

---

## GUIDELINES FOR MEASURING THE SUCCESS OF TRAFFIC SAFETY ACTION PLAN

Prasadja Ricardianto\*, Noor Syamsu Hidayat, Payaman Manik, Prima Widiyanto and Primadi Candra Susanto

Tranportation Management, Trisakti Institute of Transportation and Logistics,

Jakarta, Indonesia

\*corresponding author: Prasadja Ricardianto

### ABSTRACT

The purpose of this research is to develop guidelines for measuring the success of safety action plans, especially for Traffic and Road Transportation. This study has always been quite interesting from the economic and human points of view. Several problems related to safety, especially traffic, are the number of casualties, involving pedestrians, motorbikers, buses and trucks. The National Police of the Republic of Indonesia informed that during 2019, the number of traffic accidents that occurred in 2019 increased compared to 2018. The number of traffic accidents increased by three percent, but the number of victims who died decreased by six percent compared to 2018. Traffic management is needed to improve the current traffic conditions, so a guideline for measuring the success of the traffic safety action plan is needed. The research method uses qualitative descriptions emphasizing the existing secondary data directly from related agencies. From the findings, the formulation of road and transportation safety actions can be made as a result of data collection sourced from the Ministry of Transportation, Polda Metro Jaya and the Transportation Agency of DKI Jakarta Province. It is concluded that several annual inter-agency program activities are expected to continue, such as the Abdi Yasa Teladan Competition.

**KEYWORDS:** five pillars of safety; traffic safety; traffic management; guidelines for measuring the success; formulation of safety action

### 1. INTRODUCTION

The World Health Organization (WHO) together with the World Bank published The World Report on Road Traffic Injury Prevention on the World Health Day 2004 in order to improve global safety. The report suggests that there is an increase in the awareness of the decline in health levels, which is indicated by an increase of accident victims as a logical consequence of increased motorization and the need for measuring sustainable efforts to achieve safety which in turn will reduce social and economic costs (Bliss & Breen, 2009). With the increasing urbanization and global mobility demanding not only safe but equitable, efficient and clean transportation, the response to the treatment of road traffic injuries that is developing in the countries with low and middle income is becoming increasingly complex (Stevenson et al., 2019). Every year in this world more than one million people become the victims of traffic accidents and 50 million are injured (ERSO, 2006). Developing countries still have the opportunity to implement policies to make their developing transportation systems safer (Esmael et al., 2013).

Several issues in addressing the national safety action plan program were previously summarized in a research report prepared by VicRoads in collaboration with Whiting Moyne, involved under the Indonesia Infrastructure Initiative (IndII), an Australian Government-funded project designed to promote the economic growth in Indonesia by enhancing the relevance, quality and quantity of infrastructure investment (Howard, 2015), namely: (1) Lack of funding; (2) Limited road safety management capacity. Limited coordination at the leadership level; (3) Limited assertiveness at the National level due to technical and management gaps; (4) Not evenly distributed road safety awareness and technical and management deficiencies; (5) Project Management; (6) Arrangement of cooperation programs; (7) National Safety General Plan (RUNK) Study, Presidential Instruction Number 4 of 2013 (Strategic Gaps in RUNK); and (8) The risk of Integrated Road Safety Management System (IRSMS) not being disseminated to all levels of the resort police (Polres) resulting in the poor implementation of the road safety action guidelines.

The establishment of safety performance targets supported by specific action plans needed to achieve them has been well defined and implemented among international circles (Bliss & Breen, 2009) (Bliss & Breen, 2008). The road safety performance of a country is limited by its institutional capacity to implement efficient and effective interventions, and the subsequent outcomes may be less than technically feasible with a particular series of road safety interventions (Bliss & Breen, 2009; OECD, 2008). Research by (Pérez et al., 2011) explains that driving speed is a risk factor for road collisions; a higher speed will increase the probability that an accident will occur. The interventions aimed at reducing speed through technical measures and law enforcement have been recommended and widely implemented. In Brunei Darussalam, (E.-S. M. M. Zahran et al., 2019) validated four different methods of accident hotspot analysis to identify and rank Road Traffic Accident (RTA) hotspots using historical RTA data. This method has been developed by (E. M. M. Zahran et al., 2019) to investigate the safety impact of alternative street lighting in Brunei Darussalam. Zahran et al., 2019) employed STAA to identify daytime and nighttime RTA hotspots both before and after the implementation of alternative road lighting along Jalan Tutong in October 2016 (E. M. M. Zahran et al., 2019).

