Evacuation trials Buses and Coaches

Background

• Performed in 2005
• 3 models of buses
  – ”Citybus” (CB), 3 axles, two doors, low floor, single-deck
  – ”Line bus” (LB), 2 axles, two doors, steps, single-deck
  – ”Double-decker” (DD), 3 axles, two doors, low floor, double-deck,
• 52 passengers
  – Age: 17 – 82 (32 passengers up to 18 y, 9 passengers over 70 y)
Background

- 12 test scenarios (each tested 3 times)
  - Full access to doors
  - Prams, walkers, wheelchair
  - Front door blocked
  - Impaired passengers (blind folded)
  - Smoke
- Times presented as mean time of the 3 tests
City bus

- Two test scenario
  - Full access (CB1) – 28 sec
  - 1 pram and 2 walkers (CB2) – 48 sec
Line bus

- 5 test scenario
  - Both doors (LB1) – 35 sec
  - Mid door blocked (LB2) – 55 sec
  - Both doors, 3 impaired passengers (LB3) – 45 sec
  - Mid door blocked, 3 impaired passengers (LB4) – 71 sec
  - Both doors, smoke (LB5) – 53 sec
Doble-decker

- **5 test scenario**
  - Both doors, belted and unbelted (DD1 and DD2) – 33 sec
  - Front door blocked (DD3) – 42 sec
  - Both doors, 1 pram, 1 walker, 1 wheelchair (DD4) – 58 sec
  - Both doors, smoke filled (DD5) – 56 sec
Summary

- Access to both service doors is important
- Mobility of passengers is a major factor for evacuation
- Limitation in visibility (smoke) is prolonging evacuation
- "Cuing" – staircases and single door evacuation.
- Recommendation for a "opposite side" e-door
Remarks

• Outdated vehicles
• Excluded other emergency exits
• Simulated situation