SINGLE-EXIT, SINGLE STAIRWAY REPORT TO THE LEGISLATURE

Pursuant to Assembly Bill 835
(Chapter 345, Statutes of 2023)

Daniel Berlant, State Fire Marshal | Office of the State Fire Marshal
Joe Tyler, Director/Fire Chief | California Department of Forestry and Fire Protection
Wade Crowfoot, Secretary for Natural Resources | California Natural Resources Agency
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SINGLE-EXIT STAIR RESEARCH

PURSUANT TO ASSEMBLY BILL 835 (CHAPTER 345, STATUTES OF 2023)

DEPARTMENT OF FORESTRY & FIRE PROTECTION (CAL FIRE)
OFFICE OF THE STATE FIRE MARSHAL (OSFM)

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The California Department of Forestry and Fire Protection serves and safeguards the people and protects the property and resources of California.

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EXECUTIVE SUMMARY

Assembly Bill 835 (Lee, Chapter 345, Statutes of 2023) directed the State Fire Marshal to research safety standards for single-exit, single stairway apartment houses, with more than two dwelling units, in buildings above three stories. The State Fire Marshal established the Single-Exit Stair Work Group with representation from the California Fire Service, building officials, local governments, labor, building industry, and housing advocates to compile relevant research standards related to fire and life safety performance, as well as emergency response operations. All work group meetings were open to the public. This report reviews the historical, technical, operational, and economic dimensions of the subject to provide legislators with information and perspectives for decision making.

California currently does not allow single-stair, single-exit buildings that exceed three stories. The requirement for multiple exits within apartment buildings emerged from fires in the 19th and 20th centuries when inadequate egress routes led to loss of life. Over time, building codes across the country tightened, with California maintaining among some of the most comprehensive fire and life safety requirements in the United States. Some jurisdictions – such as New York City and Seattle – have single-exit provisions that have been closely tied to enhanced fire protection measures.

From a fire safety standpoint, engineering safeguards such as comprehensive sprinkler systems, smoke detection, and passive smoke control strategies may reduce risks in single-exit designs. These measures, however, do not fully substitute for the redundancy of two independent stairways. The presence of an additional exit is important for maintaining safety in the face of unforeseen failures, fire spread, or structural compromise.

Operational realities reinforce this as California's fire departments, drawing on direct experience in emergency response, have expressed near-unanimous opposition to single-stair buildings above three stories. Firefighters emphasize that a single stairwell forces evacuees and first responders into direct conflict, slowing both egress and suppression efforts. Hose lines further obstruct already narrow passages, while reliance on aerial ladders as a backup is limited by reach, access, and resource availability, particularly in smaller or rural jurisdictions.

Economic considerations reveal that stairways as a construction element generally account for 7.5% to 12.5% of the total building cost in mid-rise residential projects. Potential savings from eliminating a stairwell need to be compared against the safety risks posed to occupants and responders, as well as by the broader public costs of diminished resilience in emergencies.

This report highlights a variety of measures that should be, or continue to be, implemented to reduce risk to life safety. In the case of single-exit stairway construction, it is critical to ensure mitigating fire protection approaches are in place, especially in the case of additional stories beyond what the current code allows.

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BACKGROUND, HISTORY, AND BASELINE

Past incidents and evolving safety standards have shaped the regulations in place today.

New York City Building Code
New York City had the first requirement in the United States to install a second exit in a multifamily building. The regulation originated from an 1860 bakery fire in the basement of a six-story tenement in Lower Manhattan. The fire started near the wooden stairway in the basement and was fed by the wood as it burned its way up the building. "The stairway was burned away," wrote the New York Times, leading occupants to crowd around the windows, waiting to be rescued. The fire department was called to the scene but their ladders could not reach above the fourth floor, and "were obliged to abandon all hope of saving the poor creatures in the two upper stories," all of whom, according to an early report, died.[1]

As a result of the fire, the New York State Legislature quickly passed a law to require "fireproof balconies on each story on the outside of [larger tenements], connected by fireproof stairs"[2] – in other words, iron fire escapes, unless the building had a noncombustible stair tower or fully fireproof construction. In 1862, the requirement to install fire escapes became retroactive. Designers generally met the law's requirements (and similar requirements in subsequent regulations) through New York's ubiquitous iron fire escapes, not fully fireproof construction or separate stair towers. That said, there were likely some high-end residential high-rise buildings in the early 20th century that forwent the second exit utilizing fully fireproof construction.

In the city's 1938 building code, buildings were allowed to have a single interior exit (and no fire escape) if no floor had an area of more than 2,500 square feet, and the building was not more than 75 feet in height. The next major code revision, published in 1968, brought the height limit down to 60 feet and the floor area limit down to 2,000 square feet, while at the same time banning fire escapes in new buildings. The limit survived roughly unchanged in the next major revisions in 2008 and 2014. The code section remains very simple, and the most commonly used code sections for single-stair apartment buildings states simply that the second exit shall not be required for "Buildings of Occupancy Group R-2 of construction Type I or II not exceeding six stories and not exceeding 2,000 square feet (185.8 m2) per story," with no further restrictions specific to the typology. Residential Group R-2 occupancies contain sleeping units of more than two dwelling units where the occupants are primarily permanent in nature.[3]

[1] https://www.nytimes.com/1903/11/02/archives/25-lives-were-lost-in-tenement-fire-every-death-due-primarily-to.html
[2] "An Act to provide against unsafe buildings in the City of New York," ch. 470, Laws of the State of New York (1860)
[3] New York (N.Y.), *Building Code of the City of New York: Effective January 1, 1938* (Brooklyn: Eagle Library, Inc., 1937)

New York City today has over 4,000 single-stair apartment buildings exceeding the International Building Code's (IBC) three-story height limit. Most of them were built after the city's multifamily sprinkler requirement went into effect around the turn of the millennium, with few built before then due to difficult zoning conditions for dense, small-lot buildings and a general weakness in the city's outer borough housing market in the second half of the 20th century, where most of these buildings are found.

Seattle Building Code

In 1977, Seattle adopted a building code that amended the 1973 Uniform Building Code to add an exception to Section 3302 to allow "[a]ny building of any height with not more than 4 living units per floor, with a smokeproof tower or an outside stairway as the exit, immediately accessible to all apartments served thereby, [to] have a single-exit." The exception may have originated in an effort during the 1970s to encourage more development and redevelopment in Seattle's urban core. A 1973 report from an ad-hoc committee to study Seattle's building code repeatedly mentions as among its goals promoting development within the city and reversing decades of migration to the suburbs. The report briefly discussed allowing buildings on small lots with a single interior stairway and metal fire escapes used as a second means of egress (the example given was a 30-ft. × 110-ft. commercial building with two stories above the ground floor), but it stated that "[t]he Fire Department is opposed to this concept." The topic next appeared in the historical record in a 1976 City Council committee meeting, in which Lester Gillis, then Seattle's Assistant Superintendent of Buildings, proposed allowing single-exit buildings of unlimited height with smokeproof towers, following the model of NFPA 101 (see the National Fire Protection Association section). There was no debate over it, and the code section was adopted.

