

Characteristics of, and measures against accelerator and brake pedal misapplication accidents

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Overview

Looking at the rate of accelerator pedal and brake pedal misapplication accidents among all accidents, among elderly drivers age 65 and over, this rate is particularly high for elderly drivers age 75 and over, and this trend does not appear to have changed significantly from 10 years ago. Meanwhile, the number of elderly people who have a driver's license has approximately doubled over the past 10 years and is expected to further increase going forward, so there is a high probability that this type of accident will increase. Amid this situation, while there are rising expectations regarding safe driving support vehicles, which compensate for the decline in physical functions and so on among elderly drivers, it seems that it will take some time for vehicles equipped with such support functions to become widespread.

With a focus on pedal misapplication accidents among elderly drivers, this study analyzes locations and driving behaviors that have a high risk of accident occurrence, and accidents that have actually occurred, and makes recommendations regarding measures for the prevention of accidents in accordance with the characteristics of pedal misapplication accidents.

1. Background and goals

In the past 10 years, around 5,000 to 7,000 pedal misapplication accidents have occurred, accounting for about 1% of all accidents, and as such, this is not a particularly common type of accident. While the total number of operating error accidents has been decreasing year to year accompanying a decreasing trend for all accidents, detailed analysis of the sub-classifications of "operating error accidents" reveals that the number of "pedal misapplication accidents" alone has remained at the same level. Figure 1 is a graph showing the rates ^{Note 2)} of different "operating error accidents" among all accidents in which the primary party ^{Note 1)} (hereinafter "primary party") is a four-wheel vehicle, excluding special vehicles and mini cars (hereinafter "four-wheel vehicle"), by age group, based on accident data from 2012 through 2016. Looking at the rate of pedal misapplication accidents, there appears to be a characteristic in which the rate is higher for the younger group (age 24 and under) than for the middle group, and among elderly drivers age 65 and over, the rate is particularly high for elderly drivers age 75 and over. This trend has not changed over the past 10 years, and thus it seems that the effects of aging are causing a decline in driving abilities, which is making "pedal misapplication" a characteristic type of accident for elderly drivers. Elderly persons age 65 and over with a driver's license for a four-wheel vehicle, who are at high risk for causing pedal misapplication accidents, are expected to increase going forward, so accident prevention measures targeting elderly drivers have become an important issue.

In this study, analysis has been carried out regarding the actual conditions of pedal misapplication accidents and the actual conditions of vehicles involved in pedal misapplication accidents, with the objectives of obtaining materials for consideration regarding measures against pedal misapplication accidents among elderly drivers, and helping to popularize safe driving support vehicles that support the driver with vehicle functions.

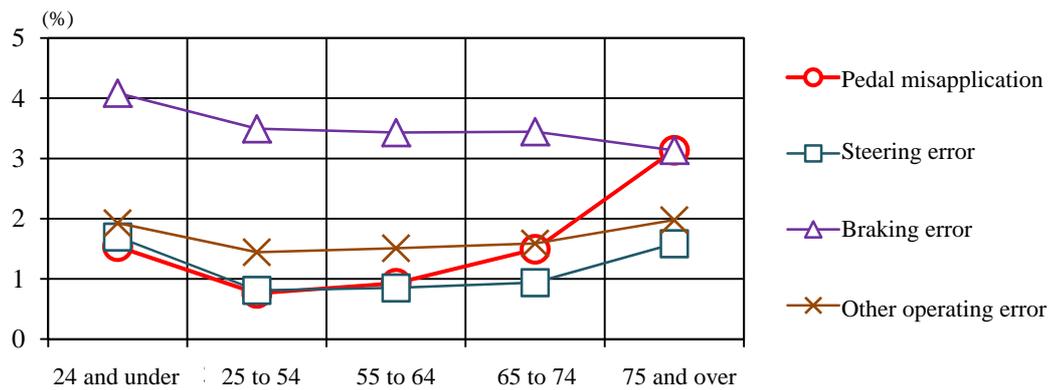


Figure 1. Rate of operating error accidents for the primary party driving a four-wheel vehicle by age group (2012 - 2016)

Note 1) “Primary party” refers to the party with the greatest degree of fault out of the parties involved in a traffic accident. In cases where the parties are at equal fault, it refers to the person who suffered the least amount of personal harm.

Note 2) Rate of accidents = Number of accidents by type of operating error accidents ÷ Total number of accidents

2. Data targeted for analysis (macrodata)

This study divided the age group of elderly people age 65 and over at 75 to create the classifications of “early-stage elderly” for those between the ages of 65 and 74, “later-stage elderly” for those of age 75 and over, and “non-elderly” for those of age 64 and under. Targeting these three age groups, analysis was carried out focusing on aging in relation to pedal misapplication accidents.

- By age group: non-elderly (age 64 and under), early-stage elderly (age 65 to 74), later-stage elderly (age 75 and over)
- Aggregation years: present (five years of 2012 through 2016), past (five years of 2002 through 2006)
- Number of accidents: total number of accidents in which the primary party is a four-wheel vehicle (excluding special vehicles and mini cars)
- Rate of accidents: number of pedal misapplication accidents ÷ total number of accidents × 100

3. Actual status of pedal misapplication accidents

(1) Comparison of the locations where accidents occur (number of accidents)

This section looks at the types of locations where many pedal misapplication accidents are occurring relative to the total number of accidents. Figure 2 is a graph showing the total number of accidents in which the primary party is a four-wheel vehicle by age group and by road configuration, based on present and past accident data. Among all age groups and for both present and past, the total number of accidents that were targeted for comparison was high for “intersections,” and “uninterrupted road sections,” and these appear to account for the majority of the accidents. Meanwhile, Figure 3, which is a graph replacing “total number of accidents” with “pedal misapplication accidents,” shows that among all age groups, the number of pedal misapplication accidents is the largest for “uninterrupted road sections.” Also, in the elderly people groups, there appear to be large numbers of accidents in general traffic locations (parking lots and similar locations),^{Note 3)} such as the store parking lots and coin parking areas, and this has the highest rate of increase among the road configurations.

