



**XXIVth World
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Training of professional and non professional drivers regarding safe behaviour in tunnels

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Contents

1. France (2005) First initiative to educate all users
2. PIARC (2008-2011) Report “Drivers education”
3. CETU (2009-2011) Training of professional drivers
4. Conclusions



1 – French initiative (2005)



Target audience:

- Publishers in charge of preparing educational materials
- Ministry of transports in charge of preparing theoretical test for the driving licence

ACTEURS Project

Improvement of awareness relating to Tunnels, Operators and Users for Improved Safety

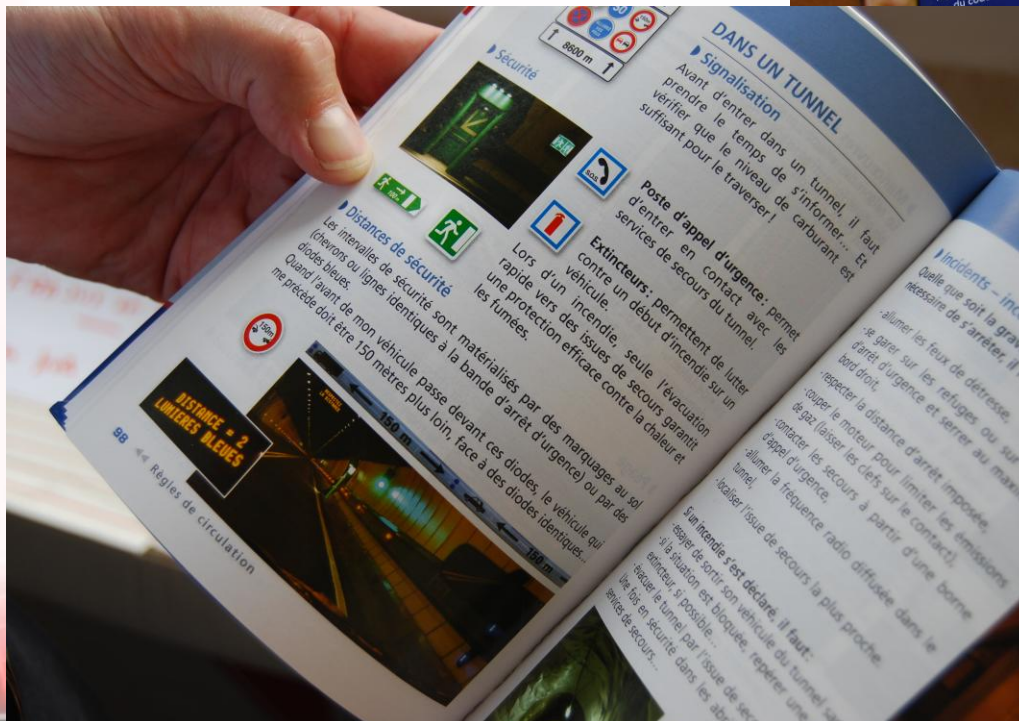
Job 2 D3.1: Tunnel user education

Preparatory note for the teaching sheets before the addition of questions concerning tunnels to the general theoretical test (ETG) for the driving licence



1 – French initiative (2005)

