



# Use of data in developing Thailand's 5th Master Plan

**Dr.Sirirat Suwanrit , M.D.**

Director of Injury Prevention Division

Department of Disease Control

Ministry of Public Health

Thailand

DECADE OF ACTION FOR  
**ROAD SAFETY**

This is not an ADB material. The views expressed in this document are the views of the author/s and/or their organizations and do not necessarily reflect the views or policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy and/or completeness of the material's contents, and accepts no responsibility for any direct or indirect consequence of their use or reliance, whether wholly or partially. Please feel free to contact the authors directly should you have queries.



# The National Road Safety Directing Centre



## National Road safety steering committee



### Subcommittee Road Safety Management



1

Road Safety  
Management

Ministry of  
Interior

2

Safe Road  
Infrastructure

Ministry of  
Transport

3

Safe Vehicles

Ministry of  
Transport

4

Road User Behaviors  
(Law Enforcement)

Royal Thai Police

5

Post-cash care

Ministry of  
Public Health

6

Road Safety  
Monitoring and  
Assessment

Ministry of  
Public Health

7

Community  
Engagement

Ministry of  
Interior

8

Public Relation

The Government of  
Public Relation

**Subcommittee on Road Safety  
Monitoring and Assessment**



Department of Disease Control  
Ministry of Public Health



Data Management, Monitoring  
and Evaluation



Recommend Policies to  
Prevent and Reduce  
Road Traffic Injuries



# Use of data in developing Thailand's 5th Master Plan



## The number of death and fatality rate of road traffic 2011-2021 and the fatality rate target 2022-2037





# 5<sup>th</sup> Thailand Road Safety Master Plan 2021-2030



## **1. Thailand and the international road safety framework**

- The Decade of Action for Road Safety 2021-2030
- The WHO's 12 Global Road Safety Performance Target
- The Safe System Approach

## **2. A review of best practices in high-income country**

Australia, Netherlands , Sweden and the United Kingdom

## **3. An examination of the links between the previous road safety master plan and relevant organizations' action plans**

## **4. A review of Thailand's current road safety situation**

## **5. The analysis of road safety performance during the implementation road safety plan (2018-2021)**



# The assessment of the implementation of Thailand's 4<sup>th</sup> National Road Safety Master Plan



- Road safety management
- Road safety infrastructure
- Safe vehicle
- Safe road users including law enforcement, education, and safe behaviors
- Post – crash care
- Community engagement including public communication and community participation
- Data management , monitoring and evaluation, research
- Safe mobility and active travel

Safe System  
Approach



# Key strategies

## 5<sup>th</sup> Thailand Road Safety Master Plan

1. Focus on reducing of **road users**
2. Focus on improving **vehicle standards**
3. Develop a **safe environment and sustainable transport**
4. Strengthening **road safety management mechanism**





# RTI Death Cases Data 2016 - 2020



Death : 101,018 / 5 years , average 20,204 / year



male : female  
3.7 : 1



79%



15-19 ปี  
16%

Priority : motorcycle riders  
: young people  
: speed management  
: monitoring and evaluation



