

ITARDA INFORMATION

交通事故分析レポート

No.100

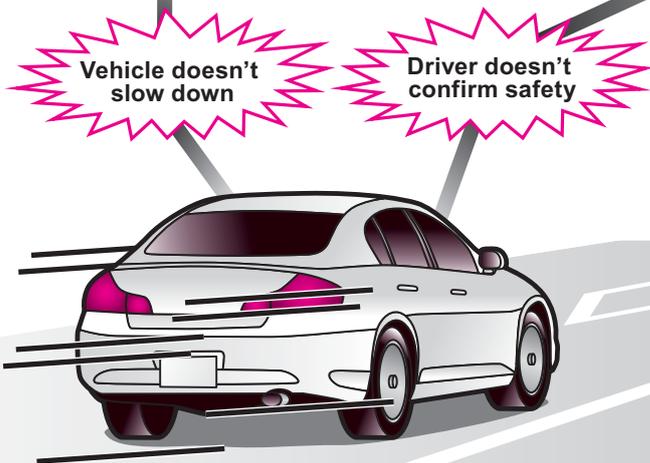
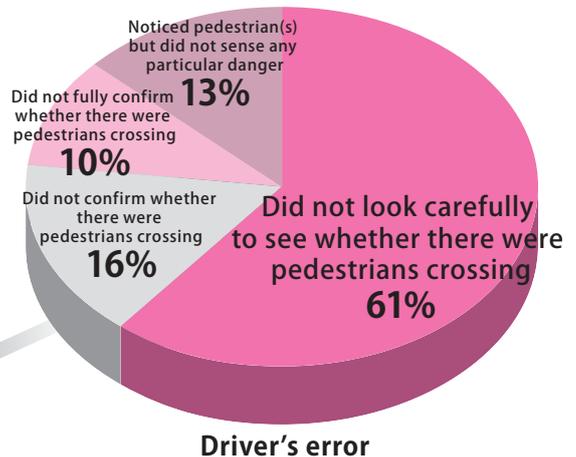
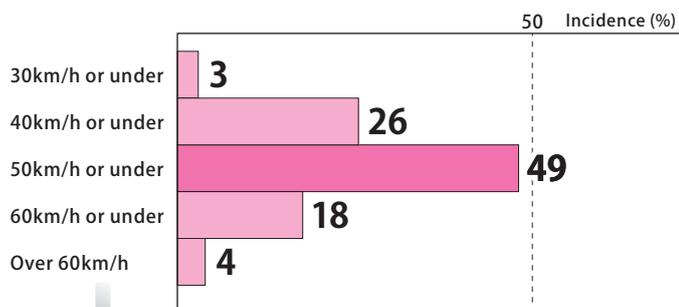
Special feature

Check for pedestrians at pedestrian crossings

~Analyzing accidents caused by "obstruction of crossing pedestrian"~

What do you know about obstruction of crossing pedestrian?
Do you stop your car for pedestrians who are waiting to cross at pedestrian crossings?

Speed of vehicle when the driver senses danger



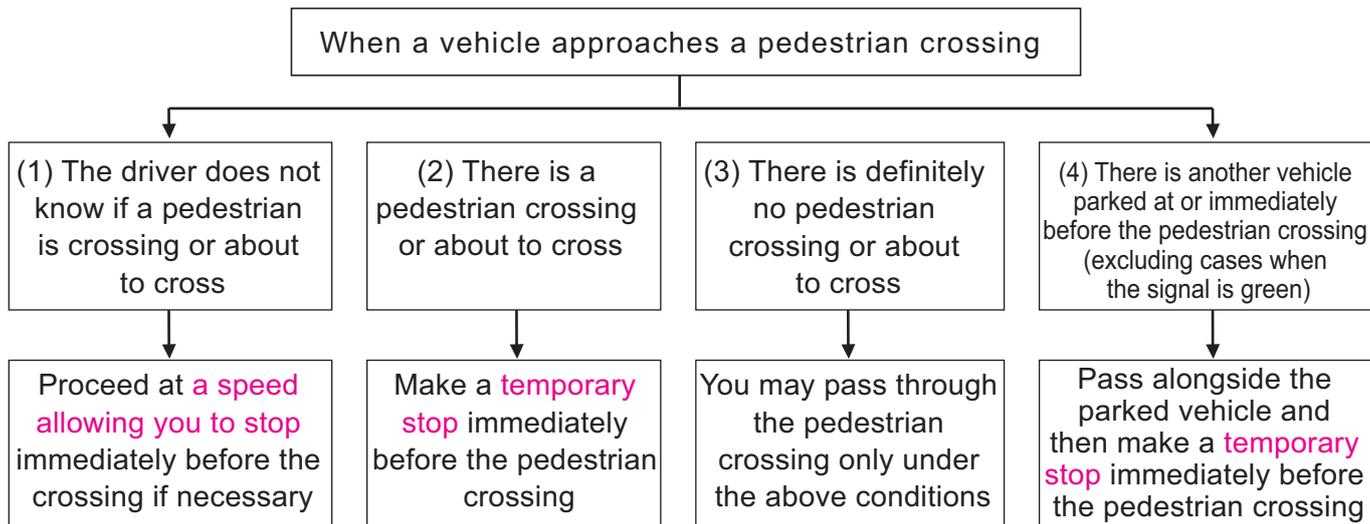
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* These graphs show the percentages of primary parties who caused fatal accidents through obstruction of crossing pedestrian on uninterrupted road sections between Y2008 and 2012.

