

Organisation's Caring Policy

Mr. Parinya Beinbicharn

Mrs. Ngampit Kaewpradit

Road crashes are a significant cause of injuries and deaths that eventually lead to economic loss. To address the importance of the problem, the government has announced Thailand's Decade of Action for Road Safety from the year 2011–2020 under the Moscow declaration framework to reduce the road toll below 10 per 100,000 population within the year 2020.

The government's policy is to prevent and resolve traffic issues through the establishment of cooperation from all relevant organisations and agencies from government, private, and civil sectors to assist in law enforcement, report and care for the injured in order to make the country become "Safety Thailand".

Chachoengsao Province has extensive road networks connecting to other nearby provinces such as Bangkok, Samut Prakan, Chonburi, Chanthaburi, Sakaeo, Prachinburi, Nakhonnayok, and Pathumthani. Thus, the province is faced with high traffic density as well as increasing road crashes each year particularly motorcycle crashes, which result in high numbers of death and injury among teenagers and young adults. This is reflected in the provincial road crash statistics in the fiscal budget year 2015 where 15,787 people were injured and 210 people were killed, whereby the majority of death and injuries were from motorcycle crashes. The cause of crash or risk behaviour that contributed to road incidents is non-compliance to the helmet law, drink driving, speeding, driving under the influence, and unskilled driving. In addition, there is huge number of migrant workers active in the industrial sector. Therefore, the province has established a road safety project based on the 5E strategy by having Chachoengsao Provincial Disaster Prevention and Mitigation Office to coordinate with Bang Pakong Power Plant to initiate a 100% Helmet Wearing Project.

Bang Pakong Power Plant with Helmet Wearing Policy

Bangpakong Power Plant is located at 4 Moo 6, Tha Kham Sub-district, Bang Pakong District, in Chachoengsao Province. The Plant is closed to Bang Pakong River and surrounded by local communities with an area covering around 474.44 acres, and housing 995 staff.

There is also a staff residential area as well as restaurants inside the Plant. Based on observation, most staff who ride a motorcycle do not wear helmets despite there being a fatal crash where a motorcycle crashed against a barrier and the rider was killed due to severe head injury. There was an attempt to solve the problem by the executive management in the past by introducing and applying traffic rules on August 9, 2002, but with little success.

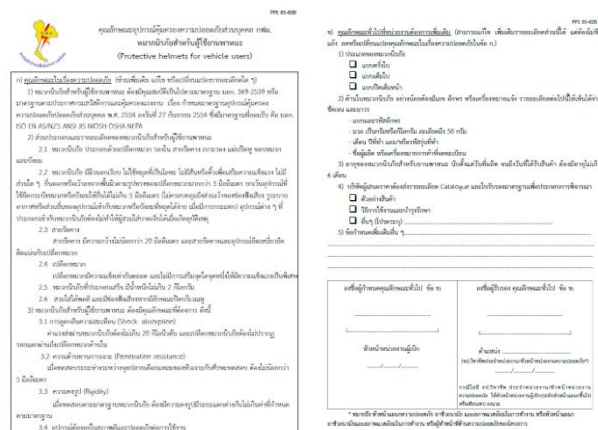
The change came when the Bang Pakong Power Plant received a recommendation from the Chachoengsao Provincial Disaster Prevention and Mitigation Office to take part in the new road safety project in 2015. This road safety project was supported by the Road Accident Victims Protection Company Limited (RVP) and a mentor (Mrs. Ngampit Kaewpradit) from Chachoengsao Thailand Road Safety Network. The road safety project conducted at Bang Pakong Power Plant was a 100% helmet wearing promotion project, which a full project implementation plan as shown in the below table.

แผนงานโครงการสวมหมวกกันน็อค ๑๐๐% โรงไฟฟ้าบางปะกง													
ลำดับ	กิจกรรม	2558					2559					ปี 2560	ผู้รับผิดชอบกิจกรรม
		ก.ย.	พ.ย.	ธ.ย.	ม.ย.	มิ.ย.	ก.ย.	พ.ย.	ธ.ย.	ม.ย.	มิ.ย.		
1	การประชุมผู้เกี่ยวข้อง เพื่อวางแผนการดำเนินการ												โรงไฟฟ้าบางปะกง บริษัทหลวง
2	สำรวจข้อมูลผู้ใช้รถจักรยานยนต์แต่ละกอง												หัวหน้ากองชุด คสส
3	นำเสนอโครงการแก่ผู้บริหาร และอปส.รฟท.												อ.ทศ. พงษ์สวัสดิ์
4	จัดพิธีเปิดโครงการสวมหมวกกันน็อค 100% โดยทำ MOU ระหว่างหน่วยงานต่างๆ ได้แก่ โรงไฟฟ้าบางปะกง ปตท. สท. บางปะกง และบริษัทการคุ้มครองผู้ประสบภัยจากรถ จำกัด												โรงไฟฟ้าบางปะกง บริษัทหลวง
5	จัดตั้งคณะกรรมการโครงการสวมหมวกกันน็อค ๑๐๐% โรงไฟฟ้าบางปะกง												สท. บางปะกง
6	สำรวจความสอดคล้องกันในการใช้และใช้มาตรการลดอุบัติเหตุ												พว.ก.ท.
7	พิจารณาการปฏิบัติตามมาตรการป้องกันอุบัติเหตุจากข้อมูล ปี ๒๕๕๕												พว.ก.ท.
8	นำโครงการสวมหมวกกันน็อค 100% ไปเป็นวาระการประชุม ชุดอ.รฟท. และประชุมกองแผน												คณะกรรมการฯ
9	เก็บสถิติการสวมใส่หมวกกันน็อคของผู้ใช้รถจักรยานยนต์												พว.ก.ท.
10	จัดทำป้ายนิเทศการสวมใส่หมวกกันน็อคจากจุดจอดรถจักรยานยนต์												คณะกรรมการฯ
11	จัดทำโปสเตอร์รณรงค์เรื่องรถจักรยานยนต์												คณะกรรมการฯ
12	รายงานผลการสวมใส่หมวกกันน็อคของผู้ใช้รถจักรยานยนต์ และเจ้าหน้าที่ปฎิบัติ												พว.ก.ท.
13	จัดทำหนังสือขอความร่วมมือ สท. บางปะกง ร่วมกันรณรงค์โครงการสวมใส่หมวกกันน็อคจากจุดจอด												พว.ก.ท. สท. บางปะกง
14	ให้สื่อมวลชน (บริษัทสารฯ) ตรวจสอบผลการดำเนินการ สท. บางปะกง และปตท.												บริษัทสารฯ
15	รายงานผลการดำเนินการโครงการสวมหมวกกันน็อค ๑๐๐% โรงไฟฟ้าบางปะกง												คณะกรรมการฯ
รวม													
ความก้าวหน้าตามแผน (%)													อนุมัติ
ความก้าวหน้าจริง (%)													(นายวิชาญ เท่งวาทย์)
ผู้จัดทำ (นายวิชาญ เท่งวาทย์)		ผู้รับรอง (นายพชร พิศัยการ)					ผู้ดำเนินการฝ่ายการฝึก ทร. บางปะกง					ดำเนินการตามแผนผู้ร่วมโครงการฝึกวิทยากร	
ผู้จัดทำ		๖๓.๑๓.๒๕๖๓					วันที่ ๖๓.๑๓.๒๕๖๓					วันที่ ๖๓.๑๓.๒๕๖๓	

Bang Pakong Power Plant commenced its project by firstly appointing a working group committee to oversee and implement the 100% Helmet Wearing Project activities. The committee is responsible for the draft of the activity plan, helmet wearing rules, and project zoning with details as follow.

1. The Plant management announced the new motorcycle riding safety policy for both riders and passengers together with the introduction of the safety manual for all departments to abide by.
2. Conducted a survey on motorcycle uses and helmet wearing of staff when travelling to and from the power plant.

3. Signed an MOU on the organisation's safety promotion measures with all relevant agencies.
4. Installed CCTV in the power plant for security and monitoring on staff's helmet wearing behaviour.
5. Installed a warning sign, prohibition sign, mandatory sign, and established the traffic line for new traffic management.
6. Issued newsletter to liaise the new helmet wearing policy for all staff.
7. Issued a warning and fined those who violated the rule.
8. Conducted a check-point by the security guards every month.
9. Reported the helmet wearing situation at the monthly meeting.
10. Head of security guard reported the numbers at the meeting every 3 months.
11. Issued the letter to Bang Pakong District Police Station to request for the information on staff who failed to wear a helmet for further consideration on disciplinary action.
12. Followed up and monitored the outcome after the MOU signing as well as considered ways for project sustainability.



- Network Partnership's Participation

Continuing partnership and cooperation between the local road safety networks is consisting of:

- Chachoengsao Provincial Disaster Prevention and Mitigation Office
- Bang Pakong District Police Station
- Bang Pakong Power Plant
- Road Accident Victims Protection Company Limited (RVP), Chachoengsao Provincial Branch
- Somchai Peadriw Motor Co., Ltd. (HONDA Motorcycle Sell Agency)

For the support on helmet procurement with main financial support from the power plant, and additional funding support from RVP Chachoengsao Branch. Altogether the activities have assisted the power plant staff to achieve its 100% helmet wearing target in the end.

- **Further Work**

There is still a task remaining to promote helmet wearing among local communities surrounding the power plant where the majority still does not wear helmets. Some of these people are family members of power plant's staff. Moreover, there is high number of migrant workers whose road use behaviour is unsafe.

However, this safety policy is initiated by the senior management of the organisation to promote safety among staff in order to prevent the loss of valuable personnel when prevention is achievable. Part of the success is also due to external support from other agencies, which in the case of Bang Pakong Power Plant reflects the true dedication of all partnered agencies to promote safety amongst power plant's staff to a high level. By creating a safe organisation culture the organisation is able to protect and save many lives. In summary, all partner networks share the same objective to prevent road crashes in order to promote safe road use. Continued support should be given to this kind of network.