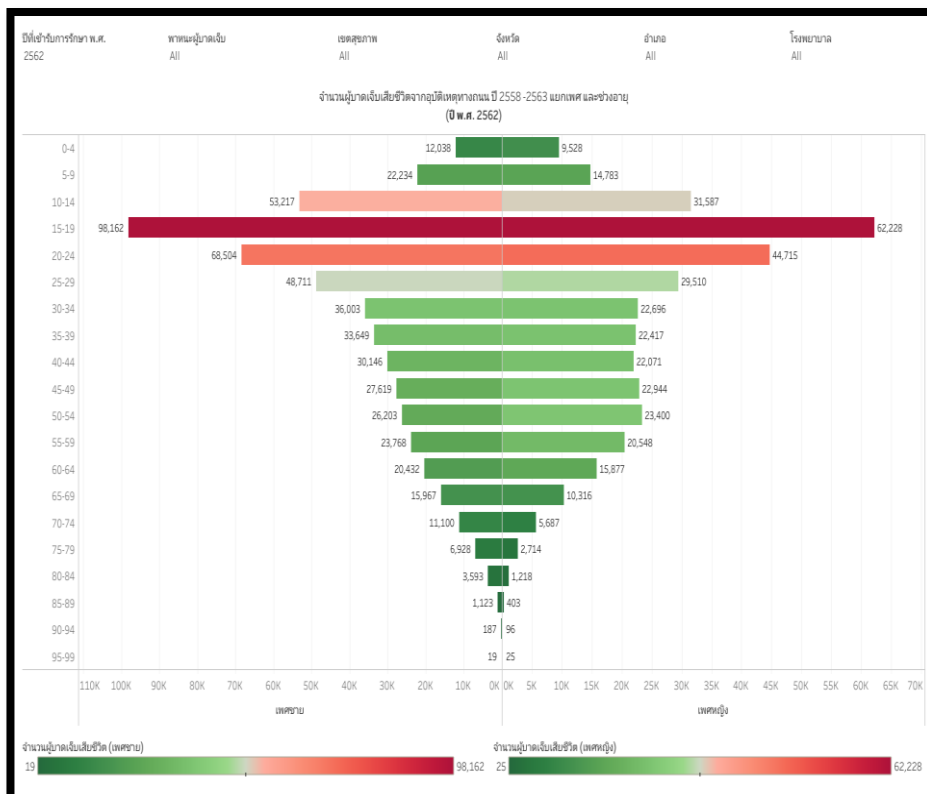
# Focus on reducing death of road users

DECADE OF ACTION FOR  
**ROAD SAFETY**



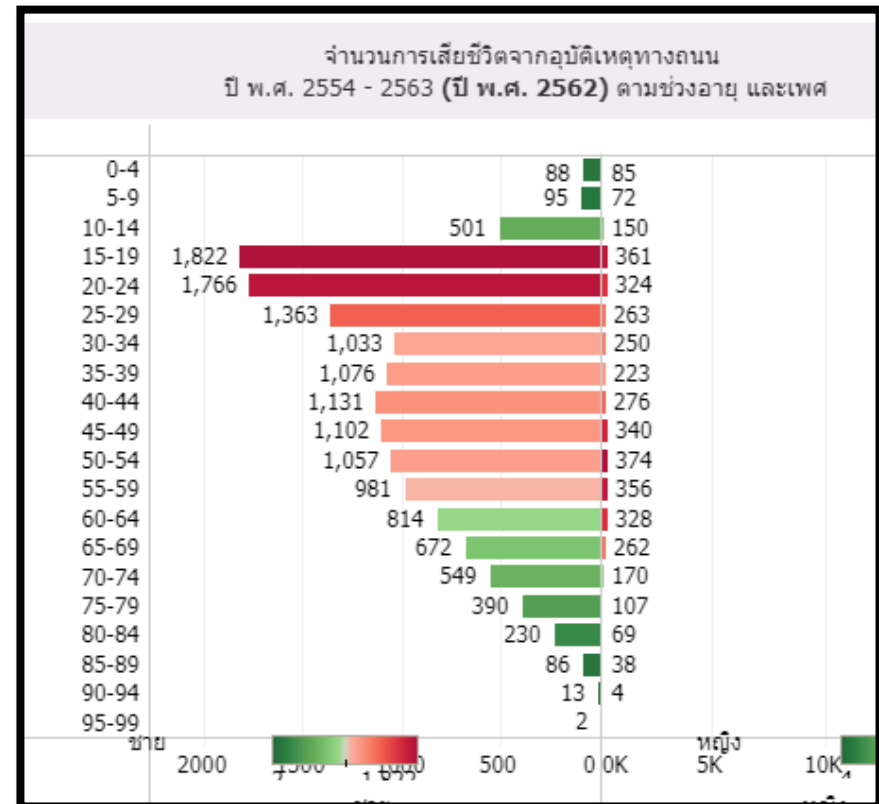
2021 - 2030

## Reduce the risky behavior of motorcyclist and young riders



**Injury Cases**

**2011-2020**

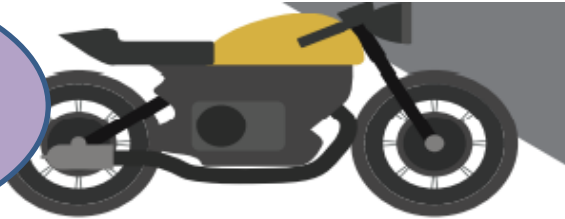


**Death Cases**

# Focus on reducing death of road users

## Reduce the risky behavior of motorcyclist and young riders

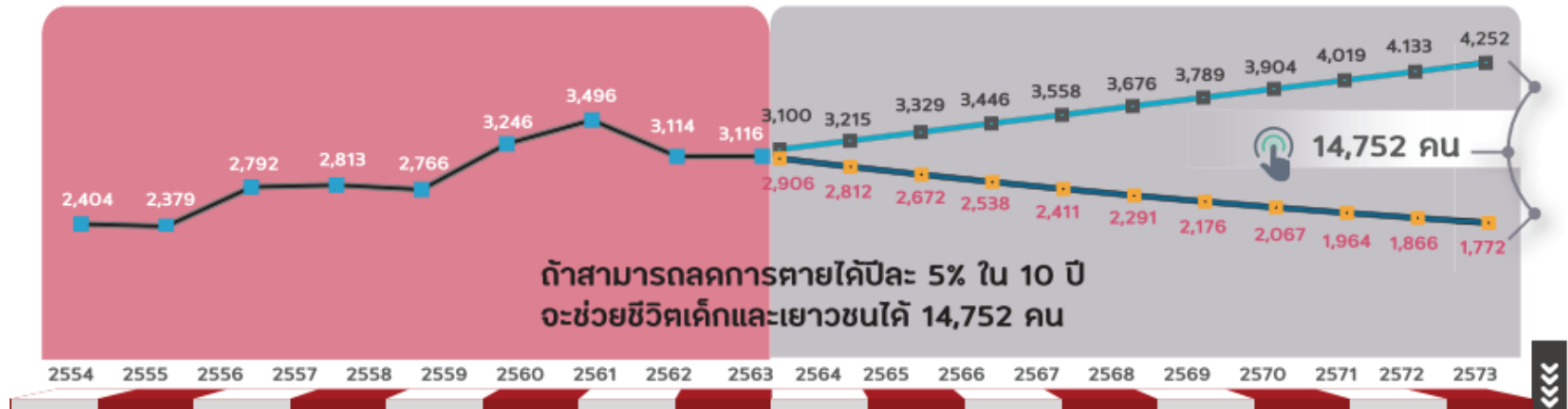
80%  
Motorcycle



10 -19 years old

ปี 2554 - 2562 (9 ปี) มีเด็กและเยาวชน  
ตายจากอุบัติเหตุทางถนน 26,126 คน

คาดการณ์แนวโน้มปี 2564 - 2573 (10 ปีข้างหน้า)  
จะมีเด็กและเยาวชนเสียชีวิตเพิ่มอีก 37,321 คน





# Focus on reducing death of road users




## Reduce road crashes from risky behavior and inappropriate use of safety equipment

**TARGET 6**  
**2030** 50%



**Target 6:** By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.

**TARGET 7**  
**2030** 100%



**Target 7:** By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%.

**TARGET 8**  
**2030** 100%



**Target 8:** By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.

**TARGET 9**  
**2030** 50%



**Target 9:** By 2030, halve the number of road traffic injuries and fatalities related to drivers using alcohol, and/or achieve a reduction in those related to other psychoactive substances.

