

Potential to Update the Building By-law to Enable Single Egress Stairs

December 10, 2025



Council directed Planning, Urban Design and Sustainability (PDS) and Development, Buildings and Licensing (DBL), in partnership with Vancouver Fire Rescue Service (VFRS) to:

- Further consult with industry on acceptable Single Egress Stair solutions
- Review related research and literature
- Aim to harmonize the BCBC and the Vancouver Building By-law (VBBL)
- Report back to Council in Fall 2025 with recommendations for consideration

- North America construction code have generally required at least two exits per floor in buildings higher than two storeys.
- In 2024, the BC Building Code was amended to include SES designs to allow larger, multi-room apartment options, and facilitate development previously constrained by land assembly and cost.
 - Local authorities could opt in based on firefighting capabilities and operational capacity
 - BC Professional Fire Fighters (BCPFFA), Fire Chiefs Association of BC (FCABC), and BC Association of Chiefs of Police (BCACP) do not support the BCBC SES due to concerns of fire and public safety.
- In 2025, staff responded to Council direction by conducting a review of SES research, including costing and undertook an extensive consultation

1. Enable a single exterior exit stair and passageway typology

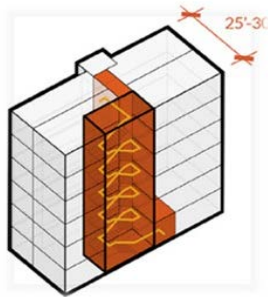
Amend Part 3 of the Vancouver Building By-law to include single egress stair requirements for an exterior single stair and passageway design.

2. Enable space efficient scissor stairs

Amend Part 3 of the Vancouver Building By-law to include provisions for space efficient scissor stairs

Solutions Considered

BCBC Single Egress Stair

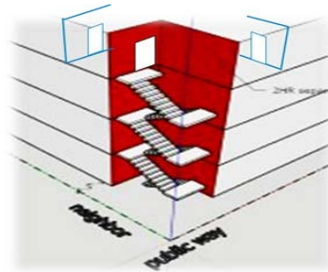


Application:

Up to 6 storeys
24 occupants per floor;
4 suites per floor

- 50% Wider Stair
- Enhanced Automatic Fire Suppression
- Additional Smoke Control Measures

Single Exterior Exit Stair and Passageway

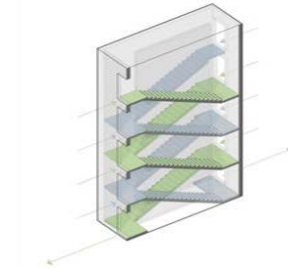


Application:

Up to 6 storeys
24 occupant per floor;
4 suites per floor, except 6 suites on floors 1 to 3

- Inherently smoke free egress system
- Increased cross-ventilation & light
- Can facilitate social connection

Space Efficient Scissor Stairs



Application:

Up to 6 storeys
*No limit on suites per floor**

- Reduced risk of loss of egress
- Supports simultaneous egress and fire response

*This is a space efficient two stair solution, limited by building size (600 m²) and egress width

BC Single Egress Stair: Findings



Industry Feedback	Livability	Costing
<ul style="list-style-type: none">✓ Challenges pertaining to fire safety✓ Extensive and costly design requirements✓ National Code development process for SES ongoing<ul style="list-style-type: none">• Reluctance to adopt BCBC SES if requirements will change in future	<ul style="list-style-type: none">✓ Enables small-site developments• Most units with windows on at least two sides• increased daylighting• improved cross ventilation	<ul style="list-style-type: none">✓ Increased costs, due to number of additional fire and life safety provisions, compared to other solutions✓ Ongoing maintenance costs and inspections