1 Introduction

■ Definition of obstruction of crossing pedestrian

Article 38 of the Road Traffic Law provides generous safety provisions which focus on protecting and prioritizing pedestrians at pedestrian crossings as shown in the following diagram. In particular, road users should note that in the case of (1) to (3) below, the obligations set out are imposed on drivers regardless of whether the pedestrian crossing in question is equipped with traffic signals. Violations of Article 38 of the Road Traffic Law are considered as “obstruction of crossing pedestrian.”



■ Number of AOCP fatalities

(pedestrian fatalities due to accidents caused by obstruction of crossing pedestrian)

Fig. 1 shows numbers of pedestrian fatalities by the type of Road Traffic Law violation attributable to the driver. Of the 7,627 pedestrians killed during the five-year period from Y2008 to 2012, 14% (1,064) lost their lives as secondary parties (i.e., little or no fault is attributable to the pedestrian) in obstruction of crossing pedestrian accidents. When one considers that obstruction of crossing pedestrian applies only to pedestrian crossings (in contrast to violation of the duty to drive safely which applies to drivers on all parts of the road), the numbers of pedestrians killed by obstruction of crossing pedestrian are very high indeed. In this issue of ITARDA Information, we will analyze the factors behind the accidents in which these 1,064 pedestrians lost their lives.

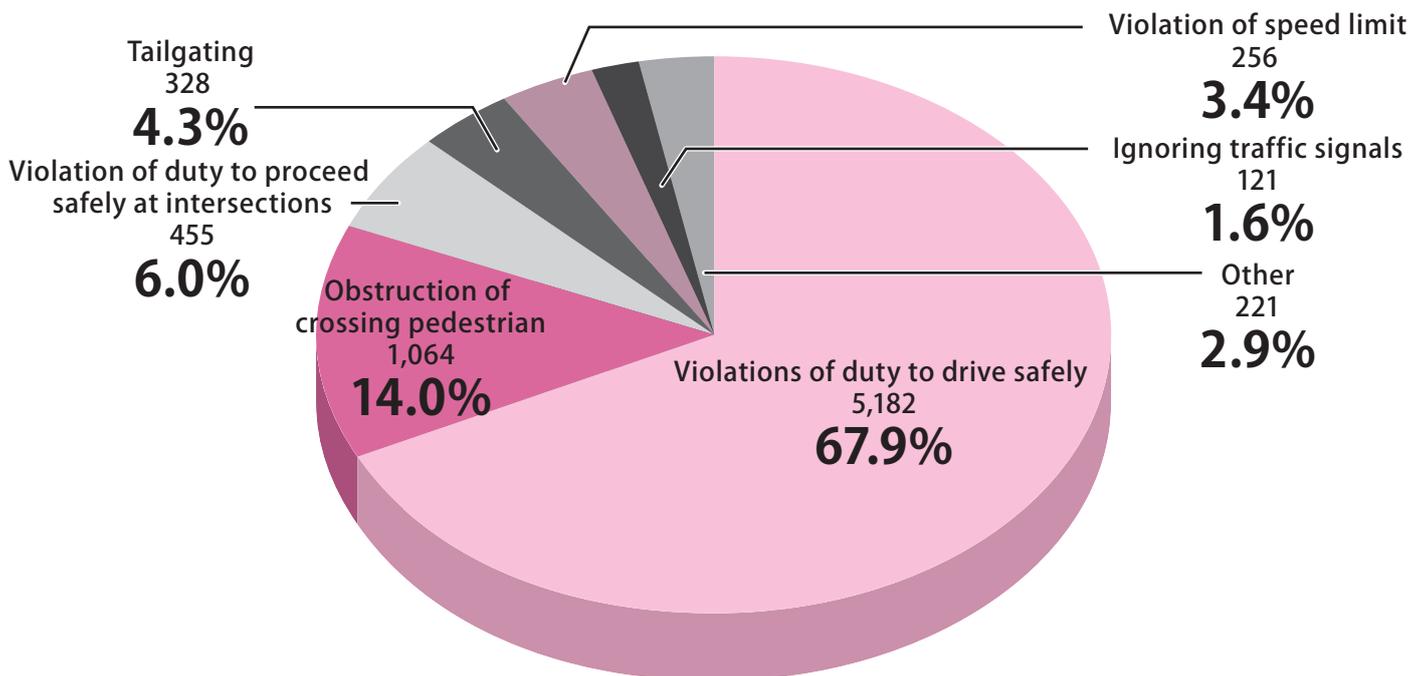


Fig. 1: Pedestrian fatalities by type of Road Traffic Law violation by drivers

② Trends in AOCF fatalities and fatality rate

As Fig. 2 shows, although the number of AOCF fatalities decreased for several years up to Y2011 in line with overall traffic fatalities, it increased sharply in Y2012 along with the fatality rate as a percentage of total fatalities.

