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Traffic accidents in Hanoi: data collection and analysis

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1. Introduction

Hanoi, the capital and administrative center of Vietnam, is also the location of various administrative bodies. In Hanoi, responsibility division in traffic safety remains complex. Particularly, accident analysis in existing safety management agencies still requires an authorized contact agency responsible for providing updated information of its in- charge areas. In the past few years, this contact agency has become essential, in order to implement effective and systematic traffic safety countermeasures. In accident analysis, it is necessary to collect and store accident data in many years as it builds a strong foundation for new safety solutions to today accidents.

Accident data capture in Hanoi is still insufficient and analysis criteria have not been fully established. Data acquisition at Hanoi Traffic Police Division includes many steps and various kinds of information. However, any kind of data cuts both sides and could not be applied in accident analysis while needs improving further. Thus, the main targets to improve traffic accident data control in Hanoi are as follows:

- Improving awareness of accident data significance;
- Assisting the establishment of accident databases which present information categories used to introduce safety measures;
- Building capacities for basic data interpret and analysis.

2. Traffic safety and Traffic safety management in Hanoi

In Vietnam, almost all agencies' functions remain fragmental (distributed to many entities) and not converged, even traffic safety management bodies. In Japan, each traffic police team includes 3 or 4 units and each unit carries out specific tasks.

Hanoi Police Division consists of traffic police and social order police, which also engage in traffic accident management. Basically, traffic police are responsible for enforcement while social order police take charge of traffic accident investigation. That means the Division covers both enforcement and investigation tasks at the same time. As an accident happens, responsible police will immediately arrive on the scene to guard it. If it is a minor crash with trivial losses or physical damages, they will process investigation.

In serious or very serious accidents, social order police will play key roles in the entire process. In addition, in accidents involving foreigners or state leaders, investigation team under the traffic police division will undertake minor crashes, while serious cases are left to social order police.

In Hanoi, there are 9 traffic police teams in the urban (called police teams in Japan) and 5 in the sub-urban area. Social order police share the same number of teams. Traffic police teams' mission is to enforce traffic violations. For example, the Traffic Police Team No.3 has 40 police, including 29 members of the Enforcement group and 6 members of the Accident group (divided into 3 small groups). Therefore, every 2 police take care of a case. The number itself presents that traffic enforcement has been put at the center of traffic police's mission.

While enforcement is implemented by traffic police, basis regulations used in enforcement are established by the Hanoi Department of Transportation (HDOT). This is a state agency which shares enormous responsibilities, similar to the former Department of Construction in Japan. Among their functions are highway traffic management, provincial and inner-city road construction, signage installation and cross marking. HDOT usually consults with traffic police about traffic regulations.

In addition, the Rail Road Traffic Police Bureau, under the Ministry of Public Security, acts as the national accident statistics manager (as in the Form 45) as well as an accident data collector. However, accident data processing has not been clarified properly, in terms of rail, road and waterway accidents. In 2001, supported by the United Kingdom, the Rail Road Traffic Police Bureau introduced the Traffic Accident Yearbook. Since then, the Bureau has not published any other Yearbook. Nevertheless, the 2001 Yearbook can still be used as an useful reference source. In the meantime, we cooperated with universities to conduct researches and introduce traffic accident and traffic safety statistics.

In order to group current divided functions, in 1997, the National Traffic Safety Committee was founded in Hanoi, along with the Hanoi Traffic Safety Committee chaired by the Chairman of Hanoi People's Committee.

3. Traffic accidents in Hanoi

The fluctuating fatality numbers demonstrate an upward tendency after 1990 a downward trend later, after reaching its peak at 532 in 2002 (Figure 2.1).

Figure 2.1 Traffic accident situation in Hanoi
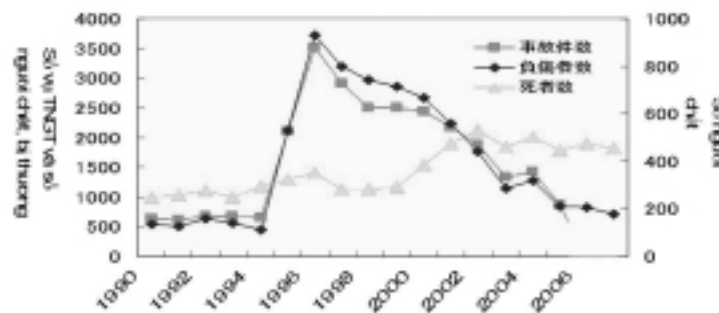
The above diagram presents sharp fluctuations in fatalities and injuries, which suddenly increased in 1996, 1997 and tended to decline then. In the year 2007, the number of deaths and injuries were 457 and 712 respectively, representing a fatality rate of 39%. This means that accident statistics and evaluation criteria are different between Vietnam and Japan.

