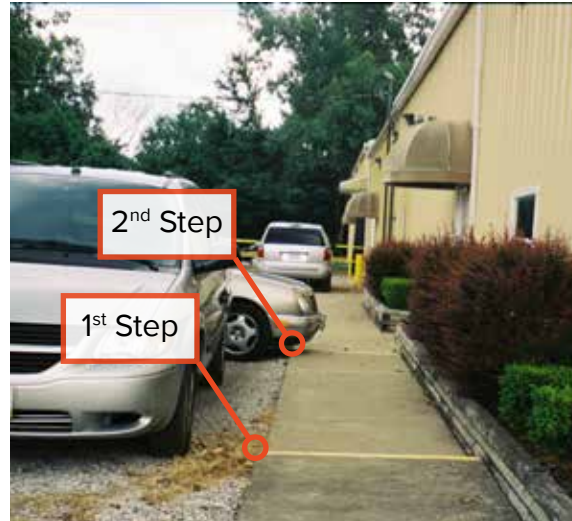


## SHORT FLIGHT STAIRS & SINGLE STEP TRANSITIONS

Single step transitions and short flight stairs have long been recognized as potentially dangerous. Unless they are provided with features to make them conspicuous to users, they are subject to not being noticed, and that can result in a fall. If a short flight or single riser exists, there are effective ways to reduce the likelihood that they will cause a fall. This article addresses some of the relevant standards and safety features used to improve the safety of short flight stairs.

### Single Step Transitions in the Real World:

Pedestrians typically scan ahead in the direction of their travel, not directly in front of their feet. Low elements in the path of travel are often overlooked and are commonly associated with missteps, resulting in injury.



View Descending



View Ascending

## SMALL CHANGES IN ELEVATION CAN BE INCONSPICUOUS.

### Relevant Standards

Standards for stair design are defined in building codes, fire codes and property maintenance codes. Stair standards are further defined by publications from various professional organizations. Examples below:

Standard Practice for Safe Walking Surfaces (ASTM F1637) is a nationally published standard that covers design and construction guidelines and minimum maintenance criteria for new and existing buildings and structures. It serves as a national standard for defining the necessary elements of safe walking surfaces. F1637 defines short flight stairs as those stairs with three or fewer risers, and directs that short flight stairs shall be avoided where possible.

Guidelines for Stair Safety is a nationally published study prepared by the U.S. Consumer Product Safety Commission (CPSC) in 1979 whose findings serve as a standard for minimum requirements for safe design, construction, and maintenance. Guidelines cautions against single riser stairs, which are not reliably identified by users, particularly in descent.

The Life Safety Code (NFPA 101) is a nationally published model code that provides minimum safety requirements for building elements, including means of egress. As early as 1994, the code explained how steps spanning small elevation differences go unnoticed and create conditions conducive to missteps.

### Safety Components

Architects utilize specific design features to increase the safety and utility of the built environment. While codes vary from region to region, the following design features are generally applicable to short flight stairs and may be relevant to your case.

1. Landing and tread edges should be made conspicuous.
2. In two riser stairs, minimum tread depth requirements may apply.
3. A sloping handrail within 30" of the travel path improves conspicuity and may be required.
4. In some scenarios a ramp should be use instead of a step.
5. Local codes may require additional or different safety features.

Our architectural experts can determine if the stairs/walkways in your case were appropriately designed, constructed, and maintained.

### Contact an Expert

The premises safety team at Robson Forensic investigates matters involving the design, construction, operation, and maintenance of residential, institutional and commercial premises. All of our experts are highly qualified, but depending upon the unique facets of your case, one expert may be better suited to assist with your investigation. Please contact one of our experts directly to discuss the matter at hand and how we can assist.