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PUBLIC INTEREST COMMENT

IMPROVING OPPORTUNITIES FOR MULTIFAMILY HOUSING IN VIRGINIA

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Update the Statewide Building Code
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I appreciate this opportunity to comment on the issue of permitting single-staircase multifamily buildings with up to six stories in the commonwealth. I am Emily Hamilton, a senior research fellow at the Mercatus Center at George Mason University, where I am codirector of the Urbanity Project. The Mercatus Center is dedicated to advancing knowledge relevant to current policy debates. Toward this end, its scholars conduct independent, nonpartisan analyses of legislation, rules, and proposals.

The commonwealth's current requirement for multifamily buildings taller than three stories to have two staircases leads to the ubiquity of double-loaded corridor apartment buildings one sees across Virginia today. Multifamily buildings with two staircases generally have large floorplates with a long corridor that has units on both sides to spread the cost of the second staircase across many households. Double-loaded corridor multifamily buildings are a key source of new housing, but permitting single-staircase buildings as well would create opportunities to build multifamily housing more affordably and on small sites where typical double-loaded corridor buildings are not feasible.[1] My own family lives in a rare three-bedroom condo in a courtyard building in Arlington. Current regulations mean that very few Virginia families have the same option, but single-stair reform would open up less expensive and more flexible multifamily construction.

Safety can be protected in multifamily buildings by various methods, some of which are discouraged under today's code, which requires two points of egress regardless of what other safety features a building provides. In this comment I address safety for single-staircase buildings as well as the potential benefits of permitting single-stair construction for multifamily buildings up to six stories.

1. Emily Hamilton and Salim Furth, "Housing Reform in the States: A Menu of Options for 2023" (Mercatus Policy Brief, Mercatus Center at George Mason University, Arlington, VA, July 2022), 6–7.

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SAFETY

A high level of fire safety in multifamily buildings can be achieved using multiple strategies: hardwired smoke detectors, sprinklers, refuge areas such as balconies, building materials that are slow to burn, firefighter rescue, and, of course, egress. The International Building Code—which in spite of its name is only used in the United States and some of its island territories—reduces incentives to achieve fire safety using materials that are slow to burn, such as masonry or concrete, because a building of a certain height must have two staircases regardless of its construction materials.

Despite many jurisdictions in the United States having required multifamily housing to have two means of egress for decades, the United States has poor fire safety outcomes compared with other wealthy countries. In the United States, the annual rate of fire deaths between 2016 and 2020 was 1.06 per 100,000 people.[2] Other countries that permit single-staircase buildings of six stories (or, in some cases, more) have lower fire death rates, including Austria (0.46), Germany (0.43), Switzerland (0.20), and the United Kingdom (0.52).[3] And the effect of two staircases on fire safety outcomes is not necessarily one of straightforward improvement. Some research on evacuation using human behavior simulation indicates that double-loaded corridor buildings fare the worst among building types because they require long walks to emergency exits.[4]

This board should look to the examples of Seattle and New York City, where single-staircase multifamily buildings are permitted to be up to six stories so long as the buildings are made from materials that have slow burn times and include sprinklers.[5] This approach offers multifamily developers the opportunity to select from different methods of achieving fire safety, rather than mandating two staircases without consideration of other features.

AFFORDABILITY

Because the International Building Code requirement for multifamily buildings to include two interior staircases makes it infeasible to build skinny multifamily buildings, it rules out many small infill sites as places for multifamily construction in Virginia. Infill construction can take place on lots that are already served by all necessary infrastructure and are often located closer to job centers than to greenfield sites, but the building code takes many of them off the table for multifamily construction. Housing-starved localities across the state, from Hampton Roads to Charlottesville to Alexandria, can ill afford regulations that prevent multifamily construction where it makes the most sense.

The two-staircase requirement also leads to buildings with a higher percentage of space dedicated to circulation, including corridors, elevator shafts, and staircases. A typical double-loaded corridor building may include twice as much space dedicated to circulation as a point-access-block single-stair building.[6] This circulation space is a cost that must be shared by all a building's tenants or homeowners. And a single-stair building can facilitate a 20 percent decrease in façade materials, unlocking additional cost

2. Nikolai Brushlinsky et al., "World Fire Statistics" (report no. 27, Center for Fire Statistics, International Association of Fire and Rescue Services, Ljubljana, Slovenia, 2022), table 1.7.
3. Brushlinsky et al., "World Fire Statistics," table 1.7.
4. Seung-Woo Cho and Kyeong-Bae Kim, "A Study on the Effects of Silver Housing on Evacuation Safety Using Human Behavior Simulation—Focused on Floor Planning of Corridor Types in Urban Silver Housing," *Journal of the Architectural Institute of Korea* 35, no. 9 (2019): 41–48.
5. "Jurisdictions," The Second Egress: Building a Code Change, accessed July 18, 2022, https://secondegress.ca/Jurisdictions.
6. Mike Eliason, *Unlocking Livable, Resilient, Decarbonized Housing with Point Access Blocks* (Seattle, WA: Larch Lab, 2021), 5, 7.

savings.[7] One analysis of potential savings from permitting single-stair buildings in Virginia indicates that this reform could reduce the cost of constructing multifamily buildings by hundreds of thousands of dollars, owing to the reduction in square footage dedicated to the second staircase alone.[8]

Because single-stair buildings often have windows on more than one side of each unit, they open up opportunities for buildings with larger units, including three- and four-bedroom units. Permitting single-stair multifamily construction would create new opportunities for the commonwealth's families to live comfortably in walkable neighborhoods close to jobs and amenities when they might not be able to afford single-family construction in the same area.

CONCLUSION

Permitting single-stair buildings in Virginia would create an opportunity for more, lower-cost multifamily construction, and evidence from other countries suggests that this construction is at least as safe as the double-loaded corridor alternative.

7. Eliason, *Unlocking Livable, Resilient, Decarbonized Housing*, 24.
8. Wyatt Gordon, "How Allowing Single-Staircase Buildings Could Change Virginia's Housing Market," *Virginia Mercury*, May 5, 2022.