These figures were introduced based on the data that Hanoi city publicized. If in 1994, the figures of accidents and injuries were around 500 but increased by 7 times in the 2 following years and sharply dropped off later.

4. Traffic accident data capture

(1) Information processing and accident classification

In the Hanoi Traffic Police Division, accident data and records are collected from different teams through 3 ways. Firstly, the Accident Examination team receives the information within the day or the following day. Secondly, data can be obtained from accident reports (form 45) a few days after accidents happened. Thirdly, the General Affairs team receives electronic statistics burned on floppy disks, including about 20 criteria summarized from accident investigation files. Followed is the nature of those 3 information sources.

a) Telephone: Twice a day, the Accident Examination team confirms the previous day's accident data with traffic police teams. This information is not in details. According to the data, the General Affairs team sends a written report on the previous day to Hanoi Police every morning. Last year, there were 2 accidents involving a famous Vietnamese and a Japanese professors. 1 of them died, the other was seriously injured. In these cases, police's reaction and notification seemed to be responsive.

On one hand, collecting over the phone can be fast and exact. On the other hand, in this age of modern information technology, where news and images can be transferred at once, this approach is rather slow. If data needs to be collected not only from Hanoi but also other provinces, then talking over the phone might be inconvenient.

b) Documents: This method uses an accident form called form 45, filled by police teams. Therefore, it is not only used in data collection but also in investigation, as a record and needs to be precise in every detail. There is no official deadline for form 45, as some serious cases need to be decided by law courts. However, this form has been considered as an official report on accidents, fatalities and injuries that traffic police teams send to the Examination team. The Examination team will compare with information they receive daily by telephone and adjust the form properly. Completed forms will be sent to the Ministry of Public Security. Nevertheless, it is unclear whether they are computerized.

c) Computerized data: Accident statistics is being stored in the computer system. When an accident happened, police will report it, and the brief report will be added to the accident statistics database stored by the General Affairs team. Police input data of traffic violation cases and accidents into the database via computer network. Traffic police officers are responsible for data entry, reviewing and filtering about 20 information categories in the accident report notes before key in them into the computer system. We can see that there is no such a template for diagnosing the accident in this case, instead we employ a selective data collection work. Computerized data will be send daily to the General Affairs Division by USB or floppy disks. However, some teams do not transfer needed data to the General Affairs, or data might be lost, which make the database unauthorized.

Briefly, Hanoi Traffic Police is capturing data through 3 abovementioned methods. However, daily telephone announcement leaves out many categories, form 45 is note-based while computerized data also misses some fields, is unreliable and unsystematic. Thus, every method cuts both sides and none can be applied as a proper accident database.

(2) Accident investigation and statistics

Based on damages and losses, police may or may not set up files to examine accidents.

Traffic accidents can be classified in 5 different types, including physical damage accidents. In Hanoi, physical damage accidents are separated into above and below VND 500.000 in damages. Only cases with above VND 500.000 in damages will be filed and investigated. Further more, those filed and fatal accidents are further divided into 3 different kinds, based on losses. Firstly, in "less serious accidents", there is one serious injury, or many minor injuries. In these cases, troopers reach to the scene and set up an accident's file. In "serious accidents", there are more than 1 death or more than 2 serious injuries. Thirdly, in "very serious accidents", there are more than 2 casualties or more than 3 serious injuries. For the last 2 types, police will arrive on scenes but examination is almost carried out by Social Order Investigation police, supported by traffic police. According to Vietnamese laws, some one died in a traffic accident if he died within 24 hours. In fact, only those who died on scenes are counted while those died on the way to or in hospitals are counted as injuries. Moreover, accidents can be classified as foreigner/ state leader related, in which inspection will be processed by the Accident Examination team. However, in serious or very serious cases, social order police usually take responsibilities.

In brief, based on casualties, there are 6 kinds of accidents, including 5 processed as traffic accidents and officially filed. Unfortunately, announcement over the phone only covers basis information, while monthly offline information (in USB or floppy disk) which traffic teams send to the General Affairs only presents "above 11% in damages" accidents, as regulated by the Ministry of Public Security. As a matter of fact, to estimate accidents with "above 11% in damages" is very difficult for on-scene police. Theoretically, injuries that need operating, more serious or fatal injuries are considered as "above 11% in damages" accidents. The database, including fatalities and serious injuries, is updated in accordance with accident outline provided by the General Affairs team.

Hence, 5 among 6 types are processed as traffic accidents and filed to be examined. Investigation documents also consist of form 45 which is used for all 5 cases. In fact, many of accidents with above 11% in damages were not reported on the phone, or in offline information sent to the General Affairs Division.

Delayed facility establishment has significantly obstructed the accidents' information flow.

