

## Original Research Article

## Knowledge, Attitudes and Practices of Public Transport Drivers Regarding Ophthalmological Medical Examinations When Issuing Driving Licences on the RN 6 and RN 30 in Fana

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**Article History**

Received: 08.05.2023

Accepted: 17.06.2023

Published: 23.06.2023

**Journal homepage:**

<https://www.easpublisher.com>

**Quick Response Code**

**Abstract:** In good driving, 90% of the indications needed by the driver are provided by the eye, and 20% of those responsible for road traffic accidents have a visual impairment. The aim of this study was to investigate the knowledge, attitudes and practices of public transport drivers specifically on the RN 6 and 35 in Fana. The study was both quantitative and qualitative, and the data were collected from questionnaires covering socio-demographic information and the knowledge, attitudes and practices of the respondents. The data was entered and analysed using IBM SPSS Statistics version 25 software. **Results:** A total of 150 drivers were surveyed, of whom 59.3% (n=89) had not had an ophthalmological consultation when obtaining their driving licence and 78.2% (n=86) when renewing it. 36.1% (n=22) had not received any information on the result of the visual aptitude test and of the 22 drivers who had an opinion on the type of legal consequences, 45.5% (n=10) of those who had an idea of the legal consequences gave imprisonment as an example. 81.8% (n=18) of the unfit drivers were BCD licence holders, 49% of whom were minibus drivers compared with 53% of bus drivers at the time of the visual aptitude test. **Conclusion:** The results of this survey have shown us that there is a weakness in the application of the law concerning the medical examination required to obtain or renew a driving licence for public transport drivers.

**Keywords:** Survey ophthalmological consultation; public transport drivers; RN 6 and 30; Fana; Mali.

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## INTRODUCTION

Vision is an essential and indispensable sense for good driving, and 90% of the information a driver needs is provided by the eye (SNOF, 2022). Clearly, good vision is more than necessary for safe driving. In low- and middle-income countries, including Mali, the mortality rate attributable to road accidents is twice as high (21.5 and 19.5 per 100,000 inhabitants, respectively) as in high-income countries (10.3 per 100,000 inhabitants), and almost half of these victims are vulnerable road users (pedestrians, motorcyclists, cyclists) and public transport users (Protecting vulnerable road users from injury, 2010). It is estimated

that 20% of those responsible for road accidents have a visual impairment. (P., 1990).

Following the example of the European ophthalmology societies, the West African ophthalmology society recommended at its first congress (Abidjan, 1992): "to make an ophthalmological examination compulsory before issuing a driving licence for all categories". (West African Society, 1992). In Mali, an online newspaper wrote: << In the district of Bamako and certain regional capitals, however, obtaining a driving licence has become a business for some. Many drivers and users prefer to take shortcuts to obtain one, thereby trampling

underfoot the legislation. In other words, this process of issuing a driving licence is frequently used by business networks that work to violate the normal procedure in order to make a profit.>>. (Fomba, 2022) and the case of Mohamed, a young doctor:<< *Thanks to my older brother, I've had a driving licence for over two years. Over time, I've more or less perfected my driving and traffic management skills,>> and another young trainee public transport driver asserted:<< *In Mali, what's the point of wasting your time at a driving school to get your driving licence? You just have to learn to drive at home, in the street, through your colleagues, to get the basics right, and money can take care of the rest. >>**

As ophthalmological consultations are one of the examinations required to obtain and renew driving licences, we wanted to find out through a survey the knowledge, attitudes and practices of public transport drivers specifically on the RN 6 and 35 in Fana.

## METHODS

### Frame

The Fana health district straddles the RN6 and RN35 roads between Bamako, Ségou and Diola, 110 km from the capital Bamako, 110 km from Ségou and 45 km from Dioila respectively. The District has a Reference Health Centre (CSRéf) with a secondary ophthalmology centre. This unit has the following staff: an ophthalmologist, an ophthalmology medical assistant and a health technician. The infrastructure is fully equipped, with a consultation room, a room for treatment, anaesthesia and storage of consumables, and a fully-equipped operating theatre.

### Type and period

This was a cap (Knowledge, Attitudes and Practices) survey of public transport drivers which took place from 01 June 2017 to 31 May 2018, i.e. over a period of 12 months.

### Population

The survey covered public transport drivers on Route Nationale 6 (RN 6) and RN 35 on the Bamako-Ségou and Fana-Dioila sections respectively.

### Inclusion criteria: the study included;

- All public transport drivers on the RN 6 and RN 35;
- Be active during the study period

### Non-inclusion criteria

- Cases of refusal,
- Intra-city drivers

### Sampling

The sampling was exhaustive, including all drivers meeting the inclusion criteria.