Position is important enough to control the level of public safety on the road. Road safety in Indonesia requires good management in coordination with the decision makers (Howard, 2015). Based on the 2011-2020 UN Global Action, Indonesia is committed to reducing traffic fatalities by 50 percent by the end of 2020. The role of the Indonesian National Traffic Police Corps is stated in the legislation related to road transportation and includes the responsibilities for; (1) road security, traffic management and traffic discipline enforcement; (2) accident investigation; (3) accident reporting and analysis; (4) driver's license; (5) vehicle registration; and (7) traffic education. Indonesian Police has a major role in coordinating and creating safe road users. Traffic Management and Engineering is an activity of planning, procuring, installing, regulating, and maintaining road equipment facilities in

order to support the traffic orderliness. The legal basis of Road Traffic and Transportation is the Government Regulation Number 37 of 2017 which is a single unified system consisting of Traffic, Road Transportation, Network of Traffic and Road Transportation, Road Traffic and Transportation Infrastructures, Vehicles, Drivers, Road Users, as well as their management.

The provisions regarding the procedure for preparing the Road Traffic and Transportation Safety Action Plan as referred to in paragraph (1) shall be further regulated by the Minister who organizes the government affairs in the national development planning. Traffic and Road Transportation Safety Planning is a process for determining the appropriate future actions to achieve the safety of traffic and road transportation which are designated as targets, through an order of choice, taking into account the available resources (Government Regulation of the Republic of Indonesia Number 37 Year 2017 concerning Traffic and Road Transportation Safety, 2017). The Traffic and Road Transportation Action Plan is a Ministry/agency's planning document of Traffic and Road Transportation safety for a period of five years.

A very important but most often overlooked issue after the introduction of traffic safety action is performance monitoring (Supreme, 2007). The Surrogate Safety Measure (SSM) is a traffic measurement related to traffic accidents, both logically and statistically (Ambros, 2012). Currently SSM has been widely used as an answer to the limitations of traffic accident data in its use as an indicator of road safety. The Integrated Road Safety Management System (IRSMS) is an accident data recording application developed by the National Police that must be used as a basis for decision making and campaign safety activities on the road (Karnavian, 2018; Yahya et al., 2013) IRSMS will assist decision makers to develop evidence-based strategies to reduce casualties and improve road safety in Indonesia.

Traffic Conflict is an event that is observed when two or more road users approach each other at a distance and time that allows a collision if the movement does not change (Laureshyn & Várhelyi, 2018). Traffic accidents are increasing and are still the main problem of road transportation in Indonesia (Maharani, 2018; Saidah et al., 2018; Sugiyanto & Fadli, 2017; Wulandari & Salbiah, 2017). (Magfirona et al., 2018), explain that traffic safety management, especially on toll roads, should not be carried out after recurrence of accidents but must be started from the initial construction stage.

In the findings of (Jati, 2010; Shuey, 2019) identify the gaps in the ability of traffic law enforcement and describe the professional development of training programs. The implementation of the road transportation safety program has become a complex issue for it is not only related to technical challenges but also institutions, budget, government and community support which are closely related to each other (Jati, 2010). Road safety in Indonesia requires a good management (coordination and decision making) to promote the focus and improvement of road safety by institutions (Howard, 2014).

According to (Rosolino et al., 2014), driving behavior is very influential on traffic safety. Several components of driving behavior that can affect road safety are speed; physical fatigue; overtaking maneuvers; consumption of alcohol while driving; driving at night; age; gender; use of safety belts and helmets; economic and social factors.

In the research of (Zhu et al., 2010) on road intersections it is also necessary to evaluate the safety conditions of the intersection in a fair way: one is a direct evaluation based on the traffic accident statistics, the other is an indirect evaluation based on the traffic conflict techniques. As another example, Australia has a good track record of road safety achievements and sets an example with key measures such as mandatory use of seat belts, random breath testing, rapid camera programs on the road and drug testing directly conducted on the roadside (Council, 2011).

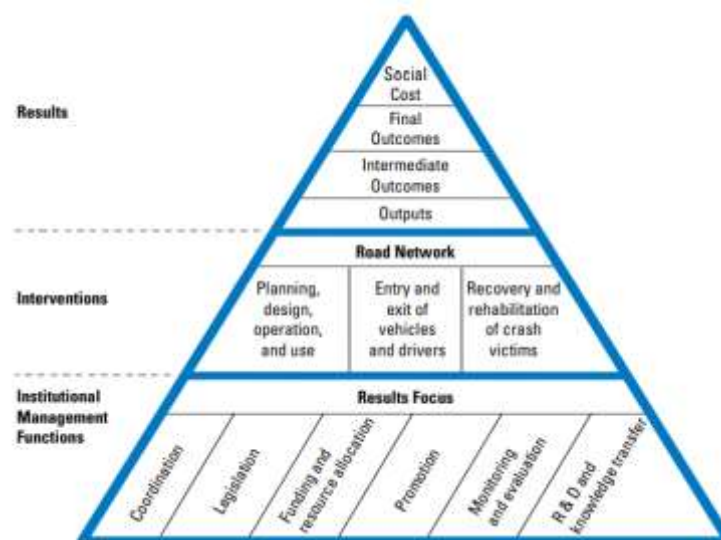
Traffic Safety is generally promoted through a standard three-pronged approach using technique, law enforcement, and education (Anderson, 2011). Traffic safety is closely related to traffic accidents (Road and Transport Authority, 2006). Accidents according to (Elvik et al., 2009) are also strongly influenced by the risk factors associated with traffic system elements such as: infrastructure and traffic control devices; vehicle and road user factors. Road safety is part of the public health agenda and urban development agenda (Wegman, 2017). Countries with a mature road safety approach and ambitious to make further progress are expected to move towards a proactive approach through a Safe System approach. Safety management according to the (OECD, 2002) is “a systematic process aimed at reducing the number and severity of road-related accidents. The OECD also identifies five main steps of planning procedures for developing and implementing a road safety program.

