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

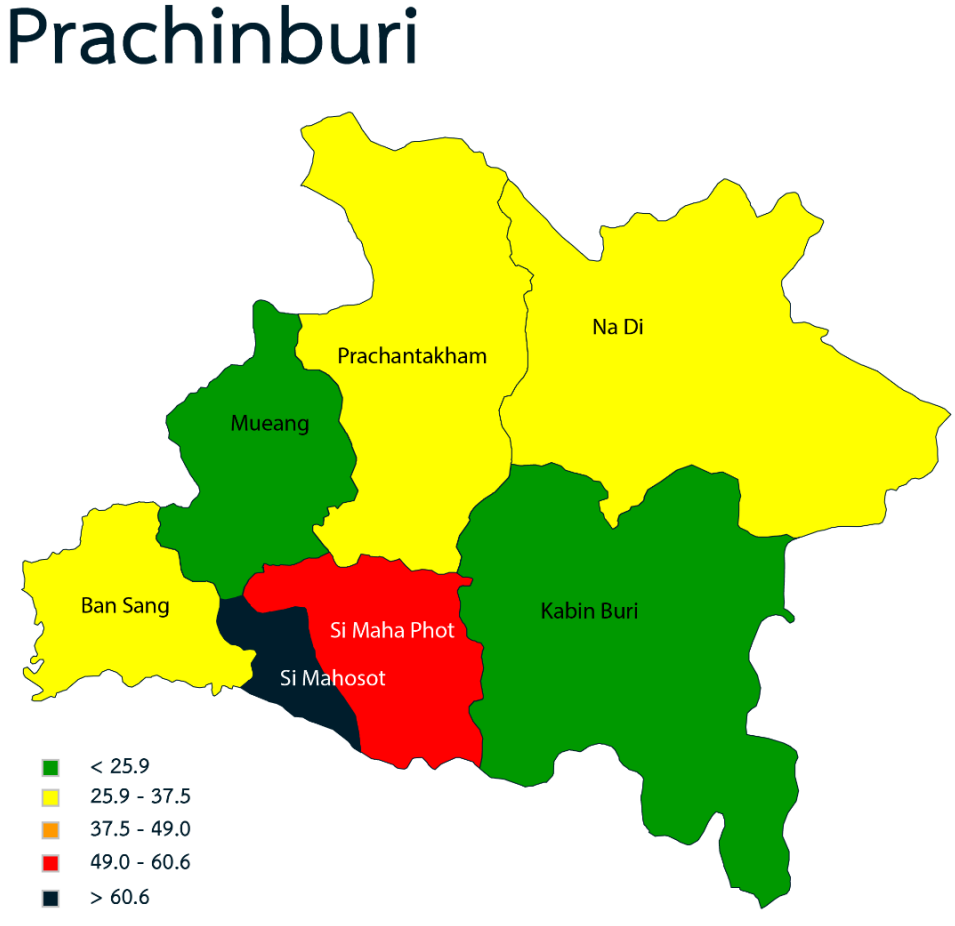


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Prachinburi

District	Fatalities Rate	Fatalities Rate per 100,000 population
Si Mahosot	12	67.26
Si Maha Phot	36	52.18
Na Di	15	30.50
Prachantakham	14	26.99
Ban Sang	8	26.97
Kabin Buri	35	25.25
Mueang	19	18.33

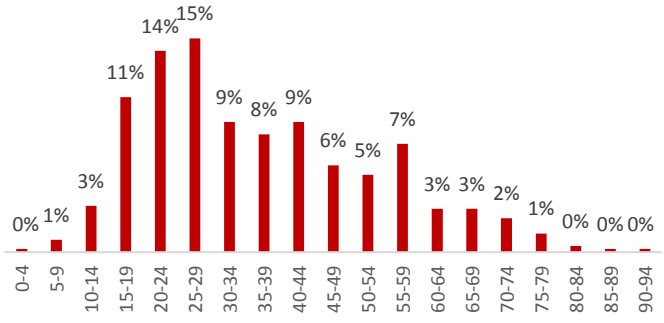


Road Traffic Death Rate by District

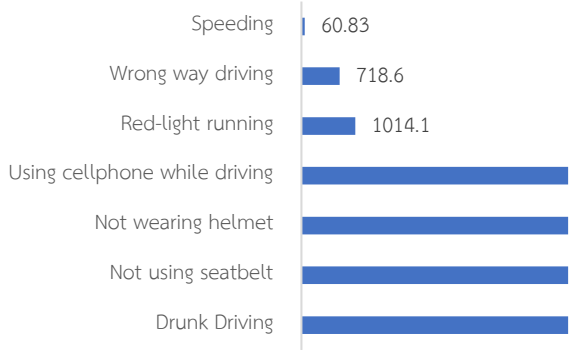
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Rayong 2018

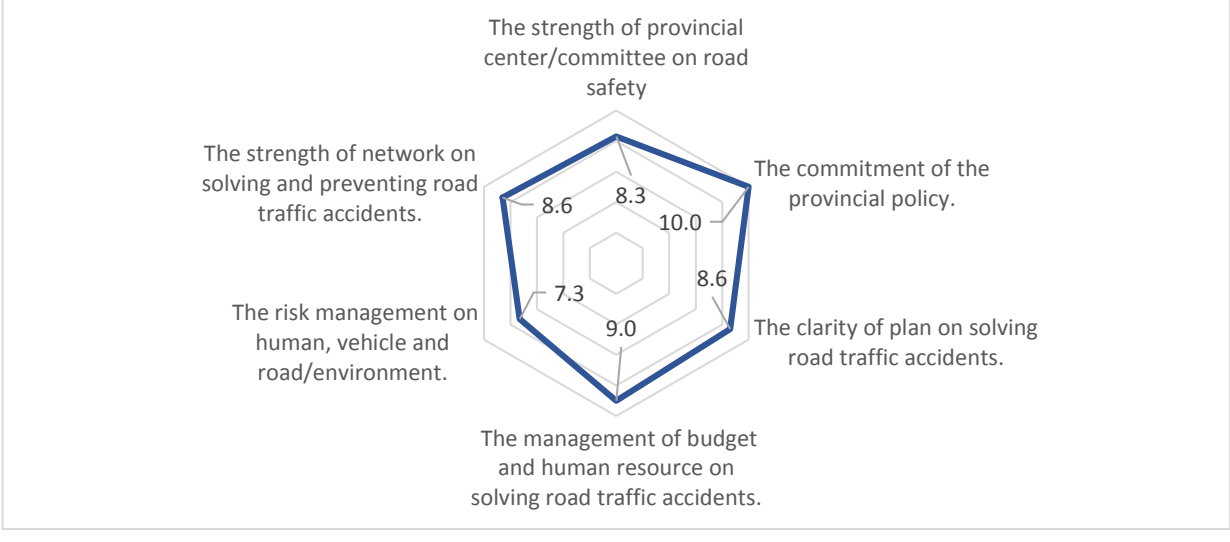
General Statistics			Accident Statistics		
Population	723,316	person (35)	Fatalities	474	Deaths (6)
registered vehicles	744,170	car (7)			
GPP*	984,980	million baht (2)			



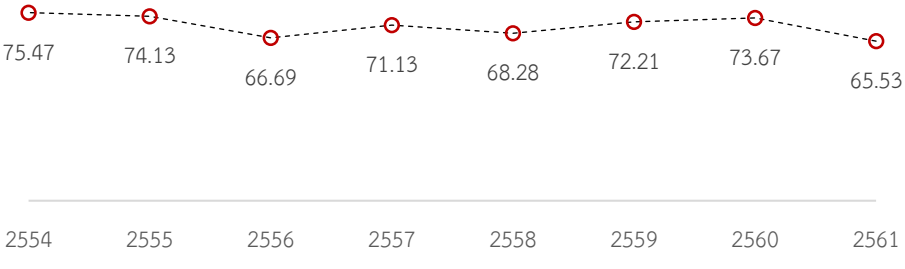
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

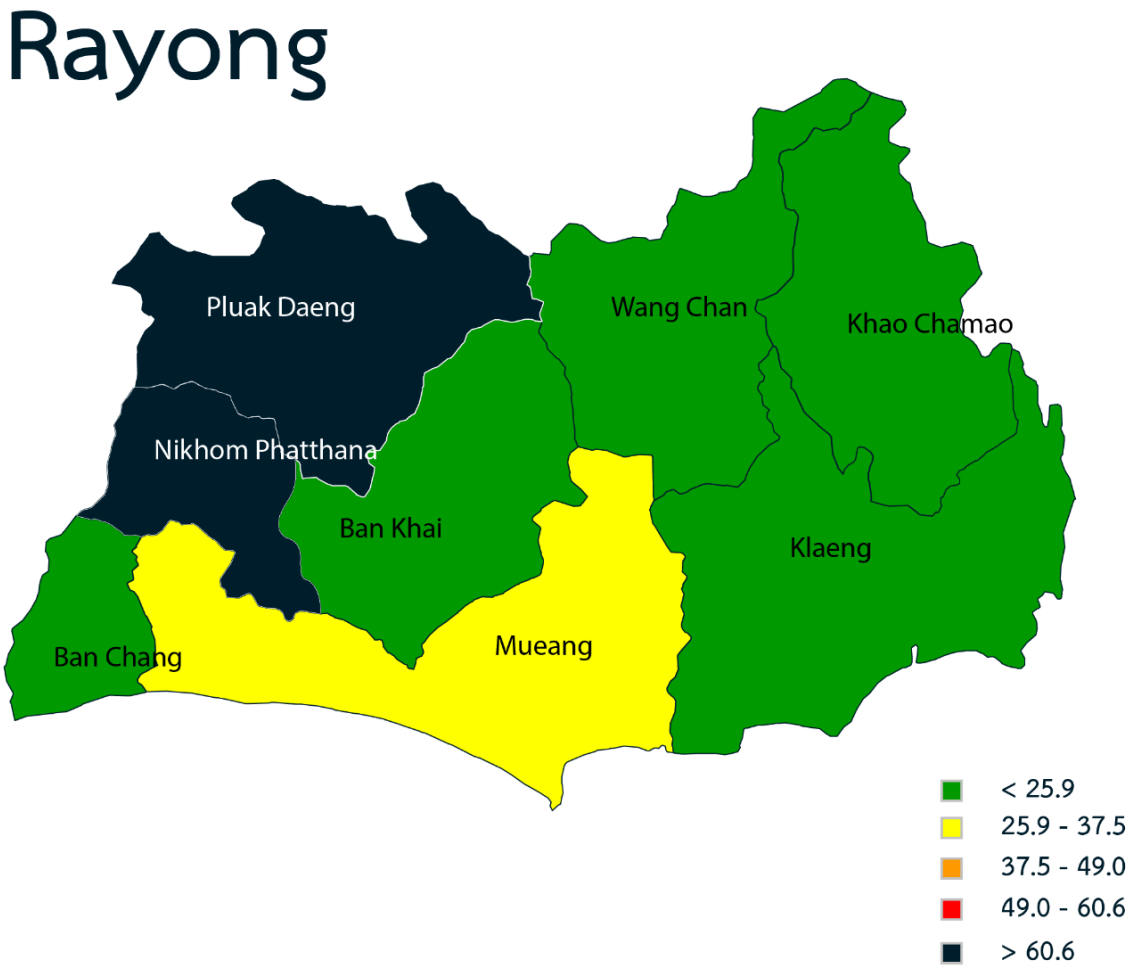


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Rayong

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Pluak Daeng	42	62.55	Ban Chang	14	23.40
Nikhom Phatthana	30	61.12	Klaeng	20	15.82
Mueang	72	26.13	Wang Chan	3	11.61
Ban Khai	17	24.76	Khao Chamao	1	4.26



Road Traffic Death Rate by District

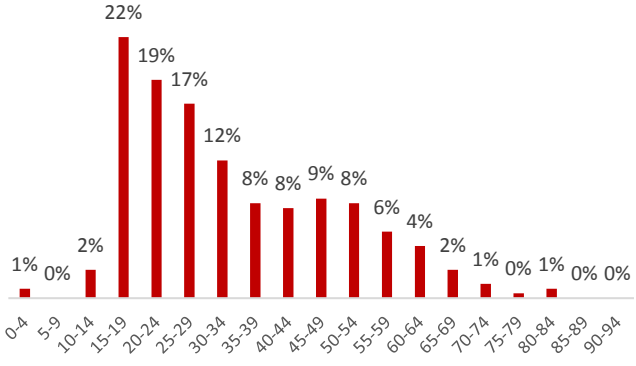
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Samutprakarn 2018

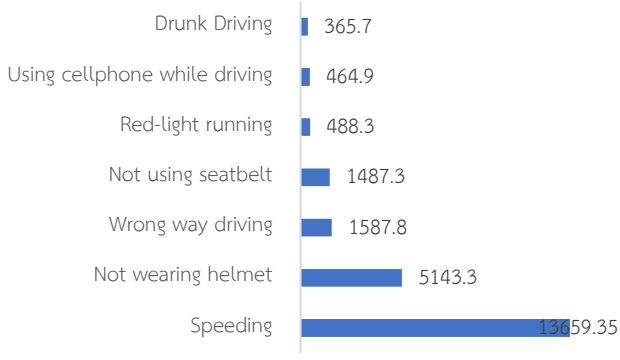
General Statistics			Accident Statistics		
Population	1,326,608	person (13)	Fatalities	313	Deaths (26)
registered vehicles	155,627	car (66)			
GPP*	717,053	million baht (4)			

สถิติพื้นฐาน

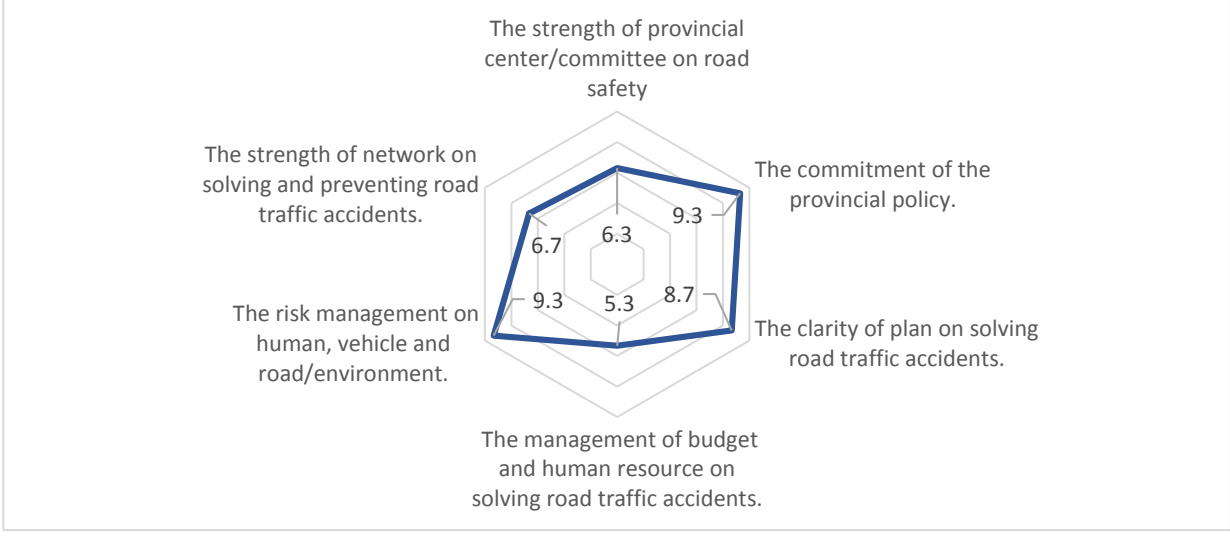
สถิติอุบัติเหตุ



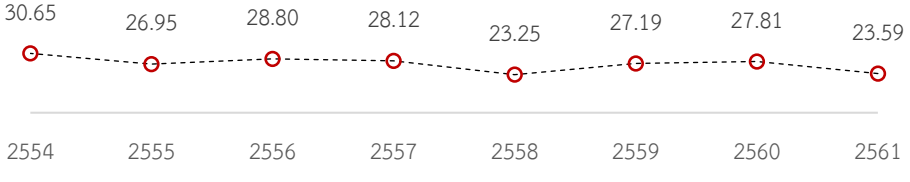
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

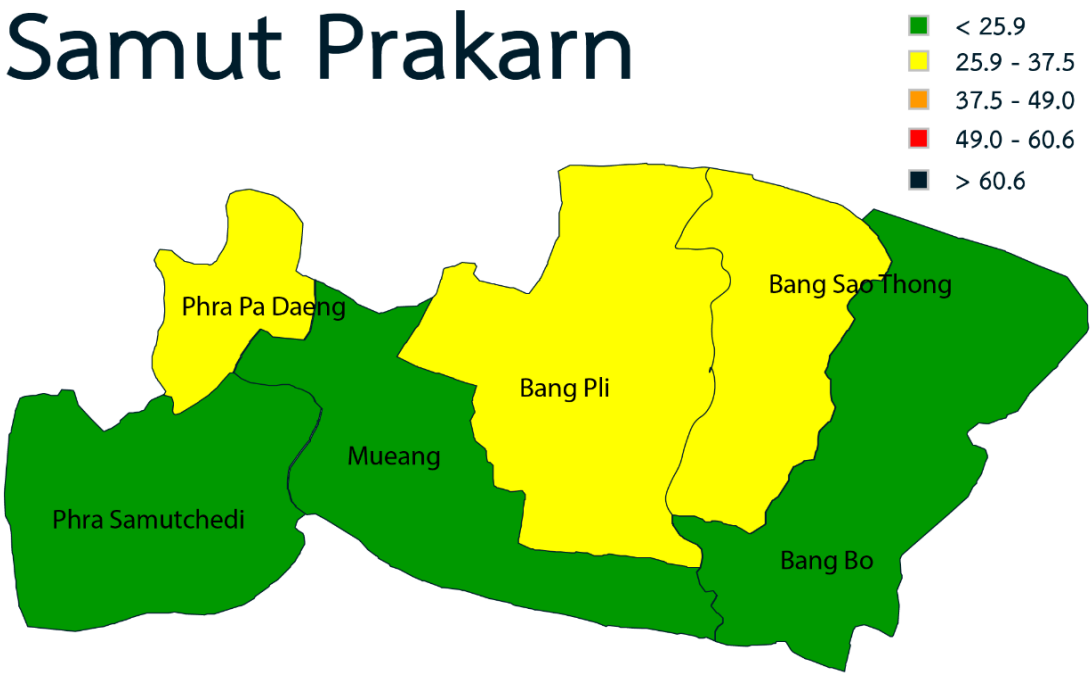


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Samutprakarn

District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	70	13.03
Bang Sao Thong	28	25.95
Bang Bo	10	3.95
Bang Pli	72	36.71
Phra Pa Daeng	39	28.12
Phra Samutchedi	12	15.48

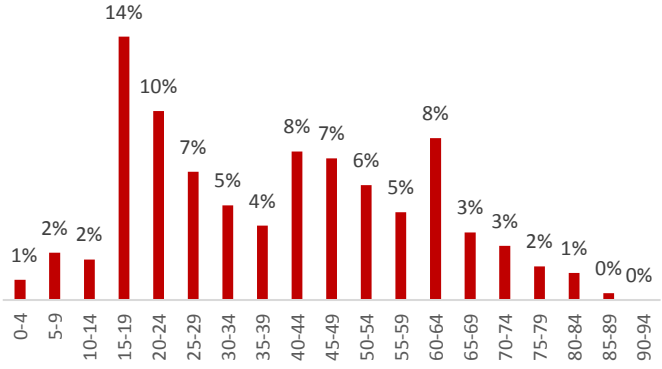


Road Traffic Death Rate by District

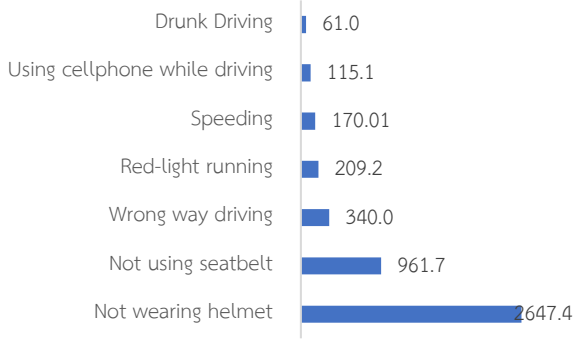
Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Sa Kaeo 2018