Single Exterior Exit Stair & Passageway: Findings



Industry Feedback	Livability	Costing
<ul style="list-style-type: none">✓ Fire safety and cost saving benefits✓ Compatible with temperate weather✓ Strong support from CBO, VFRS and other fire safety professionals for the inherently smoke free design✓ Measured single stair approach balancing fire safety, construction cost, liveability	<ul style="list-style-type: none">✓ Enables small-site developments with more living area and less interior circulation and exiting space<ul style="list-style-type: none">• Most units with windows on at least two sides• Increased daylighting• Improved cross ventilation• More bedrooms✓ Facilitates courtyard typology<ul style="list-style-type: none">• enhances social connections✓ Supports additional units on levels 1 to 3	<ul style="list-style-type: none">✓ Improved floor plate efficiency allows more rentable/saleable space✓ Compared to the BC SES, this design has similar costs and density benefits with better safety performance✓ Reduces reliance on costly, time-consuming land assembly

Space Efficient Scissor Stairs: Findings



Industry Feedback	Livability	Costing
<ul style="list-style-type: none">✓ Competitive alternative to BC SES for space efficiency with two-stair design✓ Strong support from fire professionals and VFRS, as it allows for conventional firefighting techniques	<ul style="list-style-type: none">✓ Short corridor format supports shallow unit design (less floor space far from windows)✓ No unit or occupant load restriction (compared to single egress stair solutions)	<ul style="list-style-type: none">✓ Alternative to standard double-loaded corridors✓ Flexible design option without compromising viability✓ Comparable construction costs and floor plate efficiency to VBBL✓ Compared the BCBC SES, more attractive solution, offering significant floor efficiency improvements and lower overall cost



Municipal Building Officials and Fire Departments

- Some considering supplementary requirements or exploring use of alternative solutions
- Interest is high with inquiries received across multiple cities, but actual applications remain low
- Concerns over unclear interpretation and over-reliance on active fire safety systems



Canadian Board for Harmonized Construction Codes

- SES is under review. Changes, if recommended, likely to be incorporated into the 2030 Code cycle



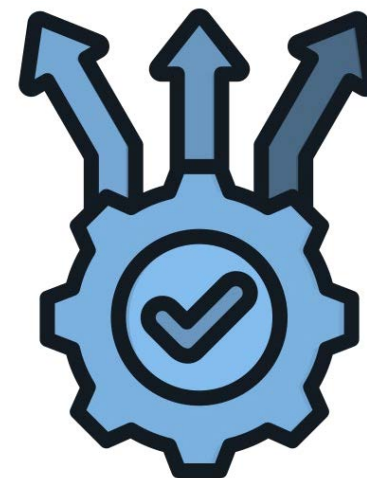
BC Ministry of Housing

- Supportive of Vancouver's other space efficient egress solutions and providing options for design flexibility
- Open to harmonization with future National Code provisions

Key Research Findings on Single Egress

- **SES buildings feasible under strict conditions, but fire safety concerns persist.** SES buildings can meet life safety standards with enhanced fire safety protection (e.g. smoke lobbies, fire-rated vestibules and pressurized corridors)
- **Loss of egress redundancy and several operational challenges** have been identified. Fire Services still have significant concern with respect to SES buildings
- **Could improve unit quality and support urban infill development** for performance-based designs can but must address evacuation challenges for at-risk groups
- **Compensatory safety measures to the Building Code are required,** alternative solutions are being considered in other jurisdictions

- **Alternative solution** - an existing process under the VBBL
 - Permit designs demonstrating equal or better performance to VBBL requirements
 - Alternative solution process explored by the City of Edmonton
 - Other municipalities are also exploring to enable SES
- If approved, proposed recommendations would establish a clear benchmark for alternative single egress solutions to design from
- VFRS supports the alternative solutions pathway as it includes review by the fire department



Industry, PDS, DBL, VFRS have provided strong support for the proposed recommendations to:

- 1. Enable a single exterior exit stair and passageway typology;**
- 2. Enable space efficient scissor stairs; and,**
- 3. Review SES National Code when available.**

Thank you