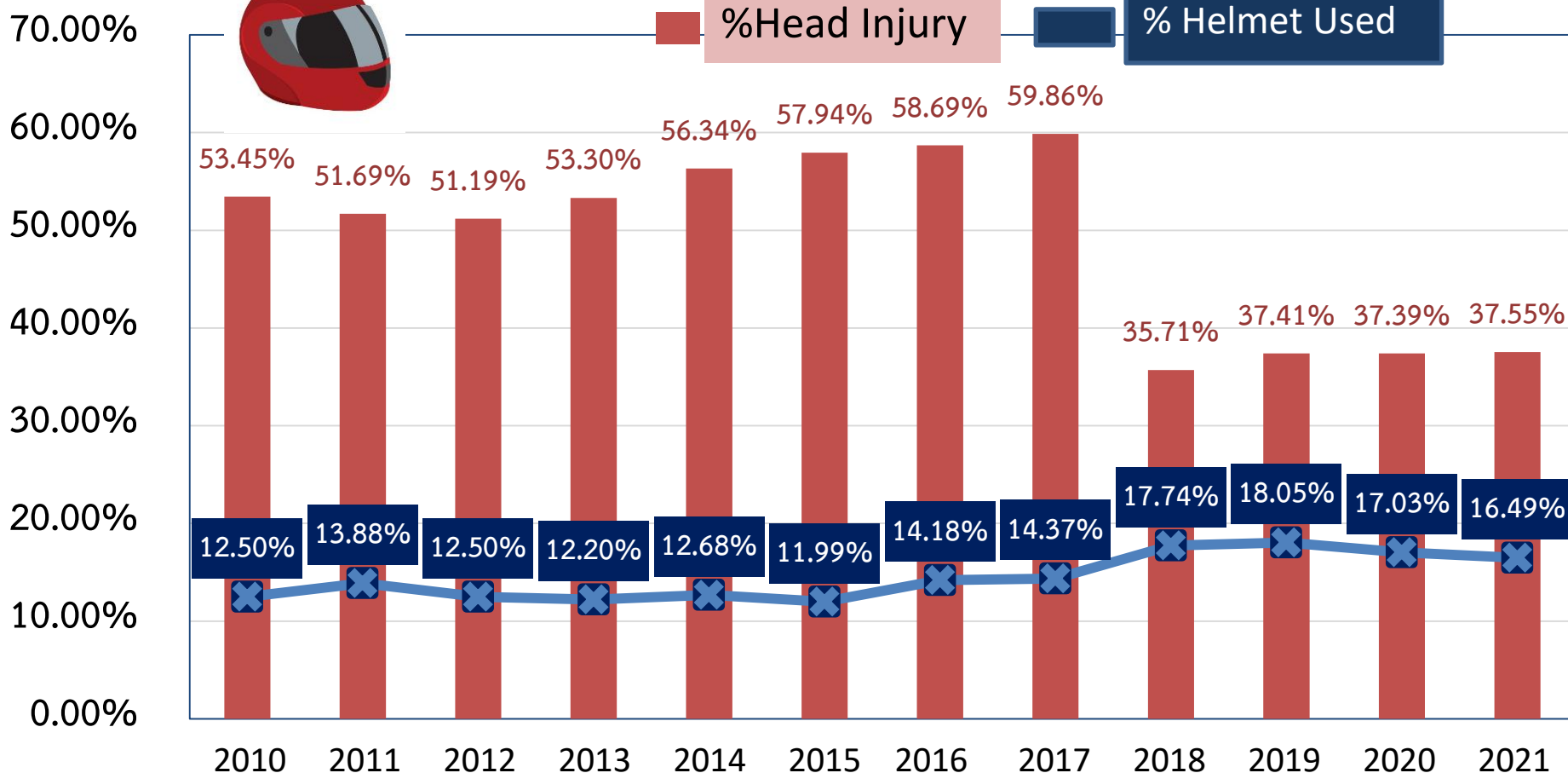
**TARGET 10**  
**2030**



**Target 10:** By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.



# Helmet Used & Head Injury



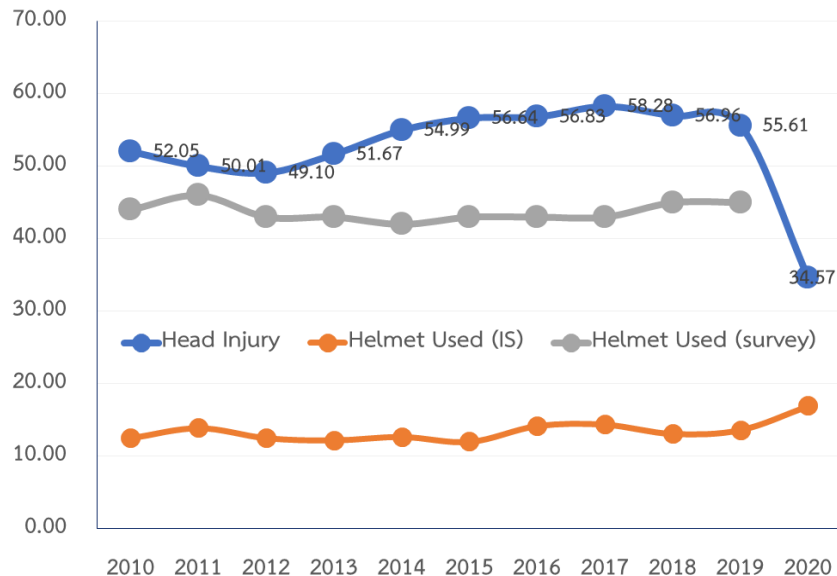
Injury Surveillance System



# Reduce road accidents from risky behavior and inappropriate use of safety equipment



Helmet Used compared with Head Injury



Death cause :  
Motorcycles

74.4%

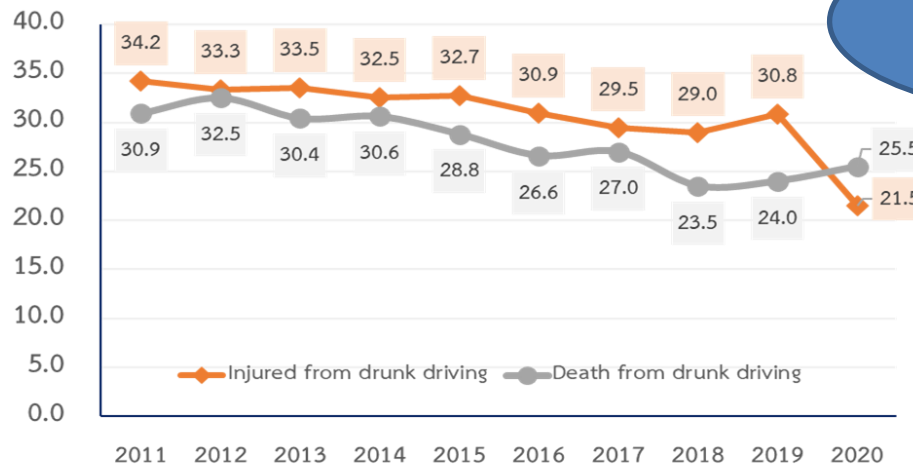
Helmet Used  
General population  
(Thairoad 2019)