Chonburi: Police Data Management for Road Crash Improvement

Pol. Col. Pisit Proyroongroj

Chonburi Provincial Police

Chonburi province is located along the east coast of Thailand. It is about 81 kilometers in distance from Bangkok when taking the National Highway 3 (Bangna - Trat), and about 79 kilometers when taking the National Highway 7 (Bangkok - Chonburi) with a travelling time of approximately 45 minutes. The area is 4,611,829 square kilometers or 436,311.8252 hectares, and representing 0.85 percent of the country. It is one of the important tourist destinations and houses industrial estates such as Amata Nakorn Industrial Estate and Laem Chabang Industrial Estate

Based on the road crash statistics since 2013, Chonburi has a road toll of 400 fatalities while 6,000 - 8,000 are injured

annually on average. This prompted the Chonburi Provincial Police to look more closely at the figure and analyse the statistics in greater detail to get to the depth of the problem. The focus is on the cause or the factor that leads and contributes to the crash, which would allow the police to identify the solution in order to prevent the incident from occurring. Help



came at the right time when a new project on road crash data collection led by Pol. Maj. Gen. Kosin Hintao was introduced in 2014 where Chonburi Provincial Police Station was the first pilot province, now data collection has been extended to cover all 23 police stations in Chonburi in 2015.

The data was then submitted to the Chonburi Road Safety Working Group Committee. The committee was chaired by Mr. Komsan Ekachai, the former Chonburi Provincial Governor. In addition, the crash data was used along with the information obtained by the crash investigation team and presented the information to other relevant agencies at the monthly meeting. All information was then analysed and identified the

cause of the crash before safety measures were deployed for effective and sustainable solutions in decreasing road crashes in Chonburi Province.

Working approaches and procedures

Each day the Traffic Police Inspector from each police station will check around their area of responsibility for any road crashes. The inspector then reports the number of fatalities and injuries to the radio headquarter at Chonburi Provincial Police Station for recording twice a day with details as followed;

Round 1 – at 07:30AM: To report the statistic of incident that takes place from 17:00PM (previous day) to 07:30AM (present day).

Round 2 – at 17:30PM: To report the statistic of the incident that takes place from 07:00AM (previous day) to 17:00PM (present day).

In the case of fatal crashes or multiple vehicle crashes, the Traffic Inspector is required to immediately report the incident in details to the Deputy Commander of Chonburi Provincial Police via telephone. The detailed report involves the cause of crash, preventive measures, photograph of the crash site, photograph of the dead and injured, and any details on the given subject to be sent via Line Application to Chonburi Traffic Police Line Group.

The radio headquarters at Chonburi Provincial Police Station is responsible for collecting the following data on a monthly basis;

1. Summary of road crash statistics such as the total number of crash incident, road toll divided by gender, number of injures divided by gender, time of fatal crash divided by two periods between 06.00AM – 18.00PM and 18.00PM – 06.00AM on the crash date, type of crash with another party or single vehicle crash.
2. Summary of 10 key traffic law enforcements being conducted by each police station within their area of responsibility on a weekly and monthly basis, which is used for analysis to compare the number of crashes between pre and post enforcement period.
3. The data is then analysed by the Chonburi Provincial Police for the cause of crash on a weekly basis. The crash number was checked for validation, before contacting the police station where the fatal crash happened in high number to come up with a solution and intensifying their enforcement particularly on the offences that contributed to severity of the crash such as drink driving, speeding,

driving on the wrong side, violating the traffic light signal, and riding a motorcycle without wearing a helmet.

4. A monthly meeting was held to follow up on the measures being exercised to further analyse for the police station that experiences a high number of fatal crashes within their area of responsibility. The Traffic Inspector of the police station had to present the crash statistics, factors contributing to the crash and death, and solutions to the problems.
5. Despite having strict traffic law enforcement amongst the top five in the country, Chonburi is still sees no sign of decreasing in road crashes due to the fast increase in the number of vehicles and traffic density.

No.	Conviction	2013	2014	2015
1	No wearing helmets	147,893	144,202	131,958
2	Speeding over legal limit	4,547	15,504	35,255
3	Drink driving	3,456	5,875	8,267
4	Unfasten seatbelt	21,153	26,330	34,717
5	Driving without a driver license	189,708	180,711	171,722
6	Control parts malfunction	37,800	43,614	62,692
7	Overtaking at dangerous zone	2,780	6,096	7,494
8	Driving the wrong way	13,110	24,843	25,569
9	Violating the traffic light signal	30,001	29,405	36,007
10	Using a mobile phone while driving	5,800	8,284	10,867
Total		456,248	484,864	524,547

The preventive measures being deployed has yielded a positive outcome, which is clearly seen in Ban Bueng District. Based on the crash statistics from 2014 – 2015, the road toll has decreased by 50%. This is due to the strict traffic law enforcement led by Pol. Lt. Col.Thapna Kloasuwan, Inspector (Suppression), who is supervising the traffic law enforcement particularly on major offences that resulted in fatal crashes and loss of lives such as speeding over legal limit, drink driving on all national highways, major road, and rural roads. The below tables show statistics of road crashes and key traffic law enforcement at Ban Bueng District. When comparing and analysing both statistics, it is clearly shown a positive correlation between the two where the road crash decreases when enforcement increases.

- *Ban Bueng District Police Station's Statistic on Road Crashes*

Statistic	Fiscal Budget Year 2013 - 2015		
	2013	2014	2015
Crashes	209	361	458
Death	54	51	16
Injuries	220	353	605

- *Ban Bueng District Police Station's Statistic on 10 Key Traffic Law Enforcement*

No.	Conviction	2013	2014	2015
1	No wearing helmets	1,325	4,269	4,513
2	Speeding over legal limit	236	1,009	3,448
3	Drink driving	58	247	540
4	Unfasten seatbelt	1,128	2,970	3,327
5	Driving without a driver license	3,664	6,547	16,313
6	Control parts malfunction	4,358	6,816	23,276
7	Overtaking at dangerous zone	244	729	802
8	Driving the wrong way	227	924	852

No.	Conviction	2013	2014	2015
9	Violating the traffic light signal	566	3,847	1,115
10	Using a mobile phone while driving	90	325	69
Total		11,896	27,683	54,255

Supporting Factors Contributing to Success

1. Traffic police from all police stations provided “full cooperation” and recognised the significance of road crash prevention as well as strictly enforcing the law based on actual information analysis.
2. Operational support from the local authority and private sectors.
3. Support from the Eastern Region – Thailand Road Safety Network, Chonburi Highway District, Chonburi Provincial Land Transport Office, and Chonburi Provincial Disaster Prevention and Mitigation Office by providing advice on working approach and preventive measures to promote road safety.
4. Integrated crash data collection through the provincial data working group committee appointed by Chonburi Province to report the statistics on a monthly basis. Though this committee, each relevant agency had to report back the statistics relevant to their responsibility to Chonburi Provincial Disaster Prevention and Mitigation Office to present data as a whole and cross check among themselves for correctness and cause of crash before presenting the information at the provincial meeting.
5. The crash information is also presented at the monthly meeting for all police stations, where the cause of crashes, its contributing factors, and its preventive measures are presented as a guide for the police station that has not yet experienced any fatal crashes.

However, there are some areas that still see high number of crashes and fatalities in Chonburi Central District, Sri Racha District, and Bang Lamung District due to traffic congestion, and being both a tourist destination and industrial zones with heavy population.

Conclusion.....Leads to Solutions

To learn what is the real cause of crash does require an in-depth investigation, but at the current level of investigation by Chonburi Provincial Police, they found that the highest number of crash with the most severe and fatal crash involves the motorcycle, which should be the focus of attention for common action by all relevant agencies.

1. A motorcycle is required by law to keep left close to the road edge unless it needs to change to the farthest lane to make the right turn or U-turn (Article 35, Land Traffic Act B.E. 2522/A.D. 1979). This manoeuvre is risky to undertake since the right lane is a high speed lane, and the risk is greater if there are more than two lanes of traffic as drivers' visibility on the farthest right lane is restricted by vehicles on the left and often too late to stop from a collision.
2. Under the same article, a slow vehicle from the same direction has to keep left. For those wishing to make a U-turn they do so by keeping close to the left edge as much as they can. For trucks, passenger buses, and motorcycles that are driving under the same traffic direction with two or more designated lanes or specific bus lane are required by law to drive on the left lane or as close to the road edge on the left as possible. However, we often found that motorcycles are riding parallel to a big vehicle like trucks and busses and sometimes collision occur and motorcycle riders can be thrown off and flung under the wheels resulting in death or critical injury. This type of incident often occurs at districts that are residential to stone mills, sand ponds, and Lam Chabang Port. The problem is difficult to solve and maybe there should be a separate traffic lane between these two different types of vehicles.

Lesson Learned

- To be successful in road safety prevention, it has to be supported by all relevant sectors ranging from government, private, and local governance authority as well as leadership from senior management in district and provincial levels. Both leadership and area of expertise from all parties helped integrated knowledge and experiences for information analysis that leads to solutions to the problem, proper law enforcement, and road engineering improvement work.
- Therefore, road safety should be deemed a priority ahead of traffic congestion.

- Police officers can adopt the work by having Traffic Inspectors and Deputy Traffic Inspectors to become Inquiry Officers on traffic offences so that Traffic Police would become more experienced and knowledgeable on the causes, and able to understand the real situation and solve the problem within their local community.

Trat...Zero Death in Songkran

Pol. Lt. Phithak Thassanai

Bantaluen Police Station

Trat is a border province on the east coast of Thailand adjacent to Cambodia on both the land and sea borders. Its area covers around 2,319 square kilometers with a total of 7 districts, 52 islands, and the total population of 220,000. The province is popular for tourists due to its natural beauty, both in land and beaches. Thus, the province receives around 200,000 tourists each year. The majority of them travel for 120 kilometers from Ban Tajod in Khao Saming District to Ban Hat Lek Border Crossing Point in Khlong Yai District, and then another 50 kilometers to the port in Laem Ngop District to cross to Ko Chang and Ko Kut Island. In addition to the local residents, both islands are also housing around 20,000 – 30,000 foreign migrant workers, which resulted in traffic congestion and frequent road crashes.

Based on the local environment and population, plus the number of tourists, and number of foreign migrant workers that increases annually, the traffic has become a real problem for the province. This is well illustrated in the below table showing road crash statistics during New Year and Songkran Festivals from 2014 – 2016, which is increasing in numbers (Table 1).