Seattle's single-stair code section evolved over the next few years to become stricter. In 1979, a condition was added to require sprinklers to the exit enclosure or to add a sprinkler head to the side of dwellings opening directly into the exit, or to fully sprinkler the building if it exceeds 75 feet in height. In 1985, the height limit was reduced to six stories, with the requirement to pressurize the stairway if interior to the building (or otherwise place it in a smokeproof enclosure), among other requirements. At one point, the height limit was reduced to four stories, to bring it in line with NFPA's requirements. The building and fire departments opposed restoring it to six stories, but were ultimately overruled politically, and the six-story height limit was restored in the 1990s. Seattle's current building code adds further conditions but remains largely unchanged since this 1990s revision. The city likely has "hundreds" of single-stair apartment buildings above three stories, although the exact number has not been verified as part of this work.

Uniform Building Code

Prior to the advent of the International Code Council, the Uniform Building Code was the model code that West Coast building codes utilized as the basis of their standards. The first edition was published in 1927, and the last in 1997. Both the first and last editions contain a hard limit on single-exit apartment buildings at two stories. Some intermediate codes did contain more complex limits relying on calculations of occupancies in both the floor in question and two floors above it that might have, in theory, allowed single-exit buildings with very small footprints (below 2,000 square feet) above two stories in height, but the language of this section is unclear.

Huge numbers of single-stair two-story apartment buildings – now colloquially known as "dingbats," generally with exterior access stairways or balconies – were built around the middle of the century, especially in cities. Large California cities also have many taller buildings with a single interior exit and fire escapes built in the interwar period, but it is unclear which code provisions these were built under. San Francisco also has many small three-story, single-stair apartment buildings built shortly after World War II, but it is also unclear which code section these were built under.

International Building Code

When the first IBC was published in 2000, the baseline allowance (section 1005.2.2, titled "Buildings with one exit") was for two stories of R-2 occupancies served by a single-exit, with a maximum of four dwelling units per floor and a 50-ft. maximum "travel distance" (which is what we would now call an exit access travel distance, measured from the most remote point on a floor to the entrance of the exit). There was, however, a footnote allowing three stories above grade if served by an automatic sprinkler system (NFPA 13 or 13R were both allowed) and provided with emergency escape and rescue openings. In practice, this footnote would have ruled in all cases, since an automatic sprinkler system was required in all R-2 occupancies with more than two stories in height, per section 903.2.8.

This code section was maintained throughout the 2000s, with minor editorial changes in position in wording. In 2012, the current requirement was imposed, with the height limit for single-exit R-2 occupancies maintained at three stories, but with the exit access travel distance raised from 50 feet to 125 feet. This proposal was put forward by Wayne Jewell and Sam Dorchen, and was justified by addition of the sprinkler requirement, the 125-ft. common path of travel limit elsewhere, and the fact that it is half of the exit access travel distance limit for a two-stair R-2 occupancy. In their reason statement for their proposal, they stated:

> "From a life safety aspect, the application of this revision would be equal to, if not considered better than; the presently permitted means of egress for a two exit R-2 occupancy with a typical exit access corridor and exit stairway at each end. The current code will allow a common path of travel of 125' and a total maximum travel distance to one of the exits of 250' (Table 1016.1)."

The IBC's single-exit provisions may be changing again. In 2024, a proposal (E24-24) was submitted to allow single-exit buildings to rise to six stories in the 2027 IBC. That proposal was voted down unanimously during the first Committee Action Hearing in the spring, but a modified proposal based on NFPA 101's conditions was approved by the Egress Committee in the fall. The proposal is currently awaiting public comment and a final committee vote.

National Fire Protection Association Codes (NFPA 101 and NFPA 5000)

Building exits have always been very important in the National Fire Protection Association's codes, and indeed its first code – the predecessor to today's NFPA 101, Life Safety Code – was titled the Building Exits Code. The general requirement was for all occupancies to have at least two exits; however, early versions of the code contained an exception for apartment buildings with a single-exit no more than two stories above

grade, and this was raised to three stories in 1970 (no documentation of the reasoning is available, since NFPA states that they only have notes going back to 1973).

Up until the 1988 edition of the code, there was also another exception to the two-exit requirement if the exit was exterior or was constructed as a smokeproof tower (through either mechanical or natural means) with two-hour construction. This exception had no height limit and limited the number of dwelling units per floor to two up until 1970, at which point the allowance was raised to four before finally being eliminated in 1988. An example of this code section is excerpted from the 1981 edition of the code:

> *Exception No. 2: A building of any height with not more than four living units per floor with a smokeproof tower or outside stair in accordance with the requirements of 5-2.3 as the exit, immediately accessible to all living units served thereby, may have a single-exit. ["Immediately accessible" means there is not more than 20 ft (609.6 cm) of travel distance to reach an exit from the entrance door of any living unit.]*

When the above exception was removed, the substantiation statement simply read: "This Exception would allow a building of unlimited height to have one exit which is not permitted under other codes because it puts too many occupants at risk."

In 1991, NFPA 101 and its companion building code, NFPA 5000, modified their limited-height single-exit exception to allow four stories (with four units per floor) if an apartment building is outfitted with automatic sprinklers in the limited-height exception. The Subcommittee on Residential Occupies, under the Committee on Safety to Life, made the proposal in 1990, describing it as a way to kickstart America's stalling progress on fire safety by encouraging the installation of more sprinkler systems. The committee wrote that "[t]he elements of this new technology together with a new, less expensive sprinkler installation standard (NFPA 13R) make it practical to sprinkler multi-family occupancies. We must recognize this life safety benefit." This suggests that the four-story height limit was arrived at to align with the limit of lower-cost NFPA 13R sprinkler systems and not based on any determination about safety above that limit.

California Assembly Bill 130 (2025)
Assembly Bill 130 (Committee on Budget, Chapter 22, Statutes of 2025) was comprehensive housing legislation aimed at modifying multiple housing related statutes. The bill prohibits the adoption of new residential unit building standards until June 1, 2031, unless certain conditions are met, including single-exit stairway apartment houses pursuant to Health and Safety Code 13108.5.2. This prohibition is found in Health and Safety Code 18929.1 subdivision (c).

CODE COMPARISON

This section presents the research and evaluation of adopted building standards along with those currently under development that permit the use of a single-exit stair in buildings exceeding three stories for residential purposes. State and local amendments to the IBC that extend allowances for single-exit buildings beyond three stories are also reviewed and presented.

The code comparisons are summarized in Appendices A, B and C at the end of this report with three comparison matrices; the first for US cities and states, the second for international codes, and the third for the NFPA and ICC. For the purposes of this report, Appendix A should carry the most weight as it is difficult to compare international and California requirements and situations. The two US model code development organizations, ICC and NFPA, publish standards adopted by most of the approximately 90,837 local jurisdictions in the United States. The comparison table is a snapshot in time and includes a limited number of jurisdictions that the work group was aware had adopted revisions to the IBC. This limited list does not seek to portray more than the information provided.

Through the development of the comparison matrices, it became evident that some jurisdictions amending the building code either adopted more stringent standards than those required in the IBC or NFPA 101 for NFPA's version, or defaulted to the code for items such as travel distance limits or the sprinkler system type. In some cases, local jurisdictions added already applicable requirements to emphasize the single-exit code section added as an amendment. For the purposes of interpreting the tables listed in the appendices:

- **NR** = no requirement, and therefore the jurisdiction defaults to the requirements in the adopted code without amendments;
- **NO** = no additional requirements are adopted;
- **NL** = no limitation.