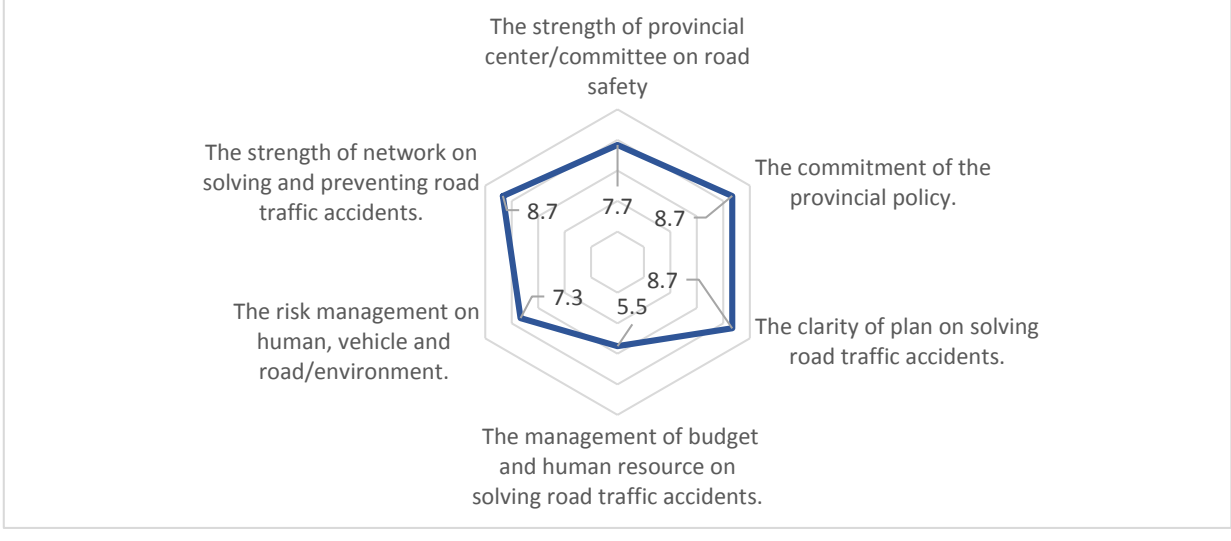
General Statistics			Accident Statistics		
Population	564,092	person (45)	Fatalities	259	Deaths (35)
registered vehicles	243,164	car (51)			
GPP*	45,250	million baht (52)			



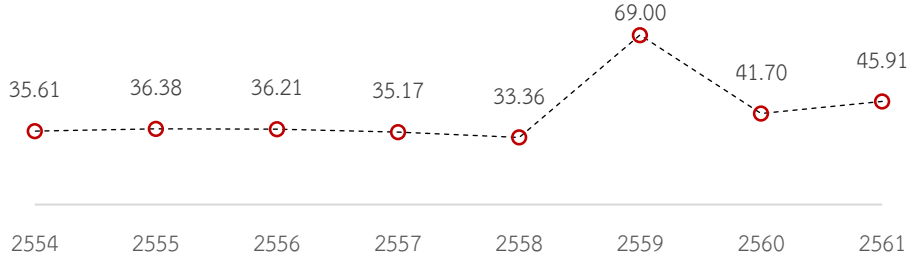
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

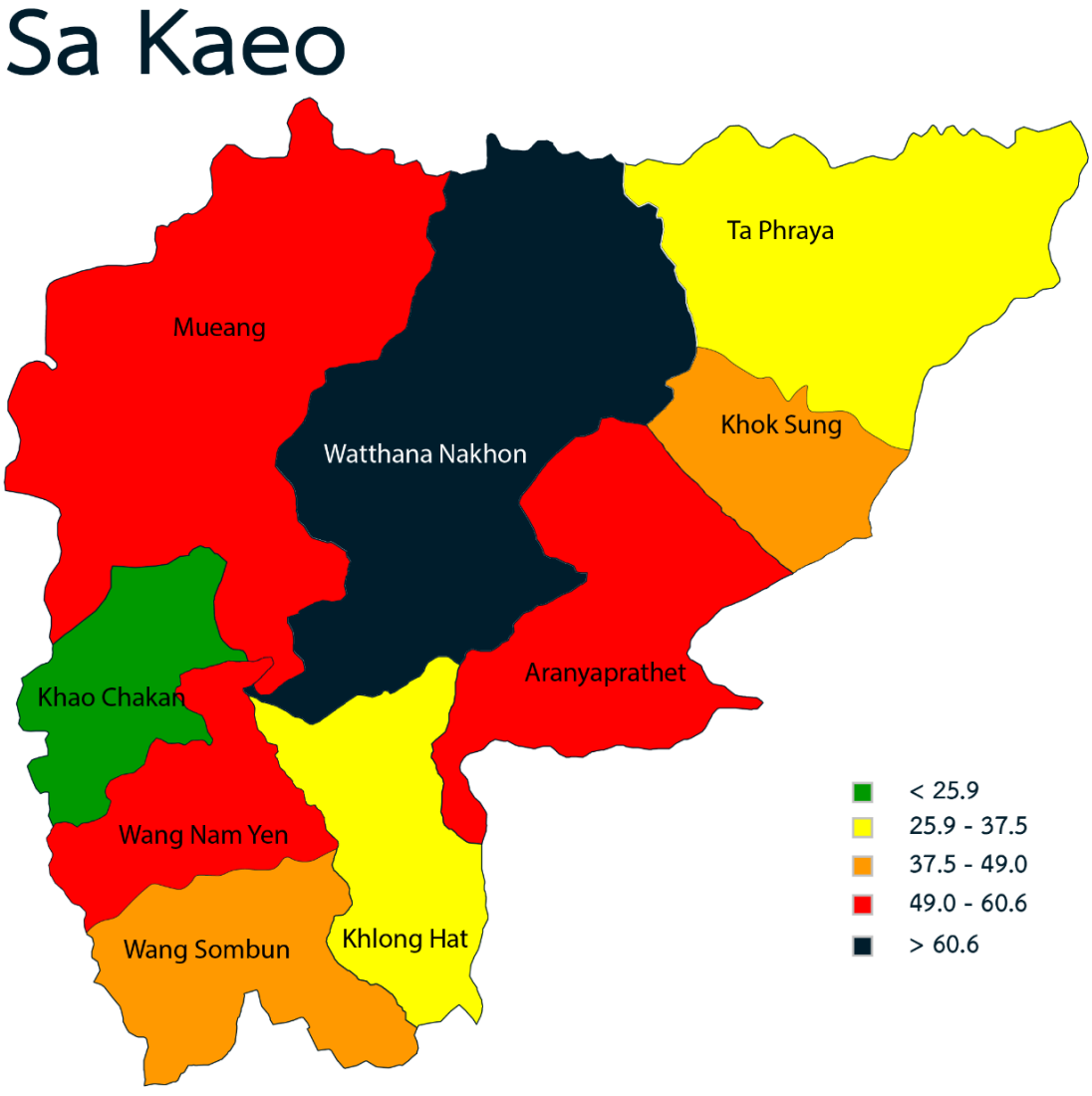


Road Traffic Death Rate per 100,000 population

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Sa Kaeo

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	56	51.01	Aranyaprathet	53	60.45
Khlong Hat	13	33.96	Khao Chakan	12	21.79
Ta Phraya	17	30.12	Khok Sung	12	44.87
Wang Nam Yen	30	49.16	Wang Sombun	14	38.90
Watthana Nakhon	73	89.68			



Road Traffic Death Rate by District

Notes: :*GPP data ,2017, The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chapter 7
Southern

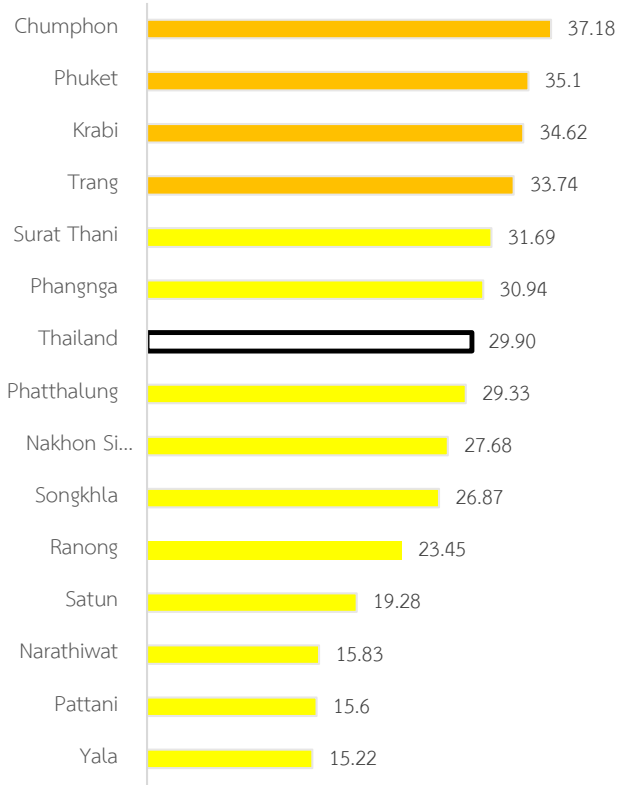
Southern region consists of 14 provinces, including Chumphon, Ranong, Surat Thani, Phangnga, Phuket, Krabi, Nakhon Si Thammarat, Trang, Phatthalung, Satun, Songkhla, Pattani, Yala and Narathiwat. The 2018 general information of southern region is shown as follows.

- 9,454,193 population — 16% of the country
- 4,800,910 registered vehicles — 12% of the country
- 1,371,184 million baht of GPP — 9% of the country

Road accident statistics of southern region in 2018 are;

- 2,533 deaths — 13% of the country

Note * Gross Provincial Product data, 2017



The average of road traffic death rate in southern region is 26.90, slightly lower than country average. The highest death rate-provinces are Chumphon, Phuket and Krabi, while the lowest death rate-provinces belong to Narathiwat, Pattani and Yala. (**Figure 7.1**).

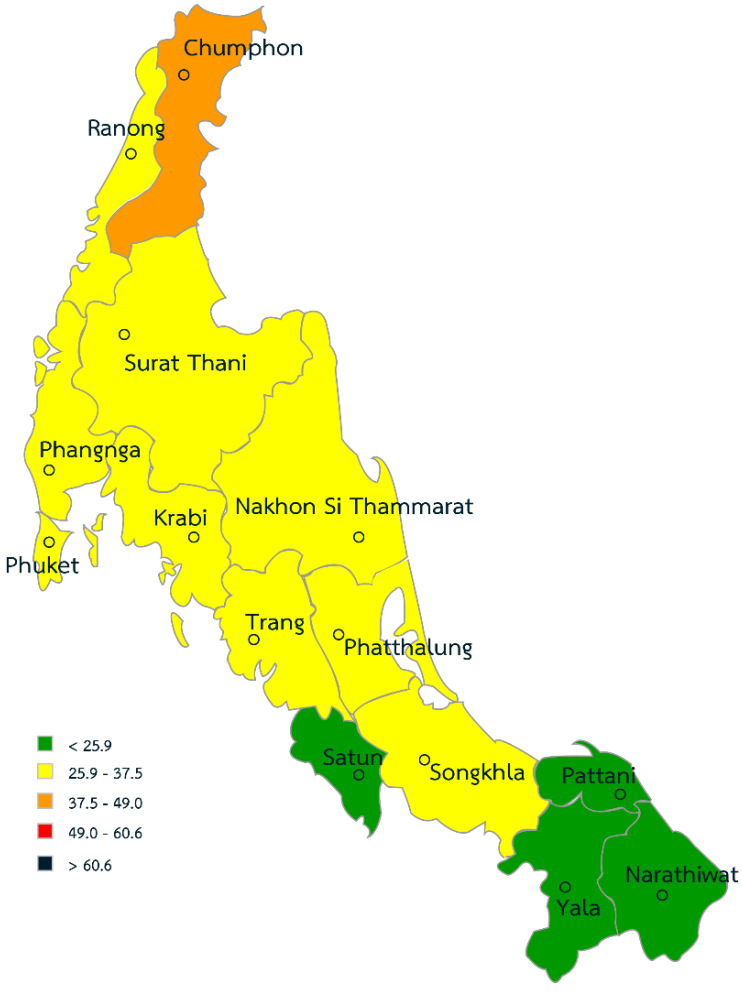
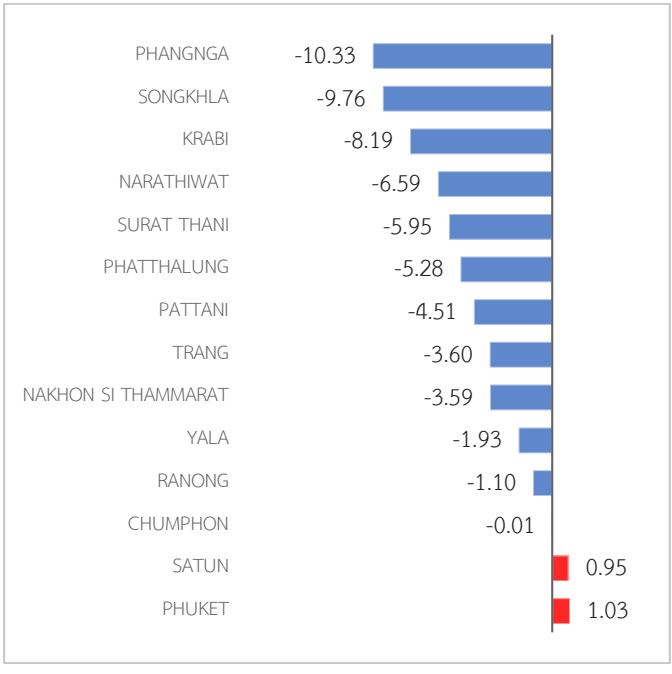


Figure 7.1 Southern road traffic death rate



Comparing between 2016 and 2018, southern region has an average death rate reduced by 4.42. The highest reduction rate-provinces are Phangnga, Songkhla and Krabi, while the highest increase rate-provinces belong to Satun and Phuket (**Figure 7.2**).

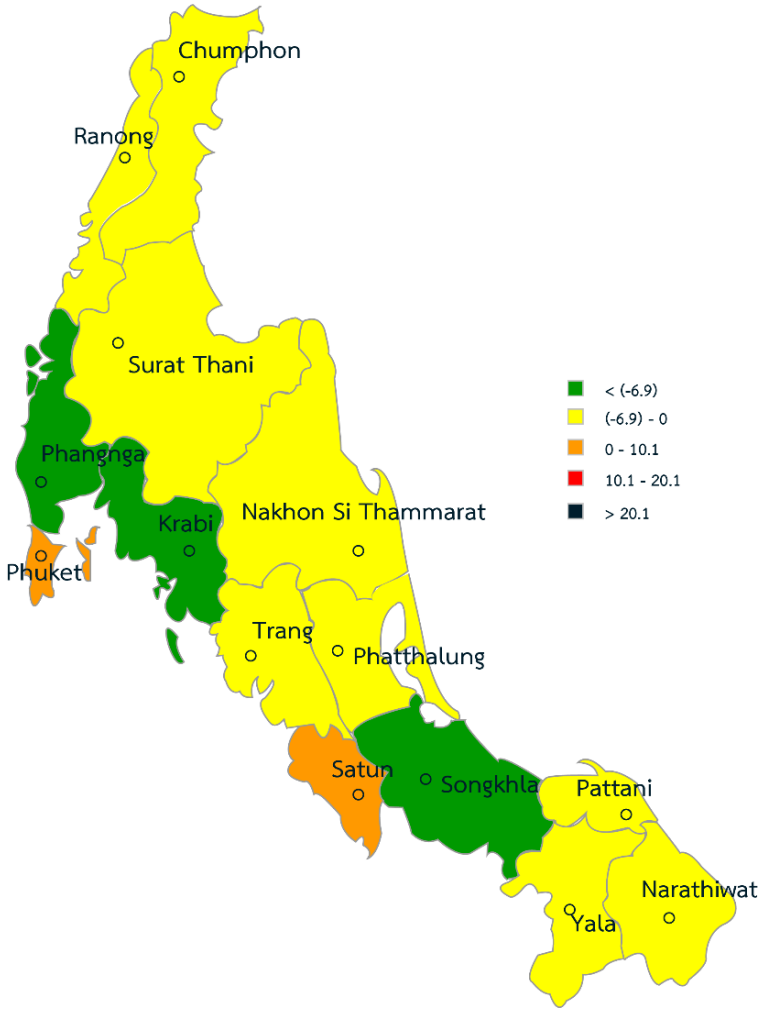


Figure 7.2 Changes in southern road traffic death rate comparing with 2016

7.1. Police Enforcement

The interpretation of the police enforcement statistic implies their effort on solving traffic violation problems. The police enforcement refers to the seven traffic violation cases shown as follows.

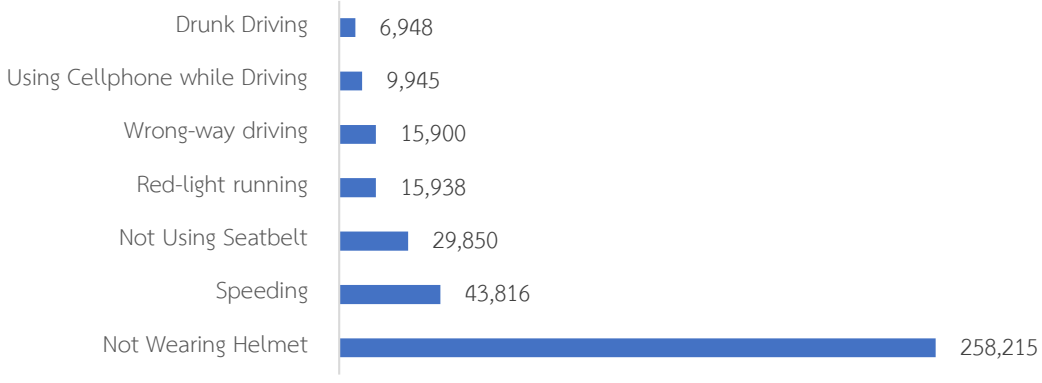


Figure 7.3 The statistic of seven traffic violation cases in southern region

The average of traffic violation case in southern region is remarkably lower than country average nearly 52% (**Figure 7.4**). The highest rate belongs to not wearing helmet (2,713.2 cases per 100,000 population), while drunk driving shows the lowest rate (73.5 cases per 100,000 population). The detail of seven traffic violation cases of each province is described in **Table 7.1**.