### Data collection and processing

Data were collected on individual survey forms pre-tested using direct interviews. The data to be collected concerned socio-demographic information and the knowledge, attitudes and practices of the respondents regarding ophthalmological examinations when driving licences are issued or renewed. The data were entered and analysed using IBM SPSS Statistics version 25 software. Tables and graphs were drawn up using Word and Excel 2016.

### Ethical considerations

To carry out this study, the verbal agreement of the union leaders was requested and obtained. The drivers surveyed participated on a voluntary basis, after receiving information about the survey and its objectives. Consent was given verbally or in writing. Anonymity was respected and there were no physical risks for the respondents. The only inconvenience was the time taken to answer the questions.

## RESULTS

### Knowledge

**Table 1: Breakdown of cases by level of education**

Level of education	Workforce	Percentage (%)
Secondary	12	8
Primary	66	44
Literate	20	13,3
Non-literate	52	34,7
Total	150	100

44% (n=66) of the drivers had primary education and 34.7% (n=52) were non-literate



**Figure 1: Breakdown of cases according to ophthalmological consultation when the driving licence was issued** 59.3% (n=89) of the drivers surveyed had not had an ophthalmological consultation when they obtained their driving licence.

**Table 2: Breakdown of cases according to the information received on the result of the visual aptitude test for driving**

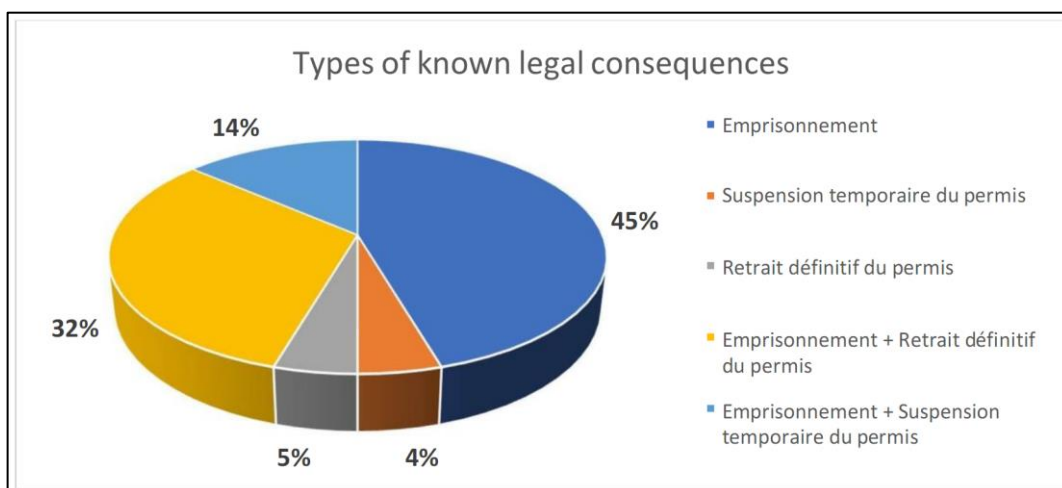
Information on visual aptitude	Workforce	Percentage (%)
Received	39	63,9
Not received	22	36,1
Total	61	100

Of the drivers who received an ophthalmological consultation when they obtained their driving licence, 36.1% (n=22) had not received any information on the result of their visual aptitude for driving after the ophthalmological consultation.

**Table 3: Distribution of cases according to their knowledge of the legal consequences in the event of a traffic accident linked to visual impairment**

Knowledge of the legal consequences in the event of a traffic accident linked to impaired vision	Workforce	Percentage (%)
Yes	22	14,7
No	128	85,3
<b>Total</b>	<b>150</b>	<b>100</b>

85.3% (n=128) of drivers were unaware of the legal consequences in the event of a traffic accident linked to impaired vision.



**Figure 2: Types of legal consequences experienced by drivers**

Of the 22 drivers who had an opinion on the type of legal consequences, 45.5% (n=10) of those who had an idea about legal consequences gave imprisonment as an example.

**Table 4: Breakdown of cases according to their opinion of the impact of effective enforcement on road safety**

Impact of the application of the law on road safety	Workforce	Percentage (%)
Positive impact	147	98
No impact	3	2
Total	150	100

98% (n=147) of drivers thought that effective enforcement of the law could have a positive impact on road safety.

**Practical information**

Carrying out ophthalmological consultations for the issue and renewal of driving licences.