45 %

Quick win  
Helmet used 100%



# RTI related to driver using alcohol



COVID-19  
Pandemic

Lockdown-  
Curfew

- **Law enforcement**  
: limited liquor sales ; time , **youth**  
: alcohol breathing test , alcohol blood sampling test
- **Community checkpoint for drinking**
- Not only drunk don't drive but also **drink don't drive**



# Speed management \*\*

**TARGET 6**  
**2030**  
**50%**

**Target 6:** By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.



**Traffic  
Tickets**

**กฎกระทรวง**

การกำหนดอัตราเร็วสูงสุดที่กำหนดไม่เกิน  
ในทางเดินรถ พ.ศ. 2564  
(มีผลบังคับใช้ 22 กค. 2565)

**อัตราความเร็วไม่เกิน**

ประเภททาง	รถส่วนบุคคล (Big bike)	รถจักรยานยนต์ (Motorcycle)	รถโดยสาร (Bus)	รถบรรทุก (Truck)
1 ในเขตกรุงเทพ เขตเมือง พิกัด เขตเทศบาล เขตชุมชน	80 กม./ชม.	45 กม./ชม.	60 กม./ชม.	60 กม./ชม.
2 นอกเขตกรุงเทพ เขตเมือง พิกัด เขตเทศบาล เขตชุมชน	90 กม./ชม.	45 กม./ชม.	70 กม./ชม.	80 กม./ชม.
3 นอกเขตเทศบาล เขตชุมชน ถนนทางหลวง มีเกาะกลาง (highway)	100 กม./ชม.	80 กม./ชม.	65 กม./ชม.	90 กม./ชม.
4 ทางด่วนยกระดับ	100 กม./ชม.	80 กม./ชม.	65 กม./ชม.	65 กม./ชม.
5 ทางด่วนระดับพื้นดิน	110 กม./ชม.	90 กม./ชม.	65 กม./ชม.	65 กม./ชม.

องค์การอนามัยโลก แนะนำความเร็วที่ปลอดภัยในชุมชนที่ 30 km/hr  
ประเทศไทย สำนักงานตำรวจแห่งชาติ ประกาศให้ท้องถิ่น กำหนดความเร็วในเขตชุมชน หรือจุดเสี่ยงแต่ละพื้นที่  
โดยให้สัญลักษณ์แสดงความเร็วที่จำกัดตามป้ายข้างทางได้ และมีผลตามกฎหมาย

กองบัญชาการตำรวจจราจร กรมควบคุมจราจร กระทรวงสาธารณสุข

Website : <https://ddc.moph.go.th/dsp> Facebook.com/trafficruary



# Seat Belt & Child Restrain



**TARGET 8**  
**2030**

100%

**Target 8: By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.**

**แรกเกิด - 1 ปี**  
ควรใช้คาร์ซีทสำหรับเด็กที่นั่งแบบปรับให้หันหน้าไปด้านหลังรถ (Rear-facing car seat)

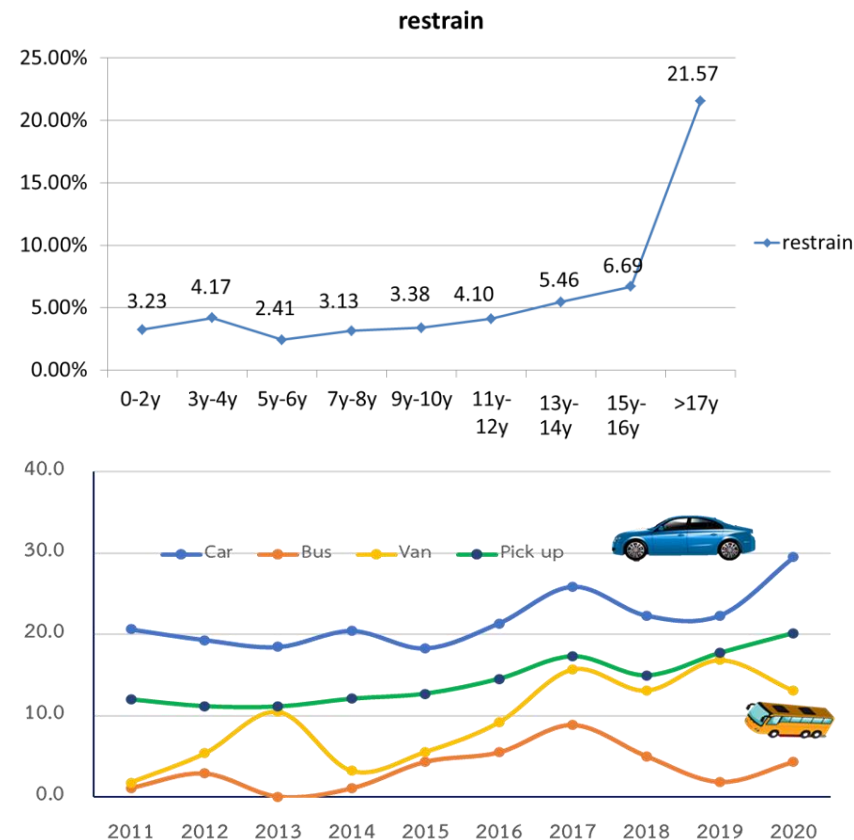
**1-3 ปี**  
ควรใช้คาร์ซีทสำหรับเด็กที่นั่งแบบปรับให้หันหน้าไปด้านหลังรถ (Rear-facing car seat)