Road safety measurements, according to van (van Wee et al., 2013) are carried out with the most common steps, namely through road accidents, the number of victims on the road, and the associated negative consequences. Safety is produced just like other goods and services and the production process is seen as a management system with three levels such as; institutional management functions produce interventions, which in turn produce results (Bliss & Breen, 2008). Achieving road safety outcomes is a multi-disciplinary activity that takes place in a complex multi-sectoral context (ERSO, 2006). Multi-sectoral activities provide both opportunities for a holistic system-wide approach and the likelihood that road safety interests will be swamped by competing interests.

There are three main pillars according to (Al-Haji, 2007) in the framework of the Road Safety Development Index (RSDI), namely: (1). Focus on road user behavior; (2) Focus on the System (safer vehicles, safer roads, law enforcement, management, etc.); and (3) focus on products, in this case the death rate due to accidents. In addition, RSDI also links the key national road safety practices with each other and with the end result (mortality rate due to accidents). This study suggests a main list of performance indicators to be applied to assess the level of road safety in a country and for RSDI

buildings. A safe system approach with the Five Pillars of Safety on the 2011-2020 Road Safety Action Decade Program with an integrated Five Pillar Road Safety Strategy; (1) Road Safety Management (2) Safer Roads and Mobility (3) Safer Vehicles (4) Safer Road Users (5) Post-Crash Response.

A previous study by (Verma et al., 2017) shows that the public and drivers are still unaware of the Road Safety program and for this improvement road safety management highlights a lack of awareness of road safety. The road safety management system, can be seen as three interrelated elements: institutional management function, intervention, and outcomes (Bliss, 2004). Managing road safety outcomes requires integration and responsible response to the elements of this system.



**Figure 1 Road Safety Management System Model (Bliss, 2004)**

In addition to providing the countries having low and middle income with guidelines to reduce the fatality of traffic accident victims, it also provides a Road Safety Management model. The model is derived from the New Zealand Frame Work Land Transport Safety Authority, while the New Zealand Frame Work is adopted from The European Transport Safety Council (Bliss & Breen, 2009). Automatically, the application in each country must be adapted to the state and socio-cultural conditions of the country concerned.

## 2. METHODOLOGY

This research uses qualitative exploratory methods and descriptive explanations, because there is a problem or issue that must be explored. The data is based on observations, literature studies and in-depth interviews with several sources from the National Police of the Republic of Indonesia, through the Subdirectorate of Security and Safety, Directorate of Traffic and Audit and Inspection Section of

Metro Jaya Region Police and the DKI Jakarta Provincial Transportation Agency. The approach in this study is how to prepare a guideline for measuring the success of a safety action plan, especially traffic and road transportation. Through this triangulation technique, the researchers cross-check the data obtained from one informant with another informant and compare the interview data with the observations. All data was obtained in the form of primary and secondary data. In this study, the determination of informants was carried out purposively or the selection of informants was carried out deliberately with certain criteria according to their capacity of basic competency.

### **3. RESULTS AND DISCUSSION**

#### **Guidelines based on World Bank and WHO Report**

The World Bank and the World Health Organization (WHO) have jointly published a report or guidelines on the prevention of road traffic injuries on the World Health Day 2004, dedicated by WHO to the improvement of global road safety (Bliss & Breen, 2009). The publication of this report signals the growing concern in the world about the scale of the health losses associated with increased motorization and the recognition that measures must be taken to sustainably reduce economic and social costs. WHO and the World Bank adopted a recommendation that the report has become a high priority for the countries with low-and-middle income. This guideline is important to be used as a reference for developing countries including Indonesia in the efforts for traffic and road transportation safety, especially in the preparation of the RUNK which must then be elaborated in a more detailed plan, for example preparing an action plan for each province. This guideline has provided detailed step-by-step know-how in conducting a review of safety management capabilities, particularly in determining agencies that coordinate reforms, improving the weaknesses in safety management practices, and as investment strategies for safe systems (Bliss & Breen, 2009).