In evaluating the US jurisdictions, several themes emerge from the information listed in the table. For buildings that are permitted to have a single-exit stairway configuration with Group R-2 occupancies, the jurisdictions make the following stipulations:

1. Limitations are placed on the total number of stories, ranging from 4 (NYC, Type I and II construction) to 6 stories (most common).
2. Limitations are placed on the number of dwelling units per story, either 3 (NYC, Type I and II construction) or 4 (most common) dwelling units.
3. Limitations on the building area per story, although most jurisdictions do not have a requirement (NR) for this; NYC limits to 2,000 – 2,500 square feet per story.
4. Travel distance limitations from each unit to reach the single exit with the most common distance as 20 feet.
5. Overall travel distance per story from most remote point to the stairs, ranging from 50 feet (NYC) to 125 feet (most common).
6. Intermediate access to the exit stairway doorway via a protected corridor.
7. Fire sprinklers required throughout single-exit buildings, 13-R system (NYC) or 13 system (most common).

Other requirements from the comparison jurisdictions that were not common throughout the six jurisdictions evaluated, but are noteworthy to list include:

- Exit termination rules for egress courts;
- Increased stairway width, e.g., 48 inches;
- Direction of door swing for the exit doorway into the exit stairway;
- Smoke-proof stairways via pressurization or smoke management within exit stairways via roof hatches at the top of stairways;
- Code proposals through ICC include limitations on electrical receptacles and trigger fire sprinkler protection within interior exit stairways constructed of combustible materials.

FIRE PROTECTION CONSIDERATIONS

There are several protection systems and features which may or may not be effective in reducing the risk to occupants in single-exit buildings. These systems can be categorized by active and passive fire protection features that might provide reasonable equivalency to a two-exit residential building with the goal to allow occupants to escape using the stairs before the fire department arrives and without relying on rescue or escape windows.

Sprinklers
An extension of the allowance for single-exit R-2 buildings should be contingent upon full sprinkler protection throughout the structure. Sprinklers are incredibly effective at controlling, and often extinguishing, many typical fire scenarios in residences.

The sprinkler standards and general building code allowances for NFPA 13R systems (limited to four stories and 60 feet in height) are generally regarded as providing adequate protection. Restricting the type of sprinkler system or mandating the use of NFPA 13 in place of NFPA 13R may not be necessary in all cases, with the exception that NFPA 13D systems should not be applied to multi-story, multi-family residential buildings. The potential need for a secondary water supply, such as a storage tank or an additional street connection, was evaluated and determined to be overly costly with limited benefit. Similarly, the requirement for a redundant riser was assessed and found to be unnecessarily expensive with marginal value. Standpipes are required in California in stairwells of buildings exceeding 30 feet in height and are recognized as an important component for firefighting operations.

Construction Type
In a single-stair exit scenario, the building must remain structurally stable long enough to permit occupant egress and to support firefighting operations. Consideration was given to the potential allowance of taller single-exit buildings, up to four to seven stories, provided they remain below the high-rise threshold. Within this range, the standard code requirements for maximum stories, height, and construction type are generally considered adequate. Current code provisions require hourly fire-resistance ratings for buildings exceeding three or four stories, depending on the level of combustibility associated with the construction type. No additional safeguards beyond these requirements were identified as necessary. The possibility that an earthquake could reduce stair reliability was also examined; however, existing structural code provisions applicable in seismic-prone regions of the state were determined to adequately address this concern.

Fire Alarm
A fire alarm system is essential to ensure that occupants are alerted to a fire as early as possible, allowing sufficient time for safe evacuation. The current code provisions for R-2 occupancies are considered adequate to meet this requirement. These provisions include smoke alarms within each dwelling unit and smoke detectors in common areas such as corridors and elevator landings. Smoke alarms within individual units activate only locally, while self-closing unit doors limit smoke migration into corridors. If smoke

does migrate, common-area smoke detectors activate horn/strobe signals in public spaces. The potential addition of smoke detection devices within residential units, beyond the code-required smoke alarms, was evaluated but not recommended. Similarly, the inclusion of voice notification in common areas, instead of the code-required horn/strobes, was determined to be unnecessarily costly. However, the installation of electronic hold-open devices on common stair doors, programmed to release upon fire alarm activation, was identified as a beneficial enhancement (see discussion on smoke control below).

Smoke Control
Maintaining the single stair as a safe and reliable means of egress and for fire department operations is of critical importance. To support this objective, prohibiting electrical outlets within stair enclosures is recommended to prevent the charging of electronic devices in these spaces. Consideration may also be given to extending this prohibition to corridors and other upper-floor public spaces.

Active and passive smoke control options for stairs and corridors were evaluated based on practices in high-rise buildings and ordinances adopted in other jurisdictions permitting single-exit buildings. Some jurisdictions require stair smoke venting; however, this approach may introduce smoke into the stairway itself, directly compromising its function as a protected egress route. A single vent at the top of the stairway is unlikely to be sufficient to maintain tenable conditions. Mechanical pressurization or corridor exhaust as an active fire safety system could marginally improve safety but would add significant cost, complexity, and maintenance requirements. Such systems are generally more applicable to very tall buildings rather than residential structures not classified as a high rise. Additionally, reliance on active systems raises concerns regarding long-term maintenance and the need for backup power, which further reduces reliability.

In place of an active smoke control system, at least one of three passive alternative options should be considered:

Door Management Measures
- Require stair, unit, and elevator lobby doors to remain normally closed, with clear signage reinforcing this requirement.
- Mandate the use of magnetic hold-open/release devices for stair and elevator doors, releasing automatically upon smoke detection in common areas. These devices accommodate operational needs such as moving in/out or carrying daily items, while ensuring that doors remain closed under fire conditions.
- Keeping stair doors closed significantly reduces smoke infiltration and vertical spread. Estimated cost is approximately $500 per door. In communal living occupancies, such as dormitories, hold-open devices at unit doors are also recommended. Smoke spread through elevator hoistways is of lesser importance, though where protective doors are provided, magnetic hold-open devices should also be required.

Automatic Corridor Smoke Vents
- Require a minimum 4 square feet automatic-opening vent from each corridor to the exterior, activated by smoke detection.

- In buildings without corridors, equivalent vents should be provided within dwelling units.
- Vents should be located outside of the stair enclosure to prevent smoke migration into the stair enclosure.
- This technology is intended as a prescriptive requirement, not a performance-based smoke control system, and would not trigger monitoring, backup power, or complex testing. Estimated cost is approximately $2,000 per damper and associated smoke detector. If exterior venting is not feasible, a vertical shaft with fire/smoke dampers at each floor may be required, potentially increasing fire alarm programming costs.

Exterior Stairs

- Provide an exterior stair in accordance with California Building Code (CBC) Section 1027, or a stair with sufficient exterior opening to allow smoke venting.
- In unusual designs, a fire modeling study may be necessary to evaluate smoke movement and verify performance.

Fire Department Staffing

- Consider the difference between urban, suburban, and rural fire departments, including response times, staffing levels, equipment availability, training, and incident complexity.
- Consider fire department staffing for inspection, testing, and maintenance demands. Smaller fire departments may not have the staffing or resources to meet these demands.

EGRESS ANALYSIS

To assess the egress implications of residential buildings constructed with a single-exit stairway, a series of computational simulations were undertaken to evaluate occupant evacuation and firefighter ingress during fire scenarios. The single-exit stairway can present a movement constraint considering that evacuating residents and responding firefighters are required to utilize the same stairway.