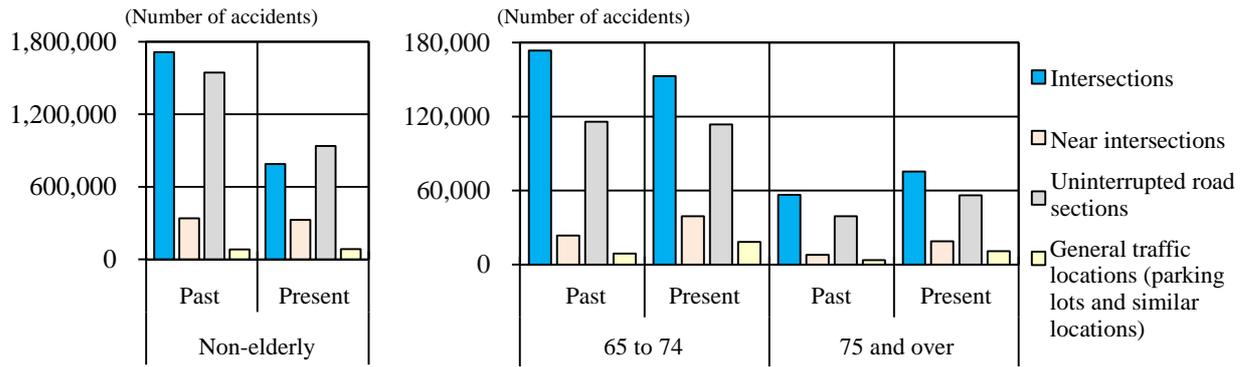


Figure 2. Total number of accidents for the primary party driving a four-wheel vehicle by age group and by road configuration (Past: 2002 - 2006, Present: 2012 - 2016)

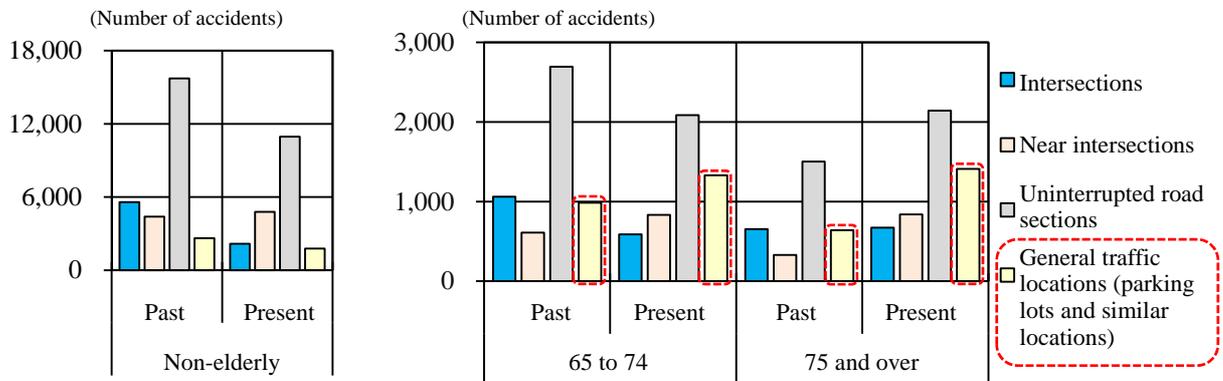


Figure 3. Number of pedal misapplication accidents for the primary party driving a four-wheel vehicle by age group and by road configuration (Past: 2002 - 2006, Present: 2012 - 2016)

Note 3) “General traffic locations (parking lots and similar locations)” include the service areas along expressways and the like, store parking lots, coin parking areas, and so forth.

(2) Comparison of the locations where accidents occur (rate of accidents)

This section looks at the road configurations where pedal misapplication accidents tend to occur based on the rate of accidents, which is derived from the number of accidents mentioned above. Figure 4 is a graph showing the rates of pedal misapplication accidents among all accidents in which the primary party is a four-wheel vehicle by age group and by road configuration. Looking at the rate of accidents by road configuration, in the elderly people groups, the rates of “general traffic locations (parking lots and similar locations)” are high relative to other road configurations, and this appears to have remained unchanged for the past 10 years. This trend is particularly strong among elderly drivers age 75 and over, and there is a similar trend among non-elderly people regarding which the rate is lower. As such, it seems that among all of the age groups, “general traffic locations (parking lots and similar locations)” are a place where there is a high risk of pedal misapplication accidents occurring. This means that locations used by general traffic other than public roads, consisting of parking lots

and similar locations, are the road environments where effects on driving operations appear the most. Meanwhile, among all of the age groups, the rates for “intersections” and “near intersections,” as well as “uninterrupted road sections,” which had the largest numbers of accidents, are low relative to general traffic locations (parking lots and similar locations).

In the analysis from this point, the target will be narrowed to general traffic locations (hereinafter “parking lots and similar locations”), which tend to have a high accident risk for elderly drivers, and the characteristics of pedal misapplication accidents, which tend to occur at parking lots and similar locations, will be observed.

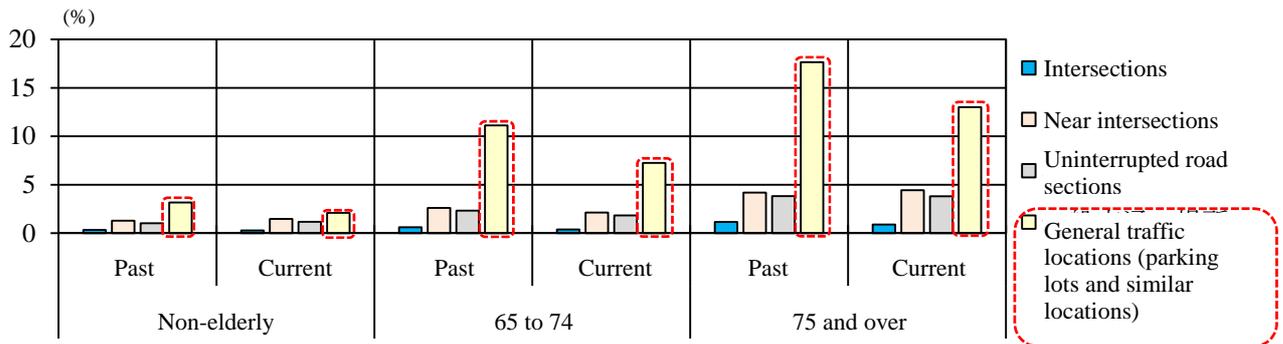


Figure 4. Rate of pedal misapplication accidents for the primary party driving a four-wheel vehicle by age group and road configuration (Past: 2002 - 2006; Present: 2012 - 2016)

4. Characteristics of accidents that occur in parking lots and similar locations

(1) Typical accident patterns

Table 1 shows the relationship between driving behaviors and the presumed typical patterns that tend to cause pedal misapplication accidents, based on articles reported in newspapers and the like covering pedal misapplication accidents that actually occurred in parking lots and similar locations, and in-depth case-studies possessed by the Institute for Traffic Accident Research and Data Analysis (hereinafter “microdata”). The effects of aging shown in the right-hand side of Table 1 show selected items that are thought to affect driving as a result of general age-induced decline. In regard to the typical patterns thought to potentially cause pedal misapplication accidents, there are multiple points of overlap for elderly drivers between the “Effects of aging” and the “Presumed causes of pedal misapplication,” that tend to lead to pedal misapplications. As a result, these have an effect on driving and increase the possibility of operating errors occurring, and therefore presumably magnify the possibility that pedal misapplications will occur.