Table 1: Road crash statistics during holiday seasons of Trat Province

	New Year			Songkran	
	2014	2015	2016	2014	2015
Number of crash	3	30	40	6	18
Number of injured person	4	32	40	6	19
Number of death	-	4	3	1	1
Age of victims (year)	30-39	25-29	16-21	12-16	20-24
Cause	Drink driving, speeding	Drink driving, speeding	Drink driving, speeding	Drink driving, speeding	Drink driving, speeding
Vehicle type	Motorcycle	Motorcycle	Motorcycle	Motorcycle	Motorcycle

Road type	Rural road	Highway	Rural road	Rural road	Highway
Time of incident	18.00-20.00 PM	20.00PM- 24.00AM	16.00-21.00 PM	12.00-16.00 PM	20.00PM- 24.00AM

Based on data analysis, Trat Province is experiencing an increase on road crashes during a long holiday season like New Year and Songkran Festivals. The leading cause is from drink – driving and speeding, while frequent crashes occur on motorcycles with the time period between 16.00PM -24.00AM. The crashes take place mostly on rural roads, while victims who either die or are injured are between the age of 15-16 years of age and 50 years and older. Trat Province has set up a working group committee consisting of multi-disciplinary sectors to promote road safety and water safety during holiday seasons. However, only part of the problem showing improvement is a decrease in road casualties, but the number of crash has increased, which is a good lesson learned to be improved during Songkran Festival in 2016.

During Songkran Festival in 2016, the province has lowering the target number to reduce the pressure from those working on the issue. More steps were taken by conducting 16 check-points on main roads, 2 check-points in sea, and 38 community check-points on rural roads. A working group committee is chaired by the Provincial Governor with senior management team consisting of the Vice-Governor, Police Commander, Deputy Police Commander, and Directors of all relevant agencies to visit the check-point continuously 2-3 times daily. Moreover, the focus has shifted to target rural roads where community check-points are conducted as well as increasing police patrolling the area. The police patrol is not just for security but also to strictly enforce the ten key traffic law enforcement areas particularly on drink-driving, speeding, driving on the wrong side, and helmet wearing. The main task force comprises of Police Officers, Provincial Land Transport Officers, Provincial Disaster Prevention and Mitigation Officers, Sub-district Headman, Village Headman. The supportive force comprises of Army Officers, Civil Defence Volunteer, Village Security Team, Community Police Volunteer, Medical Emergency Team, and Rescue Volunteer.

All relevant agencies and working group committee commenced its operation prior to the holiday season period where the implementation plan was rehearsed while the check-points started during April 8-10, 2016. Additionally, road repairs on risk spot were carried out along with road safety public awareness promotion campaign. During this period the private sector has provided their support on no alcohol purchasing time, while the army

officers supported on drink-driving law enforcement in according to the order of National Council for Peace and Order No. 46/58 that allowed the officer to seize the vehicle that is prone to crashes.

During Songkran Festival, the provincial authority only allowed 1-day water splashing on April 13, from 09:00AM-17:30PM. A specific water splashing zone was designated with full scale security team to prevent road crashes with strict enforcement on alcohol consumption.

As a result, Trat had a total of 30 crashes, with 30 people being injured and no death during Songkran Festival in 2016. When compared with the statistics from the previous year, there were 12 more crashes, 11 more injured, but one lesser death.

Trat's success story during Songkran Festival in 2016 for having no death from road crashes led to receiving a trophy from General Prem Tinsulanonda Statesman Foundation in recognition for the five provinces that achieved its target of “**Zero Death in Songkran**”, and Don't Drive Drunk Foundation awarded 30,000THB to Trat Province. The Trat Provincial Governor also presented the trophy to all 7 Chief District Officers at the provincial meeting on June 28, 2016.

For the lesson learned during Songkran Festival 2016 Road Safety Operation, the key success is due to the unified collaborative network of partners, both public and private sectors. Each partner has followed through their allocated duties within the scope of responsibility with one single objective for “Provincial Success”. Another important support is from the leadership provided by the senior management from the top provincial authority, which in this case is the Trat Provincial Governor who transfers the policy from text into practice as well as getting involved in actual work. In summary, all road safety network and partnership have given their cooperation and expertise to ensure that people of Trat Province would remain safe.

Strengthening Road Safety Network for Road Crash Reductions in Krabi Province

Mrs.Thanyawan Srirattanachot

KrabiProvincialDisaster Prevention and Mitigation Office

Road crashes resulting in injuries and death are reported on television, radio, Facebook, Line Group Chat Application on a daily basis. Image of the loss of life and injuries brings sorrow to everyone, but the impact seems to last for just a short period of time and is often deemed the result of Karma where life and death is a normal phenomenon. The question here is how many would see road death as something that can be prevented, and establish a quest for the source to the problem to find ways to solve it so that the history will not be repeating itself time and again

Krabi Road Safety Network is sprung from a group of representatives from key road safety agencies such as Krabi Provincial Disaster Prevention and Mitigation Office, Provincial Public Health Office, Provincial Land Transport Office, Provincial Police, Road Accident Victims Protection Co., Ltd. (RVP), and Provincial Highway Office. Each of the representatives is determined to complete their responsibility in according to their performance indicators, but in reality road safety work requires coordination and support from other agencies in order to be able to deliver a concrete road safety outcome.

Krabi Provincial Disaster Prevention and Mitigation Office is a secretariat to Provincial Road Safety Directing Center, which has a role to integrate an action plan, coordinate the implementation activities, promote and support road crash prevention and reduction in Krabi Province as directed by Governor and Provincial Road Safety Directing Center Committee's road safety policy. This road safety policy is set under the Decade of Road Safety Action framework, which consists of five dimensions of Road Safety Management, Safer Road and Mobility, Safer Vehicles, Safer Road Users, and Post-Crash Response. The road safety work by the province has been carried out continuously, but the road crash statistics shows no sign of declining while the road safety problems and issues tend to increase constantly. Following the job responsibility framework of each agency alone does not put a cap on the severity of the situation. There should be another new approach in delivering road safety work more effectively.

Thailand Road Safety Network, which is supported by Thai Health Promotion Foundation, is a project that has given importance to road safety network building and capacity building. This is promoted through the use of five working tactics of information sharing, multi-disciplinary team members, selecting the highest risk issue, stakeholders' participation, and highest cost benefits.

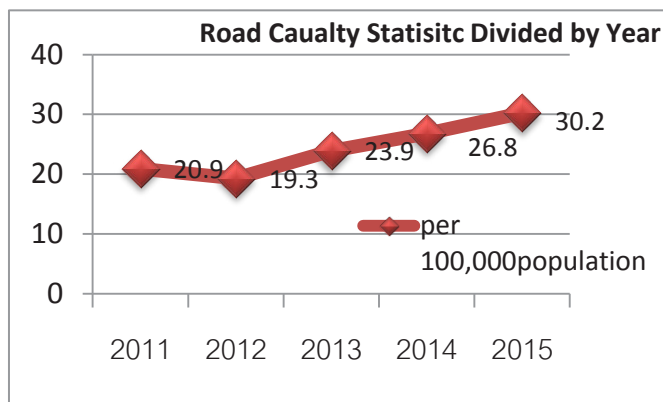
As a result, Krabi Road Safety Network has been developed, inclusive of all government, private, and civil sectors. The network has been working creatively on number of issues in order to come up with new innovations for solving road safety problems based on normal budget available from each organisation. The network has also been expanded from a provincial level to a local level under the belief that sustainability is achievable through community road safety partnership development and ownership for the problem resolutions. Capacity building for District and Local Road Safety Directing Centers is required, which focuses on the Regulations of the Office of the Prime Minister on Road Crash Prevention and Reduction B.E.2554 (2011) to conduct road safety management in a local level.

The local road safety network is based on the existing provincial road safety network partner agencies from both government and private sectors. An example of the linkage is between the Provincial Public Health Office and district health agencies of District Public Health Office, District Health Promoting Hospital, and local rescue units. Another example is the linkage between the Provincial Police and all local police stations in the province. As for the Provincial Disaster Prevention and Mitigation Office, it can coordinate with the Civil Defence Volunteer Center in every district. Another good example in the private sector is for media, which has a network of volunteers in every district.

Apart from the support on local road safety network establishment, the District Road Safety Directing Center has to promote the same working tactics at local level including more integrated road safety activities. This has to follow an annual meeting where everyone across the network would get to meet each other once a year for a lesson learned and experience sharing session.

When looking at the statistics, the data published by Krabi Provincial Public Health Office in 2015 showed that 30.2 persons/100,000 populations had died from road crashes, which has increased from 23.9/100,000 populations in 2013. Even though the road crash statistic is not decreasing as everyone had hoped the working approach by all stakeholders has started to be more integrated. Therefore, it is believed we will see more effective output

and outcome in decreasing road crashes in a long run and ultimately would be able to prevent it from happening. The final goal is to see Krabi as a safe province and achieve its vision of becoming “a city of international quality tourism, sustainable agroindustry, livable society, and adaptable to changes”.



Local Information is the foundation for Integrated Multi-disciplinary Teamwork

Mrs. Janejira Srikrajang
Krabi Provincial Health Office

The road crash toll around the world is more than 1.25 million while Thailand has lost 15,045 persons (23.16/100,000 populations) in 2013 based on the data from Ministry of Public Health. This number means that the country is losing 2 people per hour and 40 people per day while the total number of people being injured is 107,123 persons per year. This imposing number has raised the country to the second highest road toll in the world according to World Health Organisation (WHO) in 2014 data.

An in-depth data analysis found that those being injured, 16.06% were from motorcycle crashes, and 36% of those who died were in their youth and young adult age group of 15-29 years of age. Thus, the loss is not just within the family, but rather the country's future.

For Krabi Province, the road crash statistic from 2012-2015 showed an increase of road deaths from 29.51/100,000 population in 2012 to 30.2/100,000 population in 2015. Within the first 10 months in 2016 alone there has been 36/100,000 population that died from road crashes. When looking at those being injured from motorcycle crashes, 86% were not wearing helmets based on the 2015 statistics.

Dr. Paisahn Kua-a-roon, Medical Physician, Krabi Provincial Public Health Office, has stated that “every work to be conducted at community level should be integrated into a single job for easy delivery locally”. Thus, road safety work is integrated into District Health System (DHS) to support five road safety pillars; 1) Road Safety Management, 2) Safer Road and Mobility, 3) Safer Vehicles, 4) Safer Road Users, and 5) Post-Crash Response. The road safety working team should be comprised of multi-disciplinary professions that are linked to provincial working team. The work is embedded within the community where the local people are serviced as a road safety foundation to be aware of the problem issue, participate in working towards resolutions, and take ownership of road crash prevention and reduction through self-reliant approaches for strengthening and sustaining community road safety.