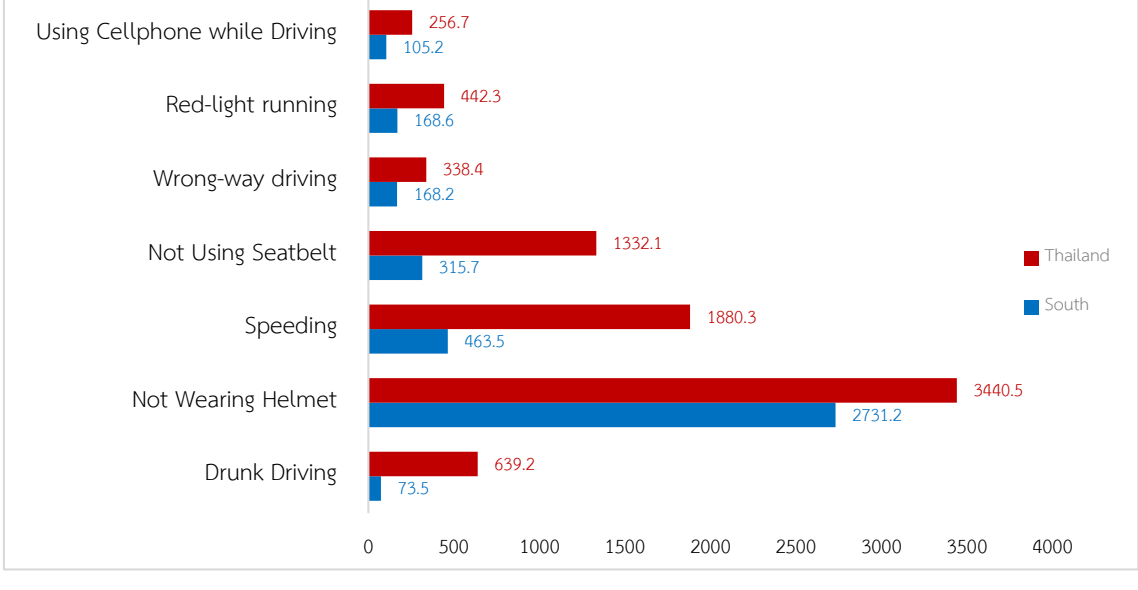


Figure 7.4 Traffic violation rate comparing between southern region and Thailand

Table 7.1 Traffic violation rate in southern region

Province	Drunk driving	Helmet	Speeding	Seatbelt	Wrong way	Red light running	Using phone
Krabi	254	8098	505	2063	244	367	195
Chumphon	180	11454	1	1310	245	275	79
Trang	142	11664	483	2245	392	570	649
Nakhon Si Thammarat	2028	81219	406	4898	888	1134	786
Narathiwat	3	17	4	2	15	17	3
Pattani	-	-	-	738	256	-	181
Phangnga	97	3356	509	477	134	80	9
Phatthalung	-	-	-	-	-	-	-
Phuket	3574	106603	1288	8949	9250	9323	3993
Yala	129	4061	64	2068	208	1226	217
Ranong	123	4397	160	532	674	129	254
Songkhla	-	2	-	45	-	-	-
Satun	21	957	42	1134	132	167	70
Surat Thani	397	26387	40354	5389	3460	2650	3509

Notes: Dash (-) means no data presented.

According to **Table 7.1**, the drunk driving case rate in southern region is 73.5 cases per 100,000 population, which is lower than country average (639.2 cases per 100,000 population). The highest rate-provinces are Phuket, Nakhon Si Thammarat and Surat Thani. Due to conflict and terrorism in the three southern border provinces, there is almost no report on the drunk driving case from Narathiwat, Satun and Phangnga thus they are rated the lowest. There seem to be no correlation between the number of drunk driving case and breathalyzer because the case rate is extremely low in most part of the region, excluding Phuket which possesses relatively high case rate and breathalyzer availabilities (**Figure 7.7**).

Speeding case rate in southern region is 463.5 cases per 100,000 population, which is lower than country average (1880.3 cases per 100,000 population). Suratthani, Phuket and Phangnga have the higher rate than the country average. The lowest rate-provinces are Chumphon, Narathiwat and Satun due to their conflict and terrorism in the area. An example of correlation between the number of case and speed camera occurred

in Chumphon and Phuket which possesses relatively high case rate and speed camera availabilities, while Phangnga and Nakhon Si Thammarat have a reasonable number of speed camera, the number of arrests is still not very effective. (**Figure 7.8**).

Not wearing helmet case rate in southern region is 2,519.63 cases per 100,000 population, which is higher than country average (2,403.12 cases per 100,000 population). The highest rate-provinces are Phuket, Nakhon Si Thammarat and Trang, while the lowest rate-provinces belong to Yala, Narathiwat and Pattani due to their conflict and terrorism in the area. There seem to be significant correlation between the number of cases and helmet wearers. An example of relatively high case rate and helmet wearer rate occurred in Phuket and Nakhon Si Thammarat, while Narathiwat possess the relatively low case rate and helmet wearer rate (**Figure 7.9**).

The detail of other cases, such as not using seatbelt, red light running, wrong-way driving and Using cellphone while driving are illustrated in **Figure 7.5** and **Figure7.6**.

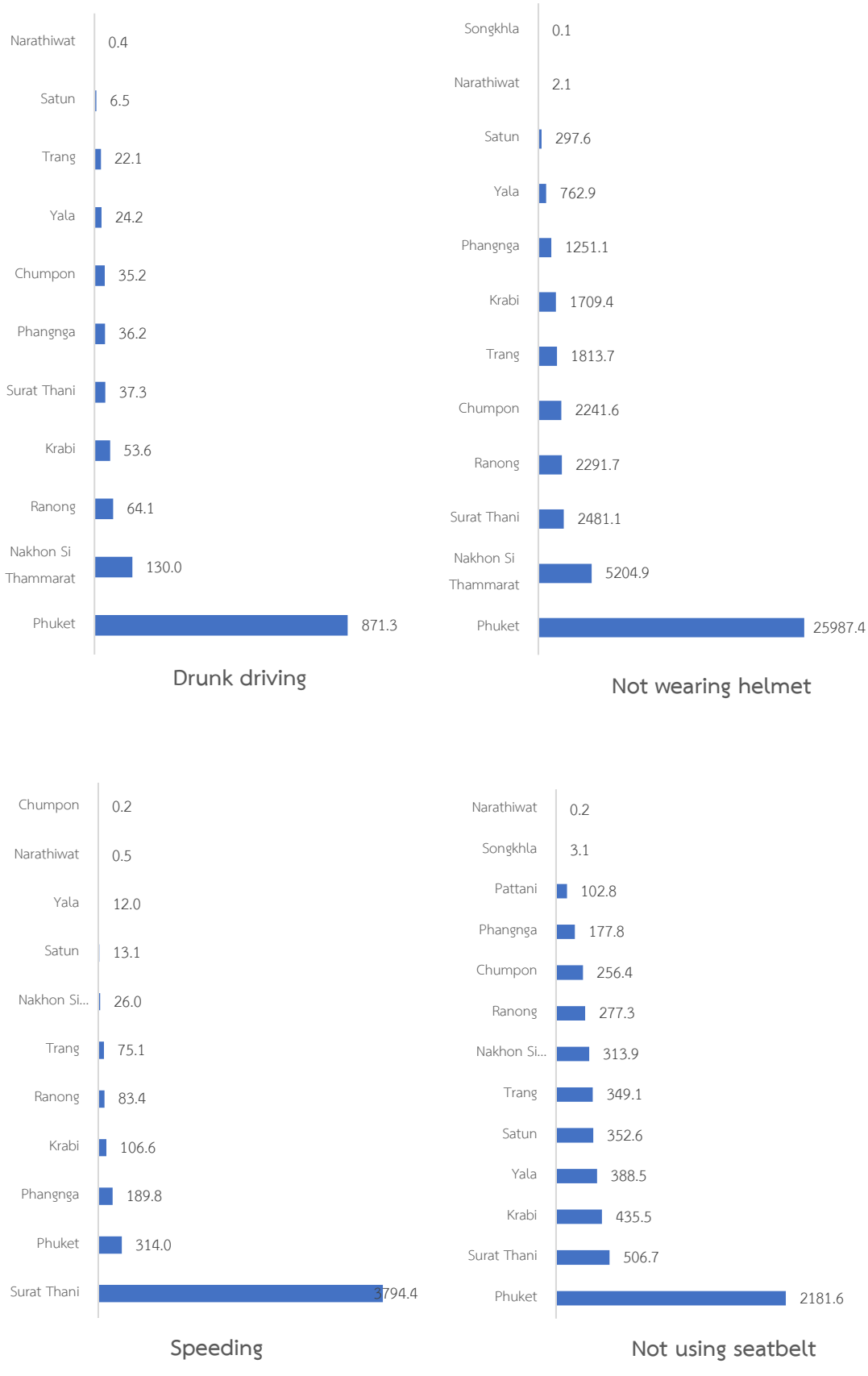


Figure 7.5 Traffic violation case rate per 100,000 population

Figure 7.6 Traffic violation case rate per 100,000 population (Cont.)

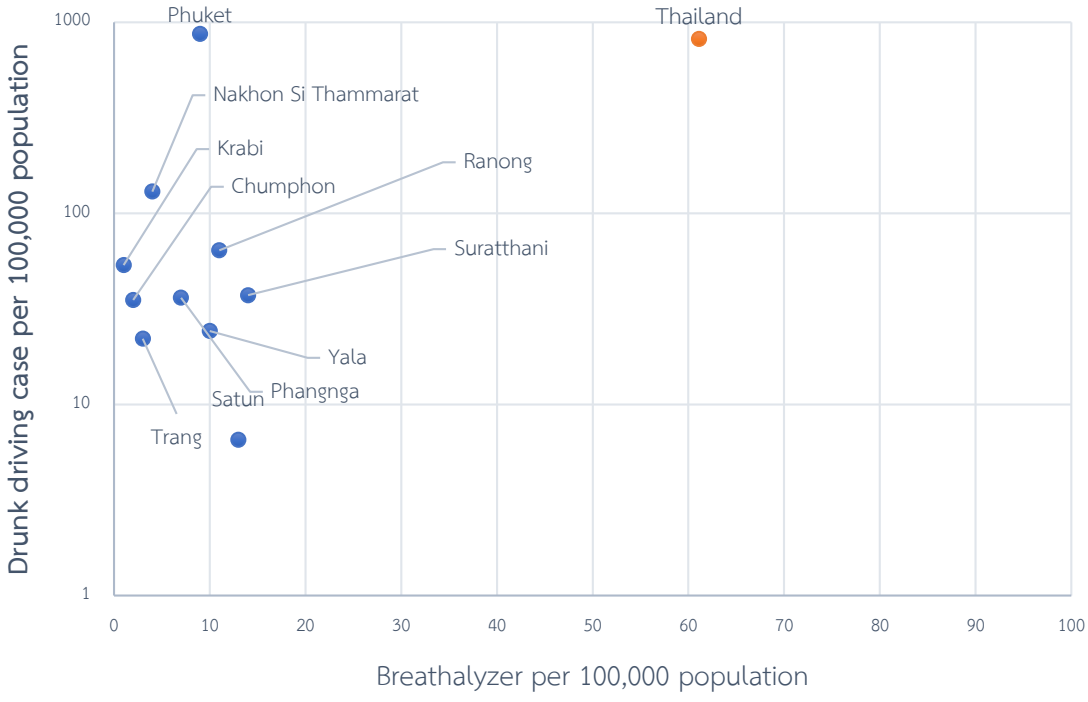


Figure 7.7 Drunk driving case rate and breathalyzer availability

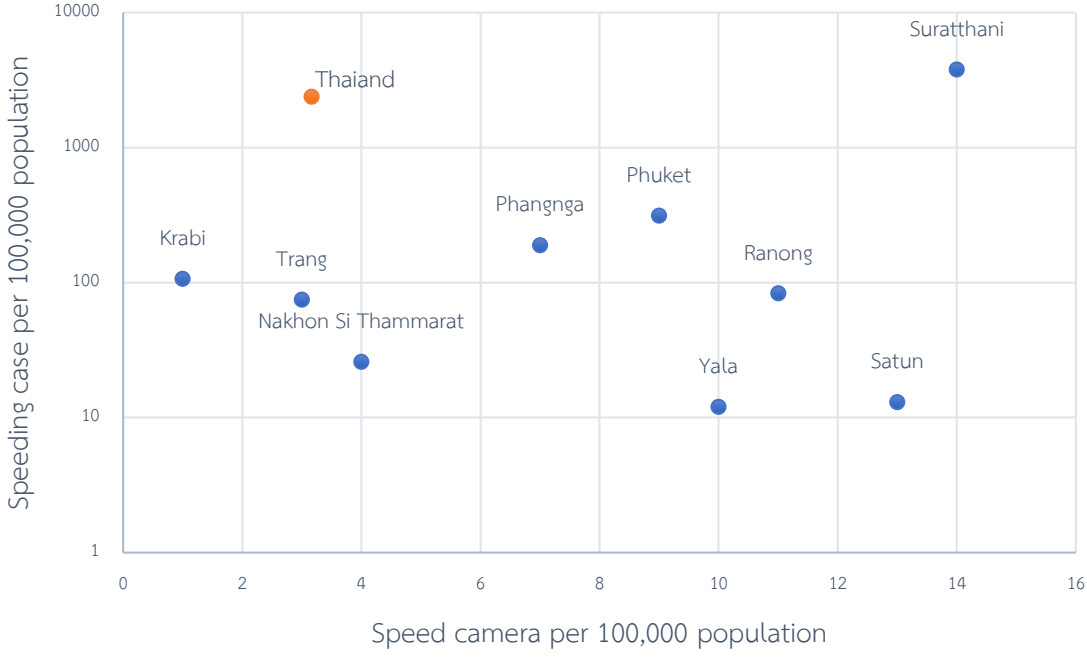


Figure 7.8 Speeding case rate and speed camera availability

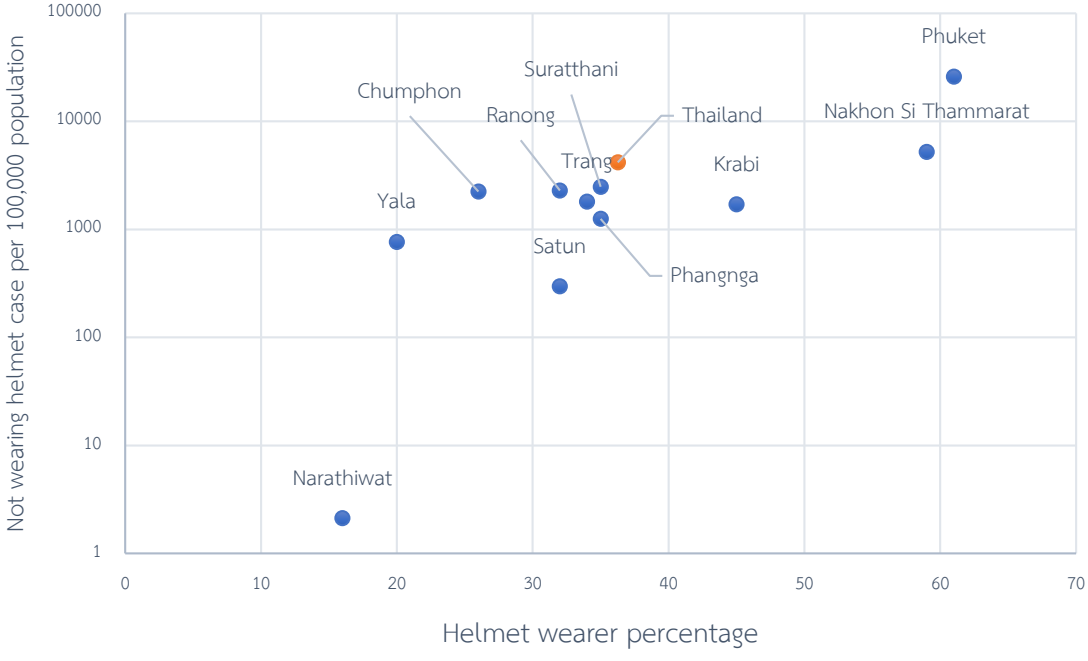
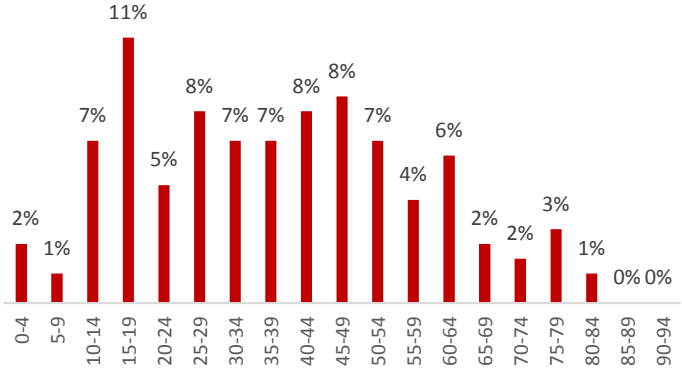


Figure 7.9 Not wearing helmet case rate and helmet wearer percentage

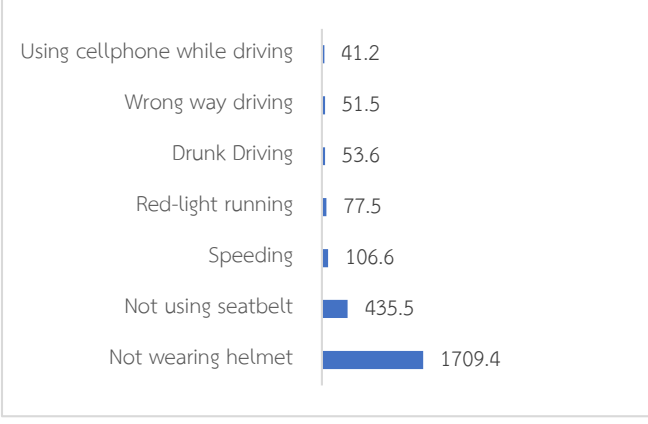
Source :Thairoads Foundation

Krabi 2018

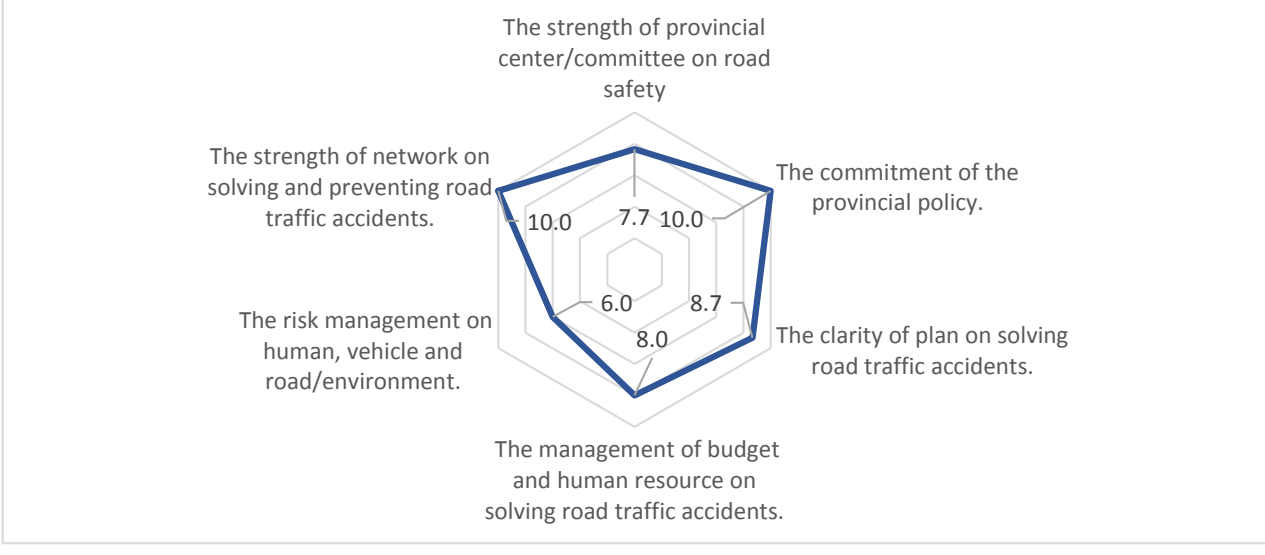
General Statistics			Accident Statistics		
Population	473,738	person (59)	Fatalities	164	Deaths (49)
registered vehicles	253,077	car (49)			
GPP*	89,702	million baht (31)			



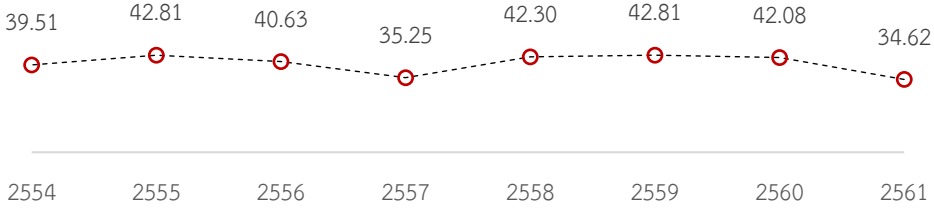
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