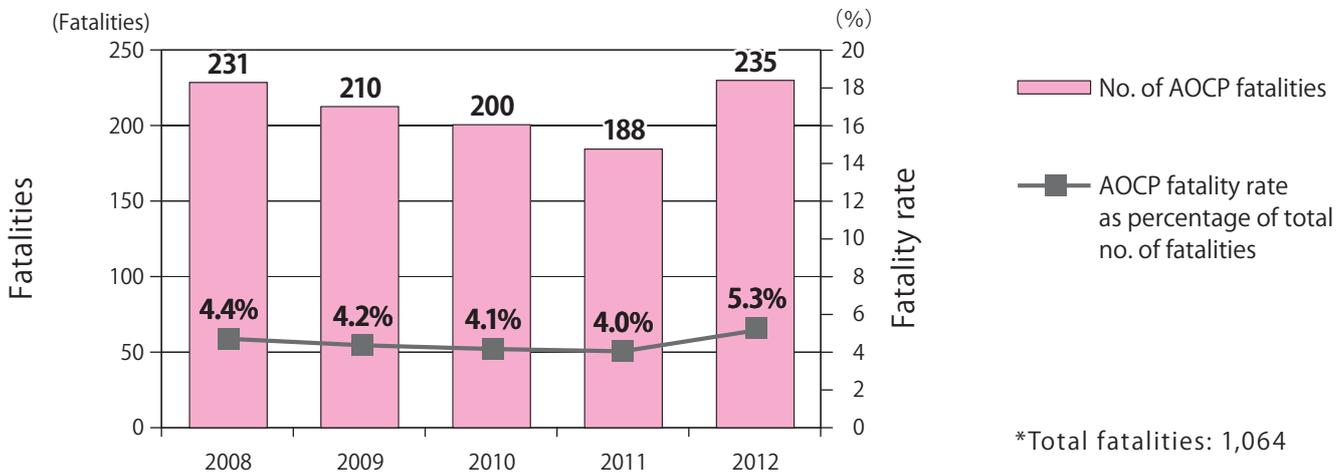


Fig. 2: Trends in AOCF fatalities and fatality rate

③ What kind of people are involved in AOCF?

Majority of the fatal pedestrians are elderly, while majority of drivers are not

Fig. 3 and Fig. 4 show the number of AOCF fatalities by the age of driver (primary party) and age of pedestrian (secondary party) respectively. The breakdown by driver age reveals drivers aged 20-69 to be the largest group; meanwhile, among pedestrians, elderly people occupy the highest percentage and the older the pedestrian the higher the fatality rate (no of fatalities / no. of casualties). Since the highly vulnerable elderly people are more often injured in AOCF (Accident caused by obstruction of crossing pedestrian), driver must drive carefully with the needs of the elderly in mind when they are around pedestrian crossings.