To prevent and reduce road crashes, the information from sub-districts is collected, for example, the number of injuries and death recorded by Sub-district Health Promoting

Hospital and Community Hospital is presented to various meetings including a community hearing meeting. In the case of the road toll reaching the epidemic threshold, the multi-disciplinary team from both district and sub-district level have to conduct a thorough investigation on the cause of injuries and death. For example;

Case study 1: Crash involving Non-Formal Education Programme students in Lam Thap Sub-district resulted in three students being killed. The crash was investigated by the multi-disciplinary team and the information presented at the district meeting. The investigation found that students were driving at a high speed without wearing helmets and poor visibility in the surrounding area. After the outcome investigation is made known to the community, they have agreed on the solutions and immediately took action. For example, the Lam Thap Sub-district Municipality cut the grass along the road every 15 days, while traffic law is strictly enforced. Since then, there are no injuries or death on that road again.

Case study 2: Using collected data to improve risk spots on Village Number 5 intersection in Khiri Wong Sub-district, Plai Phraya District. This stemmed from the fact that an average of three crashes per month occur at this intersection resulted in three to four people being injured. At the community meeting, the local people suggested to have a warning light installed at the intersection. Both data and community recommendations were transferred to the provincial working group who further coordinating with the relevant agencies to complete the task. After the warning light installation, no more crashes have taken place.

Case study 3: At the curving road near Wat Phru Din Na Temple in Khlong Thom District, there was a report of 15 road crash incidents with 16 people being injured. There had been a number of attempts to inform the local authority, but no action was taken. Thus, the information was sent to the provincial multi-disciplinary team to coordinate with the responsible agency and find ways to solve the problem together. Immediately after the meeting, the Provincial Land Transport Office has produced a warning sign to be installed on the side of the road, the local administrative organisation is looking after the surrounding area and contacted the land owner for permission to install the sign, and the Provincial Highway Office has painted the road surface with red anti-skid material. After the risk spot has been treated, there has never been a serious crash again.

Based on all 3 studied cases, it is obvious that the people in the community have recognised the road safety issues, and have been utilizing crash data to move forward the risk spot treatment work through Thailand Road Safety Network's five working tactics of

information sharing, involving multi-disciplinary profession, finding the most risky spot, participating in problem solving, and maximizing the treatment that is most value for money. This kind of work can be used as an example to other communities to follow. Even though there was a bit of hesitation by the sub-district multi-disciplinary team due to not fully understanding the working approach at the beginning, they now follow the working process and have found that the outcome is successful. The community has become more energetic and realise that a road crash risk is possibly not far from their life, however, it can be prevented if everyone helps within a road safety network partnership.



Fighting Bull Road

Mrs.Boonrod phocharaung

Pattani Provincial Disaster Prevention and Mitigation Office

“Hot news today! Mueang Pattani District Chief has brought a task force to apprehend more than 30 oxes”. Naturally people wonder why and ask many questions regarding the offenses the cows have committed or if the animals had stolen something. This news spread across town like wild fire over the night with an announcement asking the



owner to report to the District Office urgently.

Bull fighting is an ancient sport and raising fighting bulls has become a way of life of the local people in Pattani Province. Thus, the road from Prince of Songkla University (Pattani Campus) to Mueang Pattani District is full of herds of cattle crisscrossing between two sides of the road for feeding and waiting to be collected by owners. Even sheep and goats have joined the parade, where people have become accustomed to the situation and nicknamed it the “Fighting Bull Road”. However, these animals have caused troubles to road users for years as well since they are blocking the road and even have crashes with vehicles. Last year alone, there were multiple crashes resulting in injuries and death resulting in complaints to the District Office. but no action has been taken by any road authorities since it relates to community sensitivity despite repeated incidents.

However, the end of the problem has been achieved by Mr.Somnud Promkhiao, Mueang Pattani District Chief, whose official vehicle had been crashed with a herd of cows on Fighting Bull Road. The official vehicle was damaged, but fortunately no one was hurt, however, no one can be held responsible for the damage to the government property. Thus, the District Chief has given the absolute order to send the task force to the trouble road and remove all the cattle from the road. More than 30 cows were relocated to a designated area to awaiting for owners to come and collect them. A strict measure has been instructed to cattle owners to be aware that all cows found in the road will be

removed and if the owner fail to come forward to get their cows back, they will be put up for auction as well as legal action taken against the owner. The objective was to return the road to real road users particularly for those in Rusa Milae and Bana Sub-district. This very same rule was applied to all roads in Mueang Pattani District to make sure that all the roads are safe and that there will be no more of Fighting Bull Road.

Measures that are “fast, immediate, serious, and effectively” taken by Pattani District Chief who is also a chairman of Provincial Road Safety Directing Center, has demonstrated strong leadership. His action reflected his bravery and genuine concern for the public interest without being fearful of any resistance. Whilst there is no more Fighting Bull Road, businesses, students, and people have become safer and happily travel on the road.

New approaches in Kalisa Sub-district

Mrs.Boonrod phocharaung

Pattani Provincial Disaster Prevention and Mitigation Office

A main road cuts through Kalisa Sub-district and passes in front of a school located on a narrow curved section. The road is busy with motorcycles when parents come to drop of their children and pick them up after school.

One morning a loud bang broke was heard about 100 meters from school. People saw a motorcycle on the road with the body of a mother next to the front left wheel of a car in a pool of blood that flowed from a severe head wound. The child was thrown clear and fell onto the side of the road with mangled arms and legs. This is just one of many examples of road crashes in front of the school where many have been injured and killed each year.



The school director has discussed this problem with parents and Village Headmans from 6 communities of Kalisa Sub-district to make them aware and to realise the severity of the problem and to consider more seriously road safety issues. Subsequent discussion involved what made this road unsafe, and how to improve its safety. The local people agreed that they will try to solve the problem themselves first by working together between school director, parents, and 6 Village Headmen. They were supported by the team from Narathiwat Provincial Road Safety Directing Center after the team had the opportunity to meet with the school director and learned about the situation that they currently face. at Kalisa Sub-district.

The most urgent action needed was to give knowledge to local communities on how riders motorcycle safely could be improved. A helmet must be worn at all times while riding and riders must be licensed under the law. Twenty community team leaders from each

community were selected to attend the road safety knowledge, safe riding techniques and practice.



Then, all 6 communities made a mutual agreement on a set of road safety rules to be complied with by everyone voluntarily. The Village Headman and community team leaders have made an agreement on the rules as well as on supportive activity such as conducting a Kalisa Sub-district community check-point. The purpose of the check-point was to warn people to wear helmets and comply with the traffic law. The community team leaders conducted the check-point

once a week during rush hours in heavy traffic condition. The rule was that a warning would be given for the first time offender, a second time offender would require to do a community service, and for the third time offender would need to pay twentybaht fine. All fines collected were given to the Community Development Club. All Village Headmans had signed up in the announcement before informing it to all community members.



There has been some feedback from the Hulu Village check-point volunteers who had voiced out to the school director as followed.

Volunteer: "I am afraid my friends would criticise me"

School Director: "What did you say when you call them to stop?"

Volunteer: "If not wearing a helmet, you can get hurt, or be paralysed, or even die from a crash, so your wife would become a widow,

your child would become an orphan. If you are disabled, both your wife and a child would be tormented”.

This kind of success would never happen if no risk spot information is shared and discussed with relevant stakeholder as well as having set a good example for others. Thus, road safety network and partnership comprises of multi-disciplinary team is critical in solving road safety issues in the most cost effective way. The outcome is that there has been no more losses in front of the school in Kalisa again.

A “Helping” Man.....on the Roadside of Pattani

Mrs.Boonrod phocharaung

Pattani Provincial Disaster Prevention and Mitigation Office

There is a small shack with a motorcycle on a road in Pattani, which is used at different times. Sometimes, there appears more people staying in the same shack, and on other occasions the shack is turned into a service station for road users from all ages and professions even foreigners. This shack is actslike “**a man on the roadside**” that comes with a problem The man is sometimes disturbed by a horrific scene brought about by road crashes. This is painful to face since no one in the shack can do anything to assist the injured due to a lack of knowledge. This often makes them wonder whether those injured could be saved if they knew what to do.

This is the kind of story that people shared and discussed at the Provincial Road Safety Directing Center working group meeting. At the meeting the Traffic Inspector from Pattani Provincial Police has joined the team by sharing his ideas, and the search for ways to promote traffic discipline and service provision by “**a man on the roadside**” or what is well known as a motorcycle taxi. The meeting agreed that there is the need for cooperation from all sectors including motorcycle taxi operators rather than handing down the government order to tell them what to do, which they would comply with if forced but not from the heart.

Thus, a meeting between government agencies and the team of local motorcycle taxi representative has been conducted. The first thing being provided to the motorcycle taxi representative team was road safety knowledge so that they would be able to protect themselves through safe riding skills with helmet wearing, and traffic discipline. Mueang Pattani was then divided into 4 zones characterised by different colours with a selected head of zone who would act as a coordinator, controller, and advisor for their zone. Moreover, the issue on the service charge has also been resolved at the same time by the Provincial Land Transport Office to set up a standard cost for public reference. Finally, all motorcycle taxi riders are responsible for safe riding by wearing helmets, and for passengers’ safety by requesting them to wear helmets as well.

The final duty is for “**a man on the roadside**” who has volunteered to provide assistance to the injured from the crash at a nearby road. The job involved calling for a

rescue unit, hospital, or police urgently and directing the traffic to ensure that traffic is not congested. Another job to do was to record all road crash data and information in their location daily.



However, there was still a question whether all the rules that required “a man on the roadside” to follow would be “too much” to undertake. However, a Zone Head has



reaffirmed that all the rules are good and considered them as sacred as scriptures. This is because in the past everyone in the shack just do a taxi job in exchange for money, but now they feel that they have made a contribution to the society by helping to save lives of others. They are now not just “a man on the roadside”, but rather a motorcycle taxi with eagle eyes of Pattani.

