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# Seat and seatbelt accommodation in fire apparatus: Anthropometric aspects

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### Highlights

- New firefighter anthropometry data for fire truck seat and seatbelt design are presented.
- Seating space specifications are proposed to foster greater use of seatbelts.
- Adequate seatbelt web length is suggested for fire apparatus.
- Results are being used for updating national fire apparatus standards.

## Abstract

This study developed anthropometric information on U.S. firefighters to guide fire-apparatus seat and seatbelt designs and future standards development. A stratified sample of 863 male and 88 female firefighters across the U.S. participated in the study. The study results suggested 498 mm in width, 404 mm in depth, and 365–476 mm in height for seat pans; 429–522 mm in width and 542 mm in height for seat back; 871 mm in height for head support; a seat space of 733 mm at shoulder and 678 mm at hip; and a knee/leg clearance of 909 mm in fire truck cab. Also, 1520 mm of lap belt web effective length and 2828 mm of lap-and-shoulder belt web effective length were suggested. These data for fire-truck seats and seatbelts provide a foundation for fire apparatus manufacturers and standards committees to improve firefighter seat designs and seatbelt usage compliance.



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## Keywords

Firefighter; Seatbelt; Anthropometry

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