HOUSE OF REPRESENTATIVES
FINAL BILL ANALYSIS

BILL #:	CS/CS/HB 1215	**FINAL HOUSE FLOOR ACTION:**	
SUBJECT/SHORT TITLE	Residential Elevators	119 **Y's** 0 **N's**	
SPONSOR(S):	Commerce Committee, Careers & Competition Subcommittee, Jacquet and others	**GOVERNOR'S ACTION:**	Approved
COMPANION BILLS:	CS/SB 1634		

SUMMARY ANALYSIS

HB 1215 passed the House on May 3, 2017, as CS/SB 1634.

In 2016, the Legislature created s. 399.031, F.S., the "Maxwell Erik 'Max' Grablin Act," to provide requirements for new elevators in private residences. However, the requirements were based on wheelchair lifts which have a different weight and speed than residential elevators. The bill amends the Act to provide requirements, which are based on residential elevators, for new elevators in private residences

The bill removes the requirement that the underside of the platform of an elevator car be equipped with a device that interrupts the electric power to the driving machine motor and brake, and stops the elevator car's downward motion, if the platform of the elevator car is obstructed anywhere on its underside in its downward travel.

The bill provides that all new elevator controllers in private residences must:

- Monitor the close and lock contacts of the hoistway door.
- Cut off any power from the elevator motor and brake if the closed and locked contacts of the hoistway door are open while the elevator car is not in the unlocking zone for the hoistway door.
- Restore power upon the close and lock contacts being returned to the correct position and the controller being manually reset.

The bill provides that a visual indicator must be visible at all floors when the controller cuts off power to the motor and brake because the hoistway door's contacts are open while the car is not in the correct position. The indicator must remain visual until power has been restored to the elevator.

The bill also requires the Florida Building Commission to adopt, by October 1, 2017, a provision for a hoistway door space guard that can withstand a specific amount of force.

The bill does not have a fiscal impact on state or local governments. The bill may have an indeterminate positive fiscal impact on the private sector.

The bill was approved by the Governor on June 14, 2017, ch. 2017-97, L.O.F., and will become effective on July 1, 2017.

I. SUBSTANTIVE INFORMATION

A. EFFECT OF CHANGES:

Present Situation

Chapter 399, F.S., on elevator safety, is enforced by the Division of Hotels and Restaurants within the Department of Business and Professional Regulation (DBPR). Section 399.02(3)(u), F.S., lists elevators located in private residences as equipment not covered by the chapter.[1] However, s. 399.031, F.S., sets forth building requirements for new elevators in private residences.

The Florida Building Code (Code) provides requirements for "the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height… ."[2] The Code provides that private residence elevators shall comply with American Society of Mechanical Engineers (ASME) requirements, and shall comply with the requirements set forth in s. 399.031, F.S.[3]

ASME develops and maintains major codes addressing safety in design, construction, installation, operation, inspection, testing, maintenance, alteration, and repair of elevators, dumbwaiters, escalators, moving walks, material lifts, and dumbwaiters with automatic transfer devices, wheelchair lifts, or inclined-stairway chair lifts.

In the last few years, the media reported several private residential elevator accidents involving children.[4] A major concern is that many residential elevators have a dangerous gap between the elevator and hoistway door, the allowing children as old as 12 to fit between them. The hoistway door is the door that opens to reveal the elevator car or elevator shaft. When the elevator is called to another floor, the hoistway door automatically locks, and the child's body is carried along with the elevator car, often crushing the child, leading to death or permanent injuries.[5]

In January 2015, 12-year-old Maxwell Erik "Max" Grablin crawled into the elevator shaft in his home in Bradenton to find his pet hamster. The elevator's hoistway door locked behind him, trapping him in the elevator shaft. The elevator was lowered and crushed him.

The owner of the elevator company indicated to Mrs. Grablin that the accident that resulted in Max's death would not have happened if the elevator had an inexpensive sensor.[6]

On January 26, 2016, testimony was offered during the regular meeting of the Florida House of Representatives Business & Professions Subcommittee that a device underneath the elevator, similar to the sensors at the bottom of garage doors, could be installed to prevent this issue from happening again in the future, and that the devices would not be expensive.[7]

