

# Strategy of Improvement Effort in Traffic Accidents

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**Abstract:** Traffic is one means of community communication that plays an important role at national development. One of the things faced in Traffic is an accident. This problem generally occurs when the means of transportation, both in terms of roads, vehicles, and other supporting facilities have not been able to keep up with the existing developments in the community. The purpose, to prevent traffic accidents, and to analyze the prevention efforts to increase accidents in jurisdictions Regional police. The method used is empirical juridical approach, Research with interviews and data retrieval, this research was conducted at the East Java Regional Police of the Republic of Indonesia. The results: The efforts that have been done in preventing the increasing of accidents in Regional police is with the prevention effort to reduce the accident caused by several factors causing the accident traffic through 3 approaches, pre-emptive, preventive, and repressive. With the prevention efforts it can minimize the number of accidents that occur in Indonesia.

## 1 INTRODUCTION

In the complexity of human daily life, it is not far from transportation, Transportation is a very important and strategic media to accelerate the economy, strengthen the unity of the nation and unity also can affect life of the nation and state (Hartini, 2012). One of the problems in transportation is traffic accidents. This problem generally occurs when transportation, both in terms of roads, vehicles, and other supporting facilities have not been able to keep up with the existing developments in the community. Economic growth and large population lead to increased activities mostly cause of course increase the need for transportation equipment, both personal and public. Traffic accidents many losses. As a result of traffic accidents in the form of damage to public facilities and caused people died. This increasingly complex traffic conditions with the increase in the number of motor vehicles both the two-wheelers and four wheels directly or not participate in the increase in the number of incidents of traffic accidents.

Descriptions of the accidents by the police were used to identify individuals who had displayed risky traffic behavior contributing to or causing an accident; evidence of offending was based on a register of contacts with police (Marianne et al., 2001). In developed countries, traffic accidents are

the most cause of death for all age groups, except for very old ones. This phenomenon is now experienced by developing countries. General observations indicate that the level of traffic accidents increases with the increase in vehicle ownership levels. The safety level here is measured by the number of victim accidents. Behind the benefits of traffic, there are also various issues related to the use of the highway. The number of road users every day, cannot escape the traffic problems. One of the problems in traffic is called traffic accident. Accidents can occur due to negligence of the driver himself. The results showed that heavy traffic volume, speeding, narrow lane width, larger number of lanes, urban roadway sections, narrow shoulder width and reduced median width increase the likelihood for accident involvement (Mohamed, 2000). Efficiently police performance needs to be understood. In law enforcement by the Traffic Police, the existence of a community center police depends on the conduct of its members. (Romli, 2005). The basic job of the Traffic Police is to keep an eye on traffic. Keep an eye on traffic, helping to keep the road transport system and efficiently. If a person is allowed to use the road as they please, what happens is mess. If the road system is defective and undetected and unreported, it may disrupt the activity for the traffic rider. Therefore, the task of traffic control is basically to provide a system for people who share the road to travel with low levels

of annoyance, delays and hazards. To achieve this goal, the police with the authority and knowledge must patrol the streets, not only detect problem spots and problem makers, but also to be immediate and alert in providing emergency assistance to the community (Andrew, 2011). The increasing volume of private vehicles, especially the type of motorbike on the highway and not accompanied by the addition of adequate road access to accommodate the number of vehicles at this time negatively impact for all road users, traffic jams and high accident rates is evidence of the negative impact of the number of vehicles passing thatch on the highway, especially when people start and do their activities. The traffic function as the circulatory function in the human body. Similarly, with traffic. The safety, order and smoothness of unsafe and non-current and inefficient and efficient traffic will bring difficulties for the community. Geographical Information System (GIS) technology has been a popular tool for visualization of accident data and analysis of hot spots in highways. Many traffic agencies have been using GIS for accident analysis. Accident analysis studies aim at the identification of high rate accident locations and safety deficient areas on the highways. So, traffic officials can implement precautionary measures and provisions for traffic safety (Saffet et al., 2008).

Traffic accidents during the last 10 months were January-October in 2016 based on detik.com the number of accidents during January to October 2016 data entered as many as 19,354 traffic accident, deaths (MD) 4,826 people, injured weight (LB) 1,422 people and minor injuries (LR) 24,657 people and material loss more than Rp 25 billion.