5. Accident report form

The currently used report form (form 45) in Vietnam was established based on the United Kingdom's suggestions (Figure 2.2). This form contains about 50 data categories. Basic categories are as follows:

a. Essential information such as time, location, people involved

b. Road environment such as road type, road surface, traffic management

c. Driver's information such as age, sex, driving experience

d. Vehicle condition such as type, technical condition, technical inspection date

e. Reasons of accident such as behaviors before the accident happened, driving errors, alcohol levels

f. Casualties, injury levels

Required inputs in accident database vary from countries to countries, in accordance with utility purposes. Hence, there is no standard or model database, although it is a foundation for traffic safety measures. Thus, in data capture, it is necessary to have appropriate approaches and categories that can be effectively used in analysis.

Figure 2.2 (a) Form 45 (front)

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Figure 2.2 (b) Form 45 (back)

Form 45 can generally cover accidents' information. However, in the perspective of traffic safety measures, they can be broken down into: accident prevention, casualty mitigation and casualty increase prevention. As can be interpreted from this form, Vietnam is focusing on accident prevention. Therefore, it is necessary to establish new data categories. The current form remains some missing parts as follows:

- Road shape description such as straight road and turn needs to be further clarified, as the current form does not cover all kinds of even road and slope.
- Road width: Roads are classified as national highway, provincial and urban roads. Nevertheless, some urban roads share larger traffic flow and more lanes than a national highway. The current form does not mention practical road width.
- Collision location: accident location as well as road involved will be useful in road and intersection improvement. These issues are not available in the form.
- Collision classification: this section should clarify behavior that leads to accident. In the current form, driver's behaviors are divided into personal injury, left turn, right turn and straight move, which does not present relations between vehicles. For example, even in the accident happening as vehicles are going straight, it can be divided into head-on, head-rear or head-side collisions.
- Road use: purposes of road users while driving can provide useful suggestions for traffic safety education and enforcement. At the moment, road use category is not available in the form.
- Driving error: It is not easy to correctly judge whose driving error is more serious, whose error causes accident or who victims are. Some cases need to be brought to court for trial. In minor cases, the third party may be able to decide. Traffic police must judge as soon as possible, but information groups used for decision has not been established.
- Personal information removal: traffic accident is considered as a crime and needed to be filed for investigation. Later, troopers can remove personal data and use the rest as foundation for safety measures, which is accident statistics. Form 45 was also introduced for this purpose. However, form 45 include categories such as name and address, which need court's judgment. Therefore, in the coming time, personal data has to be removed, in order to make the form a statistical report.
- Written information such as accident brief description, casualties or illustrations such as accident scene are also included in the form 45. Unfortunately, it has not been computerized yet.

In the future, as Vietnam's car industry is further developed with more cars produced locally, it is necessary to introduce safety standards for cars. That means we have to launch new data categories used for casualty mitigation. In the coming time, form 45 must be better improved.

6. Accident data analysis

Daily information of accidents are captured and analyzed by the Examination team. The team has 35 police responsible for investigating foreigner-related accidents, collecting accident data on telephone, analyzing data, reporting daily and weekly to the Ministry of Public Security, disseminating to enterprises and schools. There are a few police working on accident analysis. Information received on phone will be covered in daily, weekly and monthly reports to the Ministry.

Daily report covers information of accidents occurring within the day or previous day, including time, date, involving vehicles and casualty. Basically, weekly and monthly reports cover accident data of a week or a month. This includes number of accident, people involving in less serious, serious, very serious and exceptionally serious, kinds of driving errors, collision classification, accident time, location, driver age and other fundamental statistics. Apparently, numbers of accidents and involving people are not exactly. Reports in this case can only present general information, not data accuracy. In order to better the situation, we need to change data capture and storing approaches.

At the same time, the General Affairs team analyses specified issues related to traffic accidents. Although collected data is not enough for deep analysis, the General Affair is requested to report. However, as data categories in gathered information are not sufficient, it is almost unfeasible to consider traffic safety measures based on analysis. On the other hand, in term of black spot analysis, the General Affairs team in cooperation with other traffic police teams can provide more accurate and useful information.

All in all, we can see that the Traffic Police Division has managed to collect fundamental data of traffic accidents, while analysis used for safety measure introduction remains negligible.

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7. Accident Data Management

As mentioned above, in Hanoi, traffic safety management bodies' functions remain fragmental (distributed to many entities) and not converged. As a result, responsibilities for safety and accident statistics are also divided and remain trivial. These statistics have not been computerized yet. The Examination team are storing daily reports manually in notebooks/records. Reports are produced by request and used for analysis. However, the Examination team receives daily accident data over the phone, which means there is no template for questions and data differs according to accident type and scale. Also the information delivered over the phone leaves out many categories, while some received can not be use in database.