Cooperating for Safety in Na Thawi District

Mr.Metha Rajchapong

SomdetPhraboromRachineenat Hospital

Na Thawi District is located in Songkhla Province. Even though the area is prone to security risk situations, economically it is well performed.. People are mostly working in the agricultural sector and are able to afford buying cars. However, their driving attitude is often unsafe, for example, they think that there is no need to wear a helmet for short trip, they are disobedient to traffic law, undertake careless driving behaviours, and sometimes drink drive. In addition, the roads in the area are, often windy, steep, bumpy, and no roads have shoulders for motorcycles. All of these are risk factors that potentially led to road crashes.

The road toll statistics of SomdetPhraboromRachineenat Hospital in 2010-2011 showed an increase from 33.99 to 39.91persons per 100,000population. When conducting an interview on those injured and admitted to the hospital, they revealed that majority of them are teenagers and young adult workers who ride motorcycles without wearing helmets, and had a crashes on community roads, often drink driving, and using unroadworthy vehicles.

In 2012, Na Thawi District Road Safety Network was formed with the support and guidance of the Provincial Public Health Office and Provincial Disaster Prevention and Mitigation Office. The network consists of police, district rescue unit, public health, Highway Depot, Highway District, Road Accident Victims Protection Co., Ltd. (RVP), Land Transport Office, Local Administrative Organisation, NaThawi Sub-district Municipality. The main discussion was centered around the information on Injury Surveillance (IS) from public health.

This road safety network establishment has given the opportunity for a group of multi-disciplinary representatives to meet and form a team. They helped analyse the cause of the road crashes based on the IS data and police record for the crash times. After the cause was identified, the team then helps to brainstorm suitable solutions that fit into the local capacity. It started with the municipality and Thepha Highway Depot working together to carry out road engineering treatment for 14 risk spots by reorganizing the traffic direction, improving road condition, and installing traffic light signal, street lights, and traffic signs.

On the other hand, the police had implemented stricter traffic enforcement to support the new road safety measures initiated by SomdetPhraboromRachineenat Hospital

on helmet wearing. The head of each department is responsible for discipline and inspection of their subordinates. The name of those failing to comply with the traffic rules can be submitted to the police to be fined. The fine charge is varied depending on the position and level, for example, 50 Baht fine for officers, 100 Baht fine for head of unit, and 500 Baht for Hospital Director as well as being sent to Land Transport Office for 2-hour road safety training. This is to promote good role models for obeying the law. For the education sector, there was a capacity building activity for traffic student volunteers, and drug free school campaign.

The public health agencies have developed the Emergency Medical Services System(EMS) for those being injured from road crashes. The EMS network involves Na Thawi Rescue Unit and nearby area rescue teams, Community Hospital, Sub-district Health Promoting Hospital, tertiary care hospital. The EMS network has set up a FastTrack system to treat and care for road crash patients by using a team of physical therapists, psychiatric nurses, and a medical mobile unit to visit patients at their residence. The team's objective is to improve the quality of life and treatment of those being disabled by the injuries and need to use prosthetics.

The outcome showed that after the risk spots have been treated, there is no more road deaths on the same spots. The road toll in Na Thawi District has decreased from 33.98 per 100,000 populations in 2012 to 10.36 per 100,000 populations in 2015. The same trend is also seen in the number of injuries, which has decreased from 1,910 to 1,479. However, the success does not come overnight or be achieved by a single agency. Success relies on the partnership power from all relevant road safety agencies in Na Thawi District that began in 2012. This involvement has continued to deliver and utilize the existing resources or get the resources themselves without having to wait for the government budget allocation.



Child Helmet Wearing for Safe Journeys in Phrasaeng District

Mr.Jumnong Sawatdiwong

PhrasaengDistrictDisaster Prevention and Mitigation Office

Phrasaeng District is located in the southern part of Surat Thani Province. There is a main road passing through the district with a width of 7 meters and with no road shoulder. In 2014, there were 88 road crash incidents in Phrasaeng District, 5 were killed. This has increased from 2013 when there were 81 incidents with 4 people had been killed. The number also showed that 32% of those being injured and killed from the road crashes were younger than 20 years of age. They were mostly from within the district and almost all the crashes involved motorcycles where the helmet wearing rate is only 2%.

When looking back at the past road safety campaigns that were apparently unsuccessful it was found it may be due to the fact that the target group did not understand the importance of helmet wearing. It is often said that they were travelling a short distance, so no need to wear a helmet. Thus, Phrasaeng District Disaster Prevention and Mitigation Office, on behalf of District Road Safety Directing Center, had stepped in to refocus the target group for helmet wearing promotion to the preschoolers. This has given life to a project called Child Helmet Wearing for Safe Journey in Phrasaeng District. The work started by approaching the senior management of local administrative organisations and school directors with the information on road crash statistics to seek their participation in the project. Following the meeting, Director of Banyandindaeng School and I-pan Sub-district Administrative Organisation were interested in taking part in the project. The school then conducted a preliminary survey on the number of children that travel to and from school by motorcycles and found that there are a total of 215 students. The school then invited their parents to the meeting to explain the need for road safety promotion project that focuses on helmet wearing. A video clip from a real incident was shown to the parents demonstrating how helmet wearing can save lives and what would happen to the person, the family, and the community when they are not worn. Another talk with the preschool students was also conducted by using an image comparison technique to help them understand the consequences to their head when not wearing a helmet. Children got to see what happens to the “watermelon”, which was used as their head, when it was dropped to the ground, the children being asked to pledge that “they would wear a helmet

every time they ride on a motorcycle”, then, helmets were distributed. 100 helmets were sponsored by Road Accident Victims Protection Co., Ltd. (RVP), and another 60 helmets were sold to parents who are interested in getting additional helmets by RVP - Surat Thani Branch at 99 Baht. The school also made a space in the classroom to store helmets.

Phrasaeng road safety network team observations in front of the school is very encouraging where children travelling to and from school stated wearing helmets every day. At present, the wearing rate is soaring to 99%. In addition parents not wearing helmets has become less and less. This has given hope to the working group to expand the project to other schools with the belief that a road safety conscience has to be established at an early age in order to maintain sustainability.



Stopping Criminal behaviour on the Road

Mrs.Orachorn Attaveelarp

Phuket Provincial Public Health Office

Phuket is known for its Andaman pearls, and southern paradise that attracted almost 10 million of both Thai and Foreign tourists. However road safety problem and issues arose which has made Phuket one of the top five highest road crashes areas in the country for the past 10 years.

The majority of road crashes are involve motorcycle at the rate of 30.72% and often also involve drink driving especially in tourist areas during the holiday season. The attempts to address the drink driving issue has been resisted by the locals from tourist districts even at the senior executive in the provincial authority who once said that “what to do with Phuket is just to solve the traffic jam is good enough”. Thus, Phuket road safety work is only centered around drink don’t drive campaigning during public holiday season just like any other provinces. Even though the agency that is responsible for law enforcement understands the importance of the issue. Any legal action taken against a criminal on the road has to be done based on evidence. To catch a criminal, police need weapons, which many police officers often complain that there is no equipment or no calibration of the equipment that is needed for submission into court as evidence.

The road crash data system development committee together with road safety partnered agencies, which are supported by a team of Thailand Road Safety Network, police, district highway office, public health office, and Road Accident Victims Protection Co., Ltd. (RVP), have become the main coordinator linked to all road safety project participation. It began working on simple issue such as physical treatment at risk spots by installing road marking, traffic lights, and traffic signs. Then, they moved into more difficult tasks in solving the drink driving issue in 2015 to reduce criminal behaviour from the road.

At the meeting with all sectors including business owners, local administrative organisations, local media, and local NGOs, the statistics on road crash and death due to drink driving was shown. The meeting was seeking to allow all stakeholders to share the same objective and plan a mutual solution in order to minimize any resistance as well as creating cooperation. The next proposition was on the equipment to help arm the police to enforce the law by finding the breathalyser that its output would validate throughout the

life of the equipment. This task has proven to be the difficult one, but the team has received help from Safer Roads Foundation (SRF) who provided the equipment worth 1,143,000 Baht, which was procured through Rotary Club of Tongkah. The club is also funding the calibration cost and equipment supply after the end of warranty period. The police received 30 screening breathalysers, and 9 Alcohol Breath Testers, which have been distributed to all police stations. After the equipment is allocated the next step taken was to conduct a public campaign, so the committee met with the Provincial Governor of Phuket to explain about the project background and extended the invitation to the Governor to preside over the ceremony in receiving the equipment from Mr. Michael Woodford, CEO of SRF. The campaign on drink drinking will include arrests and be supported by the club and local media for one month prior to police check-point activity. The check-point and data collection activity were carried out at the same time, whereby the outcome was reported to the senior management daily, and the information is evaluated together with information on road crash victims' drinking amount also collected by the public health agencies.

The police check-point has processed drink drivers three times more than before for the past 6 months, which has been proven to be effective in decreasing drink driving rate.

The secret to success is that the work has to be done with cooperation from all stakeholders who share the same working objective as well as a well-equipped task force with all necessary weapons to fight against crime and mediate any resistance for a suitable result.