#### **Implementation of Action Plan/Safety Action**

What has been done by the Regional Government is a safety action plan, especially for traffic and road transportation. Based on the results of a survey in the United States, people in the world spends on average 19% of their household costs for transportation so that it can be stated as Participative Requirements or the main supporting factor for meeting primary needs (Lumowa, 2020). Traffic problems are always related to the impact that will arise if traffic is not managed properly, in terms of congestion, accidents and violations. Lumowa added, that the factors that cause traffic jams can be seen from; (1) Demand is greater than supply. The growth in road length (2% per year) is not proportional to the growth in the number of vehicles (10-15% per year); (2) Development that does not take into account the analysis of environmental impacts called AMDAL, such as the construction of a mall near a road intersection; and (3) Utilization of road space that is not in accordance with its designation, for example sidewalks used for sales, selling on street.

World Bank projections indicate that global road fatalities will increase by more than 65 percent



between 2000 and 2020, unless intensive safety interventions are implemented, with this trend varying across the globe. Deaths are estimated to increase by more than 80 percent in the countries with low-and-middle-income, but decrease by nearly 30 percent in the high-income countries (Kopits & Cropper, 2003). The World Bank report also highlights road safety as a social justice issue. The countries with low-and-middle-income already bear about 90 percent of the current road deaths and injuries and they will experience the largest growth in casualty rates over the next few decades (Bliss & Breen, 2009). More specifically, (Mathers & Loncar, 2005), explained that globally road deaths are projected to be the main cause of health loss for children (aged 5-14) in 2015, and the second cause for men in 2030.

To have the best road safety in Southeast Asia is the vision of the Indonesian government through Coordination Strengthening and Development of Information Technology Systems. However, the performance of Indonesia's road safety implementation is still in the ninth place out of ten ASEAN countries. For coordination and management, Indonesia is in the last rank of 10 Southeast Asian countries. So, it is necessary to develop an IT system (inevitability and sufficient conditions). To support Road Safety, Big Data is also needed through integrated (holistic) Pillars and to become One Gate Service.

Indonesia's position among the ten ASEAN countries, particularly for Road Transportation Safety Performance, is in the tenth rank or the lowest, which means that it is below Laos and Cambodia, with the largest population and the highest number of accidents. Indonesia's position among the ten ASEAN countries, especially for Coordination and Management, is in the tenth rank or the lowest, which means that it is still below Laos and Cambodia, with the largest population and the highest number of accidents. Indonesia's position among the ten ASEAN countries, especially for the Accident Data System is in the seventh position, still above Thailand, Brunei and the Philippines, and equal to Laos. It is noted that the accident data system in Indonesia is still much left behind compared to Singapore and Malaysia. Indonesia's position among the ten ASEAN countries, especially for Motor Vehicle Roadworthiness, is in the ninth rank, still above the Philippines, Laos and Cambodia. It is noted that the roadworthiness of motor vehicles in Indonesia is still very far behind compared to that of Singapore, Myanmar, Brunei and Thailand. The roadworthiness also greatly affects the number of vehicles that experience accidents.

The long-term target is the quantitative achievement in a certain period of time in the form of a reduction in the fatality index per 10,000 vehicles and a decrease in the ratio of accidents per 100,000 population by 2039 (20 years) (Suripno, 2020). Through the first long-term target, to reduce the fatality rate for traffic accident victims by 70% by 2039 based on 2018 data which is measured from the fatality rate per 10,000 vehicles or known as the fatality index per 10,000 vehicles. In 2039, the expected fatality index is 0.63. Through the second long-term target, reducing the number of accidents

will be approached by the value of the accident ratio per 100,000 population, with a target of reducing by 50% of the accident ratio in 2018 from 41.15 to 20.58 in 2039. Through Pillars 1-5 with each program and its activities, from input, output and intermediate outcome, it is expected that the outcome will be obtained, namely a reduction in the fatality rate (70%) and the accident-incident ratio (50%).

### **Inventory of Traffic Accidents-Prone Locations in Metro Jaya Region**

In the DKI Jakarta Province, especially Central Jakarta, during 2019 the most vulnerable points were in 15 locations. In 2019, Traffic Corp of Indonesia National Police explained that traffic accidents occurred due to human factors related to the ability and character of the driver with 61% casualties. As many as 30% were caused by infrastructure and environmental factors. Meanwhile, the vehicle factor, which was related to meeting the roadworthiness engineering requirements, contributed as many as 9%. Korlantas Polri, also informed that in the Quarter IV of 2019 the traffic accident fatality data had victims as many as 461 people and the number of deaths was 140 people or 30%. Of the total victims, 25.4% were adolescents of productive age (15-19 years), and 77% of the dead victims were also of productive age or breadwinners, making poverty increase.