Table 1. Patterns of typical pedal misapplication accidents that occur in parking lots and similar locations

Driving behaviors	Typical patterns	Presumed causes of pedal misapplication	Effects of aging
Starting up	<ul style="list-style-type: none"> Moving the vehicle for forward parking Adjusting position while parking Starting up from a parking spot 	<ul style="list-style-type: none"> Increased frequency of switching between pedals (increased number of sharp turns) Sudden starting up 	<ul style="list-style-type: none"> Decline in visual function Decline in attentiveness and concentration Delayed and erroneous information processing
Moving straight	<ul style="list-style-type: none"> Heading towards a parking spot Heading towards the parking lot's entrance/exit 	<ul style="list-style-type: none"> Increase in number of times speed is adjusted (increased use of brakes) Failing to pay attention when driving (sudden pedal application due to distracted driving, etc.) 	<ul style="list-style-type: none"> Body not moving as intended (delayed and imprecise operations) Decline in physical flexibility (joints stiffen and range of motion becomes more constricted)
Reversing	<ul style="list-style-type: none"> Reversing in order to park the car Starting up in reverse out of a parking space 	<ul style="list-style-type: none"> Turning one's body around to look backwards Increased frequency of switching between pedals (increased number of sharp turns) Sudden reversing 	

Patterns of accident occurrence

Effects on driving operations

(2) Comparison by type of movement

(i) Composition rate by type of movement

This section looks at the types of driving behavior the driver was engaged in when pedal misapplication accidents occurred in parking lots and similar locations, relative to all accidents. Figure 5 compares the composition rates of all accidents and pedal misapplication accidents in which a four-wheel vehicle is the primary party that occurred in parking lots and similar locations by age group and by type of movement, based on current accident data. Looking at the composition rate of all accidents targeted for comparison shown in the left graph, it is possible to see that in all age groups, the composition rate of “reversing” accounts for about half of accidents overall. Meanwhile, the composition rate of pedal misapplication accidents shown in the right graph indicates that in all age groups, the composition rate of “reversing” is low, relative to all accidents. As for pedal misapplication accidents, it is possible to see that in all age groups, “moving straight” had the highest composition rate, and “starting up” also had a high composition rate, relative to all accidents.

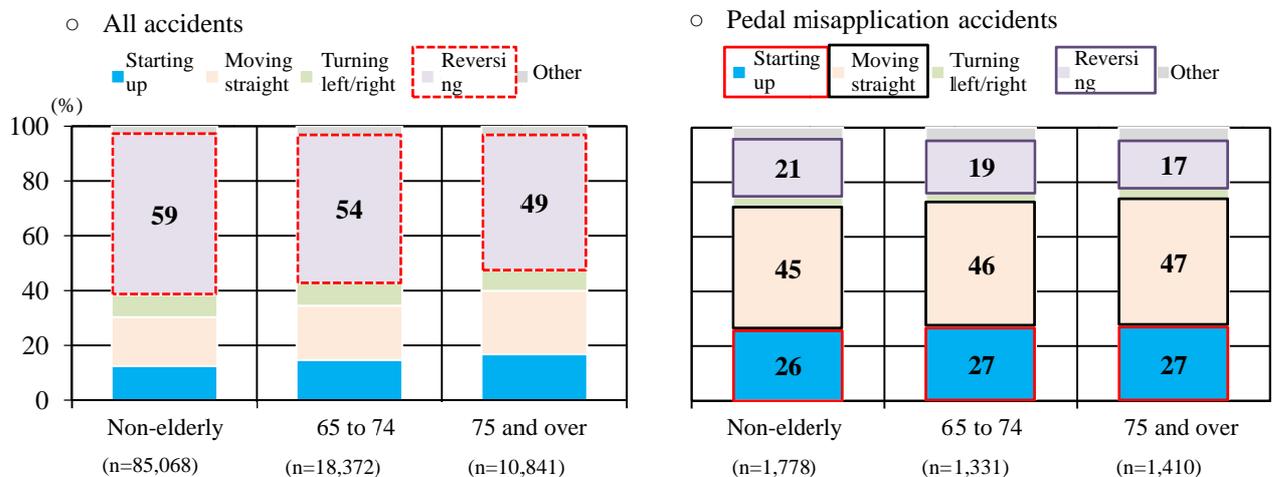


Figure 5. Composition rate of accidents for the primary party by age group and by type of movement in parking lots and similar locations (2012 - 2016)

(ii) Rate of accidents by type of movement

Figure 6 shows the above-mentioned accident data related to driving behaviors that have a high risk of causing pedal misapplication accidents, as rates of pedal misapplication accidents among all accidents, by age group and by type of movement. As for the rates of pedal misapplication accidents, it can be seen that in all age groups, the rates are high for when “starting up”^{Note 4)} and “moving straight”^{Note 5)}. The rates become particularly high as age increases, and thus it is clear that the risk of accident occurrence gets higher with age. Meanwhile, in all the age groups, the rates for when “turning left/right” and “reversing” were low, relative to when “starting up” and “moving straight” ahead.

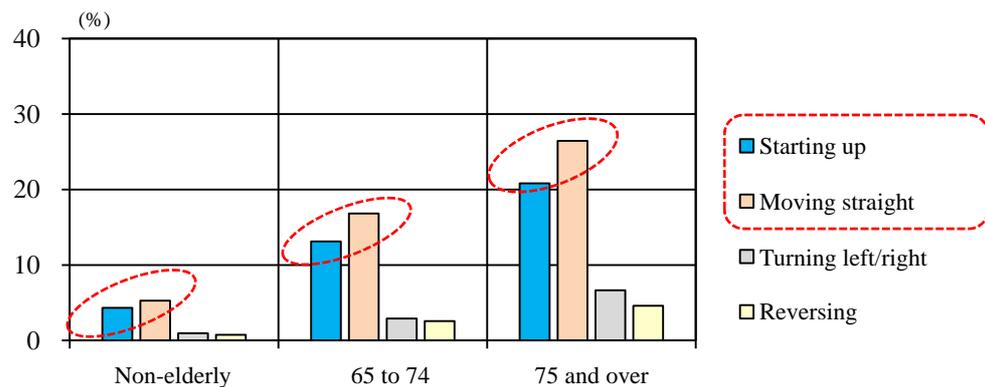


Figure 6. Rate of pedal misapplication accidents for the primary party driving a four-wheel vehicle by age group and by type of movement in parking lots and similar locations (2012 - 2016)

Note 4) “Starting up” refers to when a vehicle that had been stopped begins moving forward (the interval until the driver has traveled out of the blind spot range; with medium-sized passenger cars, this covers up until they have traveled about five or six meters).