Based on data from Directorate of Traffic East Java Regional police of the Republic of Indonesia regarding the number of traffic accident numbers from January to May 2017: (Dadang, 2017).

Table 1: Traffic accidents Data (Period Jan - May 2017).

DESCRIPTION	Year		TREND	
	2016	2017	Numbers	%
2	3	4	5	6
TRAFFIC ACCIDENT				
a. accident	8.898	9.925	1.027	11,54
b. died	2.316	2.029	-287	-12,39
c.serious injuries	621	558	-63	-10,14
d.minor injuries	11.193	13.068	1.875	16,75
e. survivors	11.750.854.000	12.563.235.000	812.381.000	6,91

The purpose, to prevent traffic accidents, and to analyze the prevention efforts to increase accidents in jurisdictions Regional Police. Based on the background, the problem which raised is: How is Strategy by Traffic Police Officer to prevention in minimalize traffic accidents?

## 2 METHODS

The research method used is empirical juridical approach, with primary and secondary data, and qualitative analysis presented descriptively. Research with interviews and data retrieval, the research was conducted at Directorate of Traffic East Java Regional police of the republic of Indonesia, Metropolitan city police, and regency police.

## 3 RESULTS AND DISCUSSION

### 3.1 Efforts made by East Java Regional Police to Reduce Causes of Traffic Accidents

In the occurrence of traffic accidents must be caused by several factors that cause traffic accidents. Traffic violation is one of the factors causing traffic accidents. In 2015 Regional police of the republic of Indonesia organizes 11 programs to reduce the factors causing traffic accidents in this case is to reduce the number of traffic violations in order to press the number of traffic accidents. The 11 programs are as follows.

CCTV (Circuit Closed Television), Second Program, Strategy Bus and Truck Violation Program, that is strategy and effort to prevent traffic violation and potential of traffic accident caused by bus or truck driver. Implemented with law enforcement against violators and retraining for violent bus and truck drivers, the third program, Safety Riding East Java (Coaching Clinic), a program aimed at the general public in order to increase awareness and skills to safe driving. This activity was conducted in seven distric and city model in East Java, the fourth Program, POLANTASKU Sahabatku Program, the program to provide traffic knowledge early to make closer traffic police with children. Thus, formed a culture of orderly traffic in children. The program is held with Semeru puppet stage, park then, and zebra cendikia bus, the fifth Stop and Go Program, which is controlling road users to obey traffic signals with traffic light appeals, through banner installation, distribution of leaflets, The sixth, PKS and Duta Lantas Competition Program, a program to attract students and students to have knowledge and insight into traffic, The seventh program, MMS PEKA (Traffic Safety Traffic), is a program that invites the public to provide information about traffic violations that occur through multimedia message service (mms) and sent to the number of adm 3934.

Furthermore, there will be action against the violation. It is also a form of service using social media to provide public information disclosure, Eighth Program, Super Lantas (Surabaya Pioneer of Cross-Strait Safety). An innovation program from Satlantas Polresta Surabaya, to print pioneering traffic safety agencies in Surabaya. Its activities socialize Law number 22 of 2009 in schools, modern dance competition, cheerleader, super quiz then, super yell and then test drive in the village visited, the ninth program is the Mudik Bersama Program. Inviting people to go home together and going home early. Which are accommodated by certain agencies that aim to minimize traffic accidents, the tenth program, as part of an effort to encourage the company to be sensitive to traffic safety, the eleventh Program is the ISQ Road Safety Program, a program to build emotional and spiritual intelligence. Road users, officers or policemen as well as other bikers.

In 2016 To reduce the number of traffic accidents, Directorate of Traffic (Ditlantas) Regional police of the republic of Indonesia held an operation with the password "Sympathetic Semeru 2016". The operation was held for 21 days. This operation is more prioritize to coach the user of the vehicle. Based on the results of the analysis conducted in Directorate of Traffic Regional police of the republic of Indonesia, mentioned several ways or efforts to prevent or reduce the factors causing traffic accidents that is in two ways namely preemptive and preventive (Dadang, 2017).