Ditlantas Polda Metro Jaya informed that the comparison of the traffic accidents in the period of 2018-2019 increased by around 50%, while the fatality rate of the death decreased by around 1% (Lumowa, 2020). Ditlantas Polda Metro Jaya also informed the data of traffic accidents involving private vehicles and public transportation from January to April 2020. The data recorded 264 private vehicles, consisting of 17 fatalities, 19 seriously injured and 175 minor injuries. Whereas for public transportation, the accident data recorded 41 vehicles consisting of 2 dead victims, 2 seriously injured victims and 2 minor injured victims. The index of the average number of accidents in Indonesia per 10,000 vehicles, especially in the poor local roads road conditions such as on provincial, district and city roads that resulted in 725 accidents. Data from Bappenas shows financial losses of up to IDR 217 trillion per year.

Another opinion noted, based on estimates and predictions from 166 countries, that Indonesia's economic losses due to traffic accidents: IDR 328 trillion per year (Chen et al., 2019). They added that while the countries with low-and-middle income have the greatest health burden, their share of the economic burden of road injuries is only 46.4% of global losses, partly reflecting not only higher productivity (and income) in the high-income countries, but also much higher maintenance costs. The findings also show that the cost of care accounts for a larger portion of the economic burden in high-income countries than in low-income countries.

Some of the priority programs of Ditlantas Polda Metro Jaya include (Lumowa, 2020), (1) Orderly Traffic Area; (2) Related Agency Partnerships; (3) Road Safety Education; (4) Traffic Education Program Entering the School Curriculum; (5) Driving School; (6) Increasing the number of CCTV;



and (7) Homecoming Flow Service and Safety. Through the service sector, Ditlantas plans for online driving license (SIM), Smart SIM, e-Samsat and Online BPKB. And in the field of information and media centers, it has been collaborating with private TV and radio media. In the field of law enforcement, speed management is carried out through the use of speed guns and e-tickets, online using EDC machines.

The audit section and inspection section of Great Jakarta Police or Polda Metro Jaya, plan the next step to make decision for secure, smooth and safe traffic condition. Polda Metro Jaya also do data collection observation, activity documentation and activity report. As in the Program of Subditkamsel Polda Metro Jaya in the period of 2018-2020, they have carried out inspections by giving recommendations for the blackspots of traffic accidents in the DKI Jakarta area. Data from the survey by Subditkamsel Polda Metro Jaya for the blackspot locations is very helpful in the cooperation with the DKI Jakarta Province Transportation Agency. Meanwhile, they have also carried out inspections by giving recommendations concerning the data of potholes in the DKI Jakarta area.

#### **DKI Jakarta Provincial Transportation Agency's Safety Program**

Based on the DKI Jakarta Provincial Transportation Agency's Safety Program, in the future there will be a Fixed Safety Program such as; (1) Accident-prone Locations Inventory, especially in traffic accident-prone locations, and plans for the construction of Traffic facilities and infrastructures in those locations. (2) Fostering and counseling traffic and transportation orderliness for public transport drivers, instructors of driver education and training, and other road users; (3) Organizing education, training and counseling on traffic and road transportation safety through a collaboration to establish a School Safe Zone and make the projected needs for facilities and infrastructures in schools; (4) Preparing policy materials, guidelines and technical standards and facilities for the safety implementation and the testing of motorized vehicles; and (5) Organizing technical development activities for motorized vehicle body workshops by supervising their production results.

In accordance with Law Number 22 of 2009 concerning Road Traffic and Transportation, article 254, Paragraph (1) it is stated "The Government and Local Governments are required to provide services and facilities and ensure the implementation of education and training for mechanics and drivers". The active role of the government, both central and regional, through the Transportation Agencies together with other stakeholders, is expected to encourage the implementation of activities aimed at improving public transport services and safety on the road.

The selection of National, Provincial and Regency/City Abdi Yasa is a joint effort of the Government, Bus Operators (PO) as well as drivers to improve road safety and provide the best service to users of Intercity and Interprovincial Bus (AKAP)/Inter-City Within Province (AKDP), Urban Transport/Rural Transport, Taxis, Tourist Bus, Rapid Transit Bus, Inter-Border Transnational Bus

(ALBN), Inter-Provincial Shuttle Bus (AJAP). Fostering the motivation of the drivers of public passenger and goods transportation can be done by giving recognition and appreciation to their profession, in accordance with the mandate of Law Number 22 Year 2009, Article 208 Paragraph (2) c which states “The efforts to build and realize a culture of security and safety of road traffic and transportation are carried out by giving awards for the security and safety measures of traffic and road transportation”(Undang - Undang Republik Indonesia Nomor 22 Tahun 2009 Tentang Lalu Lintas Dan Angkutan Jalan, 2009).