Note 5) “Moving straight” refers to when a driver is driving almost completely straight ahead along a roadway without changing lanes or turning (total value from accelerating, maintaining a constant speed, and decelerating).

Note 6) Other types of movement were excluded from the comparison because they feature a small number of accidents with no detectable significant difference.

(3) Comparison by type of accident, when “starting up/moving straight”

This section looks at the types of accidents actually occurring as the result of the driving behaviors of when “starting up/moving straight” that have a high risk of causing pedal misapplication accidents in parking lots and similar locations. Figure 7 is a graph targeting accidents when “starting up/moving straight” in parking lots and similar locations, and compares the composition rates of all accidents and pedal misapplication accidents in which a four-wheel vehicle is the primary party by age group and by type of accident. Looking at the composition rates of all accidents targeted for comparison shown in the left graph, it is possible to see that in all age groups, the composition rate of vehicle-vehicle accidents is high and accounts for half of the accidents overall. It is clear that in all age groups, the composition rate of pedestrian-vehicle accidents also tended to be high. Meanwhile, as for the composition rates of pedal misapplication accidents shown in the right graph, it can be seen that relative to all accidents, in all age groups, the composition rate of vehicle-vehicle accidents is low,

and in the elderly people groups, the composition rates of single vehicle accidents and collisions with roadside structures (collisions with houses, walls, and so on) are particularly high. As for pedestrian-vehicle accidents, in all age groups, the composition rate is low, relative to all accidents.

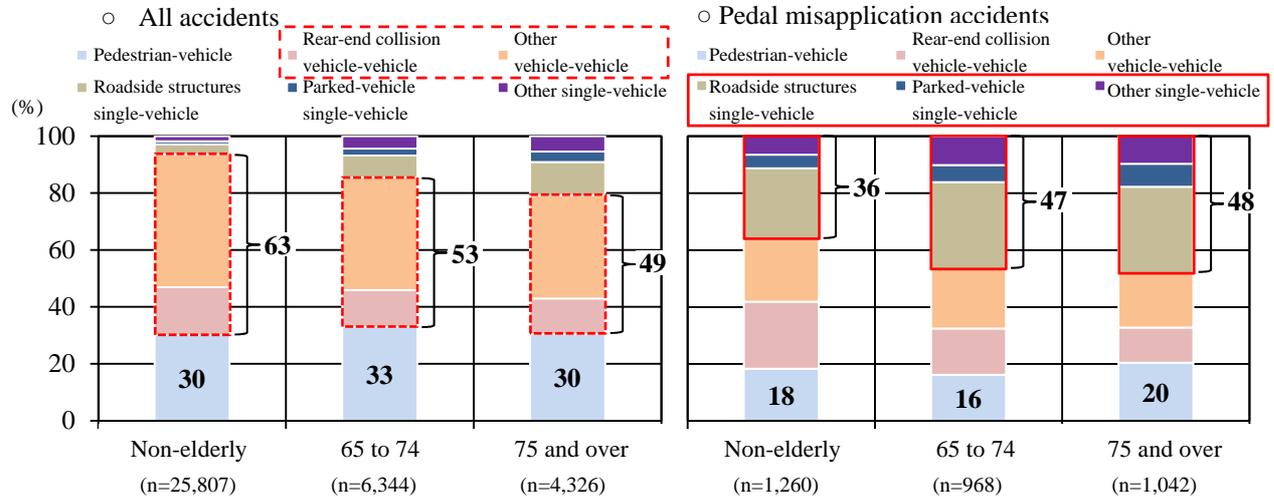


Figure 7. Composition rate of pedal misapplication accidents by type of accident when starting up / moving straight in parking lots and similar locations by age group of the primary party driving a four-wheel vehicle (2012 - 2016)

(4) Pattern diagrams of typical accidents when starting up

Referring to the patterns of typical accidents shown in Table 1, this section looks at the hypothetical cases involving collisions with roadside structures as the presumed accident pattern regarding the driving behavior of when “starting up/moving straight,” and shows these in diagrams. Figures 8 and 9 show diagrams of two patterns from among the four patterns of presumed pedal misapplications when starting up:

- When starting up in order to adjust the vehicle’s position during parking (see Figure 8. When starting up [1])
 - When starting up from a parking space
 - When moving the vehicle for forward parking
- When moving the vehicle for forward parking after the vehicle’s position has been adjusted (see Figure 9. When starting up [2])

In parking lots and similar locations, it is necessary to engage in driving behaviors within a limited amount of space, so it seems that factors such as the increased incidence of switching between the accelerator and brake pedals as a result of sharply turning the vehicle, as well as the tendency to suddenly start up and engage in inaccurate driving behavior due to aging, presumably lead to accidents.

• When starting up [1]

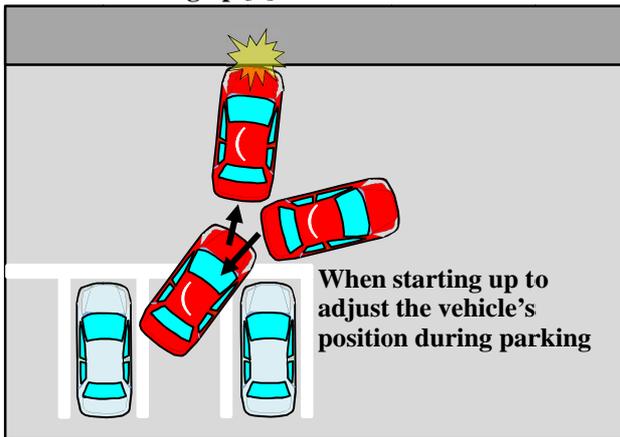


Figure 8. Typical accident pattern when starting up

• When starting up [2]

