UTAC CERAM

AEBS HDV –
French Railway crossing accidents

26th January 2021

Railway crossing accident analysis

Main accidents scenarios:

- Vehicle maneuvering at Railway Crossing (RC) : 5 accidents (1 SP et 4 HV)
- Trailer stuck at RC: 4 accidents (4 SP)
- Vehicle stuck at RC because of dense traffic : 2 accidents (1 BU et 1 PL)

Conclusion :

- Many accidents occurred while barrier was opened when the vehicle was arriving
- Some scenarios are identified as redundant (trailer stuck, vehicle maneuvering at the RC, etc.)
- For more than half of all accidents with closed barrier when vehicle was approaching, there were attempts to circumvent the barrier (either for intentional reason like during a chase or for unintentional reason like driver fault)
- Considering an AEBS capable of detecting closed RC barrier only 3 accidents could have been avoided. The one involving the HV is due to ice on the road and unlikely avoidable with a such system.
- → **An adequate AEB could have avoided 2 railway crossing accidents involving for the first a LV (4 killed people) and the second a bus (18 injured and 6 killed people)**

Railway crossing accident analysis
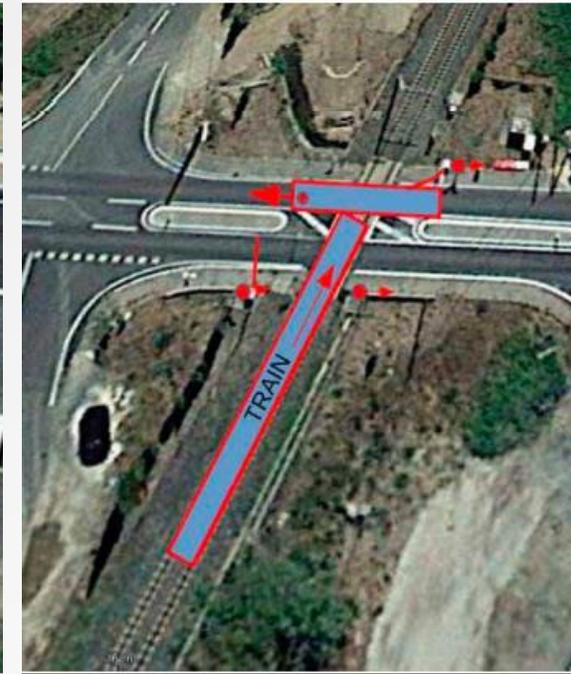
One Bus accident which is AEBS relevant !

Accident information:
- 14th December 2017
- Extra-urban road located in the south of France
- Railway crossing with half barrier
- BUS within M3 vehicle category
- The BUS driver was responsible

Railway crossing accident analysis

Bus trajectory:

Vehicle speed ≈ 10 km/h
Barrier closed

Train speed ≈ 80 km/h
Impact

Railway crossing accident analysis

Consequences:

17 children & 1 adult seriously injured and 6 children killed on their way to school

Railway crossing accident analysis

Conclusion:

- Number of HDV-AEBS relevant accidents is not representative
- Number of HDV-AEBS relevant lives that could have been saved is much more representative