Since 2006 (all publishers):
one chapter dealing with
tunnels



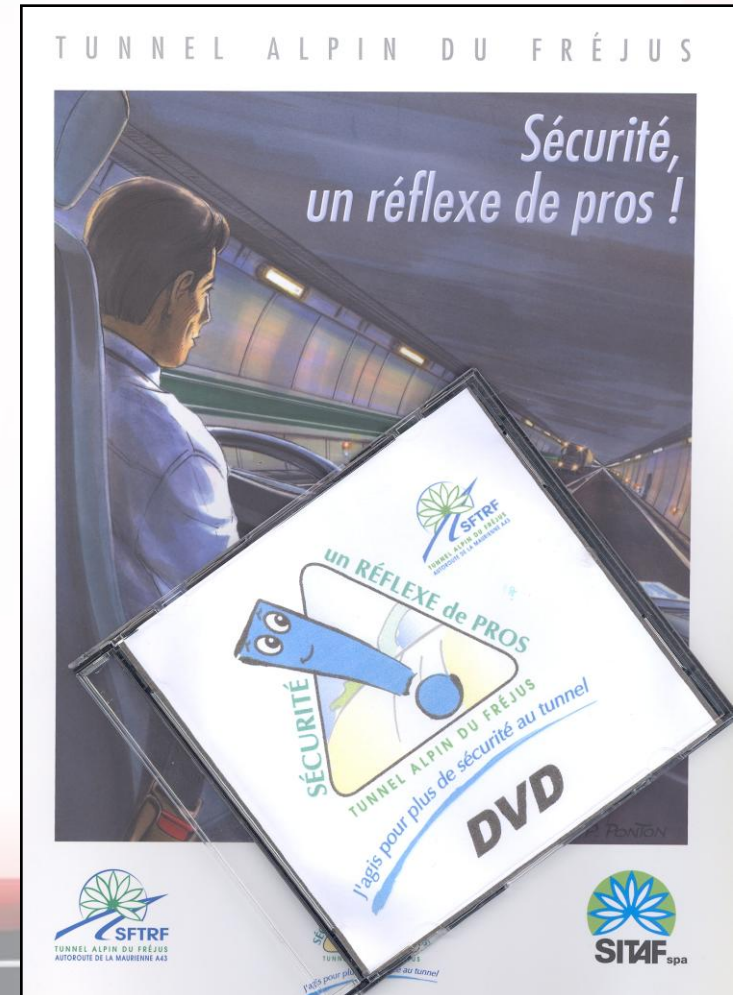
Safety facilities

Instructions regarding
adequate behaviour

1 – French initiative (2005)

Frejus tunnel and Mont Blanc tunnels :

“Safety a professional's reflex”



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2 – PIARC report “Drivers education”

- PIARC Technical Committee C4 Road Tunnel Operation
- Cycle 2008-2011
- WG no 3 “Human factors for tunnel safety”
- Title: “Recommendations regarding road tunnel drivers’ training and information”



2 – PIARC report “Drivers education”


- This report supplements the previous one “Human factors and road tunnel safety regarding users” (PIARC – 2008).
- Objective: to take advantage of lessons learnt from those works in order to reinforce the training and information measures addressing road tunnel users.
- Target audience: all parties involved in the organisation of training and information programmes (national organisations and agencies, driving schools, tunnel owners and tunnel operating bodies, consultants in the field of communication).
- Aim: to provide them with a basic knowledge that can help them to develop or improve their training and information media.

2 – PIARC report “Drivers education”

- Chapter 3: “what has to be taught to the drivers”?



2 – PIARC report “Drivers education”

WHAT THE INSTRUCTOR HAS TO KNOW	WHAT THE INSTRUCTOR HAS TO TEACH DRIVERS
TUNNEL CLOSURE SYSTEM	
<p>A tunnel closure system consists of traffic signals or flashing red lights and sometimes associated with barriers.</p> <p>These tunnel closure systems are usually placed at the entrance. Measures to stop traffic inside long tunnels could also be provided.</p> <p>These barriers may be operated automatically if there is an incident in the tunnel to:</p> <ul style="list-style-type: none">- Avoid double accidents- Limit the number of vehicles inside the tunnel in the event of a serious incident (e.g. fire)- Make access easier for the emergency services. <p>Any event liable to endanger user safety requires the barriers to be brought into use in order to limit the potential consequences. The simple fact of a vehicle being halted in a tunnel may give rise to such a closure.</p>	<p>It is very important that tunnel users understand that the tunnel closure equipment (barriers and signals) is only activated when it is absolutely necessary. Under these circumstances drivers should never ignore these instructions and should not attempt to drive around the barriers. There may be an incident in the tunnel that drivers at the portal cannot see such as a fire or a vehicle breakdown.</p>  <p>FIGURE 7. TUNNEL CLOSURE SYSTEM IMPLEMENTED AT THE ENTRANCE OF THE TOULON TUNNEL – FRANCE</p>



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3 – (CETU) Training of professional drivers

