Human Factors in Transportation Safety:

Road passenger and freight transport driver as an example

Professional Qualification Authority of Ministry of Transport of PRC
Occupation Qualifications Related to Transportation Safety

Road Transportation
- road passenger transport drivers
- road freight transport drivers
- road danger cargo transport professionals
- motor vehicle repair technicians
- driving coaches

Water Transportation
- mariner
- water danger cargo transport professionals
- sea service maintenance personnel
- tally personnel
- lifting handling machinery operators

Transportation Construction
- civil engineers (ort and waterway engineering)
- civil engineers (road engineering)
- supervising engineer
- engineering test personnel
Main Content

1. Basic Information of road passenger and freight transport drivers and safety
2. Analysis of the factors of road passenger and freight transport drivers in road transport safety
3. Measures for road transport safety management from the perspective of occupation qualification
4. Proposal for cooperation in occupation qualification in road transport safety
1. Total number of road passenger and freight transport drivers

- Road passenger transport drivers: 205 thousand
- Road freight transport drivers: 1739 thousand
2. Road transport accidents

**Accidents**
- Commercial vehicle 27.40%
- on Commercial vehicle 72.60%

**Deaths**
- Commercial vehicle 37.80%
- non Commercial vehicle 62.20%
3. Road accidents caused by violation of rules and regulations

Accidents

- Violation of rules and regulations: 96.60%
- Other: 3.40%
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Analysis of the factors of road transport drivers in road transport safety

Transport safety is closely related to...

- Basic qualities
- Professional skills
- Physical and psychological states
2.1 Basic qualities

- great sense of responsibility for the public
- a strong sensibility of safety
- basic knowledge of driving vehicles
- strictly abide by the road traffic laws
2.2 Professional skills

The bus driver made a wrong reaction, turning left drastically, and the bus crossed the road and dashed into a pond on the left side of the road, resulting in the deaths of 12 people and 23 injuries.

- are not able to identify the dangerous sources timely
- lack of the ability to take effective measures in time of emergency
Traffic accident is related to driver's age and physiology.

Traffic accident is related to driver's psychology

The driver, with luck mentality, illegally crossed the ramp diversion line into the second lane. At this moment, a bus was driving through, and the fatigue bus driver did not take any braking measures. The truck collided into the rear end of the bus, causing a fire, and resulting in 36 deaths, 3 injuries.
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Measures for road transport safety management from the perspective of occupation qualification

Heinrich Hertz
3.1 Take the qualification examination as a grasper, ensure the basic quality of driver

- examination standard system
- operation system
- system of exam quality assurance
- Information system
revised the qualification examination syllabus, published books for exam preparation, making question repertoire
Management norms for road transport qualification examination

Exam Information System

Examination registration

PQA Website
Provided computer examination system

Exam Interface

Exam Room
3.2 To strengthen the defensive driving training and examination

have not formed the awareness and skills of safety when driving under complex conditions.

Some of the road passenger and freight transport drivers even have no fundamental safety awareness and skills.
Examination system based on the virtual scene of 3D technology which includes risk source recognition test module. The test module requires drivers to identify dangerous sources timely and accurately under various driving conditions and provide solutions accordingly.
Continuous Education of Road Transport Drivers

Approaches of Continuous Education of Road Passenger and Freight Transport Drivers

Program for the Continuous Education

Textbook for the Continuous Education

continuous education information system
3.3 Explore and carry out the registration management

How to prevent the unsafe behaviors of people

- Self adjustment timely
- Force adjustment through regulations
- Registration management
- Force adjustment through technology
Occupation qualification play a role in promoting transportation safety

- **Exam**: Ensure the basic quality of driver
- **Registr**: Improving driver quality and safety awareness
- **Continuous education**: Dynamic management exit mechanism
- **Manage**:
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4 Proposal for cooperation in occupation qualification

- Commercial Vehicle Information Systems and Networks.
  - travel to the United States in the first half of 2014
  - managing road drivers relying on CVISN

- Safety emergency responsibility of drivers
  - Exam
  - train

- suitable for driving vehicles
  - research
  - practice
Thanks