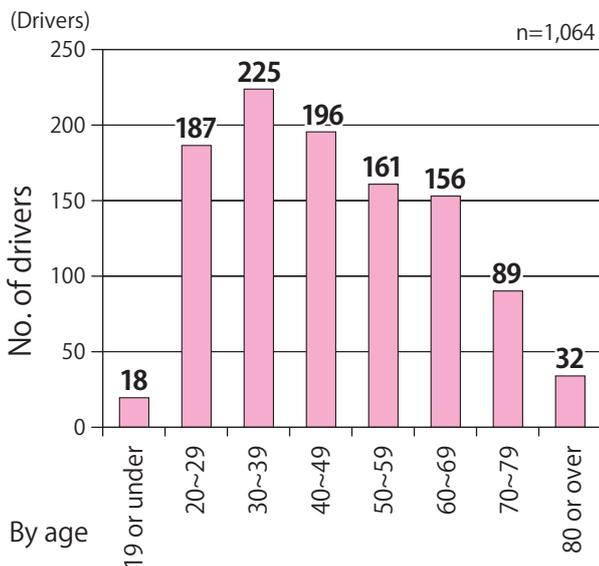


Fig. 3: AOCF fatalities by age group of vehicle drivers

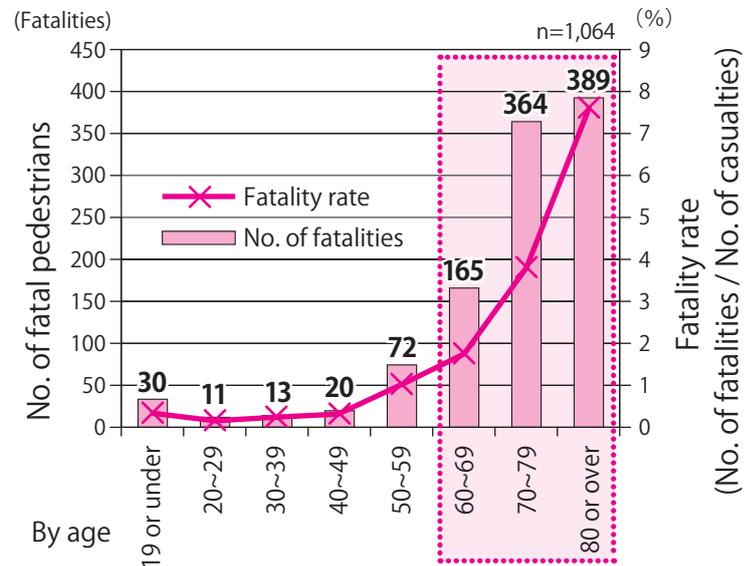


Fig. 4: AOCF fatalities by age group of pedestrians

4 What situations lead to fatal AOCF?

Location and vehicle type

Fig. 5 shows AOCF fatalities by location (intersection or uninterrupted road section). Most AOCF fatalities occur at intersections; at signalized intersections, 99% of crossing pedestrians were crossing in accordance with traffic signals when they were killed. As shown in Fig. 6, 99% of those who caused AOCF fatalities were driving four-wheeled vehicles at the time.

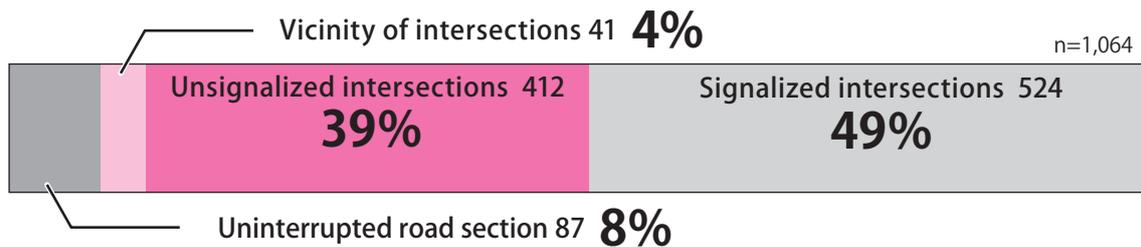


Fig. 5: AOCF fatalities by type of location

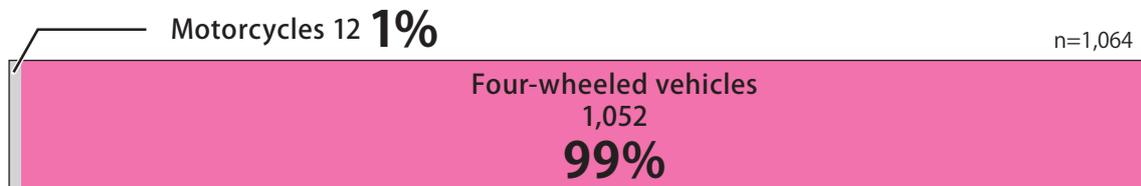


Fig. 6: AOCF fatalities by type of vehicle

Time of day

Fig. 7 shows the numbers of AOCF fatalities and the fatality rate by the time slots when the accidents occur. As the graph shows, the number of fatalities is more in the twilight hours of 17:00-18:00, while the fatality rate is the highest in the 1:00-4:00 time slot when the traffic is less. Pedestrians are generally harder to spot from vehicles during the twilight hours because of the lighting level and changes in the appearance of colors, while drivers during the low-traffic period often fail to pay proper attention to the road, believing that “nobody is likely to be crossing because there aren’t usually any pedestrians at this time.” Drivers need to pay particular attention to confirming safety at these times.