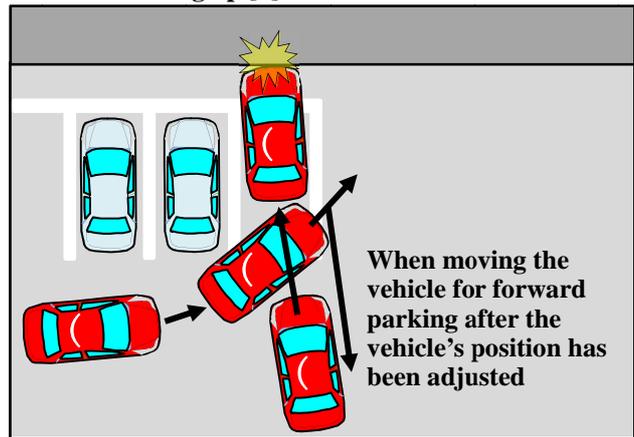


Figure 9. Typical accident pattern when starting up

(5) Pattern diagram of typical accidents when moving straight

Replacing the above with when “moving straight,” Figure 10 shows a diagram of the pattern of presumed pedal misapplication when moving straight:

- When heading towards a parking spot and when heading towards the parking lot's entrance/exit (see Figure 10. When moving straight)

When moving through parking lots, due to factors like the presence of pedestrians and other vehicles, as well as searching for parking spaces, drivers operate the brake pedal more to modulate their speed, and tend to suddenly step on the pedals as a result of their tendency towards distracted driving in which they are too attentive to pedestrians and the like. These and similar such conduct presumably lead to accidents.

It thus appears that at parking lots and similar locations, when engaging in the driving behaviors of “starting up” and “moving straight,” it is important to make an effort to drive paying sufficient attention to hazardous points that carry a risk of causing accidents.

• When moving straight

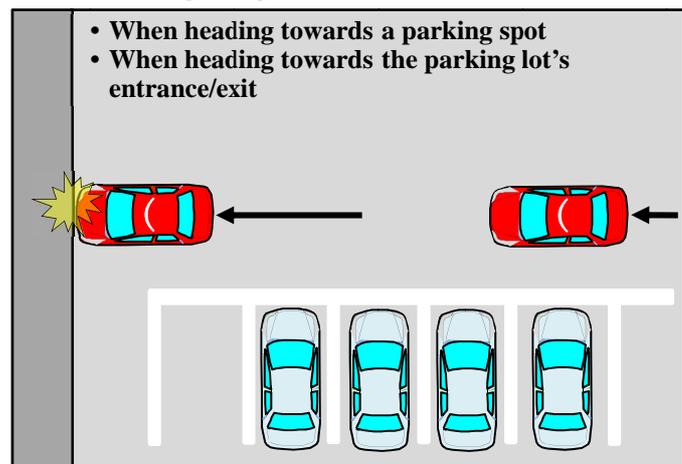


Figure 10. Typical accident pattern when moving straight

5. Actual status of accident vehicles

(1) Status of the spread of safe driving support vehicles

In recent years, preventing accidents with safe driving support vehicles that support the driver with vehicle functions has been garnering significant attention, and it is expected that the spread of such vehicles will have the effect of reducing accidents to some degree. Among the support functions of safe driving support vehicles, the status of the spread of vehicles equipped with an acceleration suppression device for pedal misapplication, which are considered to be effective for preventing pedal misapplication accidents ^{Note 7)} is introduced. Figure 11

is a graph showing the number of new vehicles and rate of new vehicles that are equipped with an acceleration suppression device for pedal misapplication based on materials of the “Survey on the Spread of ASV Technologies” issued by the Ministry of Land, Infrastructure, Transport and Tourism. The equipping of new vehicles with an acceleration suppression device for pedal misapplication started progressing in around 2012, and in 2015, the number of new vehicles equipped with such a device expanded to about 1.4 million (1,393,792), and these vehicles accounted for 31.6% of all new vehicles produced. The eight major automobile manufacturers in Japan have indicated that they expect to be able to equip almost all new vehicles with such a device by 2020, and currently such a trend is anticipated.

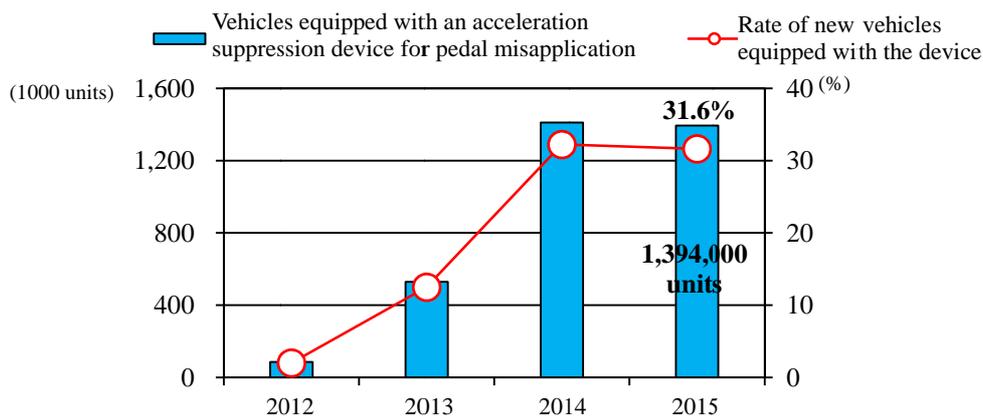


Figure 11. Status of the spread of vehicles equipped with an acceleration suppression device for pedal misapplication (2012 - 2015)

Note 7) Total number among vehicles produced for Japan (limited to medium-sized vehicles and small-sized vehicles)