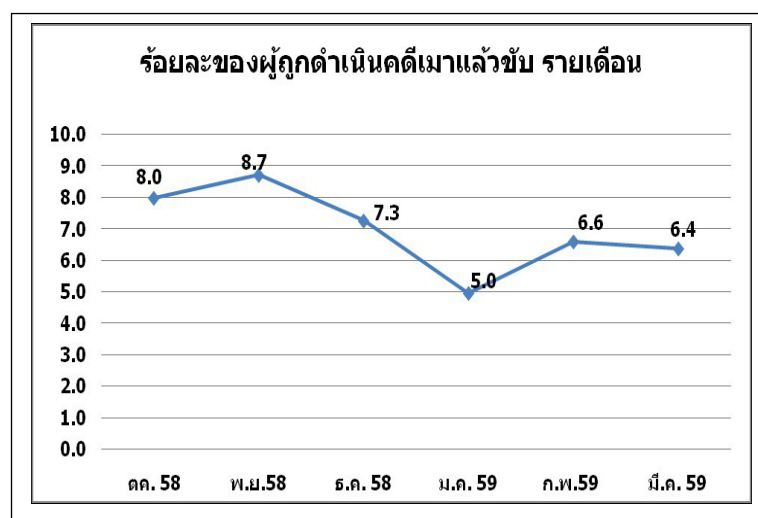


Figure 1: Percentage of Drink Driving Offenders from October 2015 to March 2016

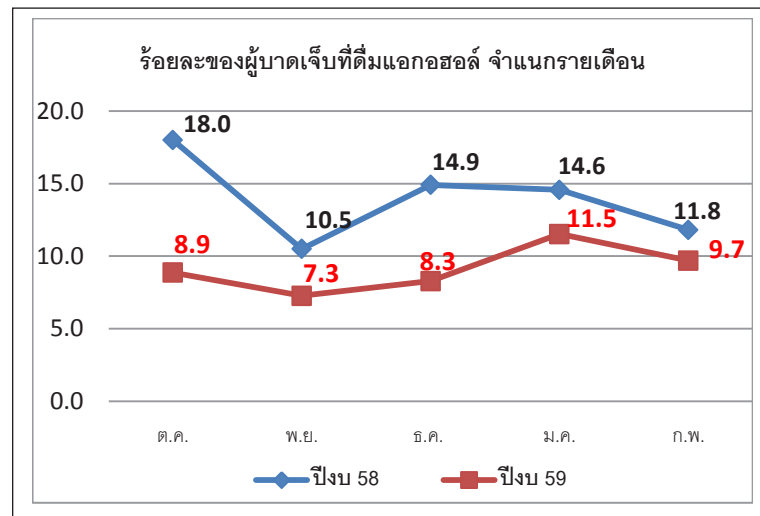


Figure 2: Percentage of Drink Driving Injurers from October – February
(Blue line is 2015 fiscal budget year, and Red line is 2016 fiscal budget year)



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6	24	5	2	



The images are showing the public campaign on drink driving law enforcement and
Police check-point

Surin-Narisorn Roundabout

Mrs. Orachorn Attaveelarp

Phuket Provincial Public Health Office



Surin-Narisorn Intersection was located in an area of Phuket City Municipality. The intersection is at the heart of provincial government agencies consisting of Provincial City Hall, Phuket City Municipality Office, Phuket Provincial Public Health Office, and Sanamchai Sports Stadium (Phuket Stadium 2). It is estimated to have more than 5,000 vehicles passing through the intersection each day. At the Phuket road crash data system development committee meeting, the Road Accident Victims Protection Co., Ltd. (RVP) - Phuket Branch reported that among all risk spots in Phuket, the Surin-Narisorn Intersection was found to have an increasing road crash trend within one kilometer radius from the intersection since 2013. It is found that at the intersection alone for the first 8 months in 2015 (January – August) there were 36 crashes and 5 people killed. The number of crashes and injuries were double, and the cause was mostly due to drivers running the red light. This was a surprise to the provincial senior executive and this has prompted the construction of a roundabout to solve the problem basing on the theory of minimizing intersection conflicts.

Dr. Wiwat Sitamanoch, Vice-Chairman of Thailand Road Safety Network and expert on road crash prevention and reduction, has requested for funding support from Safer Roads Foundation (SRF) worth 2,398,500 Baht to construct a roundabout. The construction work is carried out in the form of network cooperation whereby funding and the design of roundabout are managed by the Rotary Club of Tongkah through a committee from government and private sectors. The architectural design was supervised by Prof. Dr. Pichai Taneerananon, traffic engineering expert from Prince of Songkla University, with approval from Phuket Provincial Governor and Mayor of Phuket City Municipality. The construction was supervised by Phuket Highway District, and once the construction is completed, the Phuket City Municipality will be responsible for maintaining it. The construction period was from 15 January to 31 March, 2016, and required 77 days to complete. After the opening of the roundabout, the RVP-Phuket Branch, the Phuket

Provincial Police, and Phuket Provincial Public Health Office conducted a follow up assessment.



Surin-Narisorn Roundabout has concept details as followed.

- For safety, the design was constructed to allow road users full and unobstructed sight lines.
- The structure was made of Aluminum Composite material, which is strong, durable and easily maintained.
- Landscape architecture is in hexagonal pattern as a symbol of network partnership.
- A sphere shape to represent the shape of Andaman pearls was utilised.
- The architecture features a supportive stone wall, which appears as a turtles' back. The turtle is a symbol of long life.

The assessment was for the usage period of 1 April to 31 July, 2016 where all three sources of data showed that there was only **one minor crash with 1 person sustaining minor injuries**. The committee also received a public request to build more roundabouts on other intersections that have frequent road crashes. This kind of road engineering is different from the past where the traffic light is often used to solve traffic issues.

Stop Vehicles from Veering off the KhaoPhabPha Mountain Road

Ms. Ruthai Kongseng

Trang Provincial Disaster Prevention and Mitigation Office

PhetKasem Road at the section between Trang and Na Yong District is a linkage route to Phatthalung and lower southern provinces. The road cuts through the KhaoPhabPha Mountain, which has undergone a road improvement project to change from a 2-lane road to a 6-lane road in 2014. The road is curved along the mountainous route, which has become a tourist attraction where people would stop for sightseeing and has become known as the Andaman Gateway. This has become a problem with increasing road crash incidents especially during the public holidays. The road crash statistics since its completion in June 2014 to October 2015, where there were more than 80 crashes with one casualty. Most of the crashes resulted from a vehicle sliding down the side of the road. Sometimes there were 2-3 vehicles a day particularly on the rainy day, which caused injuries and property damage as well as impacting on other road users.

Na Yong District road safety network has been working on solving the problem by installing warning signs, speed limit signs, beware signs, transverse rumble strips and conducting speed detection and education training for communities on road sides. However, the incidents still occur on the exact same locations. The team from Na Yong District went to the site to observe the situation and road user behaviours. They observed that drivers were driving at high speed, which resulted in vehicles sliding off the road or hitting the middle barrier. More than 90% of vehicles that had crashed were alien to the area.

A working team of Na Yong District Office, Na Yong Highway Depot, Na Yong District Police Station, and Trang Provincial Land Transport Office has been formed to conduct a speed detection point, installing transverse rumble strips, and limiting the traffic lanes from 3 to 2 by using rebounding cones to guide the traffic from Trang to Phatthalung Province. By doing this, drivers have become more cautious and no longer having crashes.

The key factor contributing to the success is the determination and dedication of all stakeholders to solve the problem by adopting the working approach of “Plan, Do, Check, Act (PDCA)”. The leader and officers from Na Yong District, and relevant local agencies have established the issue as a priority. Thus, when the crash happens, the meeting was called to discuss possible causes of the crash, the working plan is then started, and lesson shared to

learn for other situations. The work is continued until there are no more crashes at the same spot.



Victory at Cockpit U-turn:Thung Song District in Nakhon Si Thammarat Province

Mrs.Wannee Meehkaud

MaharajNakhonsithammarat Hospital

Pol. Lt. Col.KorakotPutnuan, Inspector (Patrol), Thung Song District Police, is dejected every time he has to inspect the body for identification and autopsy of the road crash victims at the Cockpit U-turn, and often questions himself how he could put a stop to casualties at this location.

The Cockpit U-turn is located on National Highway 41: Thung Song– Ron Phibun at Kilometer number.296+800. It is a 6-lane road with two U-turn locations, where area is surrounded by markets and is also a short cut to the district. Thus, it is the spot which people use to cut into the traffic in order to get to the district and the market without having to go to another U-turn at the second location. Often there are irresponsible behaviours such as driving on the wrong lane, and cutting in front of the traffic on the road, which results in injuries and death.

Every holiday season, Cockpit U-turn is prioritised as a risk spot that has to be supervised with temporary safety measures every year. The measures involved closing down the Cockpit U-turn by placing a barrier, which clearly demonstrated to everyone that by simply closing it down, everyone is moved to use the second U-turn without being injured and killed resulting in zero death.

However, the problem is that police do not have the authority to close it down permanently. The people in the community also seem to be able to tolerate the safety measure only for the holiday period since the barrier was removed immediately after the holiday period ends. The resistance from the public is strong despite repeated crashes and casualties.

In the past, the police worked alone, so even though they are aware of the problem, they are still unable to solve it. However, the change came when a road safety multi-disciplinary team in Thung Song District was formed. Each team member is expert in their area and responsibility, so when it is combined with a horizontal coordinating approach as well as approaching the problem issue with five road safety tactics. It has given all members the confidence in negotiating power with more options in handling the situation. Therefore, the team's target is to treat risk spots like the Cockpit U-turn with the objective of having zero death as an outcome.

The work began after the end of Songkran Holiday when the team just pretended to forget to reopen the U-turn just to see the community reaction. As expected, the barrier was removed even though the area was under surveillance by the rescue unit who was assigned to watch over and had gone to retrieve and replace the barrier. However, the barrier was removed time and again and complaints started to be made. Thus, the team has taken the opportunity to meet with the Chief Executive of local administrative organisation to request for a permanent shut down of the Cockpit U-turn. However, the team understood that the local people are the power base of politicians, so some room for maneuvering by the local governing body to avoid clashing with the voters. Thus, the team requested for a permission to meet with people to explain about their work and asked them to trial the closing for three months. If after three months, there is no decline in crashes, injuries, and casualties, the U-turn will be reopened to the public immediately.

During those three months, the team had prepared a work plan and allocated the task to each member. The rescue unit was responsible for surveillance to prevent the barrier from being removed. The police had enforced the traffic law seriously. The hospital and the Road Accident Victims Protection Co., Ltd. (RVP) were collecting all data. Thung Song District 2 issued the report and submitted to their commander requesting for budget support to close down the U-turn permanently as a preparation.

After three months has passed, there were no crashes not just at the U-turn, but for the entire part on that road where the communities were situated. The information and data were then presented to the local administrative organisation requesting for a permanent closing. The local administrative organisation then conducted a community hearing seeking approval from the local people. During the hearing, 2 questions were asked; 1) after closing the U-turn, how do you feel, 2) is it acceptable to close down the U-turn. The answer was that after the close down, it was inconvenient to people, however, they become safer. Thus, the community resolution was to close it down and permanently end the casualties for the last two

The victory at Cockpit U-turn was due to constantly working on the issue by using the factual information to win the cooperation from the public and local politicians. The team approaches resistance with reconciliation where the local politician's interest is not being compromised or upsetting the local people. It has to be approached with all stakeholders with the mutual benefit and that everyone is winning in the end. The outcome has given confidence to the team to move forward road safety work in the future.