For both single and two-stair plans, a roughly 4,500 square feet floor plate was modeled (in line with the largest floor plates that we were able to find from Seattle), assuming roughly 23 occupants per floor. There was disagreement within the work group of whether, going forward, it would be appropriate to model a two-stair building with a much larger occupant load. For multifamily residential occupancy (IBC Group R, typically R-2), the IBC 2024 *Occupant Load Factor* is 200 gross square feet per occupant for sleeping areas in residential buildings. The *Occupant Load* is calculated as follows:

$$Occupant\ Load = \frac{Floor\ Area}{Occupant\ Load\ Factor}$$

The simulations demonstrate that the rate of occupant egress increased across all modeled conditions shown in the table below. The second column is the modeled evacuation time for all occupants to reach the exterior at grade without firefighter ingress, while the third column lists increased times with the presence of firefighter ingress. A notable difference in the results in the holiday condition simulation. While this result may appear counterintuitive, it is likely explained by the increased influence of occupant congestion on overall egress time. As the total number of evacuees rises, the dominant factor becomes crowd density, and the impact of counterflow is diminished because movement speeds are already substantially reduced. This analysis makes the conservative assumption that occupant evacuation and firefighter response begin simultaneously. It is likely that at least some occupants will have begun evacuation before responders arrive.

Table 1: Comparison of Egress Times Under Various Scenarios

Scenario	Without Firefighter Flow (min:sec)	With Firefighter Flow (min:sec)	Time Delta (min:sec)
Baseline	2:23	6:35	+4:12
Holiday	10:43	12:04	+1:21
Roof Deck	3:23	8:09	+4:46
Senior Occupants	4:32	6:54	+2:22
6 Stories Above Grade	2:52	6:25	+3:33
Increase Ceiling Heights (2	3:00	6:40	+3:40
Retail/Commercial on Ground Floor	2:21	-	-

In light of this analysis, there are several factors that warrant a narrative on the reasons each of the analyses was conducted as well as additional considerations on egress.

Counterflow in Stairwells
Counterflow in single-stair buildings presents significant challenges during fire emergencies. When firefighters and evacuating occupants share the same stairwell, both groups experience restricted movement, heightened stress, and extended evacuation times. This simultaneous use of the stairwell can compromise both occupant safety and firefighting effectiveness.

In single-stair configurations, there is no physical separation between evacuation and firefighting routes. Counterflow can also occur in two-stair buildings, but it is possible for the fire department to manage the evacuation to separate the two groups. The analysis has shown that even a small number of people moving in the opposite direction can drastically reduce stair capacity and delay overall evacuation. Firefighters performing emergency operations within the same stairwell must navigate through evacuees, further reducing efficiency. Such delays can extend evacuation times, exposing occupants to dangerous heat or smoke levels.

Additional risks arise from congestion as panicked evacuees block stairwell access, impeding firefighter ingress. Both evacuees and emergency responders experience increased physical and psychological stress under counterflow conditions. Furthermore, because single-stair buildings lack redundancy, the failure or compromise of the stairwell leaves no alternate route for egress or fire department access. Research indicates that firefighter ascent speeds can drop by as much as 50% when evacuee density surpasses certain thresholds, highlighting the operational strain caused by counterflow.

Roof Occupant Loads and Egress Capacity
Rooftop amenities have become common in modern residential and mixed-use buildings, but they introduce egress challenges. In emergencies, rooftop occupants must descend the entire height of the building using a single stairwell. This requirement forces them to merge with occupants from lower floors.

The popularity of rooftop amenities – such as lounges, recreational areas, and gardens – results in dense occupant loads, particularly during social gatherings. When an emergency occurs, roof evacuees entering the stairwell can create bottlenecks, leading to congestion and increased evacuation times for all building occupants. Because these evacuees are the last to enter the stairwell, they are at greater risk of exposure to smoke and heat during descent.

Furthermore, the extended travel distance for rooftop occupants increases fatigue and psychological distress. In some cases, panic or perceived entrapment may cause individuals to attempt unsafe actions, such as re-entering the building or seeking alternate exits not designed for emergency use. Proper design and management of rooftop occupant loads are therefore essential to maintaining safe egress conditions.

Human Behavior During Egress
Human behavior during emergencies is highly variable and often unpredictable. Many occupants delay evacuation, not due to physical limitations but because of psychological factors. Some individuals pause to confirm the nature of the emergency, gather belongings, or wait for others, thereby prolonging pre-evacuation times. Such delays

contribute to congestion within stairwells and can result in exposure to untenable conditions, particularly if fire protection systems fail.

Alarm fatigue is another key behavioral factor. In residential buildings with frequent false alarms, occupants may disregard signals or assume a false sense of safety, reducing their responsiveness. The timing of evacuation initiation is therefore critical – those who evacuate late are far more likely to encounter hazardous conditions.

"Defend-in-place" strategies can be effective only when high-quality compartmentation is maintained. However, if a fire breaches unit boundaries, delayed evacuation becomes dangerous and may render escape impossible.

The use of elevators for evacuation is being reconsidered under modern fire safety design, provided the elevators meet strict safety criteria. In single-stair buildings, elevators could potentially reduce stair congestion, but their use requires robust communication systems, proper occupant education, and redundant safety features. These costs are higher than the savings of a single-stair design.

Individuals with Mobility Challenges
Occupants with mobility impairments face heightened risk in single-stair buildings, where refuge areas and assisted evacuation options are limited. Wheelchair users, elderly residents, or individuals with temporary injuries often require more time and physical assistance to evacuate. In scenarios where stairwells become compromised by smoke, heat, or overcrowding, these individuals may become trapped.

Single-stair designs provide no alternate egress routes or flexible rescue strategies. Regulations often call for designated areas of refuge equipped with two-way communication systems, typically located near or within stairwells. However, concentrating mobility-impaired individuals at landings can impede both evacuation flow and firefighter ingress.

When fire protection systems fail, occupants awaiting assistance are placed in extreme danger due to their reliance on stairwell tenability. Evacuation chairs or other rescue devices, if improperly stored in narrow stairs, can further obstruct movement. Even well-intentioned assistance from faster evacuees can unintentionally increase congestion and slow overall egress. There were differing opinions within the work group discussions. The point that was agreed upon was that there needed to be further study on these issues.

Egress Risks for Elderly Residents
Elderly occupants face distinct challenges during evacuation due to physical, cognitive, sensory, and behavioral limitations. Reduced strength, stamina, and balance slow stair descent and increase the likelihood of fatigue or falls. Cognitive impairments such as dementia or confusion can delay decision-making and impede wayfinding, especially under stress or poor visibility. There were differing opinions within the work group discussions. The point that was agreed upon was that there needed to be further study on these issues.

Elevated Risk Factors

- Physical Decline: Decreased endurance and mobility reduce evacuation speed.
- Cognitive Impairments: Confusion and stress slow response times.
- Sensory Limitations: Impaired vision and hearing hinder perception of alarms and signage.
- Mobility Aids: Canes, walkers, oxygen tanks, and wheelchairs complicate stair navigation.

In single-stair buildings, these limitations are exacerbated by the absence of alternative routes. Elderly occupants often require rest stops during descent, creating choke points at landings. Poor balance and panic further elevate fall risk, especially in smoke-filled or dark environments.