Some brief information is updated in the computer network. At the General Affair team, this data is computerized, but can only cover time, location, involving parties and casualties. Also it is subject to the team's management, as some teams send monthly information, some almost do not. Therefore, the current database is not exact. Programmed in FoxPro format, the database's statistics can not be used as in words format. This format is not applicable in current Windows computers, so it can not be extended, which is an insolvable difficulty to Hanoi Traffic Police.

8. Accident database establishment

From the case of Hanoi, we can understand recent accident data capture situation in general. Following is some issues relating to accident database establishment.

(1) Accident data reliability
(2) Statistical accident data
(3) New computers and communication network improvement
(4) Methods for data collection and database

9. Accident data utility

In Hanoi Traffic Police Division

It is necessary to improve organization, data capture and analysis, report form and launch a new database in Hanoi Traffic Police Division.

(1) Accident tendency identification

In Japan, traffic police carry on almost all tasks relating to traffic safety. In Hanoi, traffic police are only responsible for enforcement, signal control and management, while leaving many other tasks to the Hanoi Department of Transportation. As can be interpreted from the Figure, HDOT takes charge of many missions such as traffic regulations, signal installation, sign installation, road improvement. It seems that HDOT is more involved in safety and accident prevention. In Japan, transportation agency is responsible for road management and improvement only. Regarding road improvement, police discuss with road managers, operate roads and implement complete regulations. According to regulations, accident reduction and traffic safety are administered by traffic police. These institutional issues in Hanoi reduces the accident data's significance and impede the database establishment.

As mentioned, Examination team checks daily accident data over the phone and uses it in weekly, monthly and quarter reports. Those reports only cover brief information on number of accidents, involving people, accident type, in stead of detail data. Yet data categories and analysis are carried on based on the General Affair's collected data and do not include usual and unusual accident tendency.

Briefly, accident database used for analysis and tendency identification has not been developed. In the mean time, traffic safety management agencies, especially the Department of Transport has not acknowledged the necessity for accident analysis, safety countermeasures in Hanoi.

In Traffic Police teams

If we take Traffic Police team No.3 as an example, among 40 members, there are 29 enforcement police, 6 accident investigation police, 2 administrative officers, 1 Team Leader and 2 Deputy Leaders. We can

interpret from this personnel organization that enforcement is being centered in traffic police teams in general. Certainly enforcement activities aim to ensure traffic safety and smooth traffic flow. Yet if we look at enforcement's outcomes, compared with Japan, it is obvious that smooth traffic flow is prioritized. In Hanoi, these are parking violations (57%), wrong lane shifting (27%). Those two major violations make up to 84% of total violation, while other violations which mainly leads to accidents only make up a small proportion, such as running red light (2%), speeding (1%).

Traffic police teams' enforcement plans are set up by Team Leader and approved by Traffic Police Division. Most of the time, the Division ratify plans, in stead of accident research, firm enforcement and accident management.

In several traffic police teams, speeding remains the most common cause for accidents. In this case, the team will boost enforcement activities at night time in the following month. After 1 month, if accident rate does not increase, Team Leader would satisfy with that achievement. It can be inferred that accidents and enforcement have not been separated, and enforcement has not been considered as a countermeasure to prevent accidents. Recently, enforcement plans are make regardless of systematic and objective statistical data, but based on experience and perceptibility. Therefore, regarding enforcement time and location, it is necessary to make full use of accident database, focusing on time and location that need speeding inspection. For example, by using accident data, police will draw an local map of specified area, including accident causes, location and time. Enforcement activities based on such comparison will prevent accidents. Traffic police, as a result, must acknowledge this issue clearly and thoroughly, before being trained on enforcement, traffic regulations (safety measures) and accident analysis.

In relating agencies

Traffic safety not only involve traffic police but also other organizations, such as road management agencies, local authority and schools. After analyzing, accident data should be provided to each relating agency. Yet the use of accident data in non-traffic police agencies is not clear. Following is the data use process in major transport agencies in Vietnam:

(1) Traffic regulation amendment

Traffic regulations such as one-way street, prioritized roads are decided by the Department of Transport. The Department also manage the use of related budget. However, in terms of regulation amendment or new regulations, they may discuss and consult with Traffic Police, as it will have impacts on shown in enforcement and accidents.

(2) Road improvement

Department of Transport also carry out road improvement, including black spot and congestion improvement. According to definition of black sport, traffic police will identify where to improve. However, we do not totally understand how black spots are treated.

Within TRAHUD project, we established a working group including traffic police and engineers, responsible for proposing black spot treatment. Yet there is few information used for road development is available in Form 45.

(3) Traffic safety education

Traffic safety education in schools and enterprises are responsibility of Accident Examination team, under Traffic Police Division. Although we do not master how many police are responsible or their education programs, we guess they educate on accident types, frequency and causes, based on real accidents, daily and weekly reports.