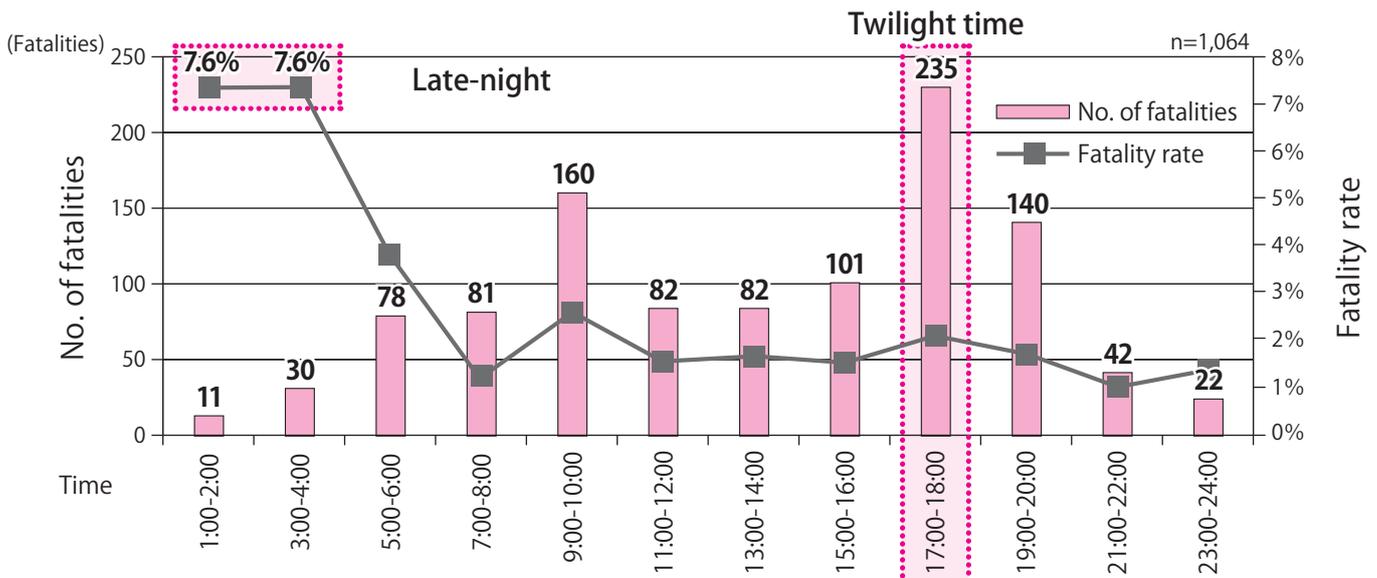


Fig. 7: AOCF fatalities and fatality rate by time

■ Vehicle maneuver during daytime and nighttime

Fig. 8 shows the AOCF fatalities by their time of occurrence (daytime or nighttime) and by vehicle maneuver. For fatal accidents in the daytime a higher percentage are with vehicles turning right at an intersection, while at nighttime vehicles moving straight ahead comprise a higher percentage. When we combine the figures for daytime and nighttime, approximately 80% of all fatalities result from accidents with vehicles turning right or moving straight ahead.

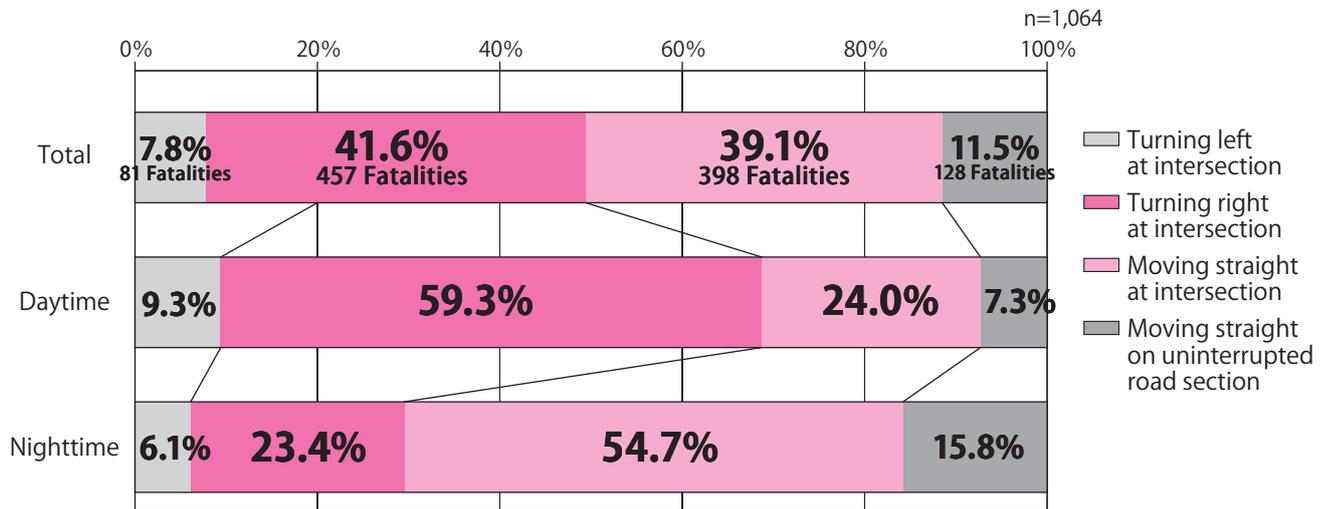


Fig. 8: AOCF fatalities by daytime/nighttime and type of vehicle maneuver

■ Driver's error

Fig. 9 shows the incidence of the following driver's error for fatal AOCF.

- "Delay in spotting pedestrian": The driver failed to notice the other party altogether or only spotted him/her immediately before the accident
- "Error of judgment etc.": The driver recognized danger but failed to take the necessary measures
- "Error of vehicle operation": Inappropriate vehicle operations were undertaken

As the graph shows, accidents caused by a delay in spotting pedestrians made up over 80% of those on uninterrupted road sections and more than 90% of those at intersections. The fact that only a very small number of accidents are caused by "error of judgment etc.," (where the driver spotted the crossing pedestrian before the accident) suggests that in a high percentage of accidents, drivers themselves are failing to confirm safety beforehand by checking whether there are pedestrians trying to cross.