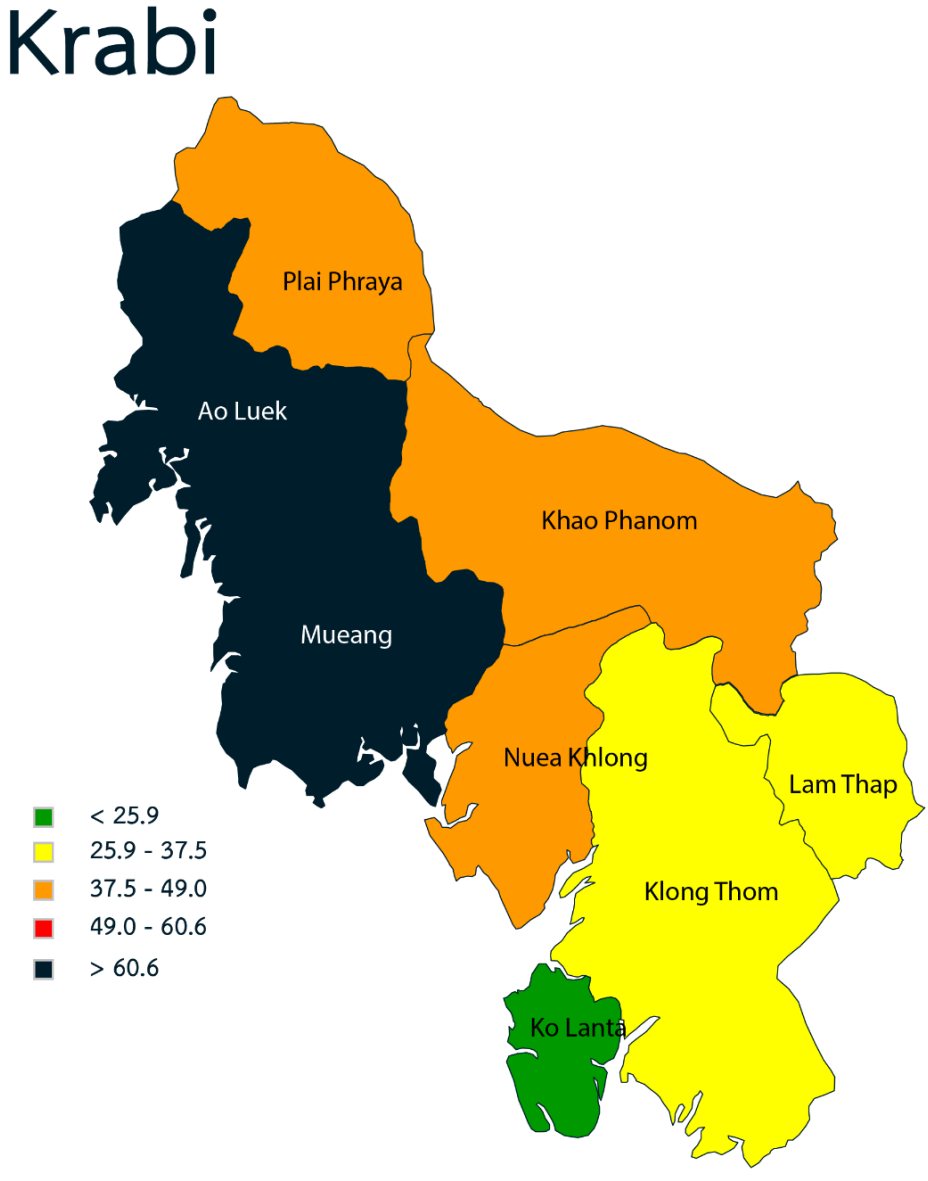


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Krabi

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Ao Luek	35	75.15	Plai Phraya	13	39.98
Mueang	51	70.87	Lam Thap	7	34.71
Nuea Khlong	28	47.39	Klong Thom	21	31.27
Khao Phanom	20	40.20	Ko Lanta	8	23.59

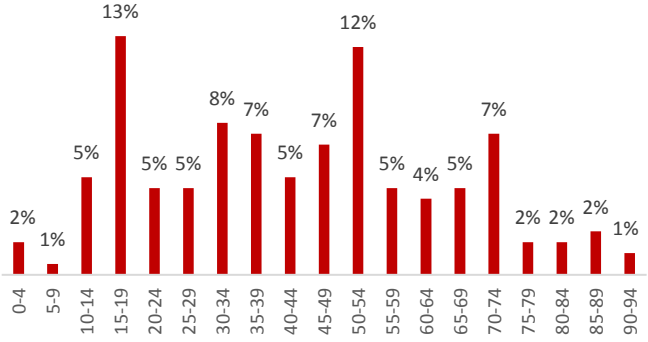


Road Traffic Death Rate by District

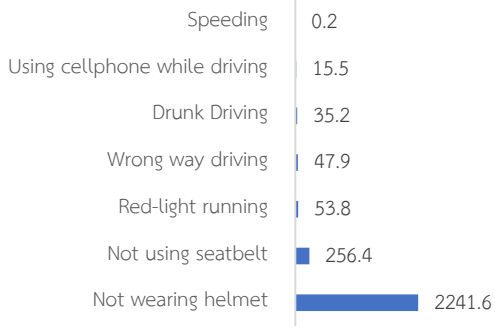
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chumphon 2018

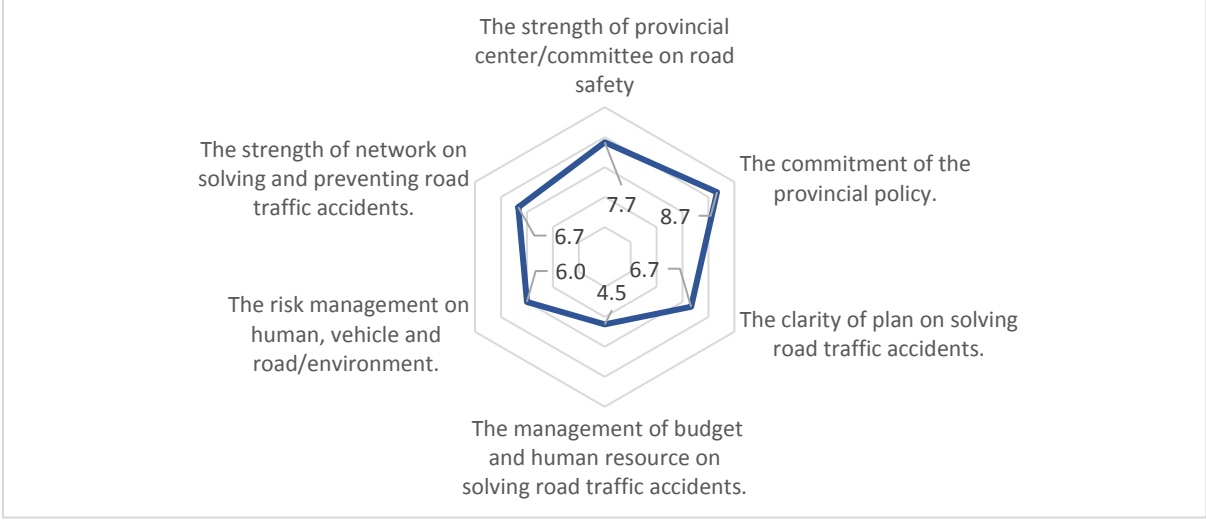
General Statistics			Accident Statistics		
Population	510,963	person (54)	Fatalities	190	Deaths (44)
registered vehicles	297,945	car (39)			
GPP*	79,397	million baht (34)			



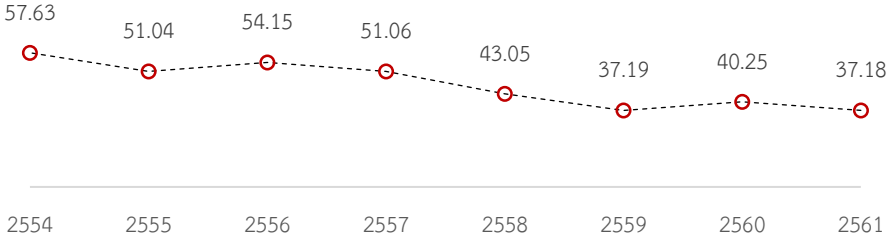
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

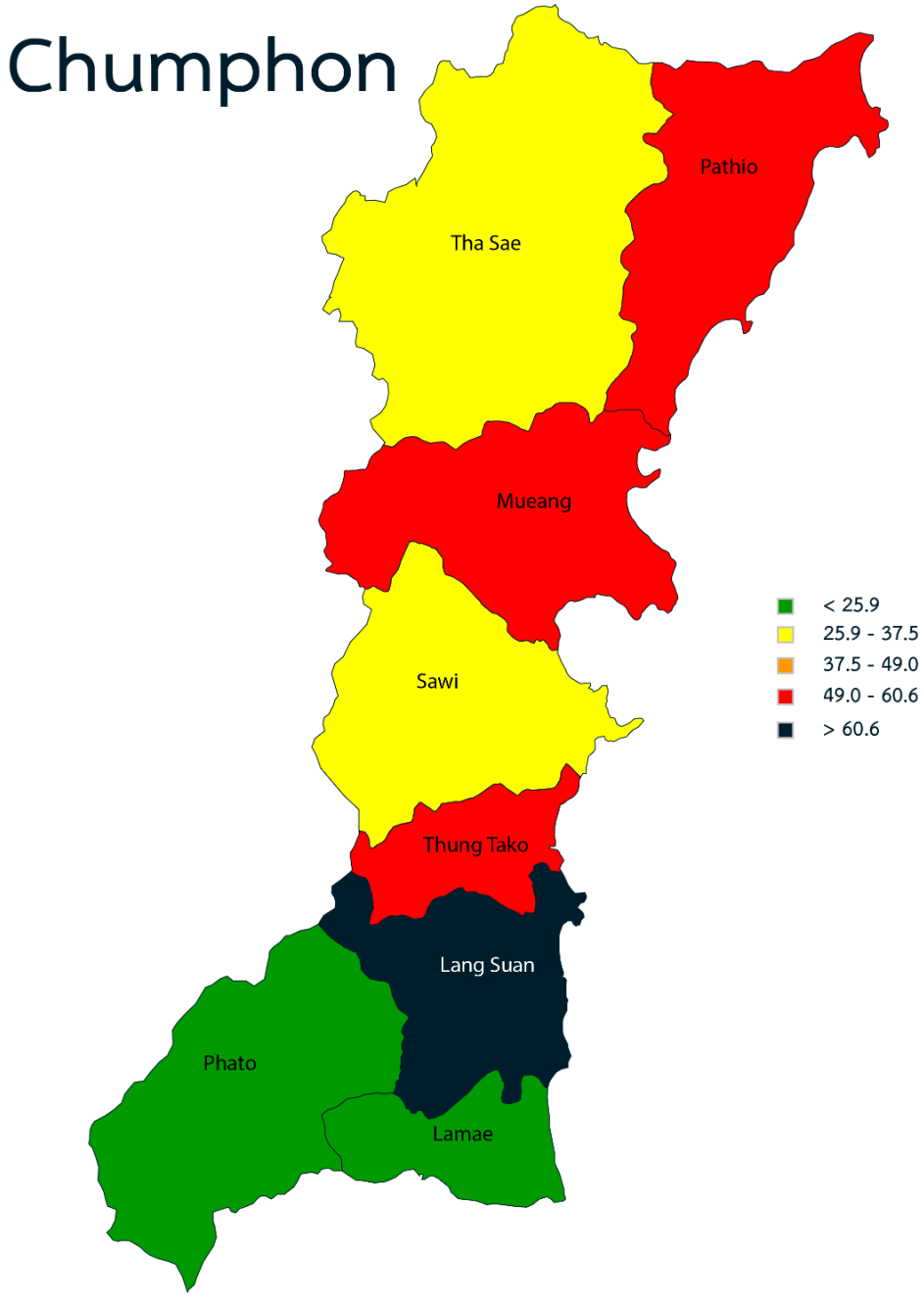


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Chumphon

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Lang Suan	35	62.79	Tha Sae	30	35.17
Pathio	26	57.76	Sawi	21	28.74
Thung Tako	13	51.02	Lamae	6	22.73
Mueang	63	50.75	Phato	3	13.11

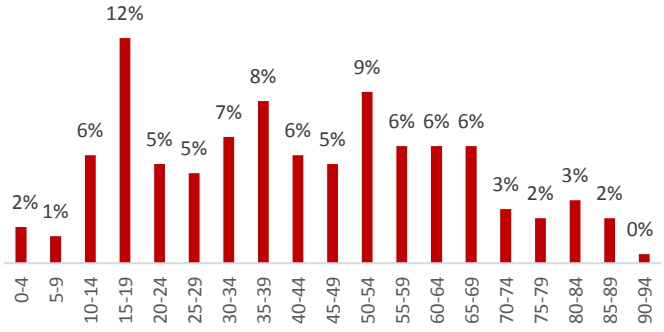


Road Traffic Death Rate by District

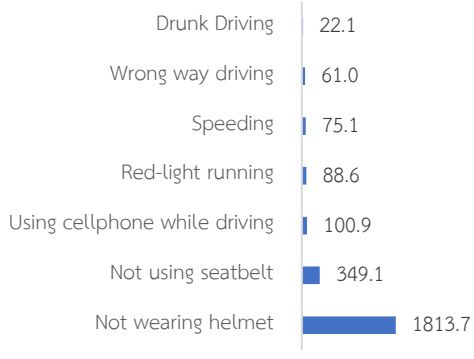
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Trang 2018

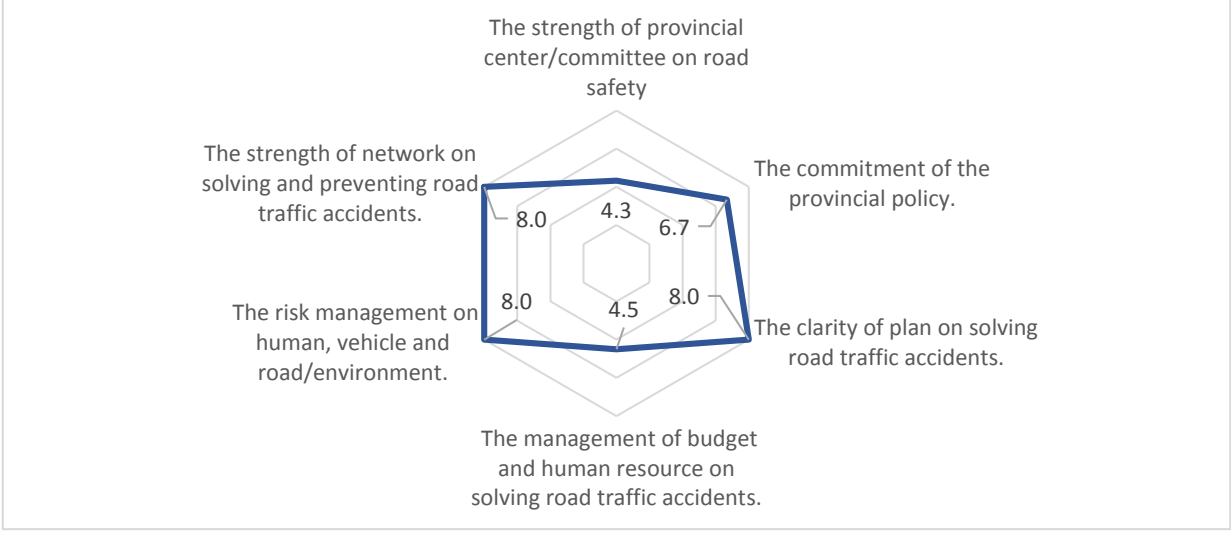
General Statistics			Accident Statistics		
Population	643,116	person (41)	Fatalities	217	Deaths (41)
registered vehicles	349,263	car (34)			
GPP*	73,202	million baht (38)			



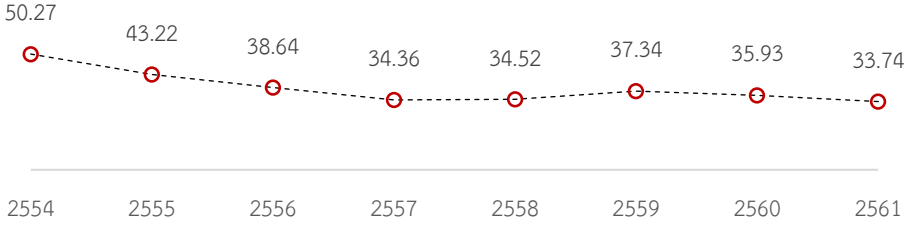
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

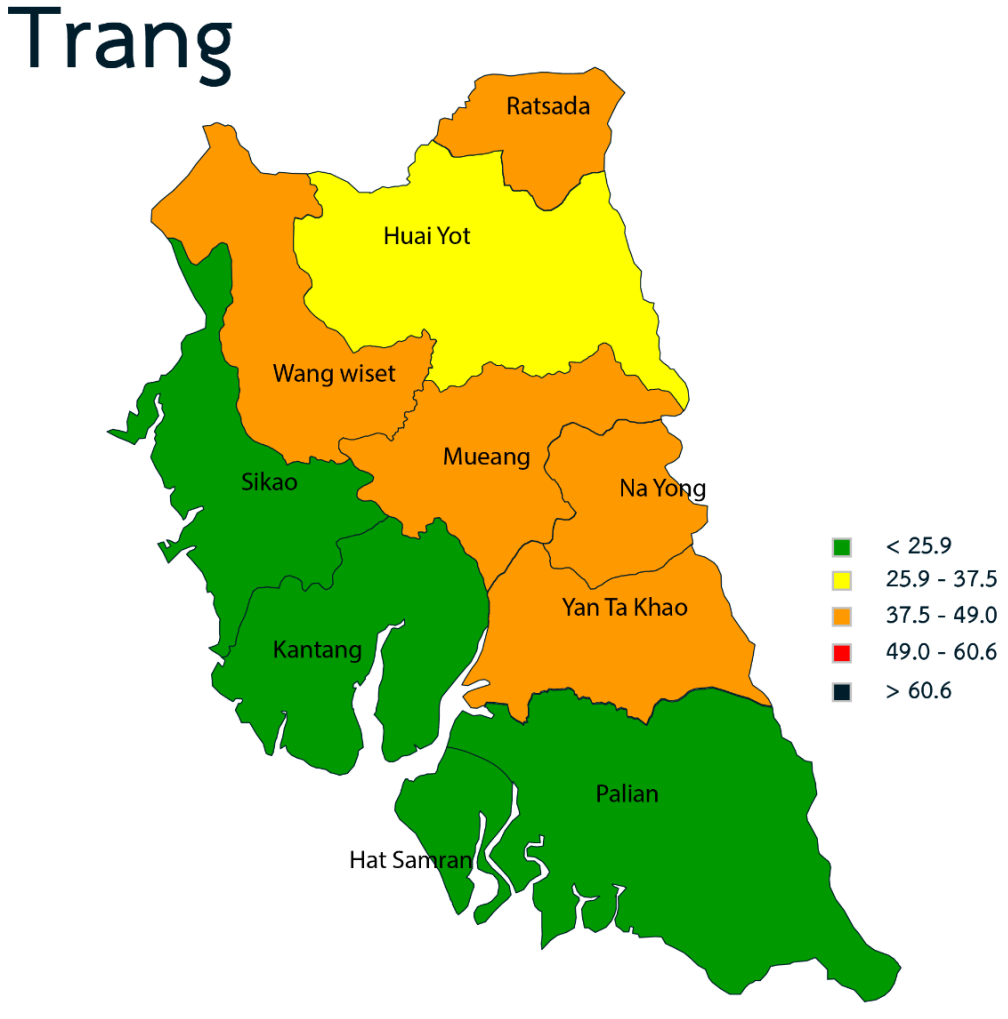


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Trang

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	61	38.93	Sikao	8	20.95
Kantang	16	18.39	Na Yong	19	42.57
Huai Yot	26	27.49	Wang wiset	17	38.88
Yan Ta Khao	26	40.31	Ratsada	13	44.26
Palian	13	19.25	Hat Samran	1	5.94