(4) Traffic safety plan

The National Traffic Safety Committee, a central agency, carry out administrative procedure relating to Vietnam's traffic safety, while each province has a provincial Traffic Safety Committee. Chairman of Hanoi Traffic Safety Committee is also the Chairman of Hanoi People's Committee. Nevertheless, Hanoi TSC's operation does not cover accident data. If Hanoi TSC is similar to Japan's Committee on Traffic Safety Measures, then it would be responsible for 5-year traffic safety action plan in Hanoi. Although while adjusting traffic regulations or drafting safety plans, accident database will be referred, there is no close cooperation between these two organizations.

9. Activities and achievements for improvement of data collection and analysis

9.1 Accident database establishment

In order to collect online accident data, introduce online database and further develop form 45, the Accident Examination team coordinated with traffic police teams. Accident information in 2008 has been captured and stored based on form 45A and B, in a new approach.

9.1.1 Online data capture and online database establishment

As mentioned in previous sections, there are 3 approaches to collect accident data in Hanoi Traffic Police Division. Form 45 has been considered as a foundation for the database, yet it is used as an accident file. In order to computerize information and establish an online database, the Examination team has been closely working with the General Affairs team. The Information Technology and Telecom Division, under Hanoi Police has technically supported to program the software. Internet connection among 9 traffic police teams inner Hanoi, 5 teams in sub-urban area and Hanoi Traffic Police was activated. Form 45 and database now can be updated on the internet.

9.1.2 Form 45 improvement

In form 45, there are no categories for relations between driver's behaviors and road shape. We discussed with and suggested the Accident Examination Team, which is responsible for analysis add in 19 sections such as Figure 2.3. Police teams submitted their draft form (known as form 45B) to the General Affairs team via the internet in January, 2008. Following are major added sections among 19 new sections:

(1) Classification of people involved

In form 45, involving people are classified into motor-cycle rider, car driver, bicyclist, pedestrian and train passenger. This is one of the most important categories for analysis, as it shows who involve in accidents the most. That is why we further divided them into 16 smaller types: 3 for motor-cycle, 2 for 3-wheel vehicle, 5 for passenger car, 2 for truck, 2 for bicycle, pedestrian and others.

(2) Collision classification

This section classifies relations among vehicles' running directions. The former form only mentioned driver's behaviors. In case 2 vehicles are moving in the same direction, there are 3 possibilities for collision: head-on, head-rear, head-side (Figure 2.4). Therefore, we add "collision classification" in the new form.

(3) Road width

As analyzing a traffic accident, its environment is a very important element. From the perspective of transport environment, road scale provides clues about traffic flow, its designated capacities and regulations. Therefore, we added in a new section of road width.

(4) Road shape

Form 45 only mentioned accident happening at intersection. We divided location into intersection, on road and other. Intersection is separated into 6 types, 5 for on-road and near intersection, 2 for others. Totally, we added 13 new types of road shape.

(5) Seat-belt and helmet

The former form does not cover information on seat-belt for car passengers and helmet for motor cyclists. Recently, wearing helmet has become compulsory for motor cyclists and showed positive impacts, we decided to add in this section.

(6) Mobile phone use

At present, using mobile phone while driving is not against the rules and we can see many driver doing so on road. It seems that using mobile phone while driving would not be banned in the coming time. However, as from Japan's experience, this behavior is very dangerous and so, we introduced in the new form to warn road users about its danger.

(7)Driving error

Form 45 separated involving people into number 1 and number 2, regardless of their driving error. Although it is difficult to judge driving errors, we established new category based on police's conclusion.

9.2 Accident data analysis

Based on 2007 data collected by the General Affairs team, we process basic categories for accidents in 2007. Yet we have not received any feedback from the Traffic Police Division. Information we use is different from publicized information, but it can be used to predict accident tendency. Data used in this section can be found in annex.

(1) Fatalities and injuries, fatalities based on personal conditions
Injury accidents in 2007 (with casualty above 10%) are 823 cases, including 1188 victims, in which 457 died. Figure 2.5 and 2.6 illustrate number of victims and classify fatalities by specific conditions. As can be seen in below charts, victims on motor cycles make up to 79% (938 persons) while 79% of them died (348).