**2-6 ปี**  
ควรใช้คาร์ซีทเป็นที่นั่งแบบหันมาด้านหน้า (Forward-facing car seat)

**4-12 ปี**  
ควรใช้ Booster Seat เป็นที่นั่งแบบหันมาด้านหน้าสำหรับเด็กโตใช้ร่วมกับเข็มขัดนิรภัยปกติ (ขึ้นกับน้ำหนักและส่วนสูง)

**อายุมากกว่า 12 ปี**  
ควรคาดเข็มขัดนิรภัยทุกครั้ง ทุกตำแหน่งที่นั่งโดยสาร

กองป้องกันการค้ามนุษย์ กรมควบคุมโรค กระทรวงสาธารณสุข  
Website : <https://ddc.moph.go.th/69>  
Facebook : [facebook.com/haibany](https://www.facebook.com/haibany)  
Twitter : [haibany](https://twitter.com/haibany)



**Child restraint law  
: 2022**



# Use mobile phone while driving



- Thailand has laws prohibiting the use of mobile phone while driving but hand free is allowed



TARGET **10**  
2030



Target 10: By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.



Food delivery platform :  
the rider

[illegible]



## Key strategies

# Develop a safe environment and sustainable transport



- **Reduce speed** among motorcyclist and young riders
- Use **modern technologies** to reduce travel speed and to resolve black spots in local areas
- Assess and improve roads for safety and **use the accident data for black spot treatment** for all road types
- Encourage a modal shift from private vehicle to other modes of transport, especially **public transport and non-motorized transport**
- Increase the coverage of **emergency medical services** and reduce the post-crash response times

**TARGET 3**  
2030




Target 3: By 2030, all new roads achieve technical standards for all road users that take into account road safety, or meet a three star rating or better.

**TARGET 4**  
2030



Target 4: By 2030, more than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.

**TARGET 6**  
2030



Target 6: By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.

**TARGET 11**  
2030



Target 11: By 2030, all countries to enact regulation for driving time and rest periods for professional drivers, and/or accede to international/regional regulation in this area.

**TARGET 12**  
2030



Target 12: By 2030, all countries establish and achieve national targets in order to minimize the time interval between road traffic crash and the provision of first professional emergency care.



# Road Safety Infrastructure

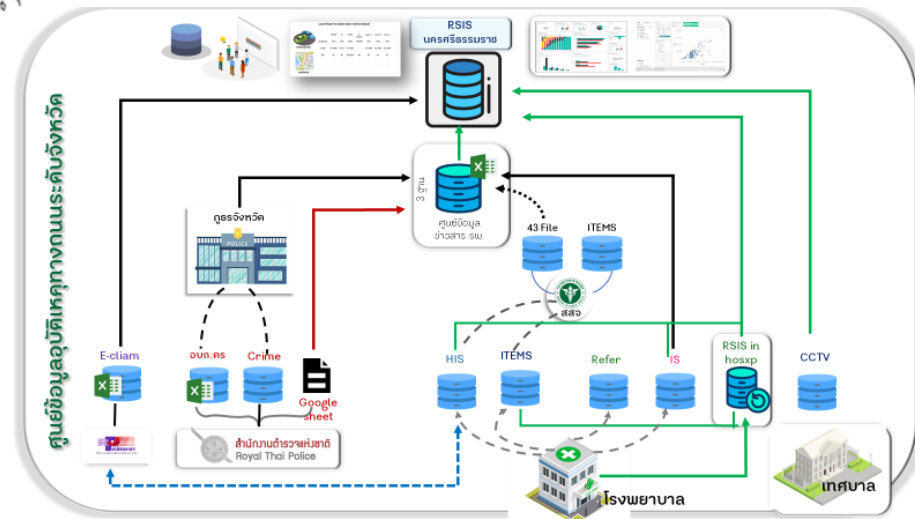


## Injury Data Collaboration Center

use the RTI data for black spot treatment

**ThaiRAP (Thai Road Assessment Programme)** assess road standards in Thailand

**The Road Safety Audit (RSA)** process in every operational phase





# Encourage a modal shift from private vehicle to other modes of transport



**Increase the public transportation network**



**TARGET 11**  
**2030**



Target 11: By 2030, all countries to enact regulation for driving time and rest periods for professional drivers, and/or accede to international/regional regulation in this area.

## GPS system

- Monitor Speed
- Monitor time , place , driver



**Thailand has regulation for the public transport driver and truck driver**

- Driving time not exceed 4 hours
- The distance not exceed than 300 km



# Post-crash care



- The establishment of call centers and a command center in every province. One single number : **1669**
- **Monitor EMS response time**  
not exceed 10 minutes for 10 kilometers (severe case)  
The surveys found success rate at 80-86%
- **Injury Surveillance** : monitor the quality of post-crash



# Strengthening road safety management mechanism



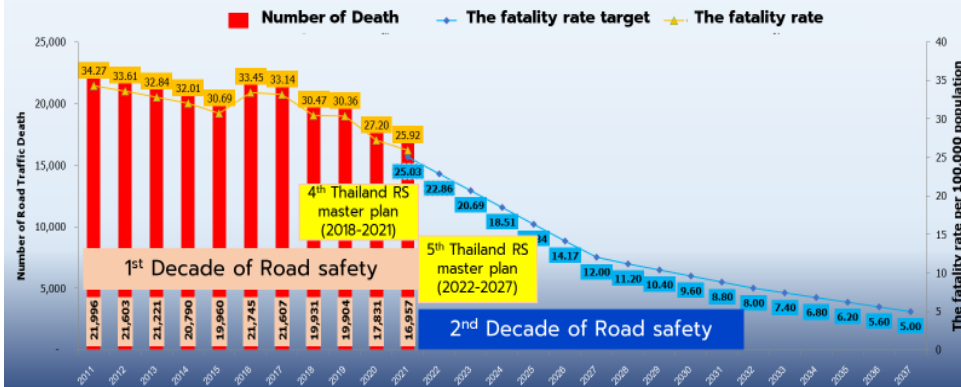
- Improve the laws related to speed management
- Strengthen vital elements of road safety management
- Improve road standards to increase safety for all road users
- Modernize **the laws and regulations to reduce risky behavior** for all road users
- Increase the coverage of emergency medical services and reduce the post crash response times
- **Increase the efficiency of the whole system in the monitoring and evaluation process**
- **Decentralized road safety work to the local level** and promote participation process