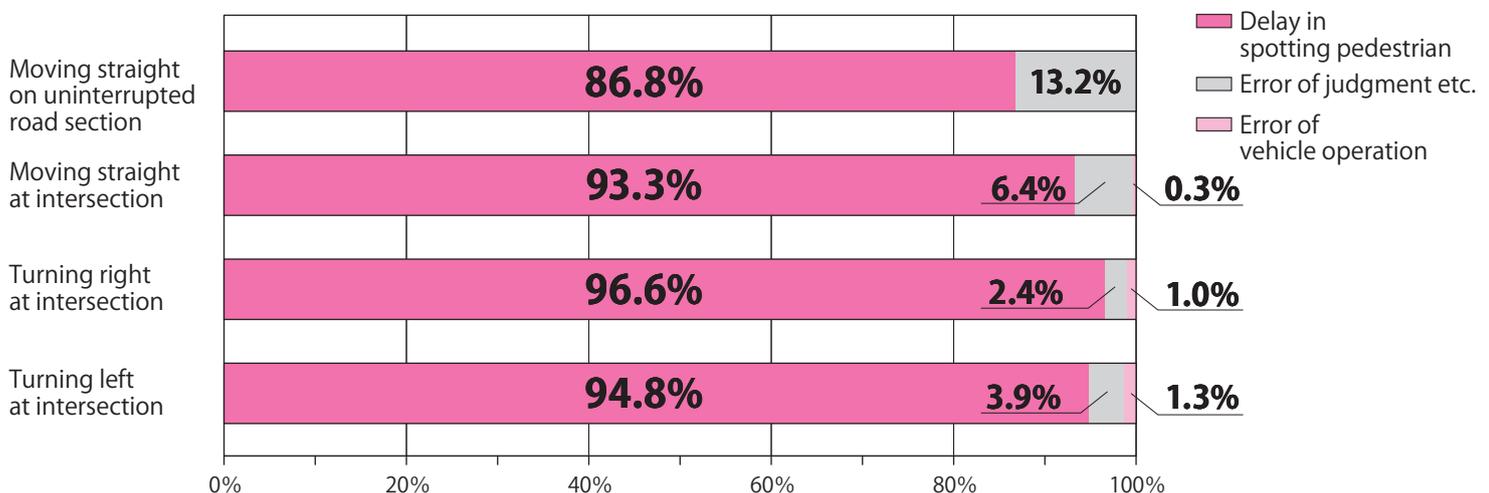


Fig. 9: AOCF fatalities by type of vehicle maneuver and driver's error

■ Vehicle maneuver and pedestrian direction

Fig. 10 shows numbers of AOCPP fatalities by the vehicle and pedestrian movement directions. When we break down the numbers of pedestrian fatalities by each type of direction, it is evident that vehicles turning to the left or right are more likely to get into fatal accidents with pedestrians crossing from the driver's left-hand side; meanwhile, for vehicles proceeding straight ahead, fatal accidents with pedestrians crossing from the driver's right-hand side are commoner.

The Road Traffic Accident Statistics by National Police Agency suggests the following general trends:

- When drivers turn to the right or left, they tend to pay less attention to their left-hand side.
- When drivers move straight ahead, they tend to pay less attention to their right-hand side.

A possible reason for this is that drivers get into the habit of not confirming safety of the side on which they do not feel the danger in their everyday driving; this suggests that drivers themselves need to pay better attention and make sure that they do not fall into this habit.