**Table 5: Breakdown of cases according to whether an ophthalmological consultation was carried out when the driving licence was issued or renewed**

Ophthalmological consultation	Obtaining a licence		Licence renewal	
	Workforce	Percentage (%)	Workforce	Percentage (%)
Made	61	40,7	24	21,8
Not done	89	59,3	86	78,2
Total	150	100	110	100

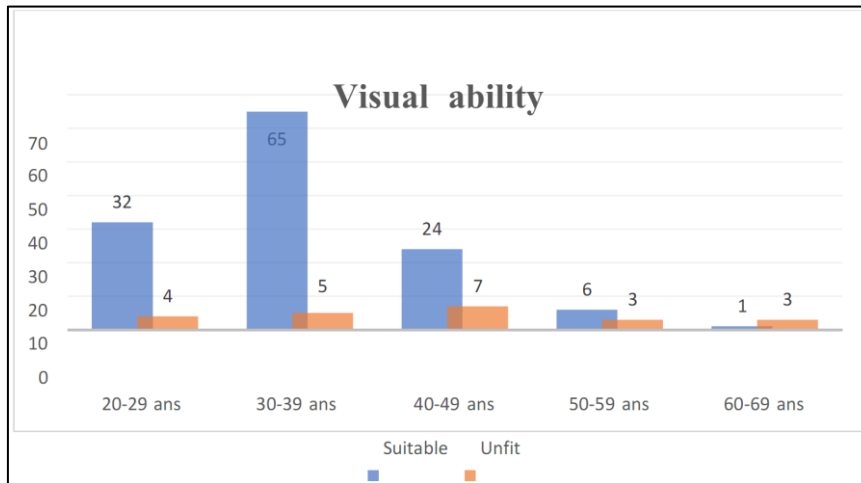
Of the 150 drivers surveyed, 59.3% (n=89) had not had an ophthalmological consultation when they obtained their driving licence, and 78.2% (n=86) of drivers who had renewed their licence had not had an ophthalmological consultation at the time of renewal.

**Table 6: Breakdown of cases according to licence renewal**

Licence renewal	Workforce	Percentage (%)
Completed	110	73,3
Not carried out	40	26,7
<b>Total</b>	<b>150</b>	<b>100</b>

73% (n=110) of the drivers surveyed had renewed their licence at least once.

**Ability**



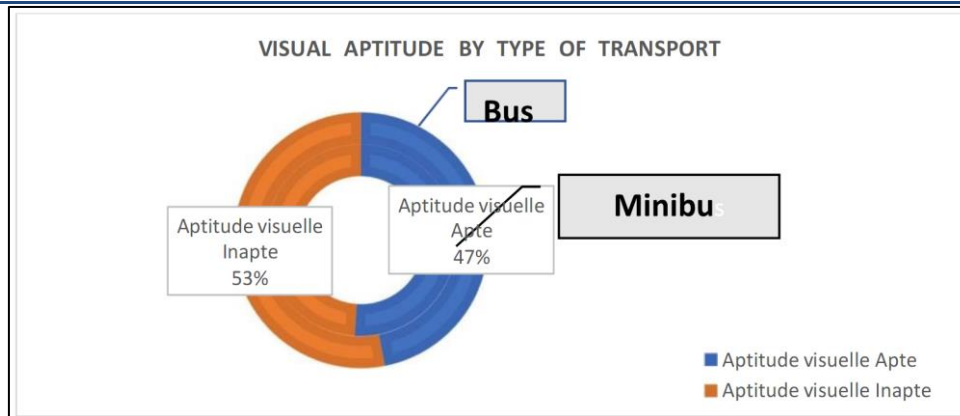
**Figure 3: Breakdown of drivers' visual ability by age group**

31.8% (n=7) of unfit drivers were in the 40-49 age bracket. 50.8% (n=65) of fit drivers (n=128) were in the 30-39 age bracket. Fisher's exact test=15.625 (P: 0.002).