Figure 2.5 Fatalities and injuries based on personal conditions (Hanoi, 2007)
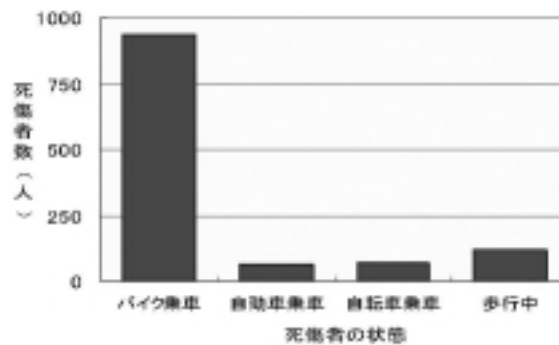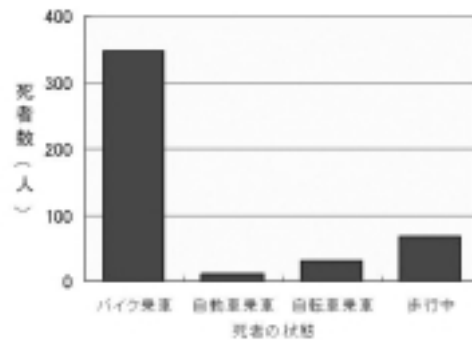

Figure 2.6 Fatalities based on personal conditions (Hanoi, 2007)

(2) Fatalities, injuries based on vehicles
Figure 2.7 and 2.8 illustrate number of people died and be injured, based on vehicles. This number in collisions with cars is 351 people (30%), with motor cycles is 267 (22%). Cars make up only 10% in total registered vehicles, yet the number of victims in accidents by cars are quite high. Fatality rate in car accidents is 183 people (40%), in motor cycle accidents is 106 (23%) . Still 31% of victims can not be classified what vehicles they involved.

Figure 2.7 Fatalities and injuries based on vehicles (Hanoi, 2007)
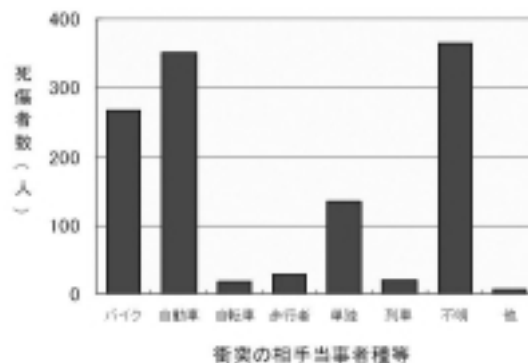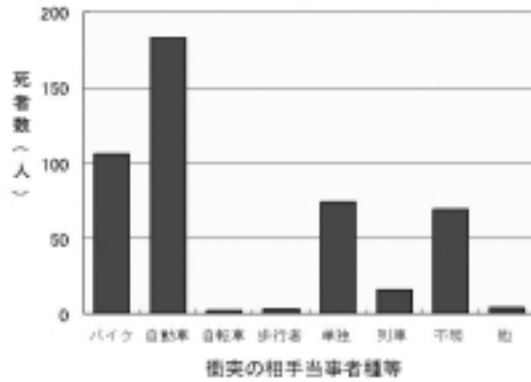
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Figure 2.8 Fatality rate based on vehicles (Hanoi, 2007)

(3) Fatalities and injuries based on personal conditions and vehicles

Figure 2.9 and 2.10 presents fatalities and injuries based on personal conditions and vehicles. Number of people died and injured in motor cycle and car collisions is 286 (24%), in motor cycle and motor cycle collisions is 187 (16%), in personal injury accidents is 72 (16%). Among them, 149 people died (33%), in motor cycle and car accidents, 67 (15%) people died in motor cycle and motor cycle collisions, and another 72 (16%) died in personal injury accidents. There is a upward tendency in fatalities in the first and the last collision types.

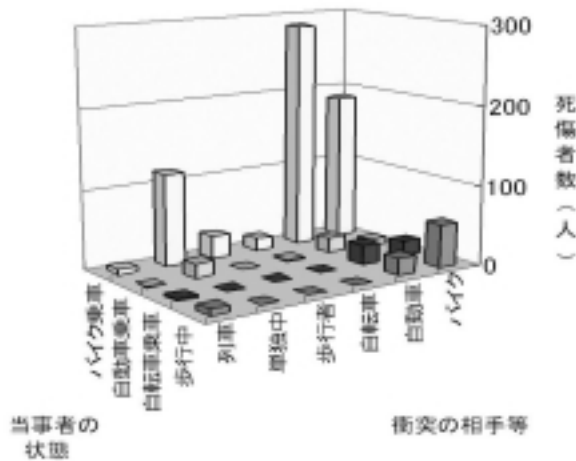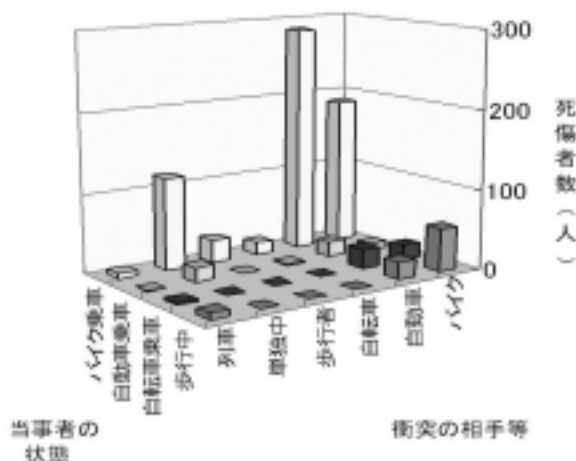Figure 2.9 Fatalities and injuries based on personal conditions and vehicles (Hanoi, 2007)