- French initiative based on PIARC recommendations (2011)
- Consistent with:
 - EU Directive 2008/65/CE on driving licences
 - one of the main objective of the PIARC report:
“To focus training actions on professional drivers”
- Action performed jointly between CETU and French organisations and companies in charge of training actions



3 – (CETU) Training of professional drivers

- Why?
 - Goods vehicles are the **source of aggravating factors** in case of fire in tunnel,
 - Evacuation situations: once some users take the initiative to flee towards exits, **the others follow them spontaneously**
 - Enormous stakes are involved in training professional users (**leadership role**)
 - These users, are normally aware of safety issues
 - They follow **initial and further training courses** ; very useful for setting a good example in a crisis situation



3 – (CETU) Training of professional drivers

- Organisation regarding professional drivers education in France:
 - Accredited organisations and agencies
 - Accredited road haulage companies
 - Secondary schools for vocational training



3 – (CETU) Training of professional drivers

- Aims of the action:
 - to work with these organisations
 - to define a training approach that is tailored to the context of road tunnels
 - to develop annotated training aids and material for instructors.



3 – (CETU) Training of professional drivers

- Outputs (from 2009 to 2011):
 - Teaching worksheets:
 - what the instructor has to know?
 - what he has to teach drivers?
 - “Reference” presentation:
 - including relevant instructions regarding appropriate behaviour in tunnels, links to videos of real events
 - normal situation, minor event, major event
 - sessions: 40 mn / 4 hours



Fiche 3 - COMPORTEMENT EN CAS DE CRISE

Accueil

Préambule

Introduction

Situation normale de traversée

Évènements mineurs

Situation de crise

- Communication
- Arrêt urgence cas incendie
- Donner alarme dans tunnel
- Tentative extinction
- Evacuation via sorties secours
- Résumé des consignes

Cas 1 : Mont-Blanc / Fréjus / Lemaire

Cas 2 : Tunnels urb. fort trafic

Conclusion

Communication

Les messages radio, s'ils sont retransmis, sont le meilleur moyen de communication en cas d'événement majeur :

- être informé en temps réel et recevoir des consignes

Allumez votre radio

Activez la fonction d'information trafic de votre auto-radio



D'autres équipements peuvent être présents et être activés :

- systèmes de fermeture (feu rouge, barrière). **Arrêtez vous impérativement :**
 - au feu rouge
 - au droit des barrières de fermeture

Même si vous ne voyez pas de signe manifeste de danger (fumée, flammes) pendant de longues minutes, ne franchissez pas ces dispositifs



Message radio (incendie)



Feu rouge



Signaux d'affectation de voie: croix rouge

3 – (CETU) Training of professional drivers

- **Outputs (from 2009 to 2011):**
 - **Teaching worksheets:**
 - what the instructor has to know?
 - What he has to teach drivers?
 - **“Reference” presentation:**
 - including relevant instructions regarding appropriate behaviour in tunnels, links to videos of real events
 - normal situation, minor event, major event
 - sessions: 40 mn / 4 hours
 - **Seminar with a first group of 100 instructors:**
 - to present the materials
 - to visit a tunnel and safety facilities



3 – (CETU) Training of professional drivers



3 – (CETU) Training of professional drivers



3 – (CETU) Training of professional drivers

- 1st training sessions: summer 2011
- Feedback from experience: very positive
- Improvement of the materials: end 2011
- Dissemination to all French organisations in charge of training actions: planned in 2012



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Conclusions

- Fruitful cooperation between experts in the field of driver education and those in the field of road tunnel safety
- 360,000 French professional drivers concerned
- 50,000 of them targeted every year
- “Two way” process:
 - France using previous PIARC material (“Human behaviour in tunnels”)
 - New PIARC report “Driver education” takes account experience gained in France
 - Now France is again using this material to train professional drivers



Conclusions

French materials can easily be adapted to fit an international context

Possible further actions:

- to translate the material in English and to adapt it to other countries
- to promote the PIARC report “Driver education” in various countries
- to propose this new task during the next PIARC cycle in order to integrate the relevant materials on PIARC Web site





Thank you for your attention

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