Behavioral and Social Factors

Additionally, many older adults delay evacuation to collect personal items, such as medication, or to wait for assistance from caregivers or family members. These delays can be fatal in situations where smoke and heat spread rapidly.

OPERATIONAL NEEDS: FIRE DEPARTMENT SURVEY

The Single-Exit Stair Work Group survey, which captured responses from fire departments across California, revealed overwhelming opposition to the adoption of single-exit stair designs in buildings exceeding three stories. Fire departments consistently expressed concern that such designs compromise both occupant safety and firefighter effectiveness. The mixing of civilian evacuation with fire suppression operations in one stairwell has the potential to create conditions that would delay egress, hinder firefighting operations, and increase risk of injury or loss of life.

These results outline the operational, safety, and logistical concerns identified by surveyed departments, including firefighter ingress width, standpipe operations, aerial apparatus reach and access, response times, and service areas. The findings strongly support maintaining the current requirement for multiple exit stairs in multi-story buildings.

Background and Context
Firefighting operations become significantly more complex and hazardous as building heights exceed three stories. At these elevations, ground ladders can no longer provide access for upper-floor rescues or roof ventilation, and preconnected hose lines are no longer effective for rapid fire attack. All necessary equipment, including large-diameter hose lines, valves, tools, axes, Halligans, rescue saws, ventilation blowers, medical equipment, pike poles, Z-hooks, and additional breathing air bottles, must be carried aloft by hand, requiring substantial personnel resources.

This equipment is staged in stairwells and on floors below the fire floor, which reduces available egress width for occupants. Standpipes located within stairwells provide a critical connection to the building's water supply for firefighting operations.

Operational plans for buildings four stories or higher are inherently complex and are designed to use two or more stairwells to ensure redundancy for evacuation and to minimize conflicts between occupant egress and firefighting operations. First-arriving engine companies establish efficient standpipe connections and deploy hose lines for rapid fire suppression, aiming to eliminate toxic gas production, limit structural damage, and enhance both occupant and firefighter survivability.

Truck companies manage water control and lobby operations, including communications, smoke control systems, and elevator coordination. They also designate separate stairwells for evacuation and firefighting. Additional truck companies support forcible entry, conduct floor-to-floor searches, assist with evacuation, and provide aerial apparatus access for rescues. Aerial apparatus access remains a critical component for rescuing occupants who may be isolated from emergency exit stairwells.

Firefighter Ingress and Width Requirements
Dimensions obtained from equipment-laden firefighters ascending a simulated mid-rise building in a Training Tower resulted in an estimated 32-36 inches of clearance for safe movement. This included a fully equipped firefighter with a self-contained breathing apparatus (SCBA), carrying a variety of forcible entry tools (irons, pike poles, z-hooks,

rescue saws), two spare air bottles, hose packs, and high-rise packs. With multiple firefighters ascending simultaneously, or when tools and hose lines are deployed, the practical clearance increases to nearly 40 inches. In single-stair buildings, this width demand collides directly with descending civilians. Evacuees are forced to squeeze past firefighters and equipment or wait until operations are paused. The result is slowed evacuations, delayed suppression, and increased danger for both firefighters and residents.

Standpipe Operations and Stairwell Obstruction
For buildings above three stories, firefighting operations typically involve connecting hose lines to standpipe outlets located within stairwells. Once charged, these hose lines reduce the usable stair width, creating trip hazards and narrowing escape routes. The vast majority of surveyed fire departments indicated they designate an egress stairwell and a separate operations stairwell in multi-story, multi-exit egress stairwell buildings. This increases egress and operational efficiency.

In single-stair buildings, residents evacuating alongside hose deployments encounter dangerous obstructions and delays. Conversely, delaying hose operations to allow evacuation reduces the fire department's ability to suppress fire in its early stages. This conflict between ingress and egress is difficult to resolve in a single-stair configuration unless the size is expanded or configuration is changed, i.e., scissor stairs, to allow for simultaneous ingress and egress.

Aerial Apparatus Reach and Access
Most departments surveyed operate aerial ladder trucks with rated reaches ranging from 70 to 107 feet. At the maximum safe climbing angle of 75 degrees, effective vertical reach is reduced slightly (e.g., a 100-foot ladder achieves approximately 96 feet vertically).

The maximum vertical reach of a 107-foot aerial ladder set at a 75-degree climbing angle is about 103.4 feet. This equates to the roof of a seven-story building in ideal conditions, but typically only reaches the roof of a six-story building if there are parapets or setback challenges. For evacuation loading, a conservative planning assumption of 1-2 people per fly section, which includes fire personnel, should be utilized. For full reach, the apparatus must be positioned within 25–35 feet of the building face. Setbacks, landscaping, powerlines, and poor apparatus access significantly reduce the ability of aerials to serve as a reliable second means of egress.

The survey highlighted that in many scenarios, aerial access is limited to building corners or only one side of the structure, making aerials an inadequate substitute for a dedicated exit stairwell.

Aerial Service Areas and Response Times
Survey data revealed a wide variability in service areas:

- Small cities: aerials may cover 7–15 square miles;
- Larger jurisdictions: single aerials may be responsible for up to 250 square miles.

Response times in urban areas typically average 6 to 8 minutes, whereas in suburban or rural jurisdictions, response times can exceed 10 minutes or more. Single stair design should

not rely on or assume aerial access because aerial access cannot be reliably provided across all jurisdictions.

Summary of Fire Department Concerns
Fire departments raised consistent, recurring challenges with a single-exit stair design for multi-story buildings (over three stories). These include:

- Mixing evacuation and suppression: occupants and firefighters forced into the same stairwell delays both;
- Loss of redundancy: no alternative if the stairwell is compromised by fire, smoke, or physical damage, puts a reliance on aerial apparatus, which are not designed to evacuate large amounts of people rapidly due to load limitations and access considerations;
- Hose obstruction: charged hose lines narrow stairways, block evacuees, and impede rescue without the ability to designate separate operations and evacuation stairwells;
- Aerial limitations: apparatus may not reach, arrive late, or lack coverage in rural and other larger service areas, making the availability an aerial apparatus available in an emergency rescue situation questionable;
- Disproportionate burden on smaller jurisdictions: limited aerial resources and longer response times make single-stair designs especially unsafe;
- Proponents noted that the proposal is motivated by cost savings and increased rentable space, not life safety.

The fire department survey clearly demonstrates that fire service professionals overwhelmingly oppose reducing stairwell requirements in multi-story buildings due to the effects on operational abilities and current operational guidelines. Respondents to the survey stated that a single-exit stair design:

- Will fundamentally change firefighting operational effectiveness;
- Compromises occupant safety;
- Delays and endangers firefighting operations;
- Places unrealistic reliance on aerial apparatus if the stairwell becomes compromised;
- Removes critical redundancy in emergency egress;
- Requires professional development and training opportunities for fire service departments to be better prepared for single-exit response scenarios.

For these reasons, the fire service community strongly recommends maintaining the requirement for multiple exit stairs in residential and mixed-use buildings exceeding three stories.

A fire-response training exercise was conducted that was independent of the egress analysis from previous section to demonstrate some of the challenges that occur when resident egress and responder ingress occur in the same space. A video to this demonstration can be found at the following link:
https://youtu.be/wPaMImBWvGQ?si=hb4P307GQ4RXEVoa.