# Outcome indicators and targets : 2027

DECADE OF ACTION FOR  
**ROAD SAFETY**  
2021 - 2030

The number of death and fatality rate of road traffic 2011-2021  
and the fatality rate target 2022-2037



**2021**

Death cases 17,831 cases

**2020**

Serious Injuries  
223,702 cases

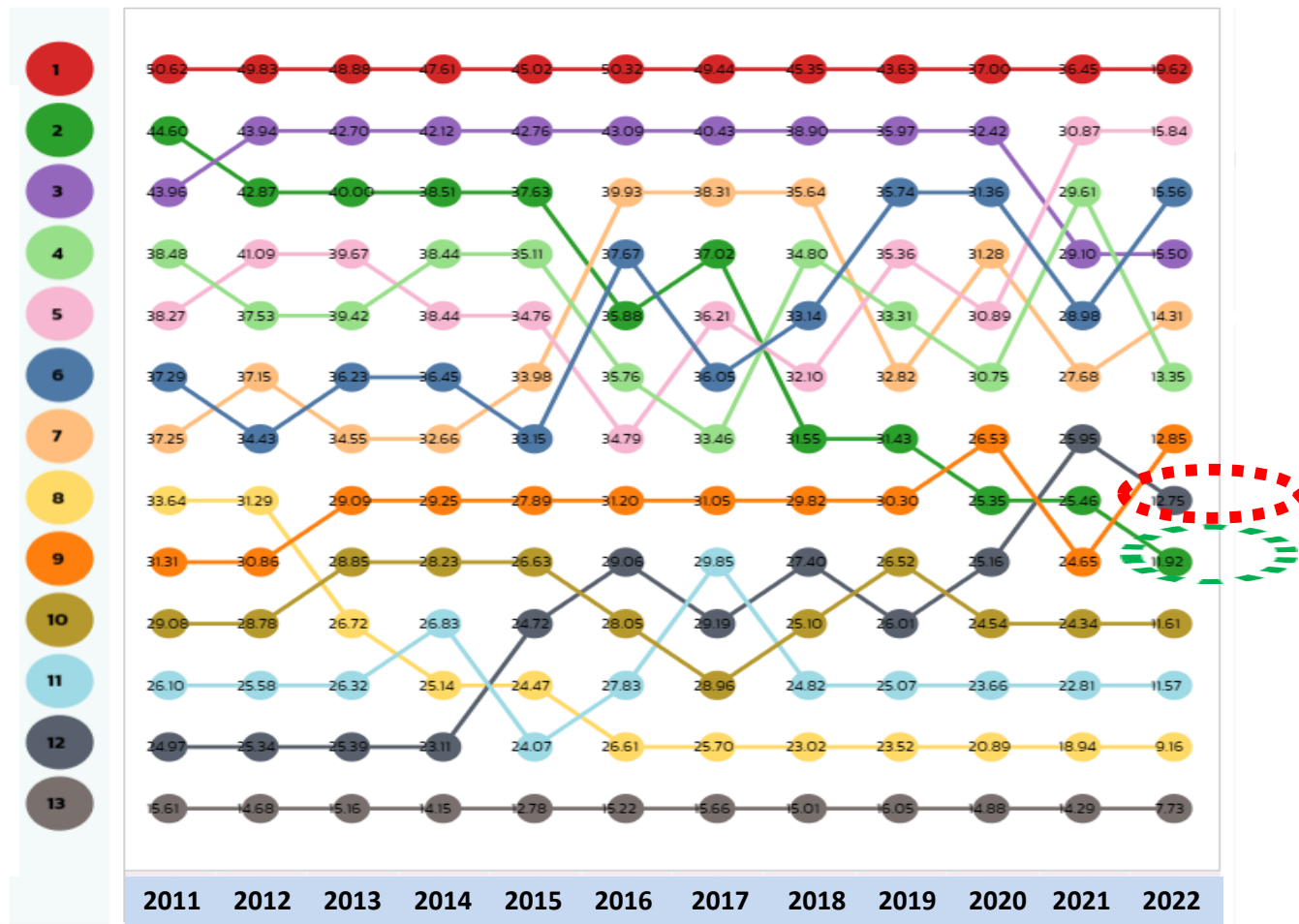
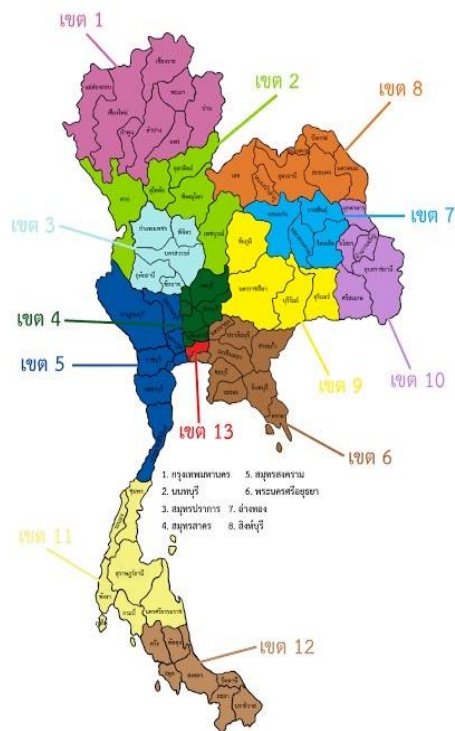
**2027**