Figure 2.10 Fatalities based on personal conditions and vehicles (Hanoi, 2007)

(4) Fatalities and injuries based on personal conditions and age
    Figure 2.11 and 2.12 shows fatality rate according to victims' age and conditions. Fatalities in twenties are 153 (33%), which is the highest rate. Fatalities and injuries in twenties and traveling by motor cycles are 388 (33%), including 133 (19%) fatalities. Based on conditions, fatalities for pedestrians in thirties are highest (11 persons). Except for pedestrians under 19 years old, each age group shares about 7 to 11 fatalities in general, including the elderly over 70.

Figure 2.11 Fatalities and injuries based on personal conditions and age (Hanoi, 2007)
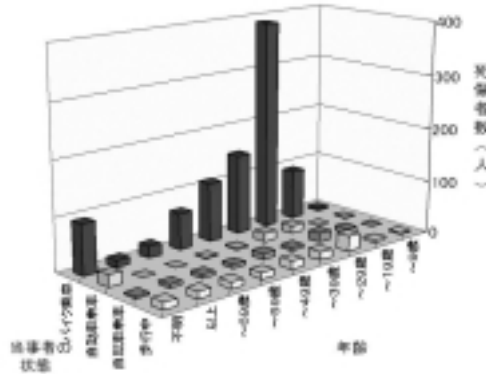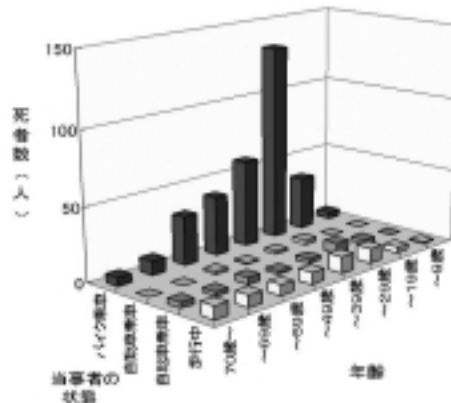

Figure 2.12 Fatalities based on personal conditions and age (Hanoi, 2007)

(5) Fatalities and injuries based on accident time
    Figure 2.13 and 2.14 illustrate number of people died and get injured, according to accident time. Peak hours for accidents to happen are within 8 to 10PM, yet most victims died in accidents occurring during lunch time: from 12 AM to 2PM .

Figure 2.13 Fatalities and injuries based on accident time (Hanoi, 2007)
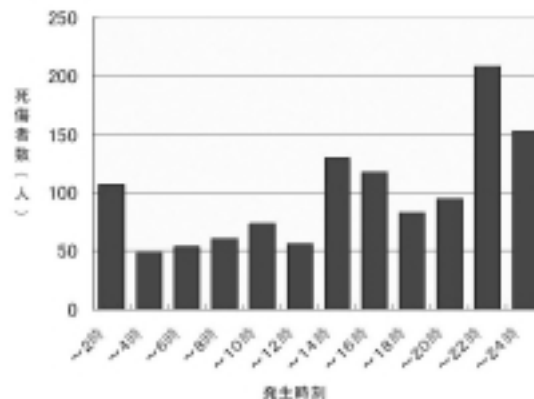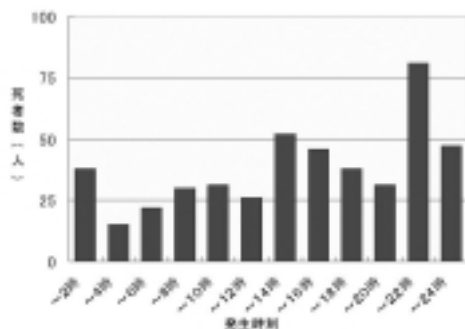
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Figure 2.14 Fatalities based on accident time (Hanoi, 2007)

(6) Fatalities and injuries based on accident time and victim's age
Figure 2.15 and 2.16 present number of people died and be injured based on accident time and people's age. At twenties, most people involve in accidents within 8PM to 2AM and there are 215 people (18%) died and get injured, while 69 of them died (45%). For the elderly, accident rate seems to be lower, although many accidents happen to people over 50 at night time.

