
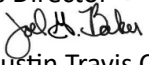





MEMORANDUM

TO: Mayor and Council Members

THROUGH: Veronica Briseño, Assistant City Manager

FROM: José G. Roig, Development Services Director 
Chief Joel Baker, Austin Fire Chief 
Chief Robert Luckritz, EMS Chief, Austin Travis County EMS 

DATE: June 26, 2024

SUBJECT: **Resolution No. 20240502-094 Staff Update - Single Stairway Provisions for Multifamily Developments Up to Five-Stories**

We want to provide all of you with a multi-departmental recommendation on [Resolution No. 20240502-094](#) which proposes an amendment to the 2024 International Building Code (IBC) allowing a single stairway for multifamily developments up to five stories.

Technical code and first responder experts from the Development Services Department (DSD), Austin Fire Department (AFD), and Austin/Travis County Emergency Medical Services (ATCEMS) reviewed Austin's single stairway amendment and found significant potential safety risks to occupants and first responders were we to amend the Code. As a result, staff recommends that the City of Austin continue to allow the model national codes to set minimum standards for construction in Austin, thereby maintaining two means of egress for multifamily developments.

Safety Concerns

Constructing a single stairway --as opposed to two separate stairways-- for a five-story building poses escape hazards for occupants during fire, active shooter, severe weather, or large-scale emergencies. The following points highlight primary safety concerns:

- Occupant Risk Considerations – Fire-loss data, sometimes cited by proponents of single stairway design, suggests that such an approach poses a low risk to occupants. While the probability of a fire is low, the consequences of a fire with a single stairway design make this an inherent risk. The national standard set in the model code mandating two staircases reflects the increased likelihood of significant injury and mass casualties in limiting occupants to a single exit in the event of a fire or other emergency.
- Subject Matter Expert Findings – A national proposal to permit mid-rise buildings to be served by a single exit stairway was reviewed and overwhelmingly rejected by the International Code

Council (ICC) Technical Committee, citing testimony from many national safety experts about the dangers it would pose to occupants and first responders.

- Hindered Evacuation Tactics – AFD employs evacuation tactics by designating one stairwell for evacuation and the second stairwell for firefighting operations. Eliminating a stairwell may lead to unsafe exposure of fire conditions to occupants and cause counterflow and congestion with occupants and firefighters attempting to use the same stairs for both egress and ingress during an emergency.
 - Delayed access by firefighters allows an emergency condition to worsen, and delayed evacuation puts occupants at risk. This is further complicated when there are mobility impaired individuals being evacuated, due to additional time needed to traverse stairs.
- Lack of Equipment – Unlike the few cities that permit a single stairway in a mid-rise residential building, AFD’s ability to perform rescue from high windows is limited by a relatively small number of ladder trucks.
 - The 13 ladder trucks in Austin are spread over a wide geographic area that includes two trucks in or adjacent to Williamson County and one in the Hays/Travis County border. Both the number of Austin’s ladder trucks and their geographic distribution means AFD cannot ensure adequate response time.
- Insufficient and Aging Water Infrastructure in Residential Areas –Changes in our land development code will allow small, multifamily properties up to five stories to be developed in residential areas that may not have sufficient water flow and pressure to suppress a fire in a five-story building.
- Obstructed Emergency Medical Services – A single stairway has the potential to create bottlenecks that may result in delayed services to patients or injured first responders. A need for a stretcher-accessible elevator in buildings with a single stair may be necessary if a single stair code amendment is passed.
- Evacuation In Active Shooter Situations – The best chances for survival in an active shooter situation require occupants to exit a building immediately if possible. The [U.S. Department of Homeland Security](#) states that facilities should have at least two evacuation routes. Eliminating a stairway reduces paths of evacuation for occupants attempting to flee a life-threatening emergency.

Comparison of Seattle, WA, New York, NY and Austin, TX

New York and Seattle are cited as cities that have adopted single-stairway regulations. The following table shows the population density per square mile for each of the three cities. Both New York and Seattle outpace Austin’s population density while Austin has the most land area. Based on a calculation of Austin’s proper population of 983,126 and a two percent annual growth, it would take Austin 55 years to meet Seattle's current density.

Austin is not facing the same population density challenges as Seattle and New York. This allows Austin time to seek solutions for more middle-scale density with fewer life safety implications.

City	Seattle, WA	New York, NY	Austin, TX
Population Density (Persons/Square Mile)	9,024	26,397	3,012
2024 Population (Proper)	757,992	7,931,147	983,126
Land Area (Square Miles)	84	300	326
<i>Source: https://worldpopulationreview.com/us-cities</i>			

The table below details the requirements for multifamily developments with a single stair by City. If the code amendment is passed, the future requirements for Austin are detailed in the last column.

City	Seattle, WA	New York, NY	Austin, TX
Height	6 Stories	6 Stories	5 stories <i>(as allowable per construction type 2021 IBC)</i>
Light Wood Framing	Allowed	Not Allowed ¹	Not Allowed
Sprinklers	NFPA 13 ²	NFPA 13R ²	NFPA 13
Non-Stair Fire Fighter Access	One opening per floor by aerial ³	One opening per floor by aerial	- Evacuation Elevator ⁴ - One opening per floor by aerial
Enclosed Stairway Shaft	Required	Required	Required
Ventilated Pressurized Stair	Required	Not required	Required
Max Floor Size ⁵	4 Units	2,000 sf	4 Units
¹ New York requires non-combustible construction which improves the protection of buildings and their occupants from fire. ² While Seattle does not require non-combustible construction, they do require a more robust sprinkler system (NFPA 13) as opposed to New York's residential sprinkler design system. ³ Both Seattle and New York require one opening per floor to allow for aerial rescues. Aerial rescues are dependent on sufficient ladder truck availability. ⁴ Austin proposes adding occupant evacuation elevators due to insufficient inventory of ladder trucks. ⁵ Maximum floor size is the travel distance to a stairwell.			

Impact on Construction Costs and Affordability

The implementation of provisions for a single stairway may result in higher construction costs to compensate for the loss of egress stairs. Examples of layered protection in buildings to ensure safety if this amendment is passed include:

- Non-combustible construction
- Pressurized stair & elevator shaft
- Back-up power for occupant evacuation elevator

A shift in staircase design requirements is unlikely to have a measurable impact on the number of housing units built. It is not guaranteed that additional units constructed would be offered at a price that would improve housing affordability, since the developer would not be constrained with respect to pricing for rent or sale.

Additionally, this resolution specifies a single stairway for multifamily developments up to five stories, however, the number of occupants is not limited. This means an unlimited number of occupants may be served by a single exit.

Many of these proposed multifamily developments serve our more vulnerable populations; our goal is to continue to promote equitable access for those with mobility challenges as well as protect the standard of living and life safety to all occupants.

If you have any questions, please contact José G. Roig, Development Services Director, at 512-974-1605 or via email at Jose.Roig@austintexas.gov.

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