How to pre-emptive cover such as the implementation of binlueh, put banners, leaflets and brochures in strategic places in the traffic area with the theme of traffic safety or driving and also the implementation of enterprising patrols in places prone to jam and accidents. While preventive ways include for example helping the road users, directing the pedestrian to cross in the places that have been determined and also Enhancement of law enforcement in the form of stationary or mobile raids with the target of violations that have the potential to cause traffic accidents through tickets or rebuke (ibid).

The innovations to reduce the factors causing traffic accidents that have been done by some regency police are: SIS-KALDU (Integrated Accident Handling System) at Directorate of Traffic Tuban, and PECEL BAKAR (Inspection of Laka Victim Accident at Home / Hospital) at Directorate of Traffic Madiun.

### 3.2 Efforts to Minimize the Risk of Traffic Accidents

To be able to perform the application of traffic law must have a component for traffic interaction can occur as follows: Human as user: Humans as users can act as drivers or pedestrians who under normal circumstances have different abilities and alertness (reaction time, concentration etc.). These differences are still influenced by physical and psychological conditions, age and sex and external influences such as weather, street lighting and layout; Vehicles: Vehicles used by drivers have characteristics related to speed, acceleration, deceleration, dimensions and payloads that require sufficient traffic space to be able to maneuver in traffic; Road: The road is a trajectory planned for motorized vehicles and non-motorized vehicles including pedestrians. The road is planned to be able to accelerate traffic and able to support the load of vehicle can be safe, so can reduce the number of traffic accidents.

Poisson and negative binomial (NB) models have been used to analyze traffic accident occurrence at intersections for several years. There are however, limitations in the use of such models. The Poisson model requires the variance-to-mean ratio of the accident data to be about 1. Both the Poisson and the NB models require the accident data to be uncorrelated in time. Due to unobserved heterogeneity and serial correlation in the accident data, both models seem to be inappropriate. A more suitable alternative is the random effect negative binomial (RENB) model, which by treating the data in a time-series cross-section panel, will be able to deal with the spatial and temporal effects in the data (Hoong and Mohammed, 2003).

In the application of traffic law required amateur concept and can be organized well so that the implementation of the law carried out can run smoothly. The author tries to describe the application of the author of the analysis in Article 245 of Law Number 22 Year 2009 on Traffic and Road Transport, which is with the following concept: Traffic management: Traffic management includes planning, controlling, and controlling activities. Traffic management is aimed at safety, security, regularity, and traffic smoothness, and is doing by: Efforts to increase road, segment, and / or road network capacity; Prioritizing certain types of vehicles or road users; Adjustment of travel demand to a certain level of service taking into account intra- and inter-modal alignment; Determination of traffic circulation, prohibition and / or order for road users. (Andrea, 2013).

Traffic planning activities: Traffic planning activities include inventory and service level

evaluation. The purpose of the inventory, to know the level of service on each segment of roads and intersections. The purpose of service level in this provision is the faculty of road and intersection to accommodate traffic while keeping in mind the speed and safety factor, determining the level of service. In determining the level of service, by taking into account: the general plan of road transport network, the role, capacity, and characteristics of roads, road class, traffic characteristics, environmental aspects, social and economic aspects. Determination of the problem solving of traffic, the preparation of plans and program implementation of its embodiment. The purpose of the plan and the program of embodiment in this provision include the following: determination of the desired level of service on each segment of roads and intersections, the proposed traffic rules to be fixed on each road and intersection, the proposed procurement and installation as well as the maintenance of traffic signs road markers, traffic signaling equipment, and road user control and safety devices, proposed activities or actions both for the purpose of drafting proposals and extension to the public.

Traffic control activities, the activity of determining the traffic policy on a particular network or road segments. including in the definition of traffic policy stipulation in this provision, as, the arrangement of traffic circulation, the determination of maximum and / or minimum speed, road prohibition, prohibition and / or command for road users.