Difficulties eased by Five Road Safety Tactics: Tha Sala District, Nakhon Si Thammarat Province

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I received a call from a senior colleague who worked as a nurse at the Emergency Room at MaharajNakhonsithammarat Hospital. She introduced herself as a mentor from Thailand Road Safety Network, and asked me to help become a local leader for Tha Sala District area to help deliver road safety projects using the five road safety tactics model. This call gave me an awkward feeling.

It was explained that this model was a working strategy that Thailand Road Safety Network extracted from a successful community road safety work from the World Health Organisation (WHO), which the network has adapted to fit into the Thailand context. However, I had an awkward feeling about it not just because I had never heard about this model throughout my working career as a nurse for more than 10 years alone, but I also know that road safety work in Tha Sala District had been nothing but talk with no action.

Maybe I should refuse, but as I was dwelling in my thinking, I was looking out into the road and saw a furniture shop owned by someone I know. The shop had been closed for many days now since the shop owner's wife had to go to MaharajNakhonsithammarat Hospital to care for her husband. As I shifted my focus back onto the U-turn in front of a hospital, I can see several cars waiting to make a U-turn in the opposite direction where one car wanted to get into a hospital, but another wanted to cross to another side of the road.

This had reminded me of what happened to the shop owner almost a month ago after he came to drop food for his elderly mother at the hospital. On his way home, his motorcycle was hit by a larger vehicle at the U-turn after leaving hospital. He was critically injured and now lies unconscious at the provincial hospital.

The incident has left the hospital director feeling distressed, to the extent he even stated that the hospital should take up the responsibility to do something about that U-turn to help make it safer. This view was shared by others in the hospital including myself.

The road passing in front of the hospital is used for travelling between Nakhon Si Thammarat and Surat Thani Province. It is a 4-lane road with an island in the middle and has a U-turn point right in front of the hospital. When the hospital was in the middle of

construction of a new building, the entrance and exit was somewhat confusing. There was also a bus stop on the sidewalk, which filled with vendors who conducted their business close to the sidewalk and had also been crashed into by a passing vehicle. There is also a group of motorcycle taxis and local Song-taews parking nearby waiting for passengers, all of which contributed to traffic congestion. On the left of the hospital right next to the hospital fence, there is a private market that has just recently been opened and operated all day. The market has also opened a route to connect to a nearby university and main road. This causes traffic congestion and unsafe behaviours by university students who are riding along the wrong lane and cut into the oncoming traffic.

If the problem at the U-turn can be solved, it would help save many lives, but I still could not see how that is going to be achieved. In the end, I had agreed to the senior colleague's request due to not wanting to offend her with one condition that the provincial road safety team had to discuss about this project with my director and obtain his permission to allow me to participate.

In the meantime, I started studying the five tactics used for promoting community road safety in more detail through a meeting and discussion with the provincial team and from the given documents. This has helped me start to understand a bit more so I could follow the mentor's advice in trying to mobilise road safety work one step at a time.

The first tactic has to do with information, so I started with the family of the shop owner. I went to visit him and his wife at the provincial hospital to learn a more from the family who had to take care of a disabled family member. The trauma was clear the words that "if I can choose, I would rather choose death". What was said opened my eyes for the first time how powerful the qualitative information can be. After receiving permission from the hospital director to participate in the project, the first task for me is to study the road crash data recorded by the hospital and the rescue unit for Tha Sala District. I then combined the quantitative data with the qualitative data received from what is called "Story telling" for presentation.

The second tactic is to establish a network of multi-disciplinary team members. The advice I received from my mentor was to look for a group of people that are related to road crash factors, which are human, road, and vehicle. I managed to obtain their names, but I was hesitant to contact them without knowing them before. This was when the provincial team came into picture by helping me coordinate with them and finally having them all come to the meeting and get to know each other. These people are police (whose office

eaves almost overlap with my hospital, but we never get to know one another), Tha Sala Highway Depot, local rescue unit, Sichon District Disaster Prevention and Mitigation Office.

After the team has been formed, the third tactic is to work together in searching for the highest risk spot. The communication between the team members is conducted horizontally. I used the district level meeting to present my information received from the victim's family. Hence the U-turn in front of the hospital is finally selected as the target risk spot for treatment. At this meeting, I had invited the owner of the market to the meeting as well, which resulted in strong cooperation throughout the project.

The meeting was then followed by the site inspection by Tha Sala road safety working team. The provincial team was also invited along with academics from the University to join the inspection. The conclusion from the inspection team was then presented to the provincial road safety team chaired by the Deputy Provincial Governor where the resolution is divided into two stages of short term and long term as follows.

1. Physical treatment urgently required consists of;
 - Vehicles leaving hospital can only make a left turn. For those wishing to make a right turn can do so by using the U-turn at a nearby intersection.
 - **Do Not Park** marking was painted in front of hospital while the entrance and exit of the next door market is separated from one another.
 - Allocation of the police team to enforce the law at the spot.
2. Medium term and Long term plan
 - Upon completion of the hospital construction, the entrance and exit will be separated, and there will be one-way traffic direction.
 - Removal and relocation of the bus stop
 - The route leading to the entrance of the hospital and Walailak University are separated from one another. After three years has passed, the road and all surrounds have changed. There were only three crashes with minor injuries at the spot for the past three years unlike before where there were 12 crashes per year. This has astonished everyone in Tha Sala District team because what everyone thought to be difficult and required big budget support, but turned out to only need cooperation from all relevant agencies. All they need to do is to base their work on factual information and database with full dedication and willingness. The successful outcome has given a real inspiration and confidence to the district team to continue with their road safety work.

No Need to feel like an Accused: Thung Song District, Nakhon Si Thammarat Province (Change Agent)

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MaharajNakhonsithammarat Hospital

“Every time there is a meeting at provincial and district working group level, I always noted down all details on recommendations related to road defects, and put the information into a report. The report is then submitted up the chain of command for further investigation and cooperation on resolutions.”

This is the working principle of Thung Song District road safety multi-disciplinary team members from Nakhon Si Thammarat Provincial Highway Office 2 (Thung Song) named “Maw”. Her method of working is a good example of working with multiple partnered agencies, and it has a strong impact on road crash prevention and crash reduction work in Thung Song and other districts under the responsibility of Nakhon Si Thammarat Provincial Highway Office 2 (Thung Song).

It is well known that risk spot treatment is considered to be sensitive work because it requires physical changes of the location and the surrounding area. This sensitivity comes into place since the changes involve more than one responsible agency such as Highway District Office, and Rural Highway Office. Thus, there needs to be care not to create some kind of finger pointing at anyone and that no one should feel like being an accused since newly formed teamwork could become fragile.

Therefore, promotion of a positive working approach such as being open minded to different opinions from ourselves, basing solutions on scientific principles, working with agility, close follow up on output, and assess the outcome just like “Maw” has done. This has become a key to team success not only at Thung Song District but also at Chawang District.

“Spies” Organising Safety Measures at Chawang District, Nakhon Si Thammarat Province

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“There will be a group of people secretly spying and taking a photograph of officers at District Office who are not wearing a helmet before sending it to the supervising department for disciplinary action as agreed. There are two of them here...”.

This is the story given by an officer to confirm that the Chawang District road safety working team is taking the organisation’s road safety measures seriously by supporting the 100% helmet wearing rule as an extended project work from the provincial helmet wearing policy.

Since the project has commenced and is now reaching the third stage whereby arresting and fining the officer who failed to comply with the rule, it has now become common practice by all government officers. The organisations road safety measures have achieved its objective due to the cooperation of the multi-disciplinary team who secretly set up a spy team to keep eyes on those officers who are not following the rule that the District Chief has already agreed and committed.

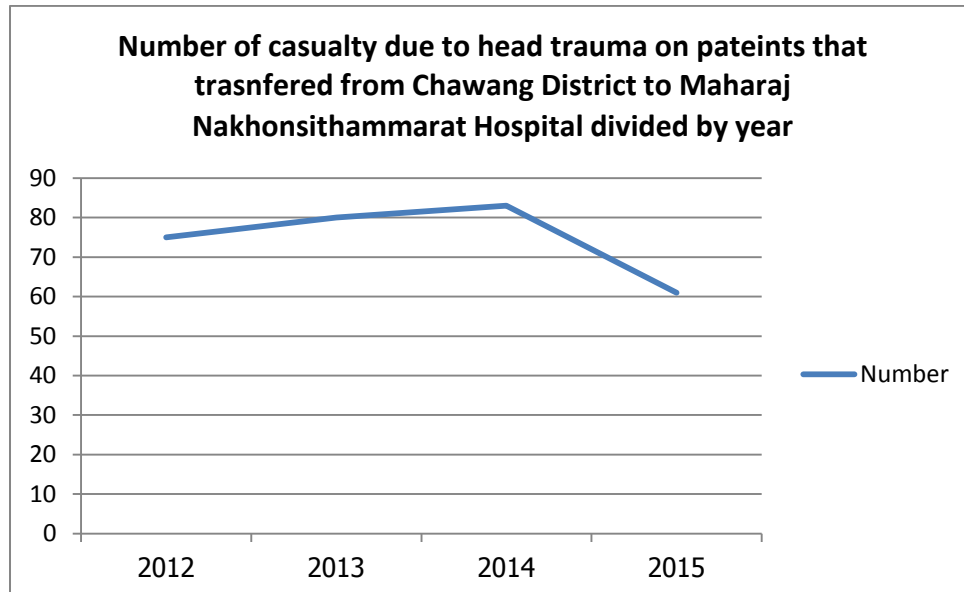
It is not revealed who is the member of this secret group of spies, but what is certain is that its job is to take a photograph of the non-helmet wearing personal.

“There are two of them here in my unit”, as told by the head of the unit in an agency. This group of spies sent the photograph to the director for further disciplinary action, which cannot be ignored if external pressure is building up.

The group of spies is helping escalate the success of the helmet wearing law enforcement in Chawang District, which does not have to wait for the police to do the job alone. This comes to show that helmet wearing enforcement can also be carried out by the public sector, and also served as a tool to check up on one another between all organisations that entered the agreement.

The project outcome does have a direct impact on people’s health in reducing casualties due to head trauma from 75 cases in 2013 to 61 cases in 2015.