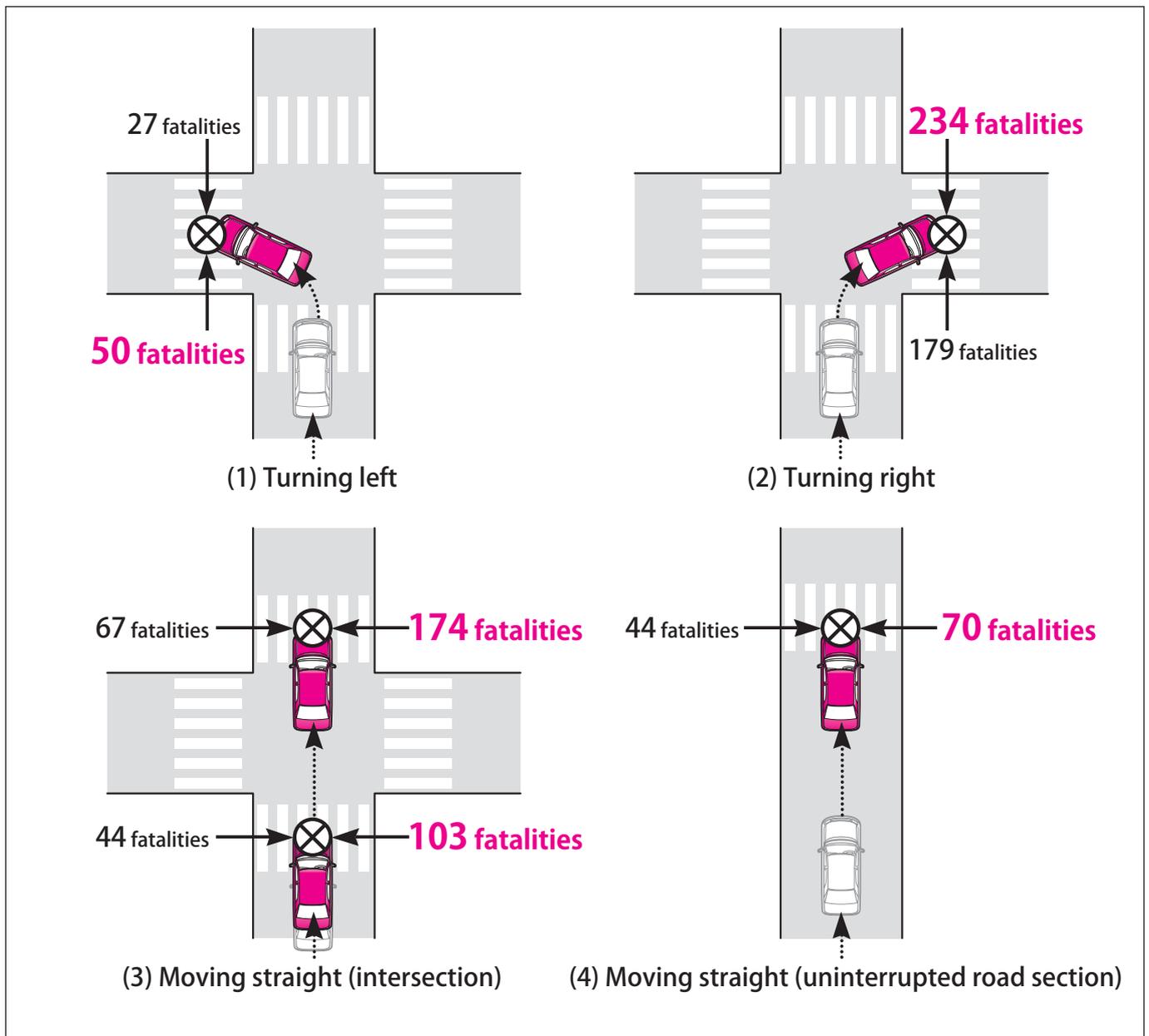


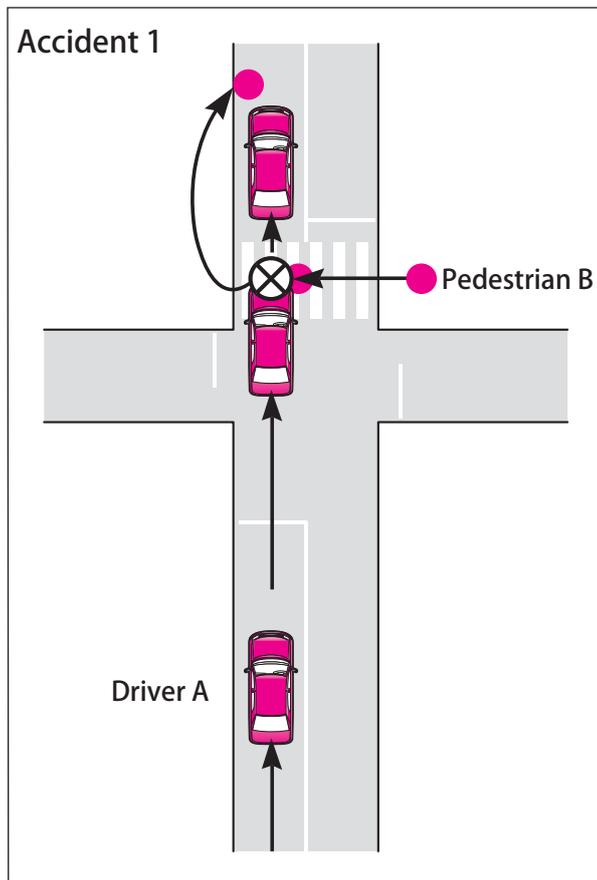
Fig. 10: Fatalities by vehicle maneuver and pedestrian direction

Note:

- In Japan, traffic keeps to the left side of the road (left-hand traffic).
- “Uninterrupted road section” includes the vicinities of intersections.
- The reference diagrams portray the vehicles as four-wheeled vehicles; however, the statistics includes motorcycles as well.
- These diagrams portray the road and accident situations of typical accidents as reference diagrams.
- The total figures for vehicle movement directions set out in Fig. 9 include illegal crossing by pedestrians as well as the movements shown in Fig. 10.

5 Case studies of accidents

This section will describe two obstruction of crossing pedestrian accidents. These are examples of accidents in which “driving on routes the driver is accustomed to” and “less traffic” played a role, and may have led to the driver getting into the habit of not bothering to confirm whether there are pedestrians waiting to cross. We suggest that readers try putting themselves into the position of these drivers, and ask themselves whether they have ever fallen into the same habits as those which led to these accidents.



[Outline of Accident]

At around 18:00 in March, Driver A (a man in his 40s) was driving his minivan at a speed of approximately 40km/h towards the intersection that was the scene of the accident and preparing to enter the intersection. During this time, he had his eyes on the bridge and buildings ahead of him in the distance. As he moved straight into the intersection in an aimless manner without confirming whether pedestrians were trying to cross, he collided with Pedestrian B (a man in his 70s) who was crossing the road from the driver's right to the left.