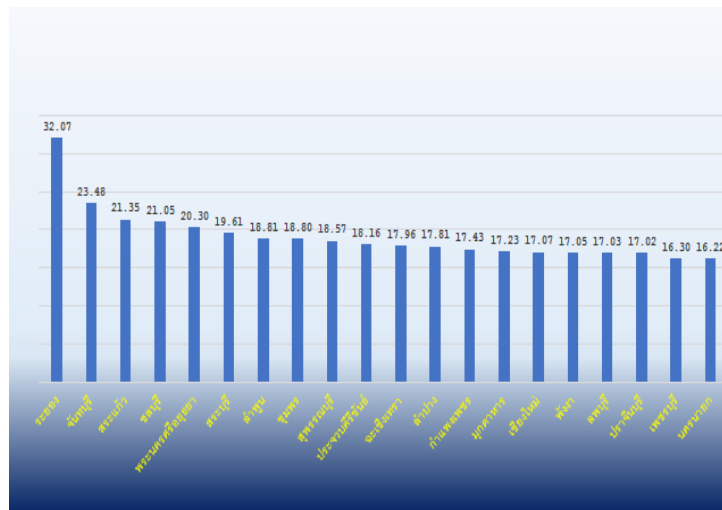
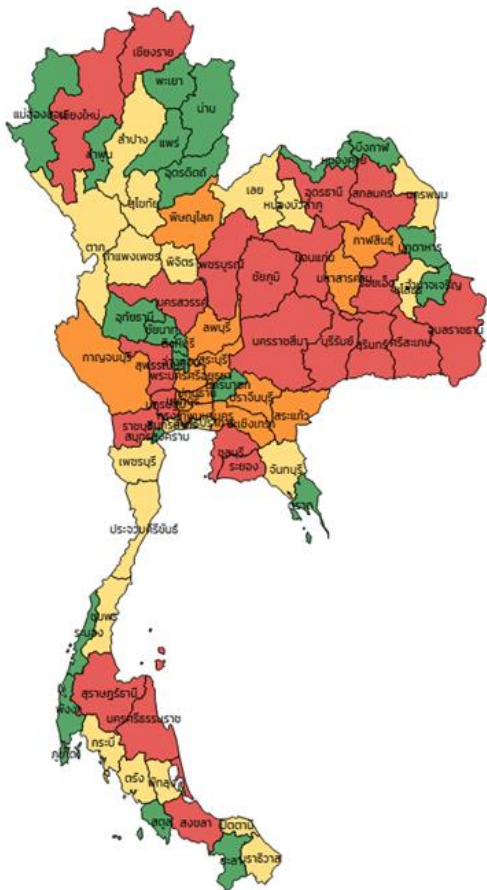
The number of death cases : < 8474 cases  
: 12 /100,000 population

The number of serious injuries : < 106,376 cases

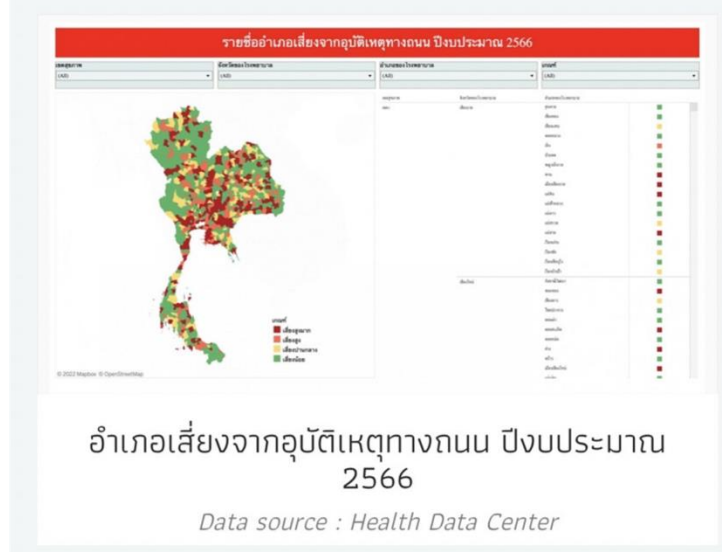


# RTI Death Rate per 100,000 population By Health Areas





By  
Provinces  
District  
Sub-district





# Key intermediate outcome indicators



## Number of death and serious injuries

- **motorcycle users**
- **youths**
- private car users
- **pedestrian**
- **bicycles users**
- **elderly**
- related to the heavy vehicle driver

**Road  
Users**



# Key intermediate outcome indicators



## Percent of death and serious injuries

### Vehicles

- caused by **motorcycles** that do not meet safety standards
- caused by **cars** that do not meet safety standards

## Number of deaths on the road

### Roads

- under the authority of Department of **Highways**
- under the authority of Department of **Rural Roads**
- under the authority of Department of **local government organizations**