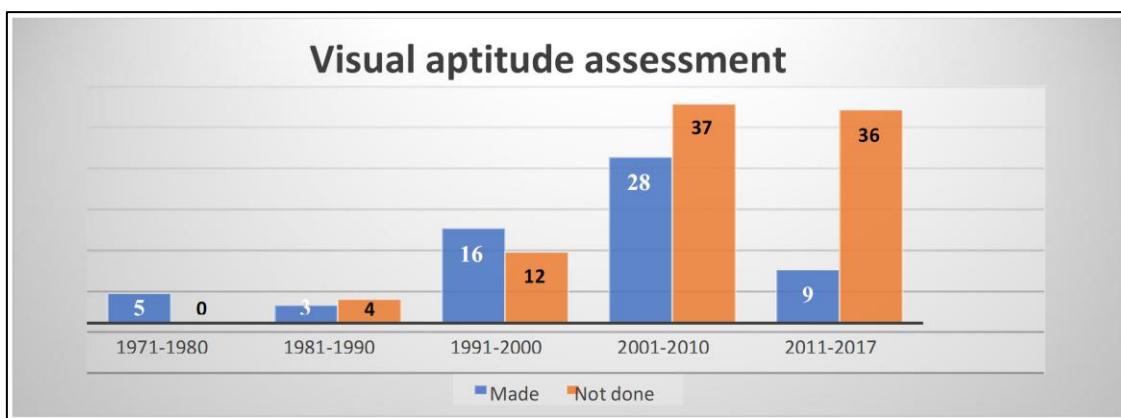
**Table 7: Breakdown of licence categories according to drivers' visual ability**

Licence category	Visual ability		Total
	Suitable	Unfit	
BC	19 (14,8%)	2 (9,1%)	21 (14%)
BCD	99 (77,3%)	18 (81,8%)	117 (78%)
BCDE	10 (7,8%)	2 (9,1%)	12 (8%)
<b>Total</b>	<b>128 (100%)</b>	<b>22 (100%)</b>	<b>150 (100%)</b>

81.8% (n=18) of unfit drivers were BCD licence holders. Fisher's exact test=0.522 (P: 0.840)



**Figure 4: Distribution of drivers of different types of public transport according to visual ability to drive a car** 49% of minibus drivers were unfit to drive, compared with 53% of bus drivers when tested for visual fitness.



**Figure 5: Breakdown of drivers according to ophthalmological assessment by year of licensing**

Of the drivers who obtained their licence between 2001 and 2010, 37 out of 65 had not undergone an ophthalmological consultation; between 2011 and 2017 this number was 36/46. However, between 1971 and 1980, all 5 drivers had undergone an ophthalmological examination to obtain their driving licence.

## DISCUSSION

Driving licences for categories C, D, E and F may only be issued on presentation of a favourable medical certificate issued by a medical commission set up under the conditions laid down by joint order of the Minister for Transport and the Minister for Health (Article 89 paragraph 3 of the Malian Highway Code). (Journal Officiel, 2000). However, the study showed that 59.3% (n=89) of drivers had not undergone an ophthalmological examination when their driving licence was issued; this high rate was nonetheless better than that of Souhail H et al in Gabon in 2012, who estimated that 98.4% of licence applicants had not undergone an ophthalmological examination. (Aptitude visuelle à la conduite automobile : exemple des candidats au permis de conduire à Libreville. , 2015).

These results show that screening tests when driving licences are issued are not carried out regularly. 40.7% (n=61) of drivers had received an ophthalmological consultation when they obtained their driving licence; 36.1% (n=22) of them had not received any information about the result of their visual aptitude to drive. Lack of information and guidance for a patient

who is a driver as to his visual aptitude to drive a vehicle could be very serious in terms of the law, given that doctors have a specific obligation to inform their patients and that it is up to them to prove that they have fulfilled this obligation in the event of a problem. (Centre d'études et de recherches, 2006).

This result could be explained by the doctors' lack of knowledge of the legislation (85.3% (n=128) of the drivers did not know the legal consequences. Category C and D driving licences may be renewed on presentation of a medical certificate within the following time limits (Article 90 paragraph 2 of Mali's highway code) (Journal Officiel, 2000) every five years for drivers aged under forty; every three years for drivers aged between forty-five and fifty-five and every year for drivers aged over fifty. However, 73.3% (n=110) of drivers (BCD and BCDE licence categories) had renewed their licence at least once, and 78.2% (n=86) had not had an ophthalmological consultation at the time of renewal.

## CONCLUSION

The results of this survey show that public transport drivers are reluctant to apply the law on the medical examination required to obtain or renew a driving licence. In order to reduce the incidence of road accidents in our country, those responsible and involved in regulation are called upon to be much more rigorous in issuing or renewing licences.

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**Cite This Article:** Momine Traoré, Sema Keita, Youssouf Samake, Sekou Malle, Solomane Traore, Boubacar Niare, Kassoum Diabate, Adama Diallo, Dramane Fomba, Ousmane Kone, Djibrilah Kanthe (2023). Knowledge, Attitudes and Practices of Public Transport Drivers Regarding Ophthalmological Medical Examinations When Issuing Driving Licences on the RN 6 and RN 30 in Fana. *East African Scholars J Med Sci*, 6(6), 290-295.

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