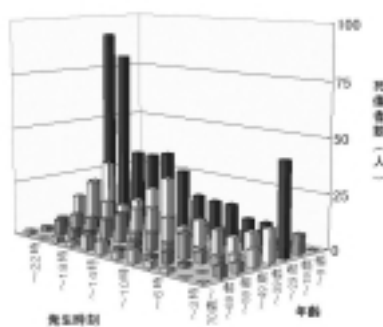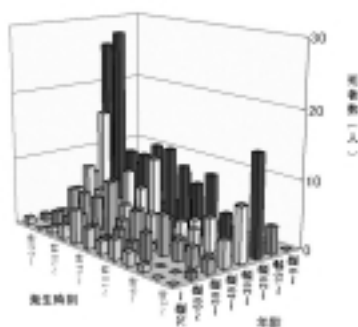Figure 2.15 Fatalities and injuries based on accident time and victim's age (Hanoi, 2007)

Figure 2.16 Fatalities based on accident time and victim's age (Hanoi, 2007)

9.1.3 Training

In training the training courses that has been done within the frame work of TRAHUD , we utilize materials as follows: (For further information, please refer to attached files)

1. Significance of accident analysis and its use (file power point)
2. I. Accident data use in Japan (file power point)
   II. Logical thinking on form 45 amendment (file power point)
3. How to understand accident data (file power point)
4. Traffic enforcement in the future and collision classification (file power point)
5. Guidelines of form 45B (file word)
6. Accident data analysis in Hanoi, 2007 (file power point)

9.1.4 Supervision and evaluation

In this pilot project, we coordinated with police responsible for accident database and analysis in Hanoi as well as discussed procedures and needed tasks to establish and improve the report form; to capture and process data. Training classes then were organized for police whose tasks include accident investigation, examination and database.

The most significant achievement throughout this pilot project was to activate a cycle process: scene investigation, data capture → update data among police teams and store data in Traffic Police Division → analyze collected data and implement needed tasks. Therefore, the project had tremendously developed counterparts' capacities throughout TRAHUD's leadership and experts' consultation and lectures.

Although first steps for database establishment and basic analysis were taken, there are remaining problems that need to be solved:

- Steps to establish database and to store data must be taken continuously.
- Database must be basically analyzed in details and analysis must be shared among relevant agencies as important foundations for traffic safety measures.

10. Issues and recommendations

10.1 Data capture development

At present, information used for form 45A and B is send via the internet among traffic police teams and Hanoi Traffic Police office. However, as the system was not programmed properly, police officers can update data once. Therefore, database update should be enhanced as soon as possible, so that data can be updated as many times as needed and the database will be capable for these following functions:

(1) Updating information on the day accidents happen
On the day accidents happen, basic information needed to be provided includes: location, time, road shape, collision classification, casualty. Collecting information over the phone should be altered.

(2) Updating all injury accidents
Traffic police only report accidents with casualties above 11%, while the rest is not considered as accidents. The new database should allow officers to update all accidents, including minor crashes and injury accidents, by updating only basic information as mentioned in section (1) above.

(3) Updating all categories in form 45
Basically, form 45 must be filled in within 1 month. In fact, only 60% of information has been updated. Therefore, the database must be improved, in order to be updated many times. For categories that at first have no information, they can be informed when it is possible, then at last 100% of information categories will be filled, even "no information" column.

10.2 Supplement

The current database consists of about 50 to 60 categories. In the perspective of analysis, each category represents different necessity, as some are essential, some are necessary and some are not really selective. Categories differ according to analysis's purposes, which makes it difficult to evaluate exactly. However, we can make typical calculation. In this aspect, form 45 leaves out several indispensable categories helpful for safety countermeasures in Hanoi. That is why we strongly desire to revise and develop the form.

10.3 Accident analysis team establishment

In Hanoi Traffic Police, the Accident Examination team is responsible for accident statistical data. In fact, they mostly carry out examination and propaganda tasks. Everyday, they gather accident data and check form 45 application, almost do not analyze accident tendency. On the other hand, current database is not applicable for analysis.

Although storing computerized database, the General Affairs team also can not fully analyze it, as database has not been completed and only one officer is responsible for data process. It is obvious that analysis system has not been constructed.

We hope in the coming time, there will be a professional analysis team which is capable of identifying analysis approaches, establishing accident database and analyzing information. Generally speaking, analysis capabilities will have strong impacts on Hanoi Traffic Police's operation, including enforcement activities. It would be great to start with practical outcomes of accident data use.

10.4 Accident data significance

Accident analysis must be originated from and connect to temporary accident situation and its alteration. It is necessary to store data in order to identify changes, which are essential background for safety measures. Moreover, as current situation reveals accident causes, direct and indirect damages, it also provides clues for safety solutions. If accident rates in Hanoi tend to increase in the future, database's significance must be recognized to introduce appropriate and effective measures.