Activities of traffic control: Monitoring and assessment of the implementation of the traffic policy. Monitoring and assessment activities are intended to determine the effectiveness of these policies in order to support the achievement of a predetermined level of service. Included in the monitoring activities shall include, as, inventory of traffic policies applicable to roads, number of violations and corrective actions that have been taken for the violation. Included in the assessment activities include the determination of assessment criteria, service level analysis, violation analysis and proposed corrective actions; Corrective action against the implementation of the traffic policy. Corrective action is intended to ensure the achievement of defined service level objectives. Included in corrective action is a review of wisdom if in its implementation creates an unwanted problem (Ibid)

Traffic control activities: Provision of direction and guidance in the implementation of traffic policy. The provision of guidance and guidance in this provision shall be the stipulation or provision of guidelines and procedures for the purposes of the

implementation of traffic management, in order to obtain uniformity in their implementation and can be implemented as appropriate to ensure the achievement of the level of service that has been established; Providing guidance and counseling to the public regarding the rights and obligations of the community in the implementation of traffic policy.

Accident size can be expressed as the number of involved vehicles, the number of damaged vehicles, the number of deaths and/or the number of injured. Accident size is the one of the important indices to measure the level of safety of transportation facilities. Factors such as road geometric condition, driver characteristic and vehicle type may be related to traffic accident size. However, all these factors interact in complicate ways so that the interrelationships among the variables are not easily identified (Ju-YeonLee et al., 2008).

### **3.3 Strategy Against East Java Police Efforts in Preventing Increased Traffic Accidents**

Preemptive Activity, Implementation, installing banners, leaflets and brochures in strategic places in the traffic accidents area of vulnerable then with the theme of traffic safety or driving; Implementation of enterprising patrols in traffic jam and traffic accidents areas, tourist areas and implement proactive arrangements and patrols on roads to assist road users, direct and assist road crossings in designated areas to prevent traffic jams and traffic accidents; Perform engineering traffic in places often to jam or traffic accidents then by using separator (broken barbell), shock band to minimize the occurrence of traffic accidents (Dadang, 2017).

Preventive Activities: Implementing openly and proactively the gamers and patrols on the roads to assist road users, directing road crossings to cross the specified places to prevent accidents and minimize the fatality of casualties due to traffic accidents; Enhancement of law enforcement in the form of stationary and mobile raids with the target of violations that have the potential to cause a traffic accident through a speeding or a reprimand; Carry out joint inspection activities with Transportation Agency with the target of Bus vehicle about the goodness of the vehicle and the load; Priority handling traffic accidents then resulted by using ADR (Alternative Dispute Resolution) method which prioritizes the problem solving by mediating between parties involved traffic accidents then until the achievement of an agreement for the settlement is poured into a statement; Handling of traffic accidents ranging from TP-TKP, though crime scene to the investigation of Traffic accident cases

conducted procedurally, proportionally and professionally in order to achieve legal law.

Repressive Activities (Law Enforcement): The repressive activities to solve the violations and traffic accidents are as follows: Ticket: Tickets are evidence of violation. the ticketing function itself is an invitation to traffic offenders to attend a court hearing, as well as a proof of the seizure of goods confiscated by the police from offenders; Foreclosure: The seizure is done because the driver of the vehicle does not carry or have the documents of the completeness of the vehicle and the driver's license (SIM); Warning: A reprimand is committed to a motorist who commits an offense but promises not to commit another offense. Done by making a written statement that it will not infringe.

The effort is expected to solve the problem and also bring peace to the community, although in this case it basically cannot eliminate the violation directly but can give warning to those who have committed violation by society or victim. Furthermore, prioritizing the handling of traffic accidents caused in material loss by using ADR (alternative dispute resolution) method that prioritizes problem solving by mediating between parties involved traffic accidents then until the achievement of an agreement for the settlement which is poured into the statement also includes repressive action. Handling of Traffic Accidents from TP-TKP, TKP to Traffic Accident investigation conducted procedurally, proportionally and professionally in order to achieve legal law;

## 4 CONCLUSIONS

Strategy for the improvement effort that has been done in preventing the increase of traffic accidents in Regional Police of the republic of Indonesia in East Java area by doing prevention with 3 approaches as follows: Pre-emptive Approach (installing banners, and leaflets), Preventive Approach (Implementing openly and proactively the gamers and patrols on the roads to assist road users), and Repressive Approach (Ticket, Foreclosure, and Warning).

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