ECONOMIC AND COST IMPLICATIONS

Ideally, building code development and the decisions that lead to code provisions balance costs with safety considerations. The objective of this analysis is to quantify the cost implications of requiring a second stairway in small-footprint, mid-rise buildings. This building feature involves multiple trades and contractors – including foundation, framing, drywall, painting, fire protection, electrical, and roofing – rather than a single contractor, making the cost analysis more complex than other aspects of the structure. In addition, complex architectural design considerations make the evaluation difficult to reduce to a single scenario or cost figure. The required separation of stairways is particularly challenging to model or quantify, as are the potential improvements in plan efficiency within dwelling units. To minimize the complexity, the analysis only includes the cost of a single stairway, leaving aside non-stairway considerations. In this light, it is likely there are costs that were not considered, and these estimates of cost should be considered conservative. The improved efficiency of apartments and potentially higher rents – for example, the ability to deliver multibedroom units in a lower square footage – was also not considered.

Some general building assumptions are that the stairway is interior to the building, and that the building has 2,000 square feet of floor area per story. The 2,000 square feet per story assumption is based on work by Sean Jursnick, an architect who compiled a list of single-stair projects in Seattle. He estimated that this was the typical per-story floor area of those projects. While life safety rules must assume the worst-case scenario, the work group felt that for costs, evaluating a typical scenario was more appropriate. However, if the per-story floor area is assumed to be 4,000 square feet (the maximum allowed according to the 1006.3.4.2 code text approved by the IBC Egress committee in E24-24 SHAPIRO-MC1), a stairway's proportion of total construction cost would be roughly halved. Where cost estimates were not recent or not made in U.S. dollars, adjustments were made for inflation or currency conversion (using purchasing power parity, to account for general cost-of-living differences). Topline numbers are converted, as best as possible, into 2024 U.S. dollars, while the textual summaries are provided using the original figures. Where other assumptions had to be made, the work group chose to err on the side of more conservative estimates (meaning lower costs for the stairways and higher costs for the full buildings).

The work group found three high-quality data points, which are summarized below. They suggest a surprisingly uniform absolute cost of around $230,000 for a stairway in a four- to six-story building, accounting for roughly 10% of the total construction cost.

General Contractor Cost Estimator, Four-Story Building, Mid-Atlantic

Stairway cost: $228,000 (9.5% of total construction costs)

A cost estimator at a general contractor in a suburb outside of a major city in the mid-Atlantic provided a detailed breakdown of the cost of a four-story stairway, from a multifamily housing project that they provided a quote for. The stairway enclosure was assumed to be of concrete masonry units. The stairway was assumed to reach the roof,

so five doors were included. The breakdown of individual cost items was exhaustive, ranging from $100 for lighting to nearly $65,000 for the CMU stair shaft walls. The second-largest item was $20,000 for a standpipe and floor control systems.

The total cost of the stairway was $228,000. The total per-square-foot construction cost of the building was not provided, so data from RSMeans Data's Square Foot Estimator was used to estimate a cost of $200 per square feet. After consideration, this was determined to be unrealistically low, so the figure was adjusted to $300 per square feet given the lack of economies of scale for construction in a small multifamily building. At 2,000 square feet per story and four stories, this suggests that one stairway's share of the total construction cost would be 9.5%.

Strengths of this estimate are the detail of the individual items and the fact that it was taken from an actual project bid. The drawbacks are that the enclosure construction type was CMU block (compared to California's more typical light wood-frame), and that the cost estimator did not provide a general per square feet cost for the building, thereby leading to the estimate with relatively poor understanding of the market.

Third-Party Cost Estimator, Six-Story Buildings, Toronto

Stairway cost: $228,000 (7.5% of total construction costs)*
*using PPP conversion factor of CAD 1.14 to USD 1)

LGA Architectural Partners obtained funding from the Canadian Mortgage and Housing Corporation to do a series of reports analyzing potential code changes to allow single-stair apartment buildings in Canada. They commissioned a report by Half Climate Design to look at the embodied carbon impact and direct construction cost of interior exit stairways in six-story buildings. The cost portion was conducted by Vermeulens, a cost estimation firm active in the United States and Canada.

The stairway costs for two-hour enclosures ranged from CAD 259,590 (wood stud) to CAD 416,810 (reinforced concrete). A separate companion report estimates full-building costs of single-stair prototypes, ranging from CAD 2,197 per square meter (six-story building with 22 units) to CAD 4,034 (three-story building with five units). However, these excluded mechanical, electrical, and plumbing (MEP) systems and sitework, for reasons specific to the environmental impact focus of the series. Because of this underestimate, the relative stairway cost would be biased upwards, as the denominator would be incomplete. As such, a median value was selected for the full-building costs from a 2024 report conducted by Altus Group, a real estate data provider based in Toronto. These costs ranged from CAD 245 to CAD 330 for a wood-framed condo up to six stories, to CAD 285 to CAD 390 for condos/apartments up to 12 stories (presumably assuming reinforced concrete, given the Canadian context). For the purposes of this analysis, only light wood-frame costs for both the stairway and the full building were considered to align closer with the California context. This led us to a stairway cost of CAD 259,590 compared to a full-building cost of CAD 288 per square feet, yielding a stairway share of 7.5%.

Strengths of the Toronto estimate include being produced specifically for studying the cost impact of stairways, and that there are different estimates for every type of construction and fire-resistance ratings. Weaknesses are that the stairway estimates do not include standpipes (which, extrapolating from the mid-Atlantic example above, would raise costs by nearly 10%); that the companion full-building cost estimates did not include MEP systems and therefore separate, more comprehensive estimates had to be used for full-building costs; and, finally, that the quotes are from Canada, where economic conditions and details of the building code have variances as compared to California.

General Services Administration Cost Estimate, 5-Story Building, Washington, D.C.

Stairway cost: $232,000 (12.5% of total construction costs)*
*applying inflation multiplier of 1.86

In 2007, William Hunt, Chief Estimator at the U.S. General Services Administration, produced an estimate of the construction cost for a series of stairways of different widths in a hypothetical five-story building in or around Washington, D.C. The estimates were that a 44-inch stairway would cost $124,886, a 56-inch stairway would cost $140,139, and a 66-inch stairway would cost $152,850. A multifamily under-construction price index published by the U.S. Census Bureau shows that prices between Q1 2007 and Q1 2024 have risen by 86%. Adjusting the 44-inch stairway cost estimate by the same amount yields a 2024 cost of $231,807. The full building is estimated at $100 per square feet, suggesting that a prototypical five-story single-stair building with 2,000 square feet of floor area per floor would cost $1 million to construct, meaning the stairway would account for 12.5% of the total cost.

The strengths of this estimate include the level of specificity provided for various stairway widths. The drawbacks are that the estimates are nearly two decades old and require adjustment for inflation to reflect current costs. The original source document is unavailable, leaving assumptions pertaining to the construction type and contractor profit margins uncertain. In addition, the full-building cost estimate of $100 per square foot appears overly generalized, as it is presented as a round figure and does not define the occupancy type, indicating that it should be regarded as a rough approximation.

WORK GROUP CONSIDERATIONS

If changes are to be considered by the California State Fire Marshal (SFM) that will modify the building code in such a way that introduces additional allowances of single-exit stairway conditions, it is the consensus of the Single-Exit Stair Work Group that the following standards be considered in addition to the requirements of the CBC when modifying Section 1006.3.4.