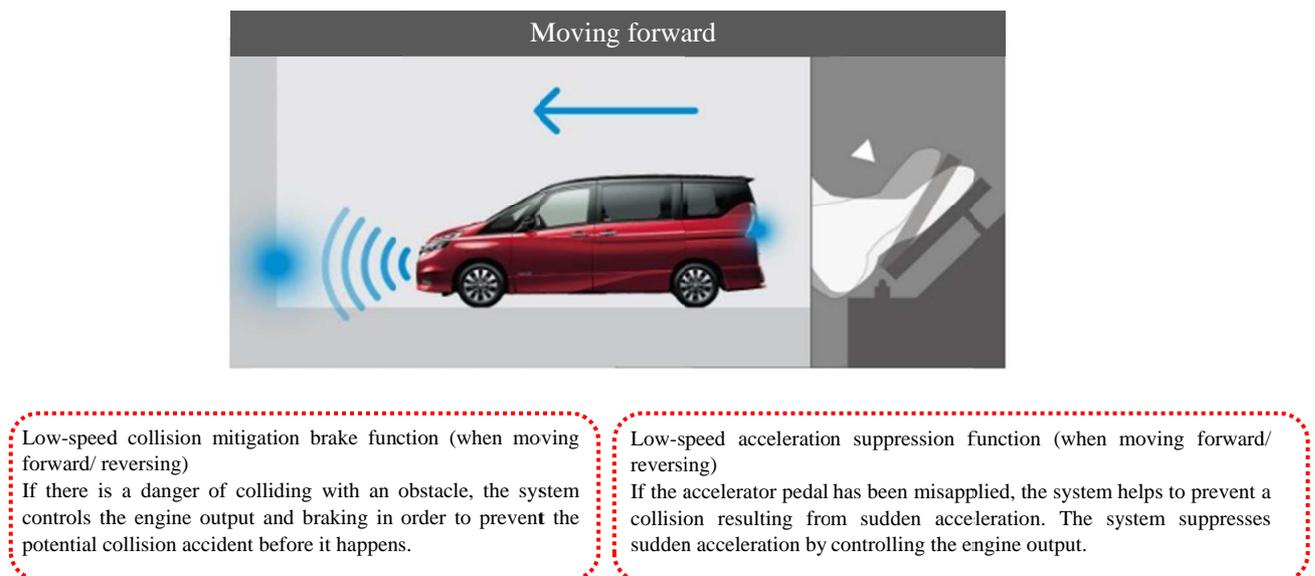


Figure 12. Example of vehicle equipped with an acceleration suppression device for pedal misapplication (from the website of Nissan Motor Co., Ltd.)

(2) Comparison of accident vehicles

Figure 11 showed the trend regarding the spread of new vehicles equipped with an acceleration suppression device for pedal misapplication. This section analyzes accident vehicles ^{Note 8)} that were actually involved in pedal misapplication accidents, and compares them with actual conditions. Figure 13 is a graph comparing the composition rates of the numbers of years elapsed since initial registration (hereinafter “vehicle age”) of vehicles in “all accidents” and “pedal misapplication accidents” in which the primary party vehicle is a medium-sized vehicle or small-sized vehicle, by age group, based on the accident data of 2016. An overall feature that can be seen in Figure 13 is the fact that in all age groups, the accident vehicle is often a vehicle with a high vehicle age, and the composition rate of vehicles regarding which 10 or more years have elapsed since initial registration is particularly high among elderly drivers age 75 and over, at about half. Comparing the composition rates of all accidents and pedal misapplication accidents, the vehicle age is not only high for accident vehicles involved in “pedal misapplication accidents,” and in all age groups, the composition rates do not appear to differ significantly relative to “all accidents.” This trend is not limited to the accident vehicles shown in Figure 13. The average vehicle age ^{Note 9)} of medium-sized vehicles and small-sized vehicles currently registered in the market has risen to 8 years and above, so it seems that relying on the trend of switching to vehicles equipped with an acceleration suppression device for pedal misapplication alone will not result in accident reduction effects.

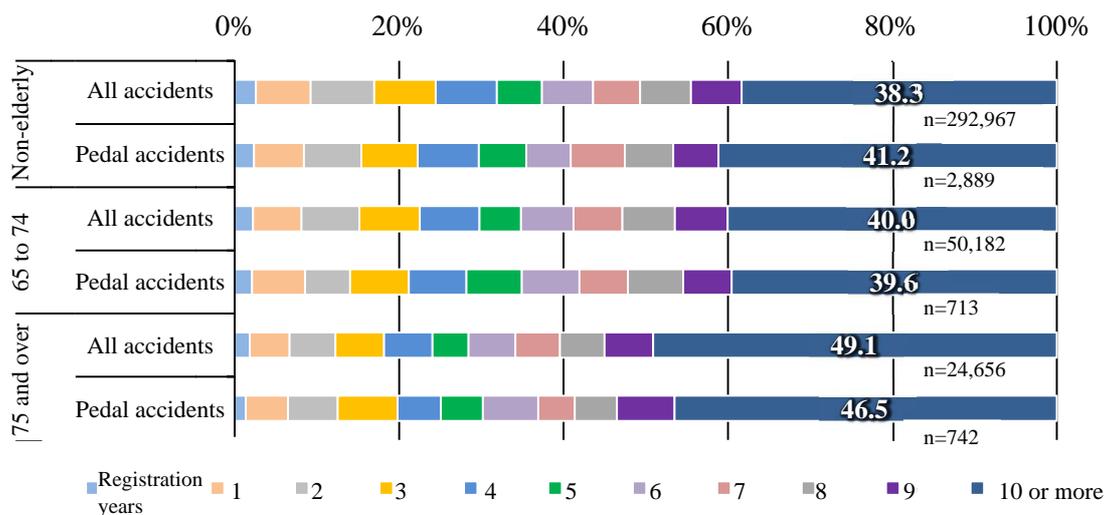


Figure 13. Composition rate of the vehicle age of accident vehicles for the primary party driving a medium-sized vehicle or small-sized vehicle by age group (2016)

Note 8) Accident vehicle = aggregated total number in accidents in which the primary party vehicle is a medium-sized vehicle or small-sized vehicle

Note 9) Average vehicle age of registered passenger car = average vehicle age extracted referring to “transition tables” of the Automobile Inspection & Registration Information Association and Light Motor Vehicle Inspection Organization

6. Human factors of pedal misapplication accidents

Figure 14 is a graph showing the types of situations in which operating errors tend to be made by human factors that affected driving operations through the use of data on drivers who engaged in improper driving (focusing on all ages) from the microdata possessed by the Institute for Traffic Accident Research and Data Analysis. Figure 14 indicates accidents by using pedal misapplication accidents, as well as accidents caused by operating errors such as steering error and braking error, for which there are a large number of accidents, as subjects for comparison.

Of the human factors for drivers, “getting flustered / panicking” is the most common factor for all the operating errors, and was common to all accidents caused by the three types of operating errors, suggesting that it has a pronounced effect on driving. When drivers perceive some sort of danger and take evasive action, they could conceivably get flustered or panic, which would lead to operating errors and result in accidents. It is crucial that driver attentiveness to things like confirming safety be enhanced to ensure that drivers do not encounter situations in which they may get flustered or panic, or get involved in situations where there is the risk of an accident occurring. In regard to pedal misapplication, the “old age-related factors” which was presented in the aforementioned analysis, is more common relative to the other operating errors, and thus this appears to be a characteristic of typical accidents by elderly drivers. Another characteristic is the prevalence of human factors that have an effect on driving in and of itself, such as being unfamiliar with a vehicle.