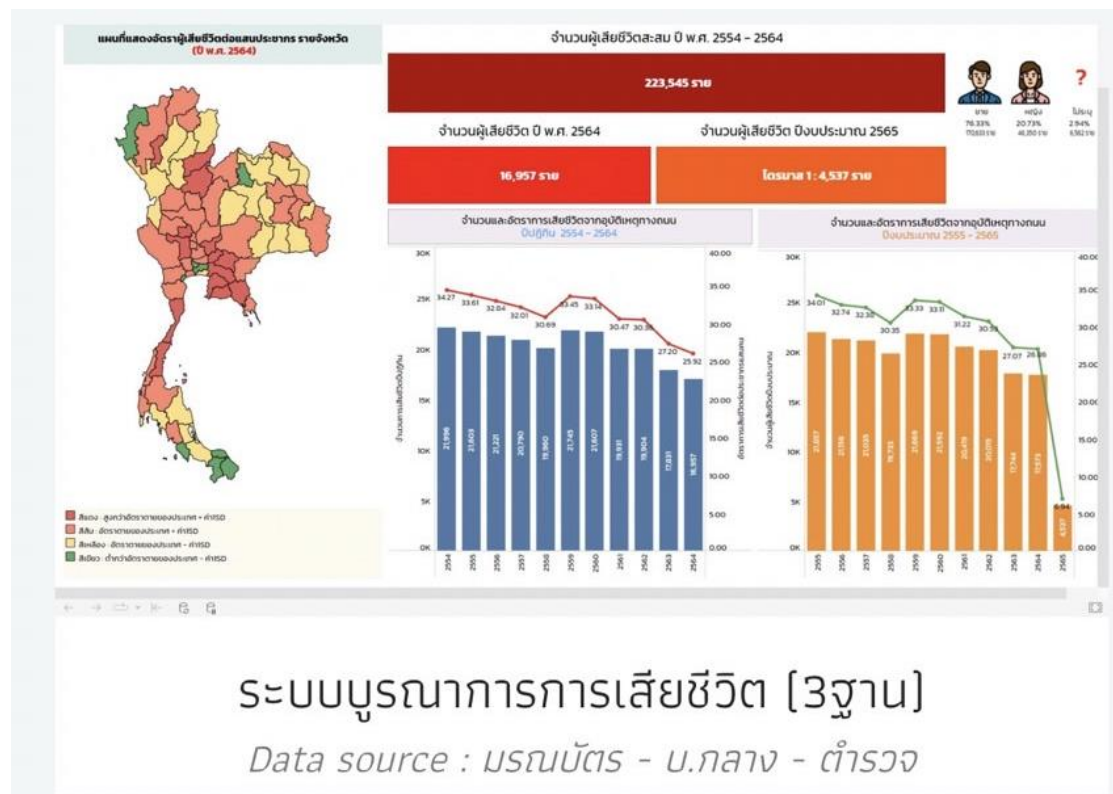
<https://dip.ddc.moph.go.th/new/home>



Death  
Certificate  
Ministry of  
Interior

Road Accident  
Victims Protection  
Company Limited

CRIMES  
Royal Thai Police  
Revolution Project



Road Traffic Injury Open Data



<https://dip.ddc.moph.go.th/new/home>



Behavior  
risks

First Aids  
Post-Crash



ระบบเฝ้าระวังการบาดเจ็บ (IS)

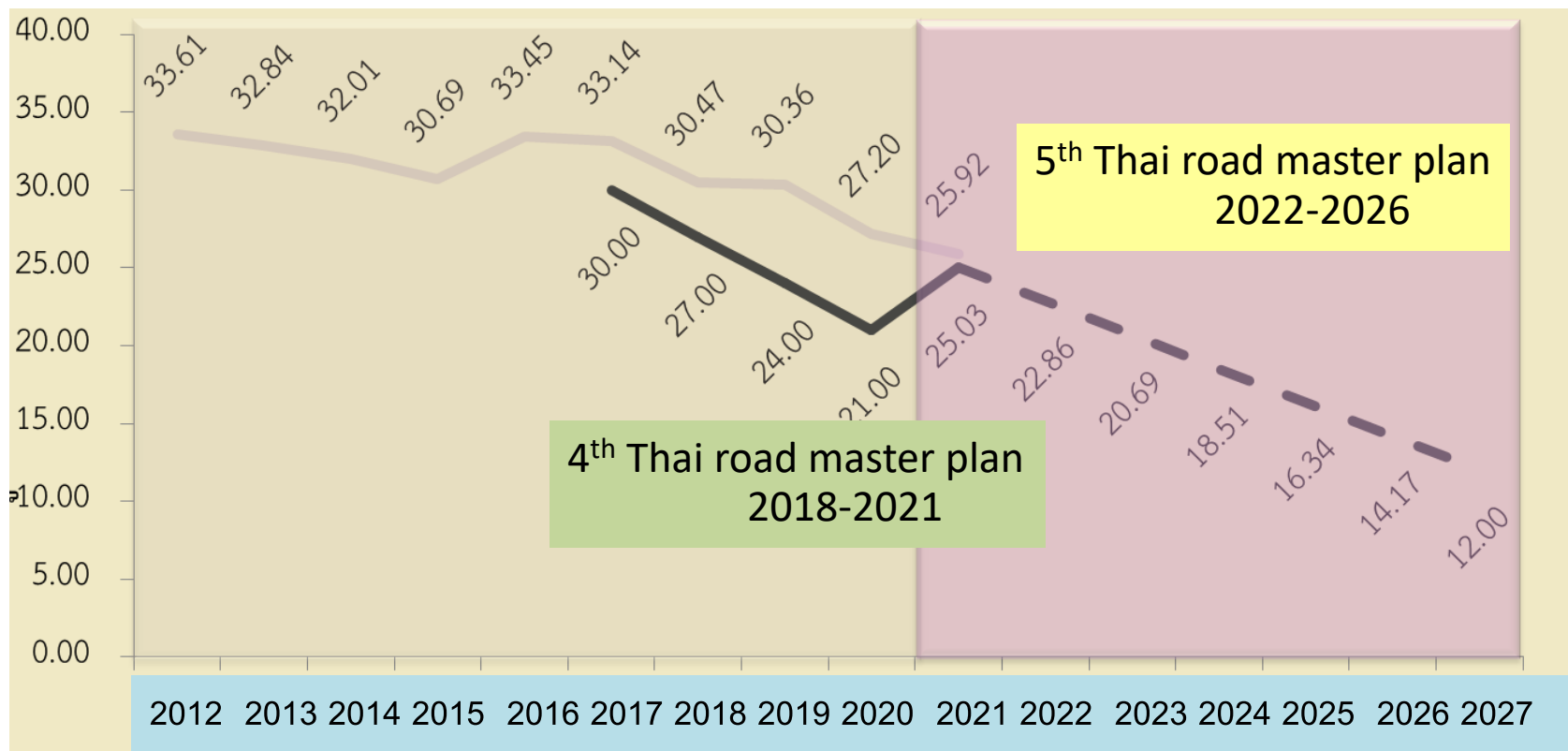
Data source : Injury Surveillance System

**Injury Surveillance**

Sentinel Surveillance : 123 hospitals in 77 provinces



# THANK YOU



## Towards safe land transport for all