1. Single-exits should be permitted in R-2 occupancies that do not exceed a height of four stories and that are not classified as high-rise buildings in accordance with Health and Safety Code Section 13210.
2. Buildings with stories served by single exits above the third story shall be protected throughout with a fire sprinkler system. Fire sprinkler protection shall be included within stairways constructed with combustible framing materials.
3. Stories served by the single exit in buildings exceeding three stories in height shall not include more than four dwelling units per story and the floor area per story shall not exceed 4,000 net habitable square feet.
4. Where direct access from dwelling units into the exit stairway is not proposed, dwelling unit entry doors accessing the stairway through an intermediate common corridor shall be located along the natural path of travel that is not greater than 20 feet from the entry door into the exit stairway.
5. Occupiable roofs shall not be permitted above the fourth story.
6. Electrical receptacles shall not be permitted within the exit stairway.
7. Professional development and training opportunities are necessary for the Fire Service to be better prepared for single-exit response scenarios.

In the case of the SFM considering standards for single-exit stairways serving buildings up to six stories or greater in height, the Single-Exit Stair Work Group recommends further study through a State Fire Marshal Work Group.

The Single-Exit Work Group highlights the near unanimous feedback from California fire departments who are opposed to permitting single-exit stairway construction within the California Building Code for Group R-2 occupancy buildings and greater than three stories.

The Single-Exit Work Group highlights the difference of opinions based on stakeholder background. California fire departments were nearly unanimously opposed to taller single-exit R-2 occupancies, while other stakeholder groups felt it could be achieved safely.

APPENDIX A: CODE SUMMARY TABLE (US)

Locale	New York City		Seattle	WA State
Code section	1006.3.2 Item 6	1006.3.2 Item 7	1006.3.3, Item 7	App Q
Type of construction permitted (but not to supersede Table 504.4)	I, II	I, II	I, II-A, III-A, IV, V-A	I, II-A, III-A, IV, V-A
Maximum number of stories measured from grade	4	6	6	6
Number of dwelling units per story	3	NL	4	4
Allowable building area per story (sq. ft.)	2,500	2,000	NL	NL
Stairway required to roof via hatch/ladder	Yes	No	Yes (with exceptions)	Yes (with exceptions)
Fire-resistance rating of interior stairway shaft enclosure	2-hr	2-hr	1-hr (4 stories) 2-hr (>4 stories)	2-hr
Travel distance limit from unit door to stair	NL	NLR	20 ft	20 ft.
Travel distance limit from most remote point to stair	NL	NL	125 ft.	125 ft.
Corridor required for interior stairway	Yes	Yes	Yes	Yes
Emergency escape and rescue openings required	No	No	Yes[1] (up to 3rd story)	Yes (all stories)
Window openings fronting in a public way required	Yes	No	No	No
Type of sprinkler system required	NFPA 13R		NFPA 13	NFPA 13
Type of fire alarm required	Automatic		Manual or automatic	Automatic (water flow and smoke)
Type of smoke control required for interior stairway	Non-operable skylight		Pressurization	
Elevator hoistway opening protection required	No	No	Yes	Yes
Maximum number of single-exit conditions	NL	NL	2 (per property)	
Exit termination egress court width	NL	NL	Width must exceed depth, unless two exits	
Only R-2 occupancies may communicate with single-exit	No	No	Yes (except parking)	Yes
Ext. openings within 10 ft. prohibited from unrated stair openings	No	No	Yes	Yes
Electrical receptacles prohibited in stairway	No	No	No	No
Min. stairway width	36 in.	36 in.	36 in.	36 in.
Elevators required	> 4th floor (with exceptions)		No	No
Doorswing required in path of travel into stairway	No	No	Yes (if interior)	
Standpipe required	No	No	Yes	Yes
Single-exit prohibited from serving occupied roof	No	No	No	Yes

[1]Section 1030.1, item 2

APPENDIX B: CODE SUMMARY TABLE (INTERNATIONAL)

Locale	England/Wales	New Zealand	Sweden	Finland	Australia	Spain
Type of construction	N/A					
Maximum number of stories measured from grade	Unknown/not specified		16	Unknown/not specified		
High rise/height permitted	18 m (when sprinklered)	25 m (or 10 m w/o sprinklers)	N/A	52 m (24 m if P2 fire class)	25 m	28 meters
Number of dwelling units per story	NL	NL	NL	NL	NL	NL
Allowable building area per story sq ft	NR	NR (when sprinklered)	NR (when sprinklered)	NR	NR	1,000 sq. m. (~11k sq. ft.)
Interior exit stairway protection	1 or 2 hr, depending	Unknown/not specified	1 hr	1 hr	Unknown/not specified	
Travel distance limit from unit door to stair	15 or 25 ft.	N/A	33 ft.	N/A	20 ft.	
Travel distance limit from most remote point to stair	44 or 55 ft.	164 or 246 ft.	98 ft.	98 ft.	66 ft.	82 ft., +25% if sprinklered
Direct access to a stairway or through intermediate corridor	Corr	Corr	Depends	Direct	Corr	Corr (if >= 6 stories)
Window openings fronting in a public way required	No	No	Depends	Depends	No	
NFPA 13 fire sprinkler system	Yes (unknown standard)		No	Depends	~13D	None
Fire Alarm	Yes	Yes	Yes	Yes	Yes	
Non-combustible construction	No		No	No	No	
Stairway smoke control required	No	No	Yes	Yes	?	Pressurization > 5 stories
Min stairway width	NR	39 in.	35 in.	47 in.	39 in.	
Standpipe required	No (unless > 45m from hydrant)	Yes	No (unless > 24m height)		Yes	

APPENDIX C: CODE SUMMARY TABLE (NFPA AND ICC)

Note: Used in Vermont and Georgia in lieu of Chapter 10, now the basis for Minnesota, Oregon, and others

Locale	NFPA 101	ICC
Code section	30.2.4.6	E24-24
Type of construction	NR	NR
Maximum number of stories measured from grade	4	4
High rise/height permitted	NR	NR
Number of dwelling units per story	4	4
Allowable building area per story sq ft	NR	4,000
Stairway required to roof via hatch/ladder	NR	NR
Interior exit stairway protection	1 hr min.	NR
Travel distance limit from unit door to stair	35 ft.	NR
Travel distance limit from most remote point to stair	NR	NR
Direct access to a stairway or through intermediate corridor	NR	Direct
Emergency escape and rescue openings required.	NR	Yes
Window openings fronting in a public way required	NR	No
NFPA 13 fire sprinkler system	13 or 13-R	13-R
Fire alarm	NR	Yes
Non-combustible construction	No	NR
Stairway smoke control required	No	NR
Elevator hoistway opening protection required	NR	NR
Maximum of single-exit conditions per building	NR	NR
Exit termination egress court width	NR	NR
Other occupancies can't access only 1 exit only R-2	NR	NR
Exterior openings within 10 ft prohibited from unrated stair openings	NR	NR
Electrical receptacles prohibited in stairway	NR	Yes
Min stairway width	NR	NR
Elevators required	NR	NR
Doorswing required in path of travel into stairway	NR	No
Standpipe required	NR	Yes
Single-exit serving occupied roof	NR	NR

APPENDIX D: CALIFORNIA AB 130 (2025) SUMMARY

Purpose and Scope

Assembly Bill 130 (Chapter 22, Statutes of 2025) was comprehensive housing legislation aimed at modifying multiple housing related statutes. Its goal was to reduce barriers to housing production, strengthen housing accountability, adjust financing and oversight for affordable housing, streamline permitting, and reinforce protections in housing development and governance. Of particular importance is that cities and counties shall not make a change or modification to new building standards applicable to residential units until June 2031 unless they are deemed an emergency need, relate to home hardening, mixed-fuel residential construction, or certain administrative practices, as specified.