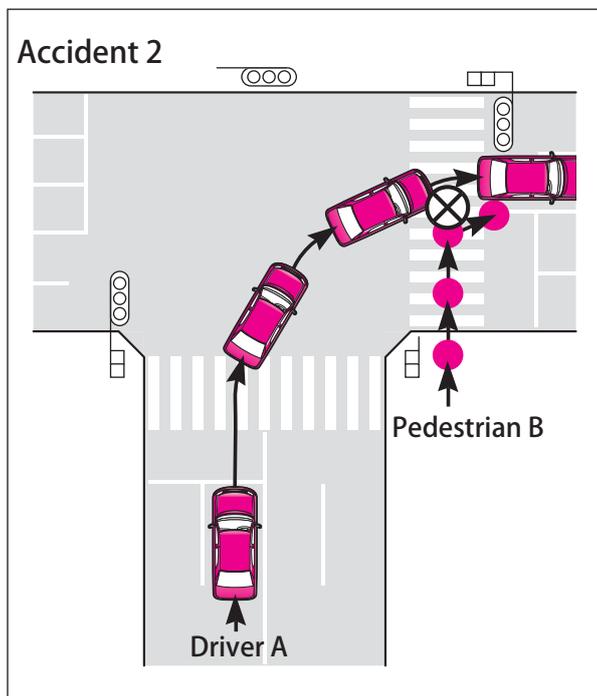
[Casualties]

Pedestrian B was killed by fractures of the rib and pelvis due to the impact of the collision.

[Testimony of Driver A]

The road where the accident occurred is one I go through almost every day on my way to work; I know the road conditions around this intersection well including the fact that there are no signals and there's a pedestrian crossing. The accident occurred in the evening when the light was dim, and my headlights were on (lowered).

When I was passing through the intersection, the road was quiet with no vehicles in front of me or coming towards me, so I kept my eyes on the road ahead in the far distance as I drove. At this moment, I noticed someone crossing the road and immediately slammed on the brakes, but too late--I knocked him over. Because I hadn't checked whether there were people trying to cross, I didn't notice the pedestrian until right before the accident.



[Outline of Accident]

At around 17:00 in the evening in January, Driver A (a woman in her 30s) turned her regular passenger vehicle to the right into an intersection. Because she proceeded without confirming whether there were people trying to cross, she collided with Pedestrian B (a man in his 50s).

[Casualties]

Pedestrian B was seriously injured, suffering fractures to the bones in his legs in the collision.

[Testimony of Driver A]

The road where the accident occurred is one I go through every day on my way to work. When I turned to the right, I didn't check whether there were people trying to cross because I had things on my mind and I almost never encounter pedestrians at that intersection. My headlights were on, but I didn't notice the pedestrian until right before I hit him.

6 Summary

Our analysis of obstruction of crossing pedestrian accidents has indicated that such accidents are characterized by certain features, such as “Drivers are mostly failing to confirm safety or failing to confirm safety properly” and “There are differences in how thoroughly safety is being confirmed to the left and right.” These results suggest that some drivers do not fully recognize that pedestrians have priority according to the Road Traffic Law, leading them to drive in an aimless manner. We urge drivers to think again about the role of pedestrian crossings as “**sacred spaces for pedestrians,**” and to put the following points into practice.

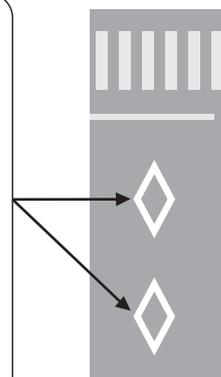
- (1) **Even when the traffic signal is green, confirm the safety of the pedestrian crossing and its vicinity before proceeding.**
(There may be elderly pedestrians who have not managed to get to the other side of the road. There may also be pedestrians who have decided to dash across the street at the moment when the pedestrian signal changes from green to red.)
- (2) **Even if nobody is actually crossing the road, stop your vehicle if there are any pedestrians waiting to cross over.**
(Article 38 of the Road Traffic Law stipulates that pedestrians have priority at pedestrian crossings.)
- (3) **If there are any pedestrians crossing the road, stop your vehicle. Do not keep driving on the grounds that “I can get through before they reach me.” Even after the pedestrians immediately in front of your vehicle have crossed the road and reached the other side, do not start driving through the crossing right away; pause for a moment and confirm safety carefully once again before you start driving through the crossing.**
(A pedestrian may suddenly backtrack, or another pedestrian may suddenly dash out in front of your vehicle.)

Do you know about the ◇ mark that you sometimes see on the road?

This mark means “Pedestrian crossing ahead.”

One reason why drivers may fail to stop for a pedestrian who is trying to cross the road is that they only notice the pedestrian when he/she is immediately in front of the vehicle and are thus unable to stop in time.

However, seeing the ◇ mark gives the driver ample time to confirm safety, ensuring that he or she can stop the vehicle in time if there is a pedestrian who is trying to cross.



(Yusuke Hayashi)

- 当センターは、平成4年(1992年)に国家公安委員会、運輸省(当時)、建設省(当時)から設立許可を受けて、公益法人として設立されました。その後平成24年(2012年)4月に公益財団法人に移行しました。我が国で唯一道路交通法の定める「交通事故調査分析センター」の指定を国家公安委員会から受けた調査研究機関であり、交通事故の防止と被害の軽減のための交通事故の調査分析を行っています。
- 当センターが行う交通事故調査は、交通事故の低減を目的とした調査・研究のためのもので、警察の捜査や保険会社の調査とは全く別のものです。
- イタルダ・インフォメーションのバックナンバーは全て下記のウェブサイトに掲載しており、自由にダウンロードできます。また他にも、無料でダウンロードできる統計資料、研究報告書もございますので、御活用下さい。

公益財団法人 交通事故総合分析センター

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