Diagram 1: Showing the number of casualties who die due to head trauma sustained from the motorcycle crashes in Chawang District and was transferred to MaharajNakhonsithammarat Hospital from 2013 - 2015



Tesco Lotus - Chandi Intersection is now safe: Chawang District, Nakhon Si Thammarat Province

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“Report case on Wor.40¹ in front of Tesco Lotus Shopping Mall”, the voice came out from the radio of Siam Rescue Unit who is responsible for the mentioned area. The shopping mall has just been opened and located near Chandi Intersection in Chawang District. Since the opening, there have been at least 4 road crashes a week. This is a high frequency and have four specific crash characteristics are apparent.

Each of the relevant agencies and organisations have presented their information concerning the problem at the Chawang District Road Safety Directing Center meeting, which led to the decision to declare Chandi Intersection as a risk spot that required an urgent treatment. The district working team then contacted the Nakhon Si Thammarat Provincial Highway Office 2 to attend a site inspection. It was found the cause leading to the crash was due to physical road condition, which required further road improvement. The treatment involved road side extension further from the shopping mall, installing the warning traffic lights, installing road marking, and installing traffic signs.

After the treatment was completed, the rescue unit has never received the call on that spot again.

Chandi – Nakhonsithammarat Road is a 2-lane road except for the intersection area where the road is extended to 4-lane road as required by standards. The Tesco Lotus Shopping Mall is located further down the slope from the intersection where the road is reduced to a 2-lane road, but the road was later expanded to 4-lane at the location of the shopping mall to install a U-turn. Thus, when the vehicle was making a sudden U-turn while the oncoming vehicles were travelling along 2-lane section but then abruptly changed into 4-lane it confused drivers so that it easily led to crashes. Furthermore, there were no street lights in that location.

¹ It is a radio communication code using Thai alphabet called Wor, and Wor.40 means road crash incident.

Cooperative work on Death Angel Road and 100-dead Curve:

At ThungYai District, the local people have nicknamed ThungYai - Lak Chang Road as Death Angel Road and nicknamed ThungYai – Phrasaeng Road as 100-dead Curve. Both the Emergency Ward nurse and the police from ThungYai District Police know very well that there have been high volumes of road crashes on those roads. The victim often sustained severe injuries and had to be transferred to the provincial hospital for further treatment, but many were not that lucky and were found death at the scene.

Both roads are 2-lane roads with narrow road shoulders and have no street lights. The road surface is rugged and had remaining water after rain.

In the past, the nurse never recorded the road crash data on death and injury on both roads, but that has been changed after the ThungYai District multi-disciplinary road safety team has been formed. Road crash data from police and District Highway Office was shared and found that there were 70 – 76 crashes/year resulting in severe injuries and death.

The team decided on their working target to reduce injury and casualty on both roads with the following work process.

1. The target is set for 50% reduction in casualties on both roads.
2. Searching for team members from local communities located along the roadside, and Public Health Volunteer to participate in the work.
3. Set up data collection for situational reporting, follow up, monitoring, and evaluation.
4. Conducting unofficial meetings with district working team and communicating via Line Chat Application. Later on the District Road Safety Directing Center was officially established.
5. Established a work plan, implementing the plan, evaluated, follow up, and review the results.
6. Pushing for the establishment of community rules in keeping the roads safe.

In summary, the team was able to find the cause of the problem as due to physical road conditions on both roads. An action plan with risk spot treatments to widen the road shoulder and smooth the road surface using the local budget was implemented. This also involved community participation to help improve the surrounding environment by clearing up bushes, which the Public Health Volunteer is responsible for monitoring and taking turns cleaning up the area and maintaining sight lines. More work on risk spot treatment in other

areas has also been planned by the multi-disciplinary team to promote sustainable road safety.

The successful outcome is considered to be a learning curve for the team on systematic integrated working process with clear objectives by participants of all stakeholders, with outcome assessments.

Cha-uat District: Number One on Helmet Wearing

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“If the public information is thoroughly distributed, the Police Superintendent gives it a priority and visits the site and local people in every community with the A-teacher, and police strongly enforce the law without neglect and based on good understanding of the nature of the local people....with both being combined would lead to successful outcome.”

This is the summary testimony of the commander and five police A-teachers working on Nakhon Si Thammarat Provincial 100% Helmet Wearing Project in Cha-uat District area.

Cha-uat District is one of 23 districts of Nakhon Si Thammarat Province. It is an outlying district with the border adjacent to Phatthalung Province. It is divided into 11 sub-districts and 87 villages with a total population of 80,317 whose majority is farmers. There are five schools, four factories, and there is a main highway cutting through the district to travel to Phatthalung Province and Hat Yai District in Songkhla Province. Even though Nakhon Si Thammarat has been promoting helmet wearing law and enforcement continuously since 2008, the survey conducted prior to commencing this project showed that only about 60% of riders and 39% of passengers are wearing helmets. The police's working approach is to get down to the local community to create an organisation's for road safety measures by the local and for the local.

Following the announcement to have the 100% Helmet Wearing Project as a main road safety policy by the Nakhon Si Thammarat Provincial Police, five police officers from Cha-uat District had received a training to become an A-teacher on teaching technique and public cooperation establishment. This training helped A-teacher police promote people's understanding of the road injury situation locally, nationally, and internationally better. They also help transferring from policy into action with a clear working direction and public information basing on “1+4+4” process. This process means that the law enforcement requires one month of public notification, issue warning for four months, and then enforcing law for another four months.

Under the command of Superintendent of Cha-uat District Police Station, the 100% helmet wearing project had started in May 2015. The project implementation was based on

the nature of the local people where they would comply with the law as long as it is strictly enforced. The 1+4+4 implementation process was carried out as planned with cooperation from four sectors. After a few days of giving warning and fining, the helmet wearing rate has jumped to number 1 in the province in August 2015 where 94% wearing rate for riders and 34% for passengers.

Factors contributing to success

1. Public information is conducted thoroughly: Cha-uat District working team did have a clear plan for public information campaign on project implementation as follows.

- For general public, the campaign was focusing on 1+4+4 process.
- For participating organisations from all four sectors, the agreement was made with the executive management and conduct of a knowledge session for staff in the organisation on road crash consequences, traffic law, the benefit of helmet wearing, and any related information.

The public information campaigning was planned in accordance with the local context, values, and existing resources. Various techniques were used

Public information distribution techniques

“Go to the site in person” is one of the techniques used by A-teacher police to inform the target group about the project. This involves having a meeting with the executive management of the organisation and staff, that go everywhere in the target area except temples. Other techniques are;

- 1) Installing a vinyl sign showing the image of heads of the agency from all levels paired up as rider and passenger wearing helmets. For example, in provincial level, they were the Governor with the Commander, the Commander with the Superintendent. In district level, they were the Superintendent with the District Chief or heads of various government agencies, Chief Executive of the Sub-district Administrative Organisation with villagers, Sub-district Headman with villagers, and Village Headman with villagers.
- 2) To distribute the information via community radio stations by head of sub-district agencies on a daily basis.

- 3) A-teacher police attended community meetings in all villages to invite the local people to participate in the project. What the police did was to sit in the meeting before asking for an opportunity to present about the project, and road safety knowledge/information received from the provincial training (CD record of information was given to A-teacher trainers), which included information on relevant law, helmet wearing benefits, road crash injuries and death before asking for cooperative agreement.
- 4) Integrated into police's routine work such as drug suppression work.
- 5) Conducted a walking parade to promote the helmet wearing project in every local event such as local sport competitions, local cultural festivals, and municipality events.

2.Organisation leadership

Energy, mental support, and enthusiasm of A-teacher police and other police officers flow from the Superintendent who fully supported the policy and project work. The Superintendent understands the problem and issue and gave it a priority, and attended all site visits, led the team at the community meeting, and directly monitored the team's working process. For example;

- 1) Clearly identify the target group and covered all areas of Cha-uat District.
- 2) Allocated job responsibility with requirement to report the progress on daily basis.
- 3) Evaluate the working outcome, improve, and adjust the working tactic as appropriate.

3. Local participation

The provincial team has supported the vinyl signage, but the local participating organisations and private sector also provided additional funding support to produce more of the vinyl signs. Support also came from the local monk who saw the sign before contacting the team to present financial support as well as informing people who come to the temple for preaching sessions on helmet wearing benefits. The imamhad also lent a helping hand to the project.

4. Strict but flexible

- 1) The working period is clearly divided into three stages to allow people to prepare for the change. People had one month to be aware of the upcoming change, then another four months for adjustment to the change, before strict enforcement for another four months. The enforcement involved 500 Baht fine and having the name sent to the offender's agency for further disciplinary action for riders failing to wear a helmet. For passengers, they were given a warning with their contact details recorded for further appointment to watch road safety video as well as having their name submitted to their agencies. However, as the enforcement measure is directly having an impact on people, so the working procedure during warning and enforcing period was carefully planned as follows.

- *The arrest would be made as appropriate rather than having made the arrest everywhere they were, the arrest was not made without having a check-point conducted. Thus, a warning was issued instead when they were found not wearing helmets outside the check-point.* This is to help ease the public resistance and dissatisfaction when the full stream enforcement was made later when the arrest, fining, and video viewing were fully enforced when a check-point was conducted. At the check-point there was no back down even if the offender is known to the police. The police role was acknowledged and accepted by the people despite being a rural society where everyone knows each other including those working in the government sector. The strong enforcement is carried out alternately with a warning so that it would not cause stress between the two sides.

- 2) Motivation for discipline through helmet distribution

For passengers who were required to view the video, they were given a very good welcome as a guest when they came to the session, and the police had provided more information on traffic law, and helmet wearing benefits. However, the A-teacher police reported that they felt that they were not given enough and wanted the video viewing session to be more

colourful and impressive. Thus, all police officers at the station had donated their money to buy helmets to be given away through the drawing of lots.

- 3) Real arrest and real fine on every offender

During the enforcement period, when the arrest was made, all offenders were fined without exception even though the public felt that the fine was too high for villagers, however, the law must come before sympathy.

Successful outcome summary

1. Clear project process and expected outcome.
2. Strong leadership demonstrated by commanders and supervisors from all levels.
3. Participation by all sectors from all areas.
4. All working team members understanding their roles and responsibilities.
5. The project plan is adjusted to fit into the local context while still maintaining 1+4+4 principle.
6. When the time has come, the law must be upheld so that it is respected, and truly effective with some room for flexibility.
7. Having fun in creating activities to reduce resistance.
8. Creating positive support to reduce stress between parties.