State agencies are prohibited from updating the building standards related to residential units unless one of several conditions is met, one of which is the building standard is proposed for adoption in relation to the State Fire Marshal's study of standards for single-exit, single-stairway apartment houses with more than two dwelling units in buildings above three stories.

Key Provisions and Impacts

1. **Accessory Dwelling Units (ADUs) & Junior ADUs**
   AB 130 strengthens state-level protection for ADU development by voiding restrictive covenants, removing the ability of local jurisdictions to impose financial requirements, and limiting the scope of local objective standards.
2. **Local Government & Planning/Permitting Procedures**
   The bill removes sunset dates on several Housing Accountability Act provisions, streamlines permitting by limiting hearings and extending timelines, and broadens the definition of 'development project' under the Permit Streamlining Act. Applications may be deemed approved if agencies fail to act within mandated timeframes.
3. **Building Standards & Local Modifications**
   Between October 1, 2025, and June 1, 2031, a city or county shall not make a change or modification to new building standards applicable to residential units unless one of several conditions outlined in the provisions of AB 130 is met. This specific limitation on the development of Title 24 regulation ensures greater uniformity and predictability in statewide housing construction during that period.
4. **Affordable Housing & Financing**
   The bill prioritizes seismic retrofitting for affordable multifamily housing, expands use of the National Mortgage Special Deposit Fund, creates an Affordable Housing Default Reserve Account, and enhances funding for transit-oriented development. CEQA exemptions are expanded, with labor standards such as prevailing wage requirements applying to exempt projects.
5. **Homeowners' Associations/Common Interest Developments**
   The bill limits penalties imposed by associations, requires opportunities to cure violations, and makes settlements judicially enforceable, thereby enhancing homeowner protections.

6. **Homeless Shelters & Inspections**
   Annual inspections of homeless shelters are mandated, operators must post occupant rights, and local governments must submit regular reports. HCD is empowered to enforce compliance, with potential funding consequences for jurisdictions that fail to comply.
7. **Additional Provisions**
   AB 130 amends surplus land rules, adjusts subdivision regulations, increases the renter tax credit, and extends several housing-related laws beyond prior sunset dates.

APPENDIX E: CAL FIRE – OFFICE OF THE STATE FIRE MARSHAL SINGLE-EXIT STAIR LEGISLATIVE REPORT CHARTER

PURPOSE
The Single-Exit Stair Work Group will provide recommendations to the State Fire Marshal for a report to specified legislative committees and the California Building Standards Commission to be submitted by January 1, 2026. The recommendations will address fire and life safety or emergency activities in single-exit, single-stairway apartment houses with more than two dwelling units in buildings above three stories up to the high-rise limit as established by the California Code of Regulations, Title 24, California Building Standards Code.

GOALS AND OBJECTIVES
The Work Group is being formed pursuant to Assembly Bill 835 (Chapter 345, Statutes of 2023) to advise the State Fire Marshal on research and recommendations for apartment houses with more than two dwelling units in buildings above three stories up to the high-rise limit as established by the California Code of Regulations, Title 24, California Building Standards Code. This Work Group shall report to the California State Board of Fire Services.

Goal:
To provide solutions to enable the State Fire Marshal to make recommendations on understanding the fire and life safety or emergency activities in buildings with two or more dwelling units above three stories in height up to the high-rise limit as established by the California Code of Regulations, Title 24, California Building Standards Code.

Objectives:
- Provide solutions to enable the State Fire Marshal to make recommendations on understanding the impacts of a single-exit stair in buildings with two or more dwelling units above three stories on or before January 1, 2026.
- Provide a discussion on how single-exit stairs can affect the risk to residents, fire service operations, and the housing inventory.
- Provide an evaluation of the cost impacts of fire mitigation building features.
- Review potential benefits potentially associated with single-stair multifamily design such as cost, design flexibility to utilize constrained urban properties, density, and unit mix
- Review and list other jurisdictions' adopted codes that allow the single-exit stair.
- Review and provide a list of research, academia, and industry perspectives.
- Provide a list of identified barriers to adopting and implementing the single-exit stair concept.
- Provide recommendations or solutions for existing buildings

WORK GROUP MEMBERSHIP
Members of the Work Group shall be open to interested parties as well as the following:

- The State Fire Marshal or their designee
- The Executive Director of the Building Standards Commission or their designee
- The Director of Housing and Community Development or their designee
- A representative of the Center for Building in North America
- A large city or county fire chief to be nominated by the California Fire Chiefs Association
- A rural fire chief to be nominated by the Fire Districts Association of California
- A fire prevention officer to be nominated by the California Fire Prevention Officers Association
- A fire marshal to be nominated by the California Fire Chiefs Association.
- A representative to be nominated by the California Professional Firefighters
- A representative of California YIMBY
- A representative of the California Building Industry Association
- A representative of the California Building Officials Association
- A large urban city representative to be nominated by the League of California Cities
- A rural county representative to be nominated by the Rural Counties Representatives of California
- A large county representative to be nominated by the California State Association of Counties
- A representative from California State University
- A representative from the University of California

The State Fire Marshal may decide to add any other appropriate stakeholders in consultation with the State Board of Fire Services. The Work Group chairperson shall be the State Fire Marshal or the State Fire Marshal's designee. The State Fire Marshal may appoint a vice-chairperson.

The members of the Work Group shall serve without compensation.

MEETINGS

- Schedule
  - The Committee shall meet on the first Tuesday of each month. If the meeting lands on a holiday, the Work Group shall postpone and meet the following Tuesday.
- Location
  - Meetings shall be regularly scheduled virtually
  - Meetings will not be canceled without cause

To ensure consistency and transparency, the following shall be adhered to:

- An approved, published agenda,
- Meeting minutes,
- Voting requirements (including requests for roll call voting).

Rules for recognition and timelines for debate will be suspended unless enacted explicitly by the membership.

Meetings may be rescheduled if the Work Group does not have at least 50% plus 1 attendance of the listed members.

A simple majority of the entire voting membership will pass a motion.

All voting and non-voting members may submit informational, discussion, and/or action items for the agenda before the meeting. Agenda items will take precedence, and non-agenda items may be transacted upon if time permits.

To the maximum extent possible, even though not required by law, the Work Group shall follow the Bagley-Keene Open Meeting Act. This includes but is not limited to, published notices and agendas, meetings open to the public, and voting on agenda items that require it.

WORK GROUP PROTOCOL

- The chairperson has the authority to set time limits on any agenda item

PROCESS

- The Code Development and Analysis Division will provide administrative support to the Work Group
- Agenda items should be submitted to the Work Group coordinator a minimum of 15 days before the scheduled meeting date
- Minutes will be taken at each meeting that captures the essence and actions of the meeting
    - Minutes will be posted on the Office of the State Fire Marshal website

QUORUM

A simple majority (50% plus 1) of the committee membership shall be a quorum.

RESPONSIBILITY OF THE CHAIR

- Interpretation and decisions are the purview of the chair