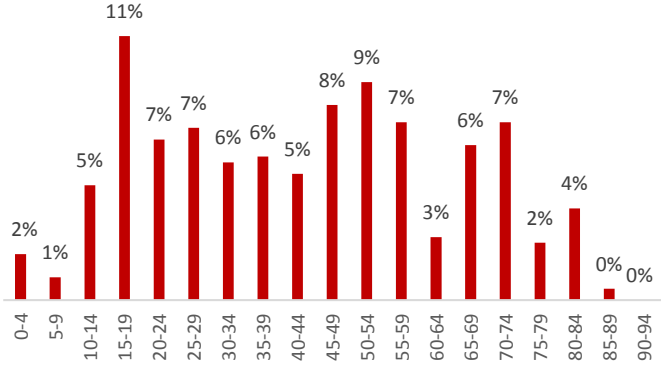


Road Traffic Death Rate by District

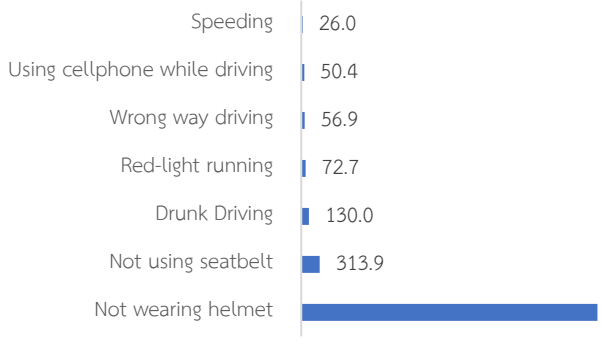
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Nakhon Si Thammarat 2018

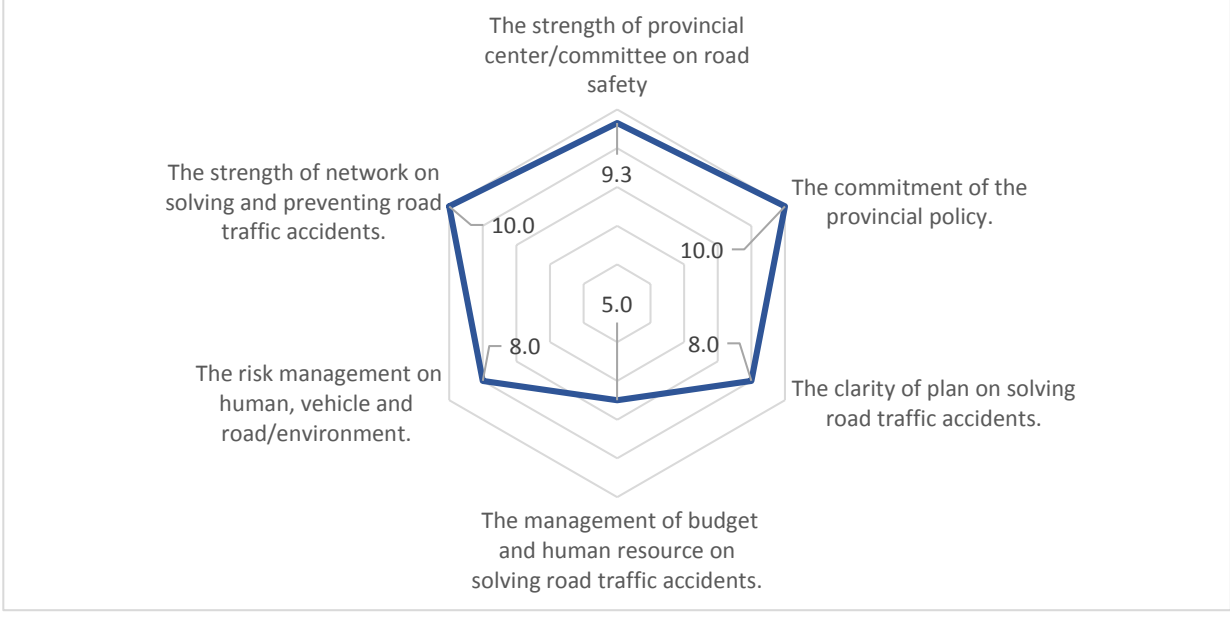
General Statistics			Accident Statistics		
Population	1,560,433	person (8)	Fatalities	432	Deaths (9)
registered vehicles	626,284	car (11)			
GPP*	153,575	million baht (20)			



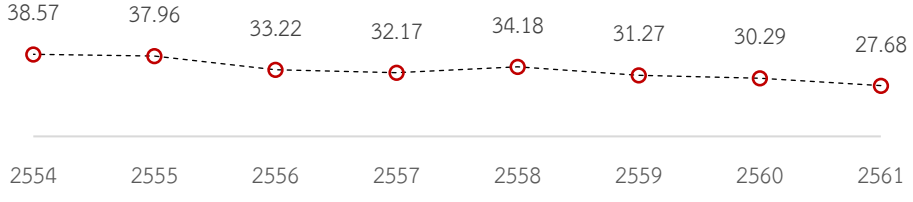
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

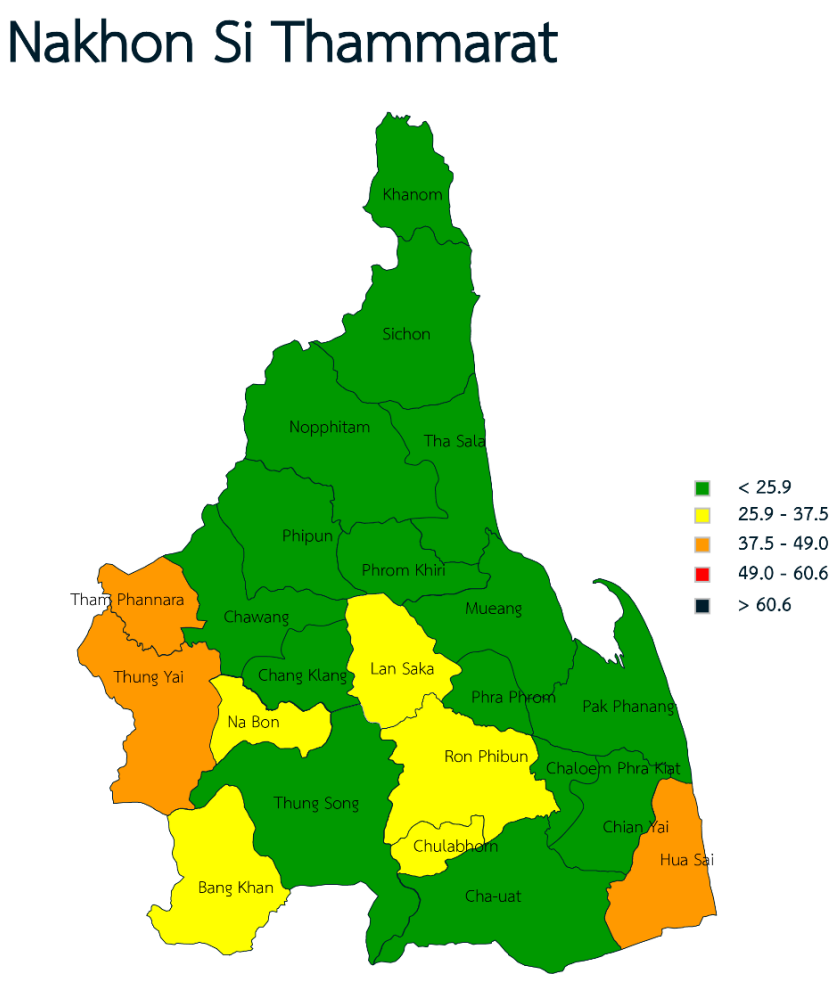


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Nakhon Si Thammarat

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Mueang	75	65.88	Cha-uat	21	22.88
Thung Yai	30	41.85	Thung Song	24	20.00
Tham Phannara	7	39.64	Phrom Khiri	7	17.94
Tha Sala	33	38.54	Chawang	11	16.93
Hua Sai	25	37.67	Nopphitam	5	14.91
Chulabhorn	11	35.01	Chian Yai	6	14.49
Ron Phibun	26	31.61	Sichon	10	12.93
Na Bon	7	28.95	Phipun	2	7.13
Lan Saka	12	28.63	Khanom	2	6.79
Bang Khan	13	27.48	Chang Klang	2	6.67
Pak Phanang	19	24.24	Chaloem Phra Kiat	-	-
Phra Phrom	8	23.62			

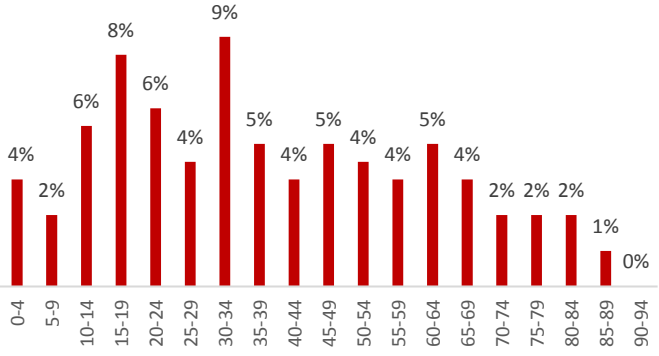


Road Traffic Death Rate by District

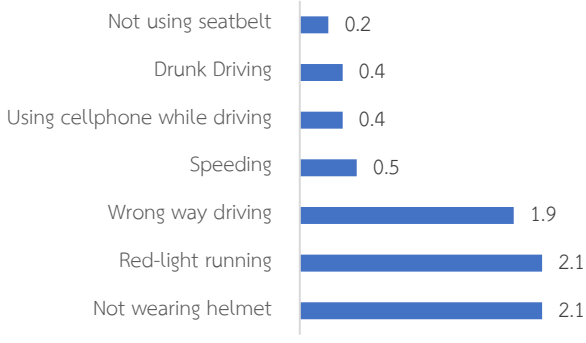
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Narathiwat 2018

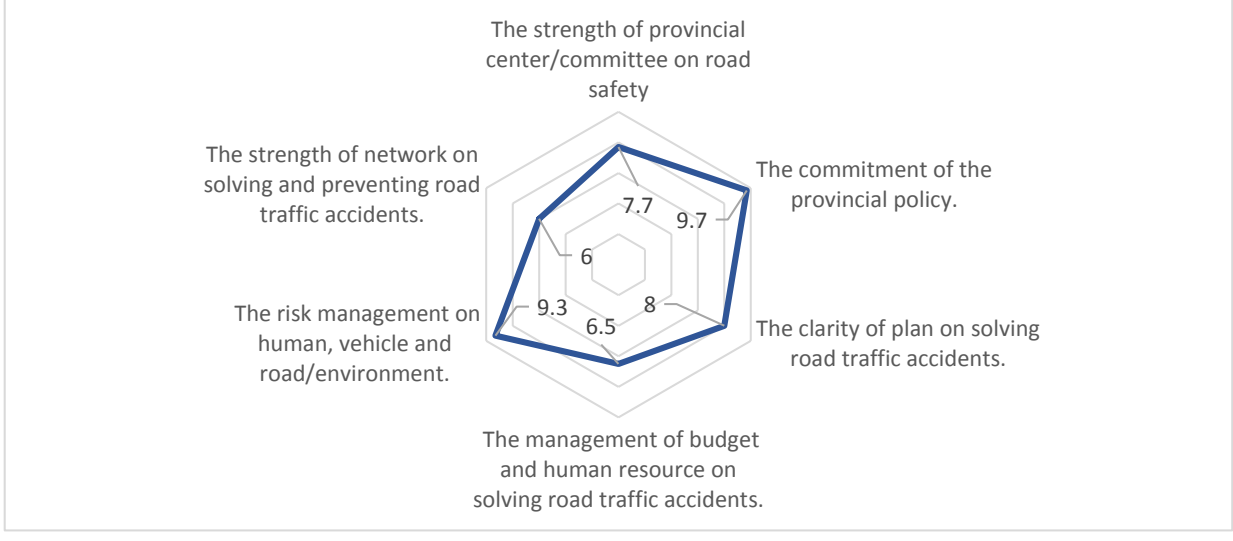
General Statistics			Accident Statistics		
Population	802,474	person (31)	Fatalities	127	Deaths (58)
registered vehicles	231,013	car (55)			
GPP*	42,737	million baht (57)			



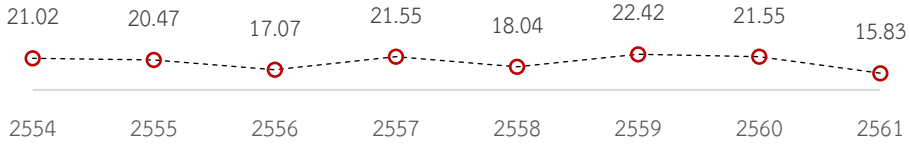
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents



Road Traffic Death Rate per 100,000 population

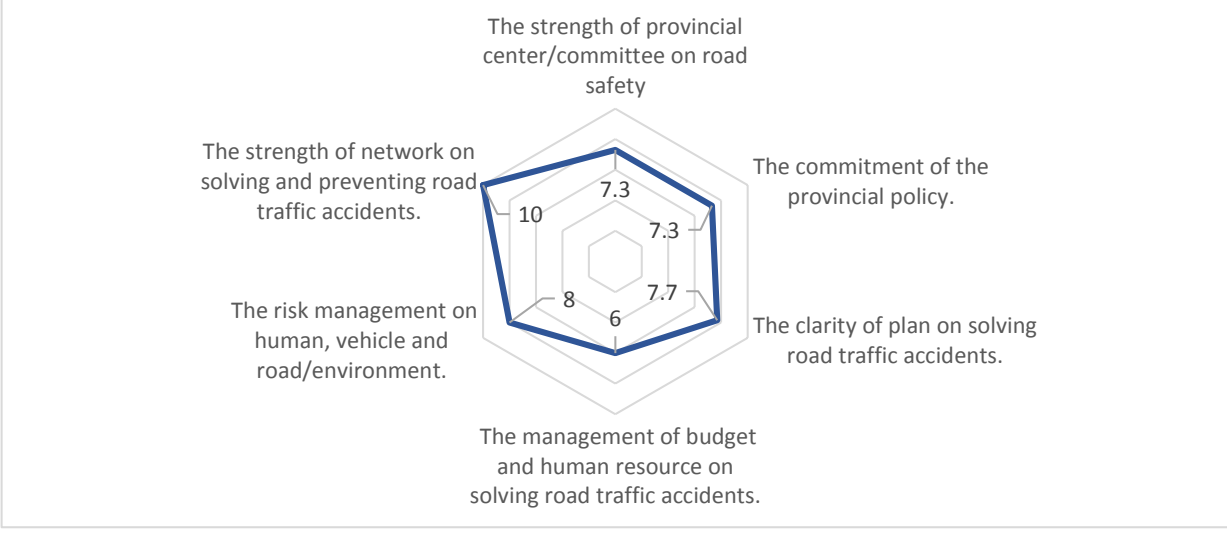
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Pattani 2018

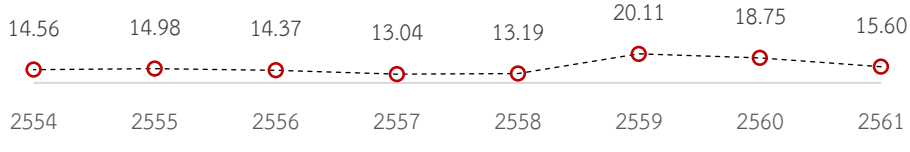
General Statistics			Accident Statistics		
Population	718,077	person (37)	Fatalities	112	Deaths (62)
registered vehicles	228,848	car (56)			
GPP*	55,738	million baht (47)			

Fatalities by Age group

Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

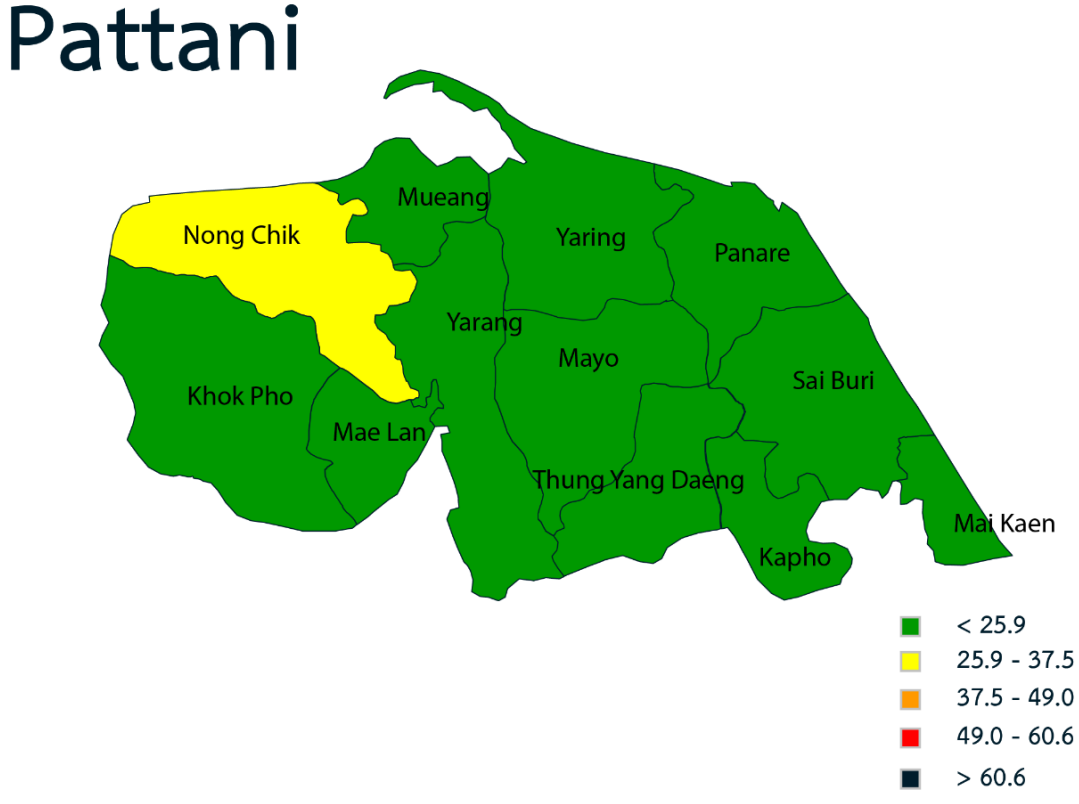


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Pattani

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Nong Chik	18	30.82	Yarang	14	14.86
Thung Yang Daeng	6	24.65	Yaring	11	12.46
Khok Pho	15	21.89	Mueang	13	9.77
Sai Buri	14	19.88	Mai Kaen	1	7.80
Mayo	11	18.06	Mae Lan	1	5.85
Panare	7	14.99	Kapho	1	5.38

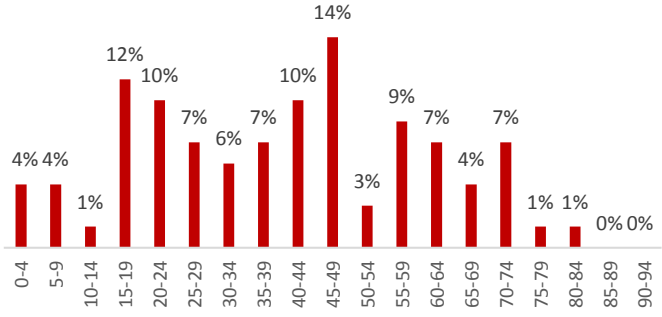


Road Traffic Death Rate by District

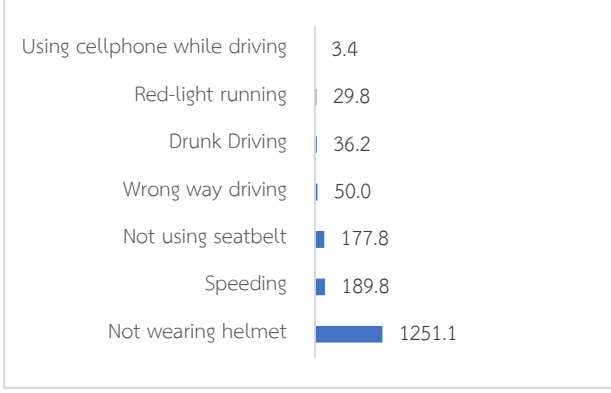
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Phangnga 2018