It is very necessary that every driver has a wise and prudent behavior, especially regarding the selection of exemplary public vehicle crew (Abdi Yasa Teladan). Abdi Yasa includes the government (Ministry of Transportation, Republic of Indonesia, Korlantas Polri, PT Jasa Raharja, etc.), operators (Passenger Public Transportation Companies and Goods Transportation Companies), and drivers (Crew). This wise and prudent behavior can be realized if each individual has adequate abilities and understands the prevailing rules or general ethics. This activity is one of the efforts to achieve the level of that understanding. The output of wise and prudent behavior, among others, is that when on the road we always tolerate and respect each other, are alert, disciplined, responsible and patient in dealing with every incident around us in any situation and condition.

The Abdi Yasa Teladan Competition held in 2018 and 2019 is an annual event initiated by the Ministry of Transportation to select the best public transport operators and crew throughout Indonesia, including urban transport drivers, AKAP drivers, AKDP drivers, taxi drivers, and travel car drivers. The selection is carried out in stages from city, provincial, to national levels. The material being tested includes knowledge of traffic and road transportation, attitudes and behavior, leadership and discipline, as well as honesty and exemplary driving. The competition aims to improve Human Resources (HR) and the quality of service provided by public transport drivers (Billy, 2018). The main goal is to choose the best public transport operators and crew throughout Indonesia, including city transportation drivers, AKAP (intercity interprovincial bus) drivers, AKDP (intercity within province bus) drivers, taxi drivers, and travel vehicle drivers. The selection is carried out in stages from the city, provincial to national levels (Tempo.co, 2019). In 2019, as many as 35 participants were selected representing 27 provinces. Five provinces that did not participate were Bengkulu, Central Kalimantan, West Sulawesi, Papua and West Papua. As a substitution, the Provinces of Central Java, Yogyakarta, East Java, and Bali sent more than one participant because these areas have quite a number of transportation companies.

Several questions arose during the Abdi Yasa Teladan competition (Tempo.co, 2019) such as; (1) Defensive driving, which includes the attitude of a driver in dealing with traffic situations on the road. This means that drivers are able to refrain from seeing the behavior of other road users who violate road markings and are not affected; (2) Emergency response during an accident; (3) Traffic Rules; (4)

Accident handling; (5) General knowledge related to tourism; (6) The adverse effects of goods transportation vehicles carrying loads exceeding their capacity, namely; accidents, congestion, casualties, and damage to the environment like road traffic facilities and infrastructures.

### **Formulation of Traffic Safety Action**

The coordination among the Ministry of Transportation, Polda Metro Jaya and the DKI Provincial Transportation Agency continues several cooperation programs, including:

1. Inventory of Accident-Prone Locations, especially in traffic accident-prone locations and plans for the construction of traffic infrastructures in the traffic accident-prone locations;
2. Carrying out guidance and counseling activities on traffic and transportation orderliness for public transport drivers, instructors of driver education and training, and other road users;
3. Organizing education, training and counseling on traffic and road transportation safety in a collaboration to establish a School Safe Zone and make the projected need for facilities and infrastructures in schools;
4. Preparing policy materials, guidelines and technical standards for the implementation of safety and technical facilities for motor vehicles testing;
5. Conducting technical guidance activities for motorized vehicle body workshops by supervising their production;
6. Based on the Ministry of Transportation's Safety Program, organizing the selection of exemplary public vehicle crew (Abdi Yasa Teladan)/Abdi Yasa;
7. Implementing the Ditlantas Polda Metro Jaya's Priority Programs, including: (1) Orderly Traffic Areas; (2) Related Agency Partnerships; (3) Road Safety Education; (4) Traffic Education Program Entering the School Curriculum; (5) Driving School; (6) Increasing the number of CCTV; and (7) Homecoming Flow Services and Safety;
8. Through the service section, Ditlantas plans online driving license (SIM), Smart SIM, e-Samsat, and Online BPKB;
9. Information and media centers have and will continue to collaborate with private TV and radio media;
10. In the field of law enforcement, implementing speed management through the use of speed guns and e-ticketing, online using EDC machines;
11. Audit and inspection section of Polda Metro Jaya, conducting audit tasks, performing inspections on the security and safety of traffic and road transportation;
12. Performing observation, data collection, activity documentation, and activity reporting.

