NFPA

Single Stair Update

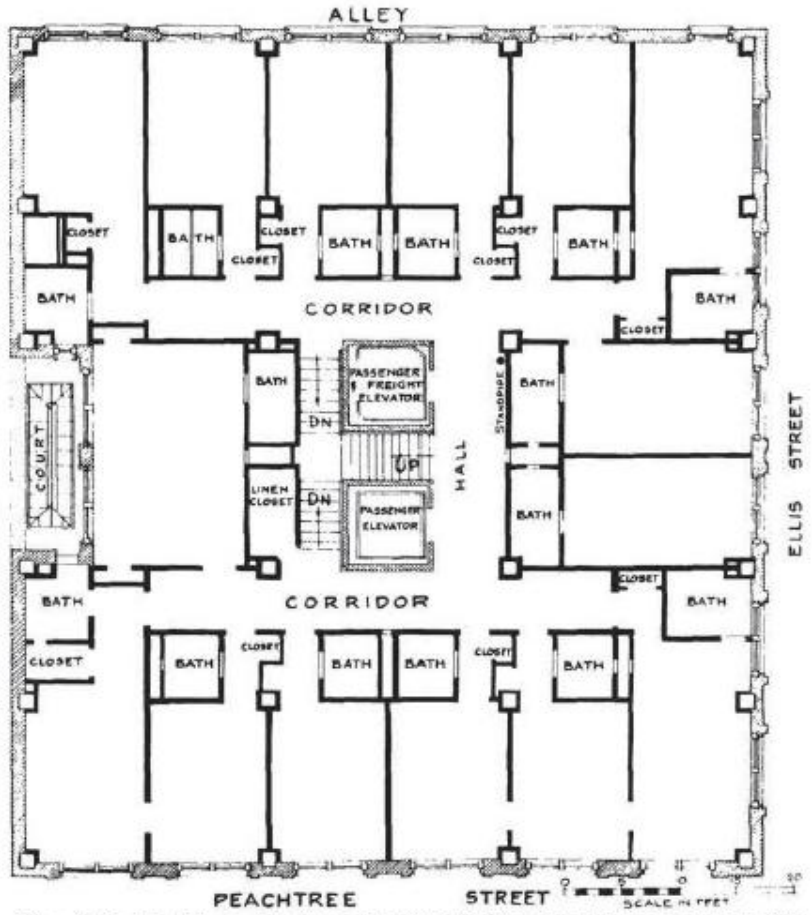
March, 2025

IT'S A BIG WORLD. LET'S PROTECT IT TOGETHER.™

Winecoff Hotel December 7, 1946

Press Association.

When the fire department raised their first aerial ladder, people were awaiting rescue at windows and many were already jumping. This picture shows improvised bed sheet ropes which were used successfully in some instances to descend from windows above the reach of the 85 ft. ladder. Many of those seen in the windows of this picture, beyond the reach of the fire department, could not be rescued.



Plan of the third floor. The fire is supposed to have started near the end of the corridor, upper left in this plan, although the exact origin may never be known. The arrangement was the same on all floors above.

1963 – Initial Adoption

- The **1963 edition of NFPA 101** first introduced **single-exit provisions** for certain **low-rise buildings** (four stories or fewer).
- This change was driven by:
  - Fire resistance improvements in stairwells.
  - Research showing that **well-protected, fire-rated single egress routes** could be effective.
  - The practical difficulty of requiring **two exits in small buildings**.
- **Limitations:**
  - Allowed in specific **residential occupancies**.
  - Required **fire-rated enclosures** and **travel distance restrictions**.

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1970s – Refinements and Expanded Use

- Additional research on **egress and fire behavior** led to expanded allowances in more **occupancy types** (beyond just residential).
- **Tighter fire resistance requirements** were implemented to ensure that single-stair designs provided adequate safety.

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1980s – Fire Sprinklers and Smoke Control Considerations

- **Automatic sprinkler systems** became more common, improving fire safety.
- The **1985 edition** of NFPA 101 began allowing single exits in more **sprinkler-protected buildings**, as sprinklers significantly reduced fire spread risks.
- **Enhanced smoke control requirements** were introduced, ensuring stairwells remained **tenable for evacuation**

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- **1990s – Further Alignment with Other Codes**
- **Refinements to travel distance limits and occupant loads** helped clarify where single-stair configurations were acceptable.

- **2000s – Data-Driven Adjustments**
- **Post-9/11 fire safety research** led to increased scrutiny of high-rise egress, but low-rise buildings continued to have allowances for single stairs.
- More studies on **stairwell survivability and human behavior in fires** helped fine-tune exit requirements.

2018 – Major Modernization

- The **2018 edition of NFPA 101** made key updates, aligning more closely with IBC:
  - **More precise rules for single-exit buildings** based on occupancy type, travel distance, and fire protection features.
  - Expanded the use of **sprinklers and fire-rated corridors** as compensatory measures.
  - **Further refined requirements for smokeproof enclosures** to ensure stairwells remained clear during a fire.

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NATIONAL FIRE PROTECTION ASSOCIATION

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