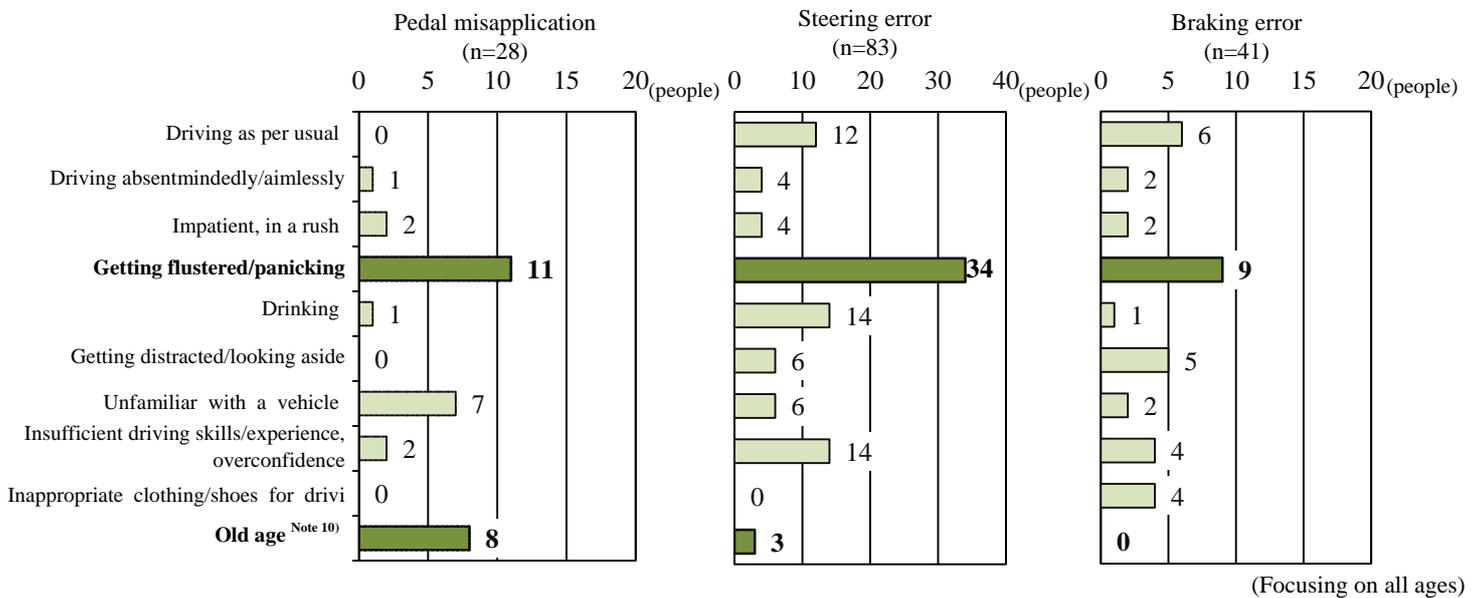


Figure 14. Human factors of drivers that caused operating error accidents (multiple responses accepted)

(Fig. 10 from Reference Literature 3 is altered)

Note 10) “Old age” here is used to mean cases where it has been determined that a person’s driving is impaired as a result of aging.

7. Introduction of a case example of pedal misapplication accident

This section introduces an example in which accelerator and brake pedal misapplication led to an accident when the driver was attempting forward parking at an off-street parking lot.

- Overview of accident

The accident in Figure 15 occurred between 11 a.m. and noon in January. Person A (woman in 70s, 21 years of driving experience, no fellow passengers, small-sized vehicle/automatic transmission vehicle) entered an off-street parking lot for the purpose of going to a restaurant, and at that time, just before she stopped the vehicle in order to park (A1), an accelerator pedal and brake pedal misapplication occurred. After the accident, Person A's vehicle started to run out of control, rushing out of the parking lot, etc., and it then collided with a tree on a sidewalk (A2), and stopped after crossing a road and colliding with a signpost (A3). Person A explained by saying, "I meant to apply the brake pedal and somehow ended up applying the accelerator pedal," and thus it is presumed that the cause of the accident was that her action did not match her intention. It appears that after Person A carried out the pedal misapplication, it was difficult for her to accurately correct her driving error, and she continued to apply the accelerator pedal causing the vehicle to run wildly. As a result of this accident, Person A sustained injuries such as a rib fracture and cervical vertebrae sprain.

- How to prevent pedal misapplication accidents

As for the direct cause of the accident in Figure 15, it seems that instead of applying the brake pedal and stopping the vehicle in order to park inside an off-street parking lot, Person A mistakenly applied the accelerator pedal in an ongoing manner, causing the vehicle to run wildly and making it impossible to carry out driving operations.

Upon considering effective driving-operation methods for preventing operating errors by drivers based on this example, it is thought that in the case of automatic transmission vehicles like Person A's vehicle, utilizing the vehicle's creep phenomenon ^{Note 11)} while placing a foot on the brake pedal prior to parking the vehicle and then keeping it there will lead to the prevention of accidents. It seems to be necessary to incorporate a driving method that has sufficient leeway, based on preparing early for the transition to the next stopping action, and starting this before the vehicle is in its final stopping position.

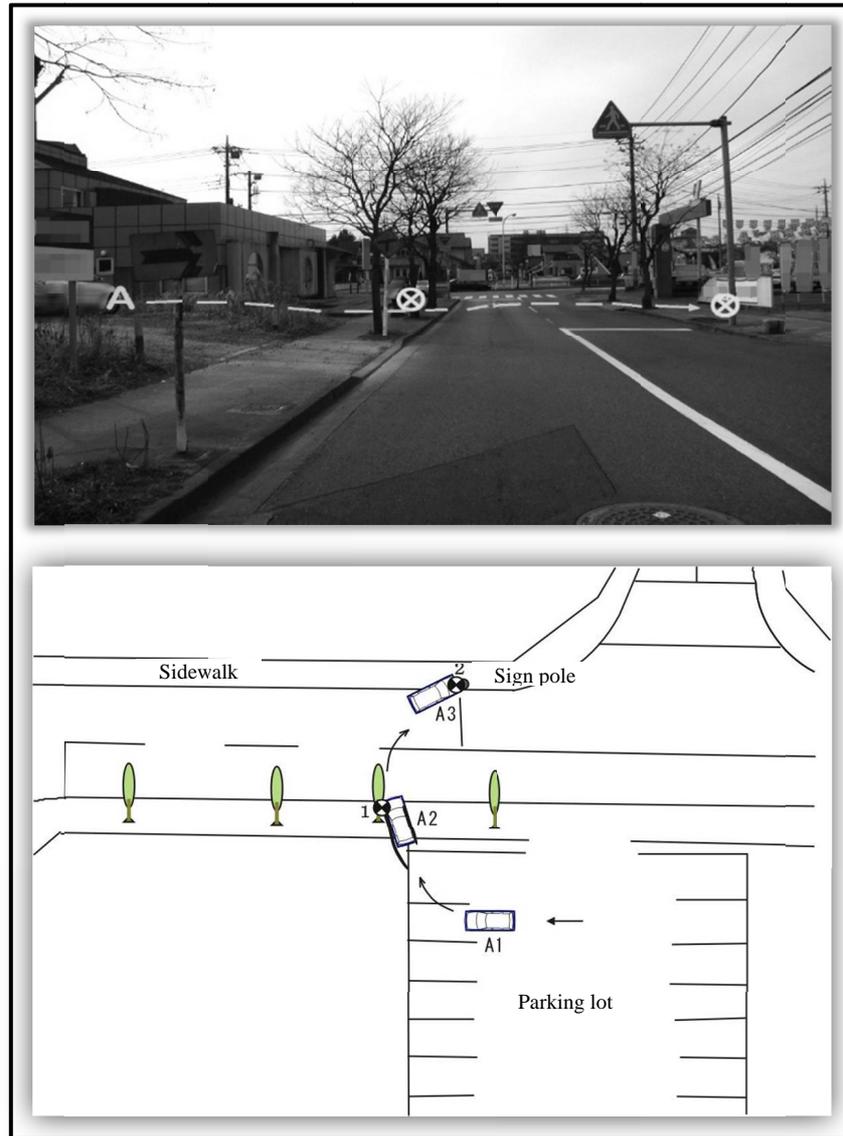
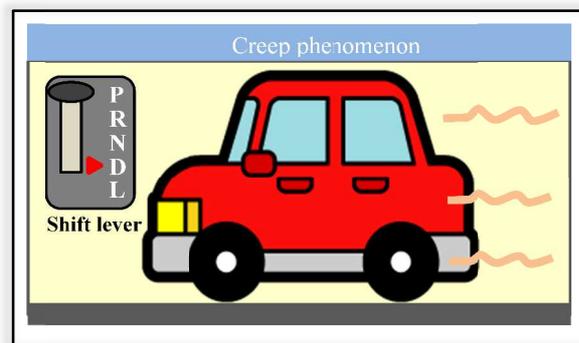