### **4. CONCLUSION**

World Bank projections indicate that the global road fatalities will increase by more than 65 percent between 2000 and 2020. In Presidential Instruction No. 4 of 2013, it is explained that based on the performance indicator in the form of a fatality ratio to 10,000 vehicles, Indonesia has succeeded in

achieving the reduction target. Government Regulation (PP) Number 37 of 2017 implements and controls the National General Plan for Traffic and Road Transportation Safety (RUNK), Ministry/Agency's Action Plans (RAK K/L), Provincial Government Safety Action Plans and City Government Safety Action Plans. Indonesia's position among the ten ASEAN countries, especially for Road Transportation Safety Performance is in the tenth rank or the lowest. Through Pillars 1-5 with each program and activity, from the input, output and intermediate outcome, it is hoped that the outcome will be obtained, namely a reduction in the fatality rate (70%) and the accident-incident ratio (50%). The formulation of road and transportation safety actions in coordination with the Ministry of Transportation, Polda Metro Jaya and the DKI Provincial Transportation Agency continued several collaborative programs including consistently organizing the Abdi Yasa Teladan Competition every year.

## REFERENCES

- Al-Haji, G. (2007). Road safety development index: Theory, philosophy and practice. Linköping University, Norrköping, Sweden.
- Anderson, D. S. (2011). Chapter 30 - Persuasion and Motivational Messaging. In: PORTER, B. E. (ed.). In in Handbook of Traffic Psychology. Academic Press. <https://doi.org/10.1016/B978-0-12-381984-0.10030-X>
- Billy, A. T. (2018). Kemenhub Gelar Abdi Yasa Teladan Tingkat Nasional 2018 Artikel ini telah tayang di Tribunnews.com dengan judul Kemenhub Gelar Abdi Yasa Teladan Tingkat Nasional 2018, <https://www.tribunnews.com/bisnis/2018/09/25/kemenhub-gelar-abdi-yasa-teladan-tingkat-na>. Tribunnews.Com.
- Bliss, T. (2004). Implementing the Recommendations of the World Report on Road Traffic Injury Prevention, Transport Note No. TN-1, World Bank, Washington DC.
- Bliss, T., & Breen, J. (2009). Country Guidelines for the Conduct of Road Safety Capacity Reviews and the Related Specification of Lead Agency Reforms, Investment Strategies and Safety Projects. Implementing the Recommendations of the World Report on Road Traffic Injury Prevention.
- Chen, S., Kuhn, M., Prettner, K., & Bloom, D. E. (2019). The global macroeconomic burden of road injuries: estimates and projections for 166 countries. *The Lancet Planetary Health*, 3(9), e390–e398. [https://doi.org/10.1016/S2542-5196\(19\)30170-6](https://doi.org/10.1016/S2542-5196(19)30170-6)
- Council, A. T. (2011). National Road Safety Strategy 2011–2020.
- Elvik, R., Høy, A., Vaa, T., & Sørensen, M. (2009). *The Handbook of Road Safety Measures* (2nd Eds.). Emerald Group Publishing Limited.
- ERSO. (2006). Road Safety Management. retrieved November 28, 2008 from [www.erso.eu](http://www.erso.eu)
- Esmael, M. O., Sasaki, K., & Nishii, K. (2013). Road traffic accident trend in developing countries-the policy implications. *Journal of the Eastern Asia Society for Transportation Studies*, 10. <https://doi.org/10.11175/easts.10.1978>
- Howard, E. (2014). Technical Assistance for National Road Safety Plan (Runk) Implementation.