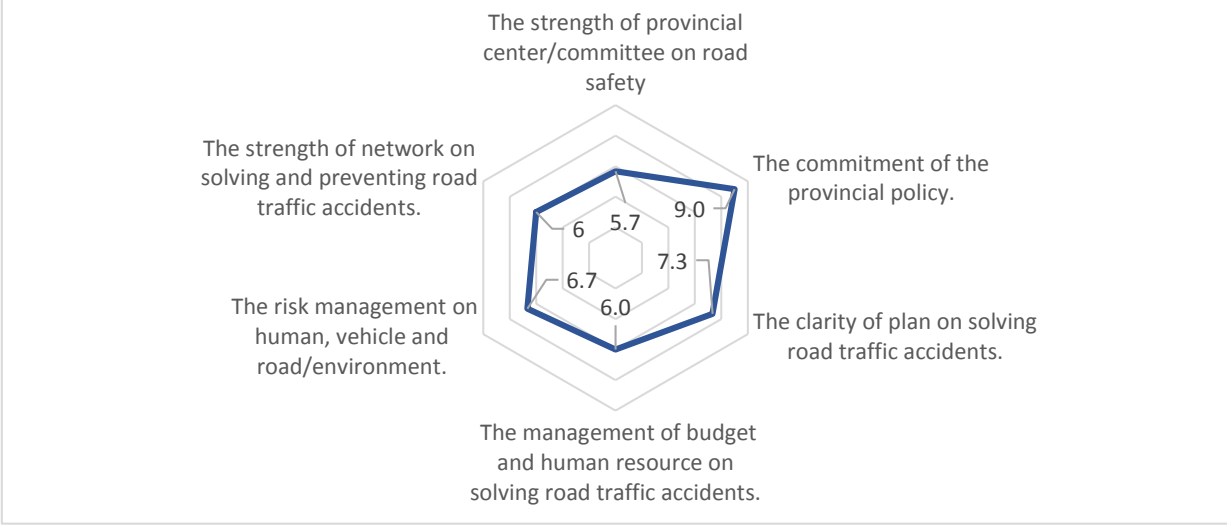
General Statistics			Accident Statistics		
Population	268,240	person (72)	Fatalities	83	Deaths (72)
registered vehicles	121,763	car (73)			
GPP*	71,761	million baht (40)			



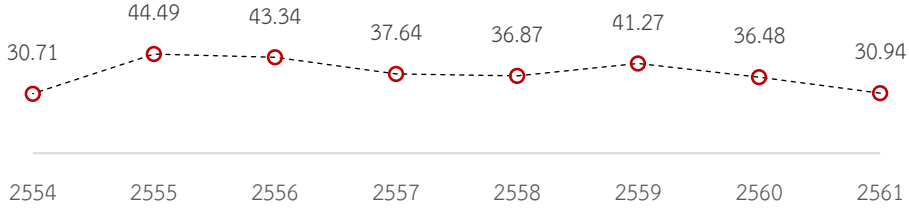
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

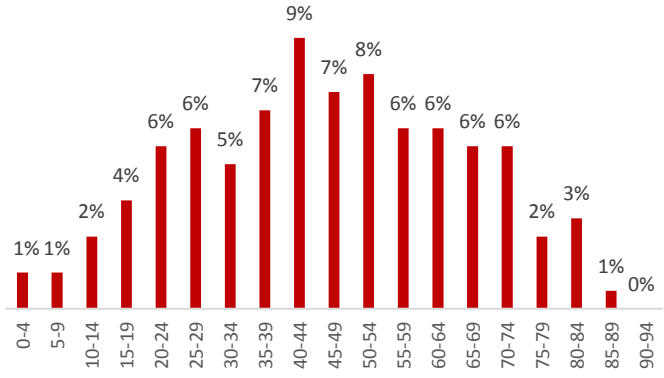


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

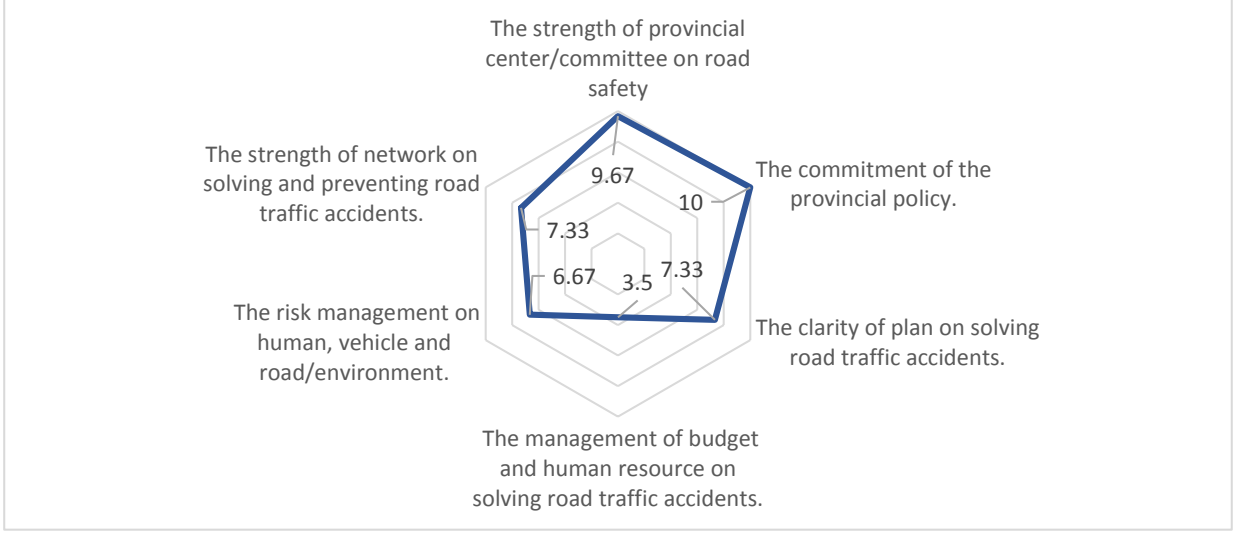
Phatthalung 2018

General Statistics			Accident Statistics		
Population	525,044	person (51)	Fatalities	154	Deaths (52)
registered vehicles	247,503	car (50)			
GPP*	36,479	million baht (61)			

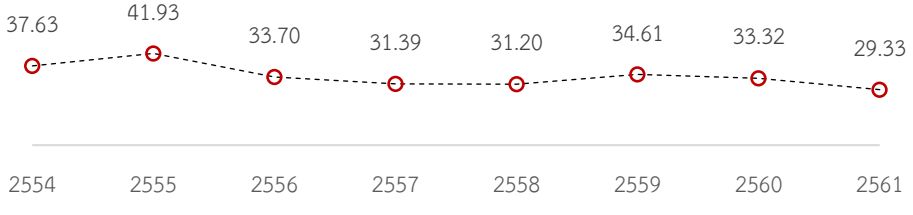


Fatalities by Age group

Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

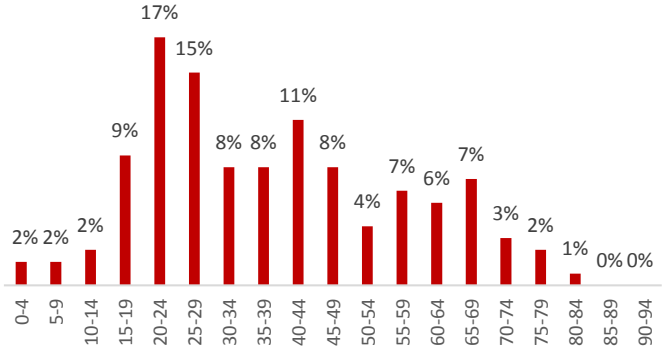


Road Traffic Death Rate per 100,000 population

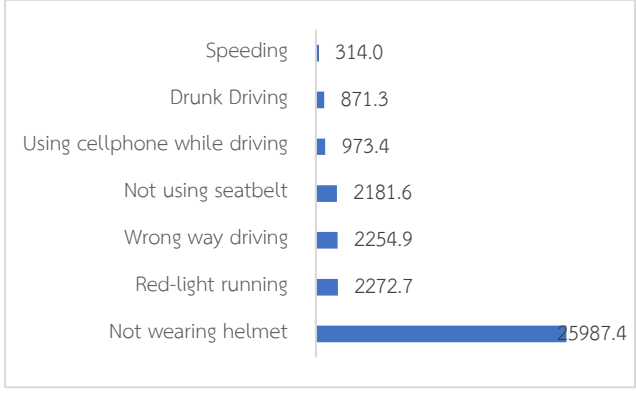
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Phuket 2018

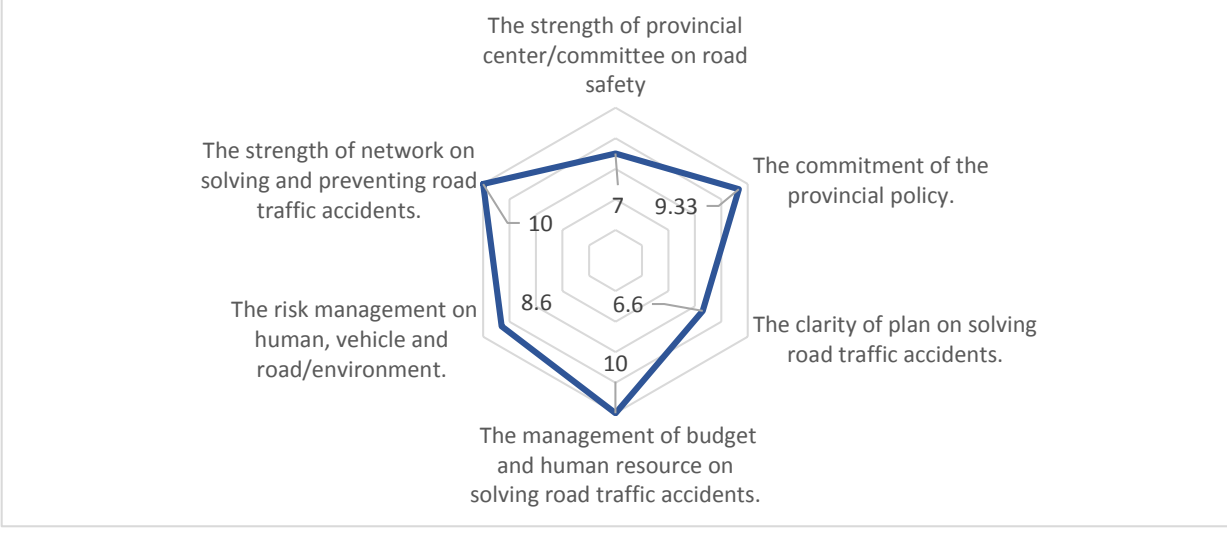
General Statistics			Accident Statistics		
Population	410,211	person (63)	Fatalities	144	Deaths (54)
registered vehicles	488,366	car (18)			
GPP*	209,011	million baht (17)			



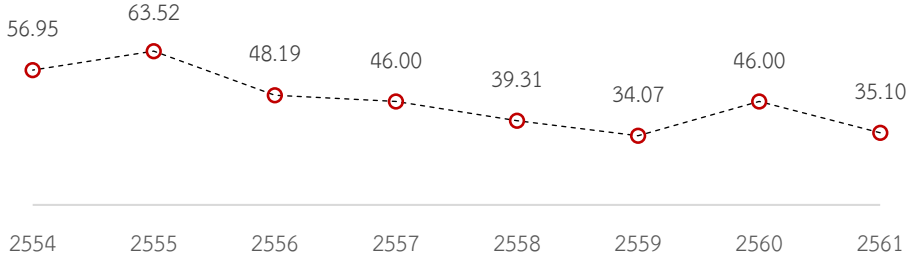
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

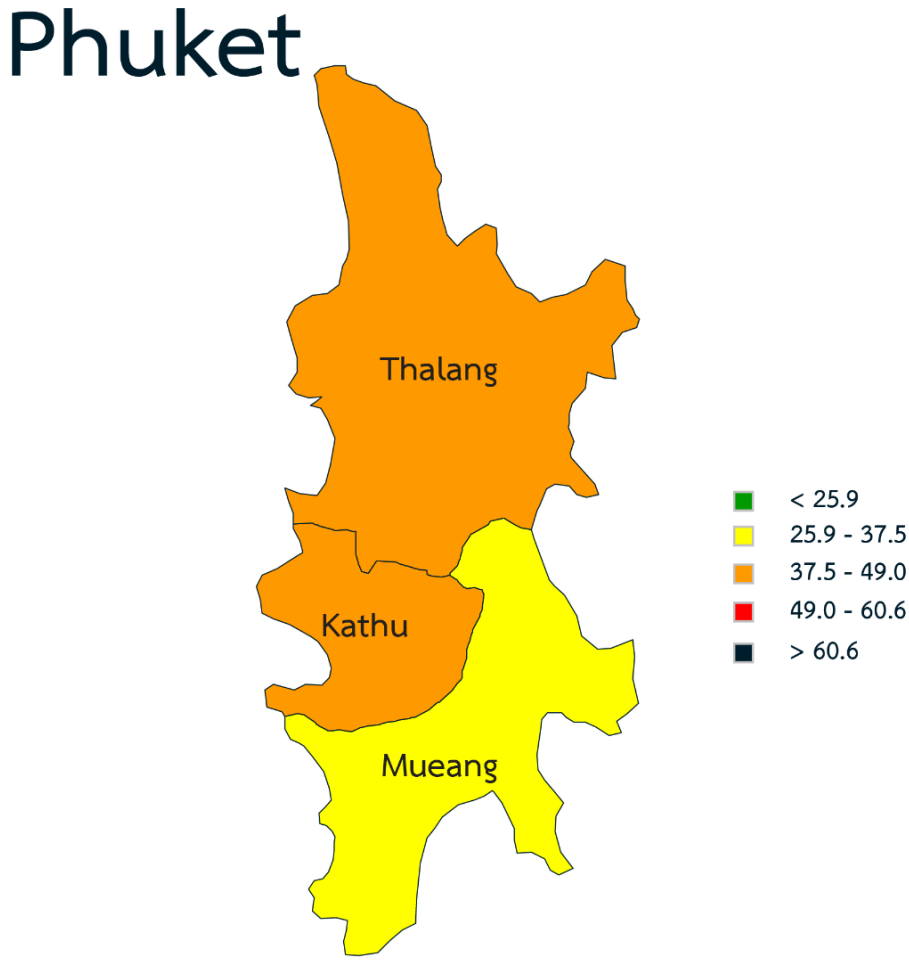


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Phuket

District	Fatalities Rate	Fatalities Rate per 100,000 population
Thalang	49	47.98
Kathu	26	45.74
Mueang	73	29.95

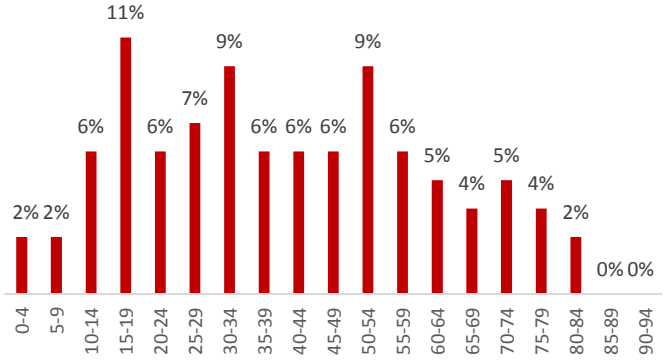


Road Traffic Death Rate by District

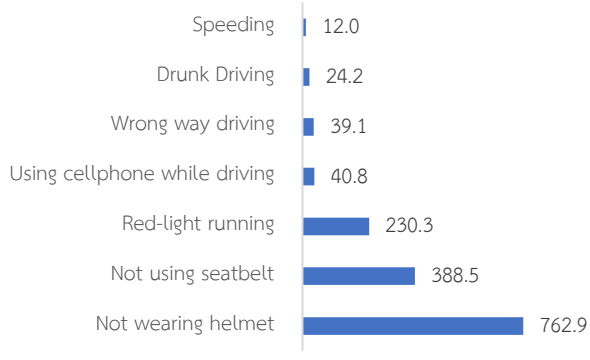
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Yala 2018

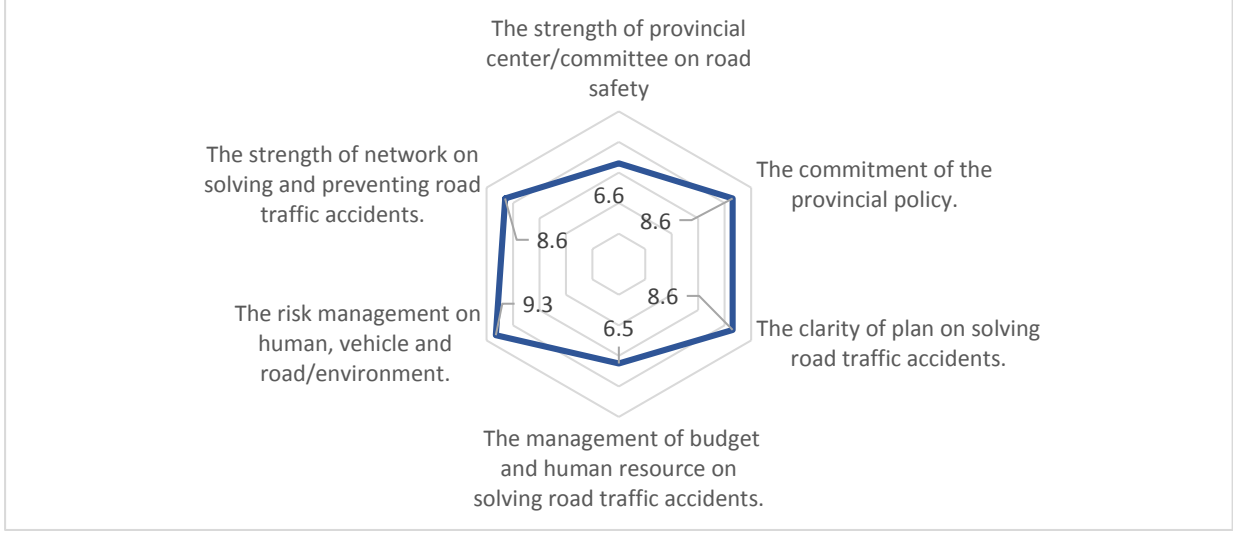
General Statistics			Accident Statistics		
Population	532,326	person (50)	Fatalities	81	Deaths (73)
registered vehicles	273,574	car (44)			
GPP*	43,369	million baht (55)			



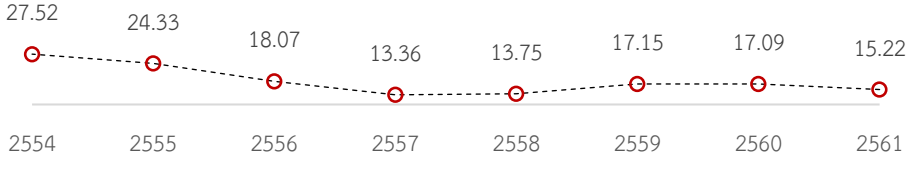
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

