SDWEE Pilot Study

Emergency Exit Door (ED) Step Heights

Existing Requirements within 107R.
No variance for different classes of vehicles.

ED Step Heights	
Location	**Max Height**
Upper Deck on a Double Deck Vehicle	1,500mm
Lower Deck on a Double Deck Vehicle	850mm
All other vehicles	700mm

Points to be discussed and considered

Driver for reviewing these requirements is to evaluate whether the step height can be made common irrespective of vehicle type or location in vehicle.

1. Do any current build double deck vehicles have ED's in the upper deck?
2. Does the upper deck of a double deck need an ED?
    a. If yes, should it continue to be allowed to have a step height of 1,500mm
    b. Or should it be lowered?
3. Why has an allowance been made for the step on the lower deck of a double deck vehicle to be 150mm higher than on other vehicles?
    a. Is it simply due to the larger size of the rear axle on DD vehicles
4. Does this 150mm difference still need to be applied?
    a. Or should all vehicles be permitted to use the higher (850mm) dimension for an ED step on the lower deck?
    b. Would permitting 4a make passenger use of the ED more or less safe?
    c. Technically could the ED step height for lower deck of a double deck now be reduced to 700mm

Possible changes to the existing requirements

1. All ED step heights are brought down to the minimum current (700mm)
    - Technical solutions would need to be found for vehicles where the traditional area for an ED (rear of the vehicle) has too high a floor height to meet the requirement. Possibilities are
        - Move the ED into the vehicle wheelbase, where meeting the 700mm would be achievable – still need to meet the door separation (40%) requirement
        - Use "drop out steps" in the rear of the vehicle to achieve the 700mm requirement

- Double deck vehicles would struggle to find a technical solution to meeting the 700mm requirement, if they were to fit an ED on the upper deck

2. All ED step heights are modified to the 850mm dimension
    - I would suggest that 850mm is still an acceptable height for the first step of an ED. Keeping in mind that this exit would only be used in an emergency, and as such
    - Single deck manufacturers would likely move the ED to the rear of the vehicle as an ED in this area has less effect on the seating layout and overall capacity of the vehicle
    - If that occurred then a knock on benefit would be that there would be a “good” exit at the rear of the vehicle as well as the front
    - Double deck vehicles would struggle to find a technical solution to this requirement, if they were to fit an ED on the upper deck.

3. Either of the options (1 or 2) above could be implemented but the requirement for the ED on the upper deck of a Double Deck vehicle is left at 1,500mm
    - This would harmonise across single and double deck vehicles whilst still giving double deck vehicles an achievable option if they fit an ED in the upper deck
    - NOTE: there is nothing to force a double deck manufacturer into fitting an ED in the upper deck of a vehicle. Should this requirement be mandated?
    - In the research I have conducted I have been unable to find a Double Deck vehicle that utilises the option of fitting an ED in the upper deck of the vehicle – Other member of the group may know differently.

Conclusion:
I would suggest to the group that Option 2 is a viable and effective route to harmonising the requirements across all vehicles and may well have an additional benefit in giving all manufacturers the option to have the ED towards the rear of the vehicle – thus maximum separation from the front doors