- Howard, E. (2015). Technical Assistance for National Road Safety Plan (Runk) Implementation. Deliverable 5: Final Report: Review of Runk/ Inpres 4 2013.
- Jati, D. S. (2010). Pengelolaan Program Keselamatan Transportasi Jalan Di Jalur Pantura Pekalongan. *Politika: Jurnal Ilmu Politik*, 4(1), 49-58. <https://doi.org/10.14710/politika.4.1.2013.49-58>
- Karnavian, M. T. (2018). Fungsi Traffic Accident Research Centre untuk Mendukung Program Keselamatan Berlalu lintas. *Journal of Indonesia Road Safety*, 1(1), 1–7.
- Kopits, E., & Cropper, M. (2003). Traffic Fatalities and Economic Growth. Policy Research Working Paper Number 3035. The World Bank, Washington, DC.
- Laureshyn, A., & Várhelyi, A. (2018). The Swedish Traffic Conflict Technique Observer's Manual.
- Lumowa, R. (2020). Bila ingin membangun bangsa ini mulailah dari jalan raya.
- Magfirona, A., Hidayati, N., & Sunarjono, S. (2018). Review of traffic safety management on toll road. In *AIP Conference Proceedings* (Vol. 1977, No. 1, p. 040022). <https://doi.org/10.1063/1.5042992>
- Maharani, C. F. (2018). Current Practice, Attitude, and Behaviour towards Road Safety Behaviour among the Drivers in Jakarta, Indonesia. *KnE Life Sciences*, 4(5), 88-97. <https://doi.org/10.18502/cls.v4i5.2542>
- Mathers, C., & Loncar, D. (2005). Updated projections of global mortality and burden of disease, 2002–2030: data sources, methods, and results.
- OECD. (2002). Road Safety: What's the Vision?, Organisation for Economic Co-operation and Development.
- OECD. (2008). Towards Zero: Achieving Ambitious Road Safety Targets through a Safe System Approach.
- Pérez, K., Marí-Dell'Olmo, M., Tobias, A., & Borrell, C. (2011). Reducing road traffic injuries: effectiveness of speed cameras in an urban setting. *American Journal of Public Health*, 97(9), 1632-1637.
- Road and Transport Authority. (2006). Road environment safety: A practitioners reference guide to safer roads.
- Rosolino, V., Teresa, I., Vittorio, A., Carmine, F. D., Antonio, T., Daniele, R., & Claudio, Z. (2014). Road safety performance assessment: a new road network Risk Index for info mobility. *Procedia-Social and Behavioral Sciences*, 111, 624–633. <https://doi.org/10.1016/j.sbspro.2014.01.096>
- Saidah, D., Sari, M., & Darunanto, D. (2018). Land Transportation User Analysis in Bekasi. In *Proceedings of The International Conference on Social Sciences (ICSS)* (Vol. 1, No. 1), 97–102.
- Shuey, R. (2019). Road Safety Policy & Practice. *Journal of the Australasian College of Road Safety*, 30(1), 58.
- Sugiyanto, G., & Fadli, A. (2017). Identifikasi Lokasi Rawan Kecelakaan Lalu Lintas (Black Spot) di Kabupaten Purbalingga, Jawa Tengah. *Jurnal Teknik Sipil Dan Perencanaan*, 19(2), 128-135.
- Supreme. (2007). Handbook for Measures at the Country Level, Deliverable of the SUPREME EU-project.

- Suripno. (2020). Optimalisasi Kebijakan Angkutan Jalan Pada Masa dan Pasca (New Normal) Pandemi Covid-19 di Indonesia. Webinar Transportasi Dan Logistik Pada Masa Dan Pasca (New Normal) Pandemic Corona COVID - 19.
- Tempo.co. (2019). Pemilihan Abdi Yasa Teladan, Pengemudi Diminta Bangga pada Profesinya. Tempo.Co. <https://nasional.tempo.co/read/1247034/pemilihan-abdi-yasa-teladan-pengemudi-diminta-bangga-pada-profesinya/full&view=ok>. Septemebr 12.2019.
- Undang - Undang Republik Indonesia Nomor 22 Tahun 2009 tentang Lalu Lintas dan Angkutan Jalan, (2009) (testimony of UU RI).
- van Wee, B., Annema, J. A., & Banister, D. (2013). The transport system and transport policy: an introduction. Edward Elgar Publishing, Inc.
- Verma, A., Gupta, A., & Nath, B. (2017). Road Safety Improvement in India. *Journal of Civil Engineering and Environmental Technology*, 4(4), 379–381.
- Wegman, F. (2017). The future of road safety: A worldwide perspective. *IATSS Research*, 40(2), 66–71. <https://doi.org/10.1016/j.iatssr.2016.05.003>
- Wulandari, R., & Salbiah, E. (2017). Evaluasi Program Road Safety Partnership Action Police Goes to School di SMA Negeri 6 dan SMK Pembangunan Kota Bogor. *Jurnal Governansi*, 3(1), 53–62.
- Yahya, M., Faulks, I. J., Hambleton, P., & Wass, C. (2013). Development of an integrated road safety management system in Indonesia: Traffic police as lead agents in a Safe System approach. *Journal of the Australasian College of Road Safety*, 24(2), 28–38.
- Zahran, E.-S. M. M., Tan, S. J., Tan, E. H. A., Mohamad 'Asri Putra, N. A. A. B., YAP, Y. H., & Abdul Rahman, E. K. (2019). Spatial analysis of road traffic accident hotspots: evaluation and validation of recent approaches using road safety audit. *Journal of Transportation Safety & Security*, 1–30. [10.1080/19439962.2019.1658673](https://doi.org/10.1080/19439962.2019.1658673)
- Zahran, E. M. M., Tan, S. J., Yap, Y. H., Tan, E. H., Pena, C. M. F., Yee, H. F., & Uddin, M. R. (2019). An Investigation into the Impact of Alternate Road Lighting on Road Traffic Accident Hotspots Using Spatial Analysis. 2019 4th International Conference on Intelligent Transportation Engineering (ICITE), 5-7 Sept. 2019 2019., 242–246.
- Zhu, S., Lu, J., & Wang, G. (2010). Intersection Safety Evaluation Model. Seventh International Conference on Traffic and Transportation Studies (ICTTS) 2010, 305–311.