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agenda item 5)

Fire Safety in Buses and Coaches

97th GRSG
October 20-23, 2009

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Content

(1) Objective

(2) Fire Incident near Hannover, Nov. 2008

(3) Measurements and Planning



Objective

Improve fire safety in buses and coaches.



Fire Incident near Hannover

04 Nov. 2008 on a motorway near Hannover

20 fire victims

Year of first registration of the coach: 2003

**Investigation resulting in a survey report for the
department of public prosecution was finalized in July
2009.**

**Two additional survey reports (for bus manufacturer and
insurance company) are awaited.**



Fire Incident near Hannover



Sources: www.stern.de



Fire Incident near Hannover

Conclusion of the survey report of the public prosecution department:

Fire was caused by a shortcut of the electric cable harness in a cable channel in the luggage compartment near the toilette.

The fire flashed over from the toilet to the passenger compartment when the toilet door was opened.

The result was an explosive increase of the fire into the passenger compartment (approx. 20 min after the fire started).



Measurements and Planning

- **Fire / Smoke Detection Systems**
- **Cable Test**
- **Repel Test for Insulation Materials**
- **Burning Behaviour of Materials**
- **(Smoke / Toxicity)**



Measurements and Planning

- **Fire / Smoke Detection Systems**

GRSG/2008/22 and GRSG-96-22 Rev.1 on fire detection systems in engine compartments was adopted at the May 2009 GRSG-session

(approx. 70% of fires in b & c in Germany start in the eng. comp.)

Detection systems for compartments are under investigation. Proposal is planned to be submitted to GRSG in 2010.



Measurements and Planning

- **Cable Test**
- **Repel Test for Insulation Materials**
GRSG/2009/14 and GRSG-97-27 and
consolidated version (GRSG-97-32)



Measurements and Planning

- **Burning Behaviour of Materials**
GRSG/2009/14, proposal on interior burn rate tests is postponed till May 2010 GRSG session



Measurements and Planning

- **Smoke / Toxicity**

A national research project will start in the beginning of 2010.



Accident Data (Germany)

Year	Fatalities							
	Total	Drivers/riders of and passengers on/in						Pedes- trians
		Mopeds	Motor cycles	Passenger cars	Buses, coaches, tr. buses	Goods vehicles	Bicycles	
1980	15,050	1,056	1,575	6,915	49	269	1,338	3,720
1990	11,046	384	1,059	6,256	23	211	908	2,113
1995	9,454	183	912	5,929	18	253	751	1,336
2000	7,503	157	945	4,395	9	274	659	992
2001	6,977	138	964	4,023	11	228	635	899
2002	6,842	131	913	4,005	12	242	583	873
2003	6,613	134	946	3,774	17	233	616	812
2004	5,842	122	858	3,238	16	233	475	834
2005	5,361	107	875	2,833	9	208	575	686
2006	5,091	107	793	2,683	12	234	486	710
2007	4,949	100	807	2,625	26	213	425	695
2008	4,477	110	656	2 368	10	183	456	653

Source: Key road transport statistics for Germany and Europe, BMVBS, July 2009