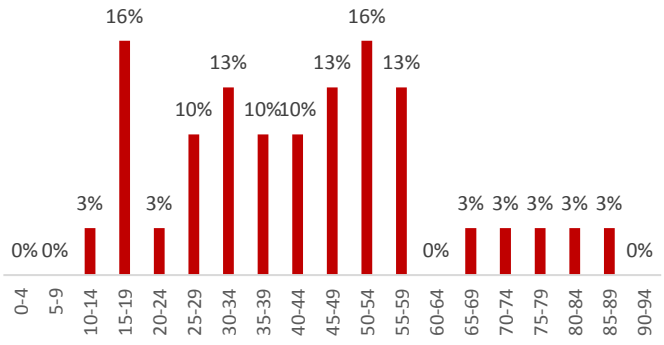


Road Traffic Death Rate per 100,000 population

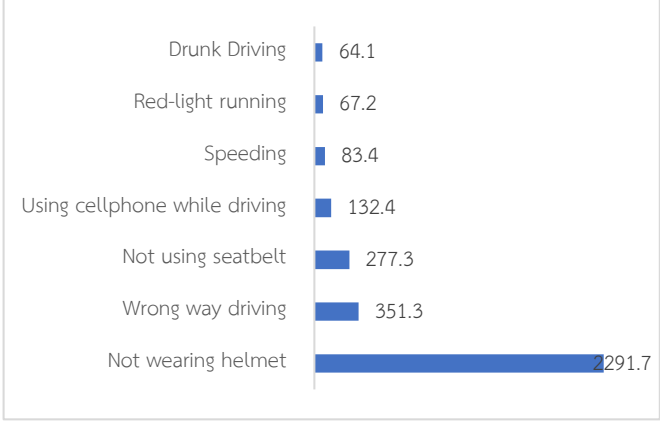
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Ranong 2018

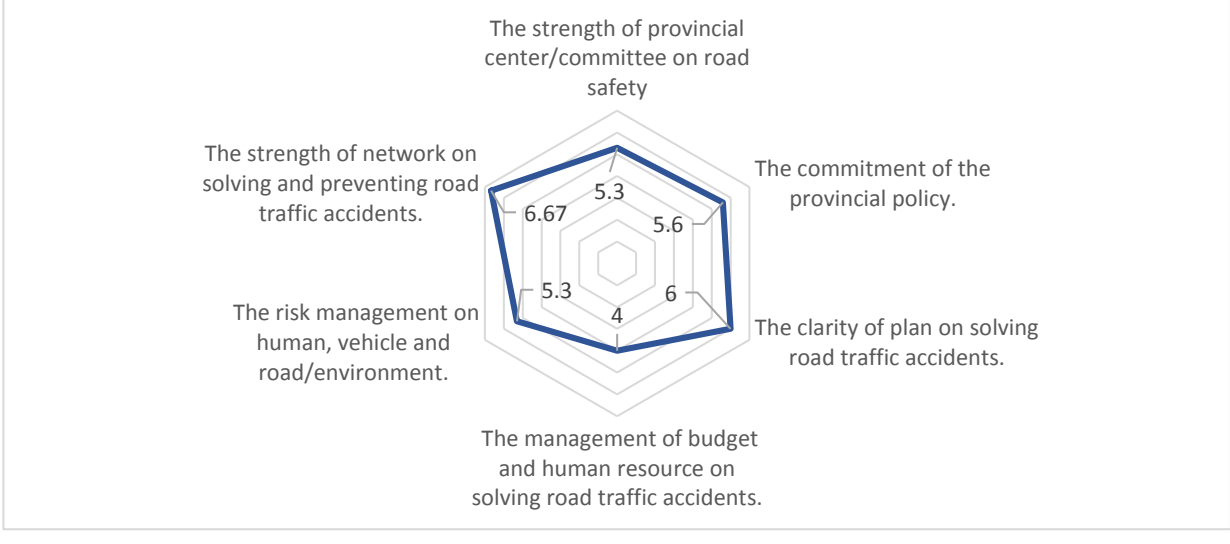
General Statistics			Accident Statistics		
Population	191,868	person (77)	Fatalities	45	Deaths (76)
registered vehicles	92,217	car (75)			
GPP*	26,770	million baht (70)			



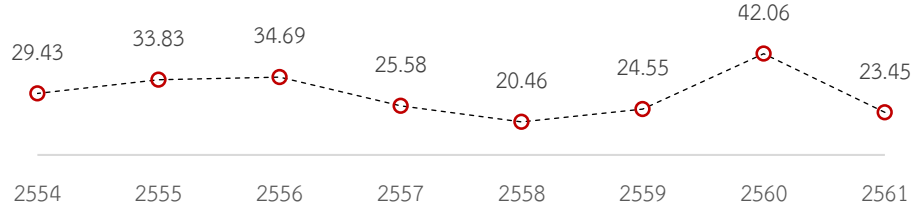
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents



Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

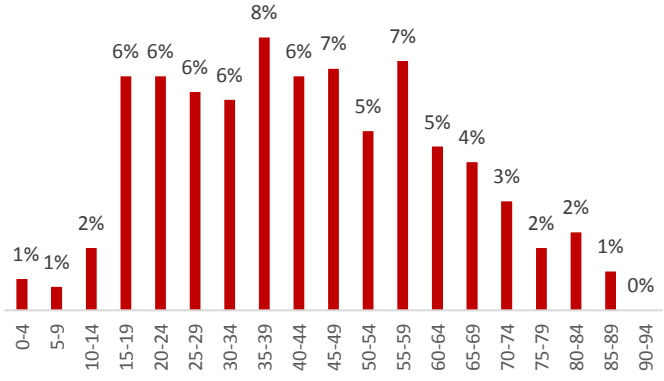
Songkhla 2018

General Statistics

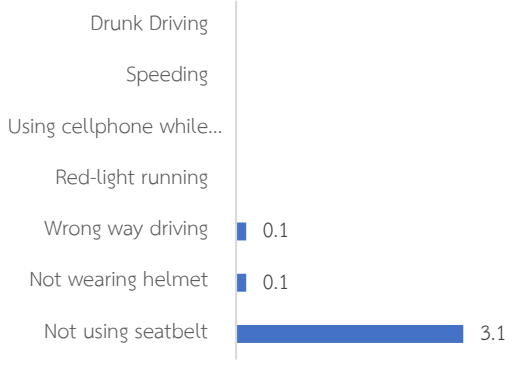
Population	1,432,628	person (11)
registered vehicles	829,239	car (6)
GPP*	241,838	million baht (13)

Accident Statistics

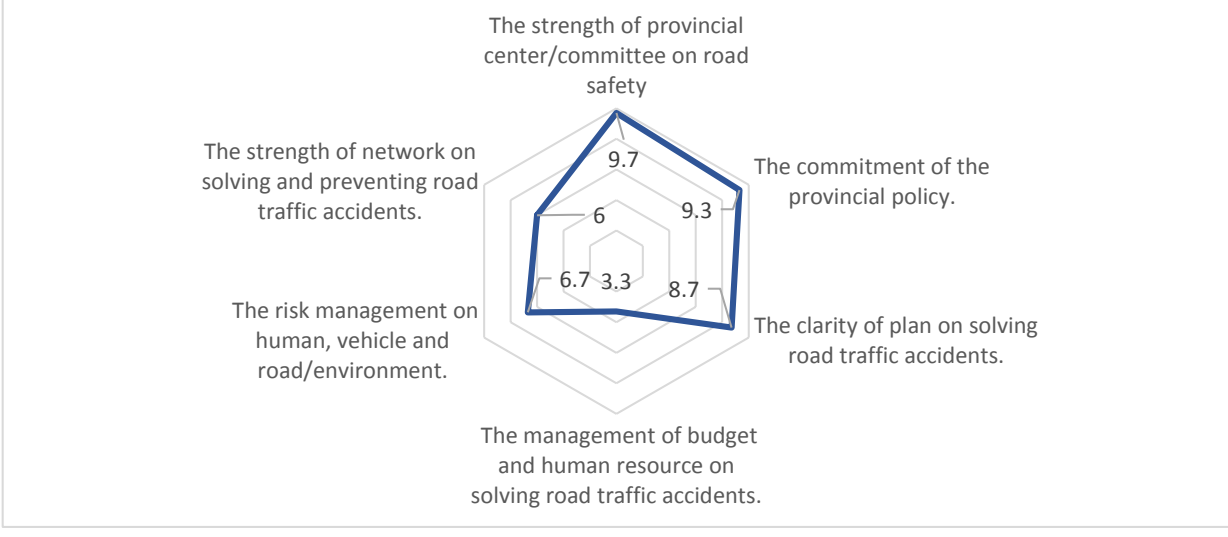
Fatalities	385	Deaths (11)



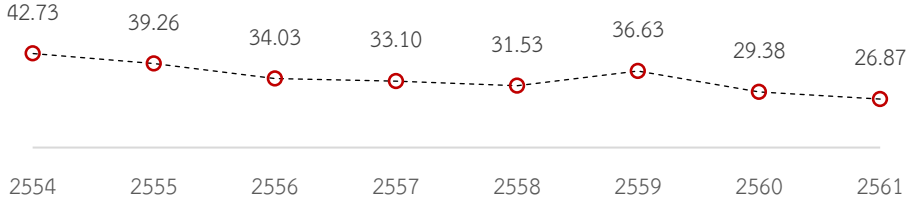
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

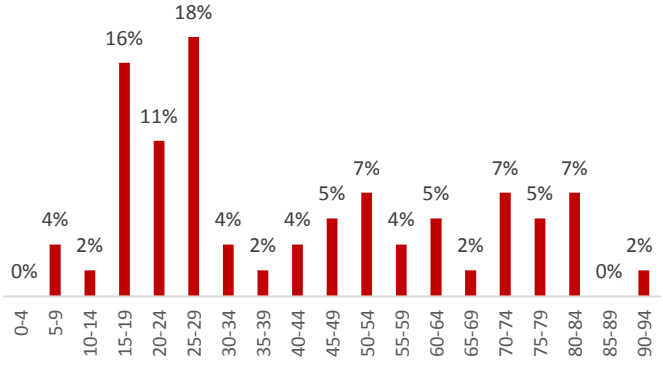


Road Traffic Death Rate per 100,000 population

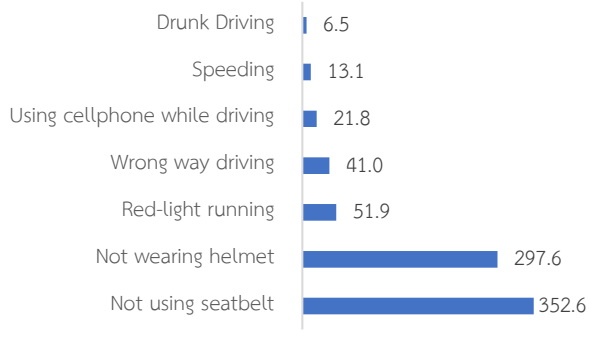
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Satun 2018

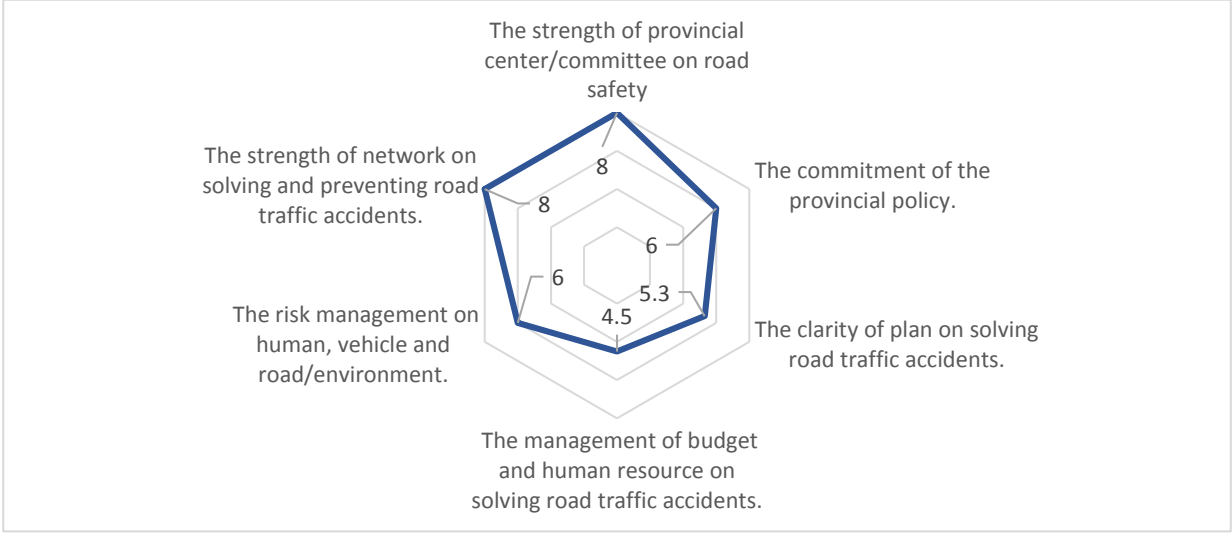
General Statistics			Accident Statistics		
Population	321,574	person (69)	Fatalities	62	Deaths (74)
registered vehicles	132,875	car (70)			
GPP*	36,557	million baht (60)			



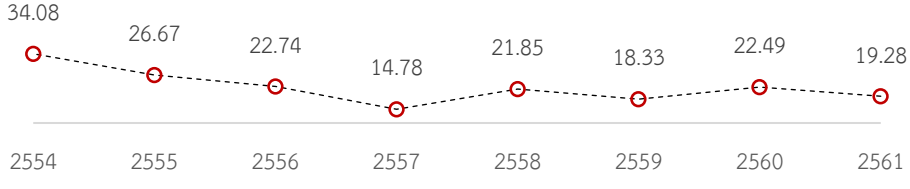
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

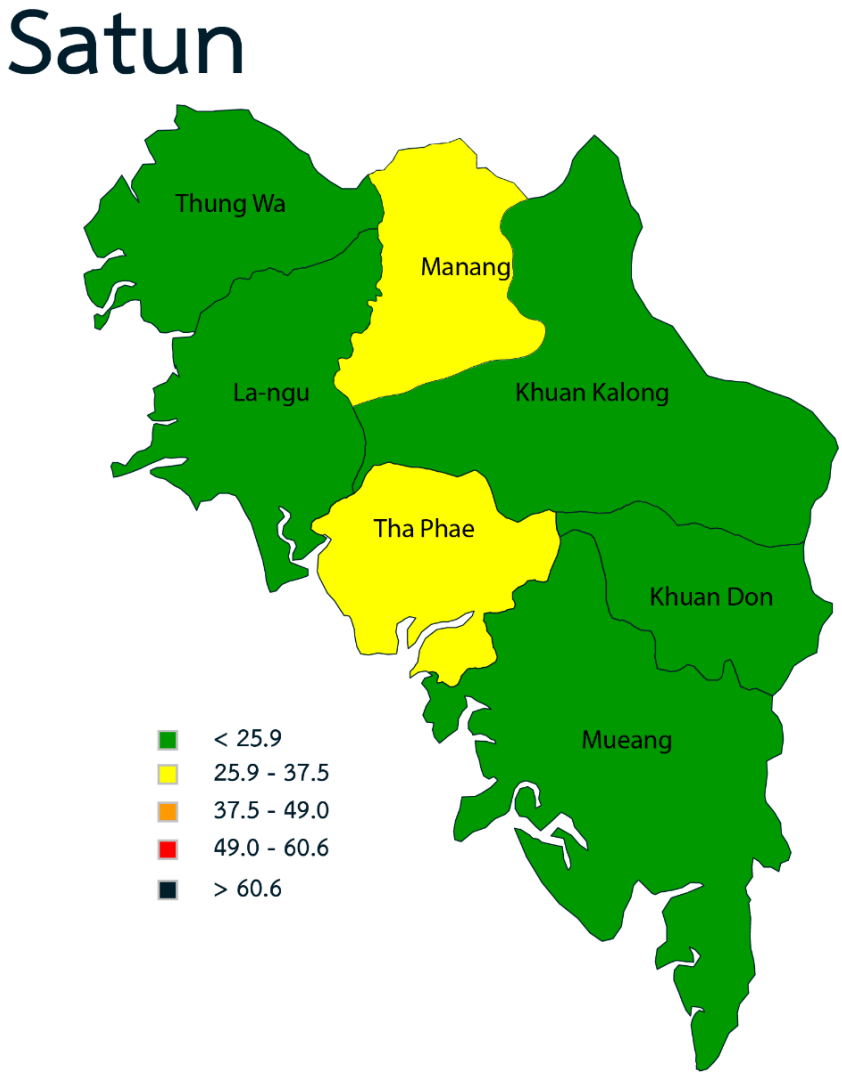


Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Road traffic death rate by district, Satun

District	Fatalities Rate	Fatalities Rate per 100,000 population	District	Fatalities Rate	Fatalities Rate per 100,000 population
Tha Phae	10	33.93	La-ngu	15	20.62
Manang	5	27.30	Mueang	17	14.78
Khuan Don	6	22.44	Khuan Kalong	3	8.55
Thung Wa	5	20.64			

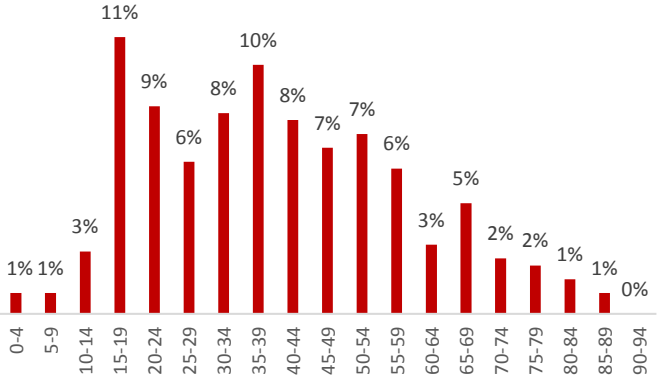


Road Traffic Death Rate by District

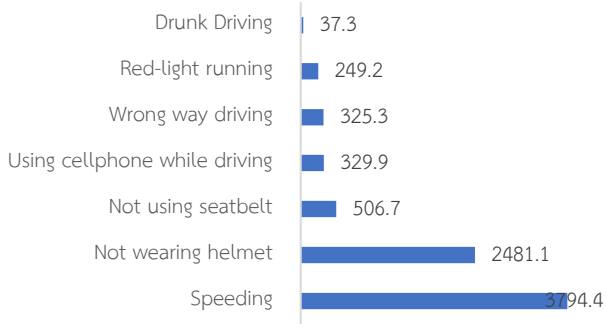
Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Surat Thani 2018

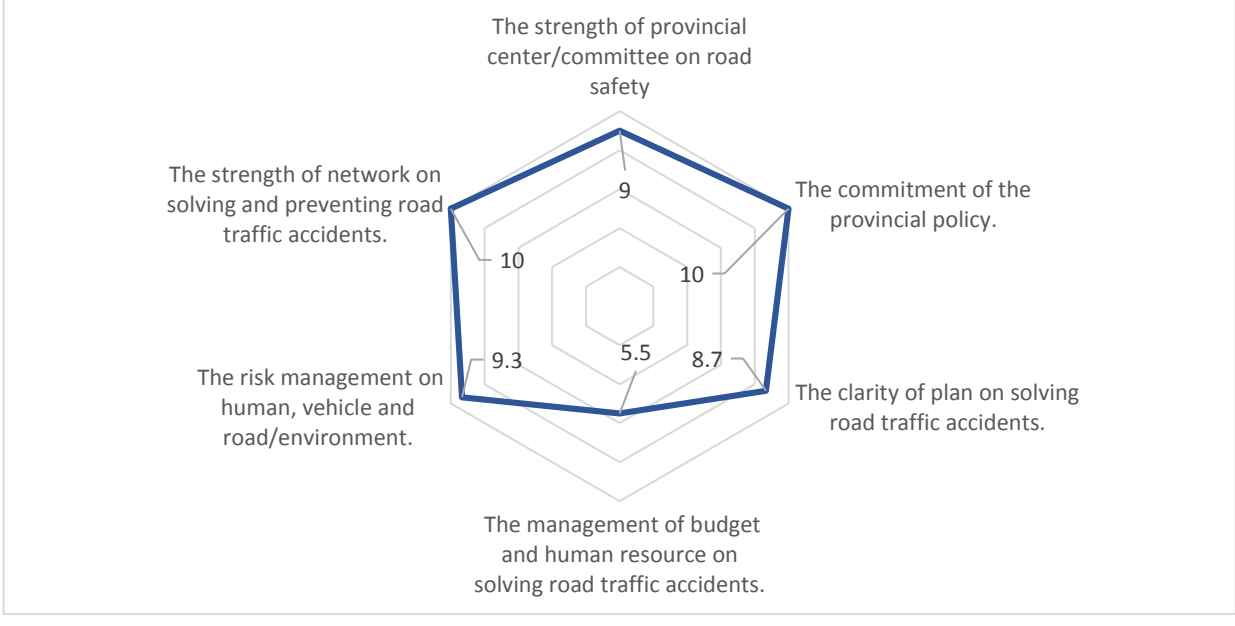
General Statistics			Accident Statistics		
Population	1,063,501	person (21)	Fatalities	337	Deaths (23)
registered vehicles	625,157	car (12)			
GPP*	211,048	million baht (16)			



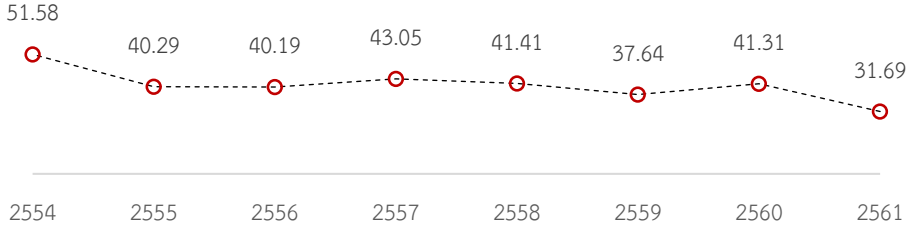
Fatalities by Age group



Fatalities by Road User Type



Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents



Road Traffic Death Rate per 100,000 population

Notes : The numbers in brackets are in order compared to 77 provinces across the country, descending order.