Figure 15. Case example of pedal misapplication accident that occurred inside a parking lot (sudden starting up)



Usage example 1) Conceivably effective in parking lots and similar locations where drivers frequently alternate between the brake and accelerator pedals

Usage example 2) Conceivably effective at preventing sudden start-ups

Note 11) The creep phenomenon refers to a phenomenon with automatic transmission vehicles whereby shifting the shift lever into drive (positions other than P (Park) and N (Neutral)) will cause the vehicle to move slowly even without pressing the accelerator pedal.

8. Conclusion

Based on the result of the analysis thus far, it appears that pedal misapplication accidents caused by elderly drivers have the following characteristics.

- The rate of accident occurrence in parking lots and similar locations, such as store parking lots and coin parking areas, is high.
- Among the driving behaviors carried out in parking lots and similar locations, the rate of accidents is high for when “starting up/moving straight,” and this rate increases with aging.
- Among the types of accidents when “starting up/moving straight” in parking lots and similar locations, “collision with roadside structures” has a high composition rate.
- As for the human factors of pedal misapplication, “old age” and “getting flustered/panicking” are common.
- In regard to the vehicle age of accident vehicles, vehicles regarding which 10 year or more years have elapsed since initial registration have a high composition rate, and this is true of many accident vehicles, and not just vehicles involved in pedal misapplication accidents.

Based on the results of the analysis on this occasion, the following measures for the prevention of pedal misapplication accidents among elderly drivers are recommended.

(1) Measures on the vehicle side

While safe driving support vehicles are increasingly spreading among new vehicles, there is a trend in which the vehicle age is increasing for many vehicles operating in the market, and this is not limited to accident vehicles. In the case of elderly drivers, considering the number of years and frequency of use of vehicles going forward, it seems that hopes cannot be placed on people switching to new vehicles that are equipped with support functions, and it will take some time before elderly drivers experience the effects of safe driving support vehicles. In order to accelerate the spread of such vehicles, it seems that expanding “support car subsidy systems” would be an effective policy, since in recent years, these systems have been spreading among some local governments as an initiative for promoting switching to safe driving support vehicles. In regard to vehicles operating in the market as well, the development of safety devices that can be retrofitted on vehicles is strongly hoped for, and there are high expectations regarding the potential for the further development of safe driving support vehicles.

(2) Measures on the elderly-driver side

While there are hopes for the increased dissemination of safe driving support vehicles, based on the trend regarding the vehicle age of accident vehicles and so on, it seems that in parallel with such dissemination, the enhancement and development of safety education and the like for elderly drivers will be an important issue going forward.

(i) Utilization of the creep phenomenon

In the case of driving in parking lots and similar locations that was targeted in the analysis on this occasion, driving is generally in the low speed range within a limited space. It is believed in the case of automatic transmission vehicles, both when starting up and when moving straight, it would be effective to incorporate driving utilizing the vehicle’s creep phenomenon while keeping a foot on the brake pedal, as much as possible according to the situation.

(ii) Caution regarding pedestrians and vehicles emerging from unexpected places

In the case of driving in parking lots and similar locations, there are many blind spots, and pedestrians and vehicles can emerge from unexpected places, so it seems that there is a higher probability of drivers getting flustered due to such sudden occurrences and engaging in pedal misapplication. In order to prevent getting flustered/panicking, it is necessary for drivers to grasp the surrounding conditions, stay highly alert, and make an effort to respond calmly even if there is unexpected occurrence.

(iii) Double checking driving operations

It seems that in the case of elderly drivers, due to a decline in physical functions and flexibility of the body, sometimes the body does not move as expected and unintended operation errors can end up occurring. It is important for drivers to use a seat position that personally fits them, and to use a correct driving posture that is unstrained with regard to driving operations. It seems that in the case of elderly drivers, it is necessary to maintain safety awareness for carrying out reliable and accurate driving, and this should include checking whether one personally has a tendency to make driving errors, confirming the position of the foot that applies pedals, and so on.

(iv) Concentrate on driving

An effort should be made to always maintain a driving style with a sense of leeway, and it is important to never simultaneously perform tasks such as operating a car navigation system during driving, thoroughly create an environment that enables concentration on driving, and work hard to avoid engaging in pedal misapplication.

(3) Response on the side of the government

In safety education for elderly drivers, typical accident patterns in which pedal misapplication tends to occur should be incorporated as practical driving training, and an effort should be made to provide education on specific methods for safe driving, while presenting scenarios that require caution during driving by utilizing driving simulators, etc.

Dashboard camera footage is believed to be effective for teaching drivers about the actual conditions of accidents, and utilizing this in education for strengthening the safety awareness of drivers is desirable. It seems that utilizing handbooks and leaflets compiling key points related to the occurrence of pedal misapplication accidents is also needed as a way to provide drivers with information that promotes awareness.

Reference literature

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