Chapter 8

Analysis of Self-Assessment on the Promptness of Solving Road Traffic Accidents

The initiation with concerned groups or organizations is compulsory in order to accomplish the effective way to solve road traffic accidents. The reason is to utilize their forces to promote campaing and raise public awareness on road accidents. The result derived from the self-assessment on the promptness of solving road traffic accidents will be analysed in this chapter. The purpose of this self-assessment is to measure the promptness of each province, and serve as an indicator to predict the potential fatalities in the future. The self-assessment consists of six factors as follows.

1. The strength of provincial center/committee on road safety.
2. The commitment of the provincial policy.
3. The clarity of plan on solving road traffic accidents.
4. The management of budget and human resource on solving road traffic accidents.
5. The risk management on human, vehicle and road.
6. The strength of network on solving and preventing road traffic accidents.

8.1 The strength of provincial center/committee on road safety

The role of provincial center/committee on road safety is as follows.

1) Designing database and managing information regarding road traffic accidents.
2) Analyzing data retrieved from database.
3) Developing local/provincial policy regarding road traffic accidents .
4) Coordinating and cooperating with network related to provincial meeting on road safety.
5) Responsible for meeting agenda related to road safety throughout the year.

According to **Figure 8.1**, there are 17 provinces (approx. 22% of the country) that scored themselves greater than or equal to 8 with their road traffic death rate lower than country average (country average = 29.9). However, there are also 14 provinces (approx. 18% of the country) with their road traffic death rate lower than country average, but scored themselves moderately from 5 to 7.9. This seems to be a great premonition of effective collaboration within the province and potential factor on solving road traffic accidents.

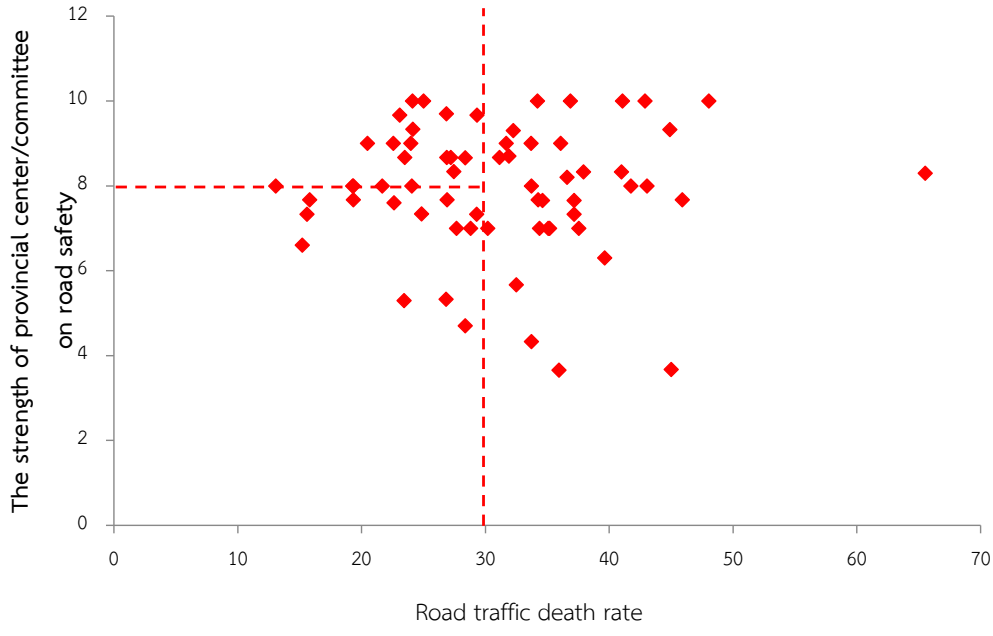


Figure 8.1 The scatter plot of the strength of provincial center/committee on road safety and road traffic death rate

8.1. The commitment of the provincial policy

The commitment of the provincial policy can be assessed by using criteria as follows.

1) Communicating and encouraging concerned departments on solving road traffic accidents.
2) Using strategic plan and action plan from Road Safety Thailand as a framework.
3) Controlling and monitoring process on solving road traffic accidents.
4) Instructing and coordinating with concerned departments on using key risk factors given by Road Safety Thailand to solve road traffic accidents.
5) Creating communication and maintaining positive relationship with persons and groups from both government and individual.
6) Making an important decision on solving road traffic accidents.

According to **Figure 8.2**, there seems to be a minor spread in data patterns. However, there are 24 provinces (approx. 32% of the country) that scored themselves greater than or equal to 8 with their road traffic death rate lower than country average (country average = 29.9). Furthermore, there are also 6 provinces (approx. 10% of the country) with their road traffic death rate lower than country average, but scored themselves moderately from 5 to 7.9. These results show that the commitment of the provincial policy is a potential factor on solving road traffic accidents. Additionally, the self-assessment on the promptness of solving road traffic accidents would reflect the performance of each province and also serve as an indicator of changes of road traffic death rate in the future, if there is consistency in collaboration regarding the provincial policy.

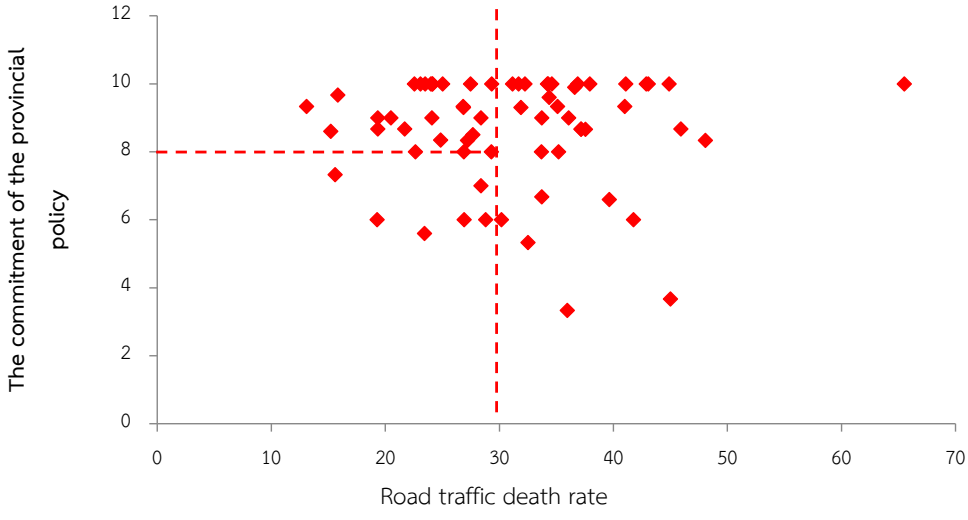


Figure 8.2 The scatter plot of the commitment of the provincial policy and road traffic death rate

8.3 The clarity of plan on solving road traffic accidents

The clarity of plan on solving road traffic accidents in the province can be assessed by using criteria as follows.

1. The cooperation between various departments on creating the plan.
2. The clarity of goals in the plan.
3. The effectiveness of problem analysis and methodology during planning process.
4. The utilization of the plan from provincial department.
5. The clarity of time period to achieve the goal.
6. The usage of local resources.

According to **Figure 8.3**, there seems to be a minor spread in data patterns. However, there are 16 provinces (approx. 20% of the country) that scored themselves greater than or equal to 8 with their road traffic death rate lower than country average (country average = 29.9). Furthermore, there are also 14 provinces (approx. 18% of the country) with their road traffic death rate lower than country average, but scored themselves moderately from 5 to 7.9. These results show that the clarity of plan on solving road traffic accidents is a potential factor on solving road traffic accidents.

The clarity of plan on solving road traffic accidents

The clarity of plan on solving road traffic accidents

The clarity of plan on solving road traffic accidents

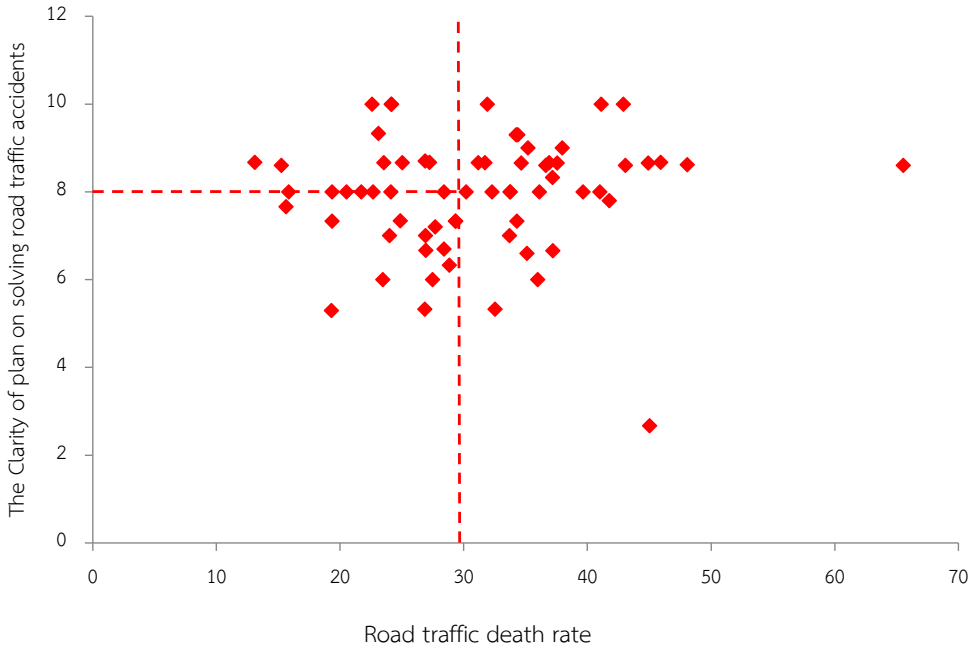


Figure 8.3 The scatter plot of the clarity of plan on solving road traffic accidents and road traffic death rate

8.4 The management of budget and human resource on solving road traffic accidents

The management of budget and human resource on solving road traffic accidents can be assessed by using criteria as follows.

1) The clarity of budget allocated by provinces, or extra budget.
2) The coverage of crucial objectives in periodical training to solve road traffic accidents.
3) The participation of non-governmental organization to solve road traffic accidents.
4) The utilization of technology as a tool to enhance the performance of law enforcemen.

According to **Figure 8.4**, the result seems to be less satisfactory than had been anticipated. There are only 7 provinces (approx. 9% of the country) that scored themselves greater than or equal to 8 with their road traffic death rate lower than country average (country average = 29.9), and other 22 provinces (approx. 28% of the country) that scored themselves moderately from 5 to 7.9 with their road traffic death rate lower than country average. These results show that the management of budget and human resource on solving road traffic accidents is still lacking the promptness. It would appear to be a positive change in the number of road traffic fatalities in the future, only more effort is needed to improve the management of budget and human resource on solving road traffic accidents and utilze it with other activities accordingly.

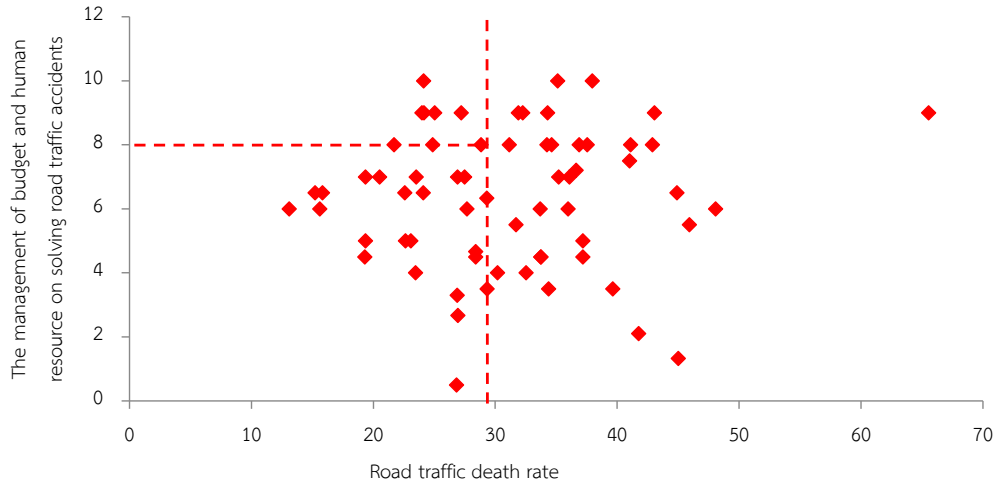


Figure 8.4 The scatter plot of the management of budget and human resource on solving road traffic accidents and road traffic death rate

8.5 The risk management on human, vehicle and road

The risk management on human, vehicle and road can be assessed by using criteria as follows.

1) Policies and commitment from 5 E's leaders responsible for risk factors for human, vehicle and road.
2) The clarity of information regarding risk factors for human, vehicle and road for indentifying the cause and severity of accidents in the area.
3) The performance of process plan for controlling each specific risk factor.
4) The suitability of responsibility assignment from 5 E's departments for controlling each specific risk factos.
5) The suitability of budget allocation from 5 E's departments for controlling each specific risk factor.
6) The clarity of evaluation of the PDCA cycle for controlling each specific risk factor.

According to **Figure 8.5**, there seems to be a minor spread in data patterns. However, there are 16 provinces (approx. 21% of the country) that scored themselves greater than or equal to 8 with their road traffic death rate lower than country average (country average = 29.9). Furthermore, there are also 16 provinces (approx. 21% of the country) with their road traffic death rate lower than country average, but scored themselves moderately from 5 to 7.9. These results show that the risk management on human, vehicle and road is a potential factor on solving road traffic accidents. There are only 10 provinces with their road traffic death rate higher than country average, but scored themselves highly (8 to 10). These can also be applied to other provinces that scored themselves lower than 8 with their road traffic death rate higher than country average to encourage them to put more effort on reducing road traffic death rate.

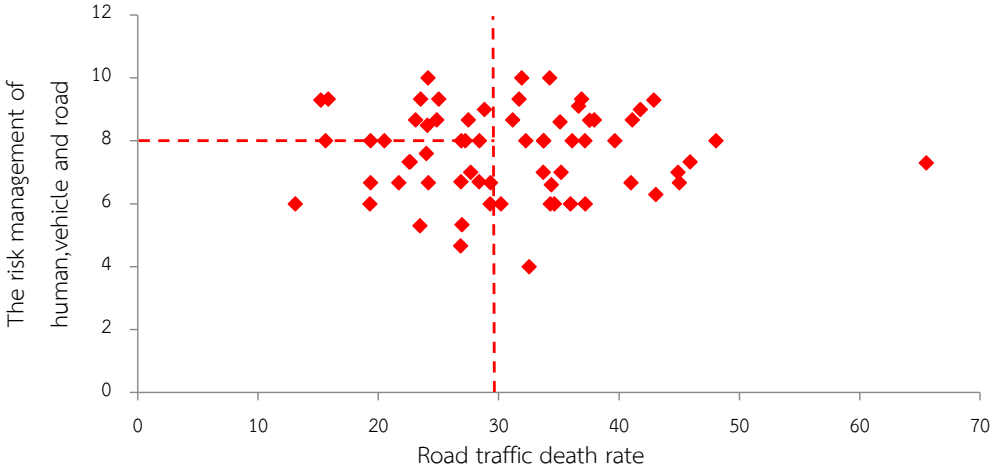


Figure 8.5 The scatter plot of the risk management on human, vehicle and road and road traffic death rate

8.6 The strength of network on solving and preventing road traffic accidents.

The strength of network on solving and preventing road traffic accidents can be assessed by using criteria as follows.

1) The participation of network members in setting goals.
2) The continuity of network members participation in planning process.
3) The continuity of communication between network members.
4) The positive relationships among network members.
5) The creative and casual environment in working and meeting.
6) The clarity of roles and responsibilities for network members.

According to **Figure 8.6**, there seems to be a minor spread in data patterns. However, there are 17 provinces (approx. 22% of the country) that scored themselves greater than or equal to 8 with their road traffic death rate lower than country average (country average = 29.9). Furthermore, there are also 13 provinces (approx. 16% of the country) with their road traffic death rate lower than country average, but scored themselves moderately from 5 to 7.9. These results show that the strength of network on solving and preventing road traffic accidents is a potential factor on solving road traffic accidents. Ultimately, this self-assessment would demonstrate the performance of each province and also serve as an indicator of changes in road traffic death rate in the future, if only there is consistency in the strength of network on solving and preventing road traffic accidents.

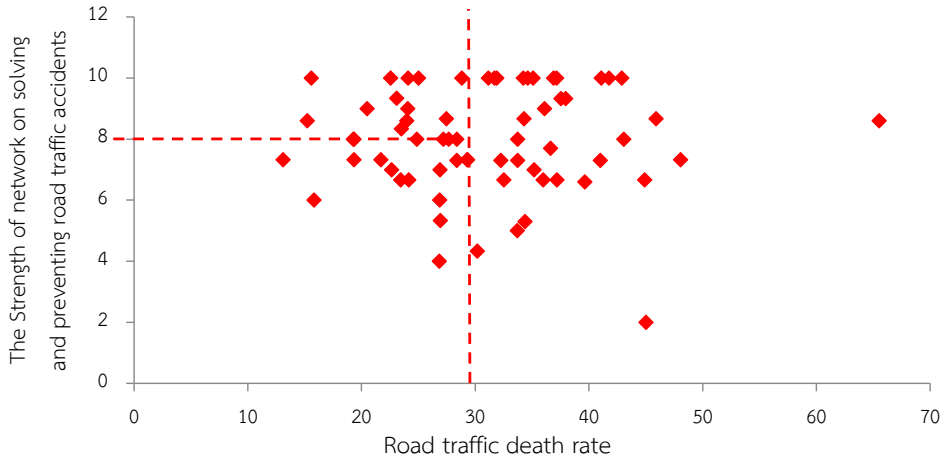


Figure 8.6 The scatter plot of the strength of network on solving and preventing road traffic accidents and road traffic death rate