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[1] s. 399.02(3)(u), F.S.
[2] Section R101.2 of the 5th edition of the Florida Building Code (Residential).
[3] Section R321.1 of the 5th edition of the Florida Building Code (Residential) and s. 399.031, F.S.
[4] *See* The Safety Institute, *Safety Advocates Petition CPSC for Mandatory Residential Elevator Standard Citing Numerous at Deaths* http://www.thesafetyinstitute.org/safety-advocates-petition-cpsc-for-mandatory-residential-elevator-standard-citing-numerous-deaths/ (last visited March 8, 2017), and CBS News, *In-home elevator accidents causing catastrophic harm to kids* at http://www.cbsnews.com/news/in-home-elevator-accidents-causing-catastrophic-harm-to-kids/ (last visited March 8, 2017).
[5] *Id*.
[6] Kate Irby, *After Florida boy suffocates in elevator shaft chasing pet hamster, his parents on safety mission*, Jan. 18, 2016, http://www.miamiherald.com/news/state/florida/article55252190.html (last visited March 12, 2017).
[7] *See* The Florida Channel, *1/26/2016 House Business & Professions Subcommittee*, http://thefloridachannel.org/videos/12616-house-business-professions-subcommittee/ (last visited March 10, 2017).

As a result, the Legislature enacted the Erik "Max" Grablin Act.[8] The act requires that the underside of the platform of an elevator car be equipped with a device that interrupts the electric power to the driving machine motor and brake, and stops the elevator car's downward motion within two inches, if the platform of the elevator car is obstructed anywhere on its underside in its downward travel. The downward motion can only be resumed after the elevator has been manually reset. The act also provides specific measurements for clearances and requires specified force amounts for doors and gates of elevators.

Current requirements that residential elevators be equipped with an underside sensor and stop within two inches of detecting an object are based on the ASME code requirements for wheelchair lifts.[9] The ASME requires residential wheelchair lifts to be equipped with an underside sensor, and have the ability to stop within two inches after detecting an object underneath the lift.[10]

However, a residential elevator's weight and speed is entirely different from a wheelchair lift, and because of these differences it is difficult, and in some cases impossible, for residential elevators to meet current requirements. According to Eric Sharkey, President of Residential Elevators, LLC, wheelchair lifts typically have a lifting capacity of 400-450 lbs. and travel 15-20 feet per second. However, residential elevators typically have a lifting capacity of 950 lbs. and travel 40 feet per second. Also, there are two types of residential elevators, electronic and hydraulic. According to Mr. Sharkey, it is possible for electric elevators to stop within two inches. However, hydraulic elevators can only stop within four and half inches.[11]

The Legislature also required the Florida Building Commission to adopt the requirements of the Erik "Max" Grablin Act into the Code. The Code is implemented by the Florida Building Commission within DBPR.[12]

In order to comply with the Legislature, the Florida Building Comission enacted section R321.4.1 of the 2016 supplement to the 5th edition of the Florida Building Code (Residential). The subsection deals with the permanent installation of a nonremovable, hoistway door space guard.

The Florida Building Commission also enacted section R321.4.2 of the 2016 supplement to the 5th edition of the Florida Building Code (Residential). The subsection requires a device located on the underside of an elevator car to interrupt electric power to the driving machine and brake and to stop the elevator car's downward motion within two inches. The downward motion can only be resumed after the elevator has been manually reset.

Effect of this Bill

The bill replaces the requirement that the underside of an elevator car be equipped with a device that stops the elevator car's downward motion within two inches, if the elevator car is obstructed anywhere on its underside in its downward travel, with the requirement that the elevator controller monitors the close and lock contacts of the hoistway door.

If the close and lock contacts of the hoistway door are open while the elevator car is not in the unlocking position for the hoistway door then the controller must shut off power to the motor and brake.

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[8] *See* Ray Collins, *Governor signs law in wake of Suncoast elevator tragedy*, http://www.mysuncoast.com/news/local/governor-signs-law-in-wake-of-suncoast-elevator-tragedy/article_4a82e86c-fdf8-11e5-a148-2bcd4fd4a6e8.html (last visited March 9, 2017).
[9] Email from Eric Sharkey, President of Residential Elevators, LLC, residential elevators bill, (Apr. 17, 2017).
[10] The American Society of Mechanical Engineers, *Safety Standards for Platform Lifts and Stairway Chairlifts ASME 18.1-2008*, 32-33, https://ia600503.us.archive.org/12/items/gov.law.asme.a18.1.2008/asme.a18.1.2008.pdf (last visited on Apr. 17, 2017).
[11] Sharkey, *supra* note 9.
[12] s. 553.74, F.S.

Power to the elevator car may not be returned until the hoistway door's close and lock contacts are returned to the correct position after checking above and below the elevator car for obstructions, and manually resetting the controller with a master key.

The bill requires that an indicator be visible at all floors to signal if the controller has cutoff power to the motor and brake. The indicator must be visible until the close and lock contacts of the hoistway door have been returned to the correct position and the controller has been manually reset by authorized personnel.

The bill requires the Florida Building Commission to adopt, by October 1, 2017, a provision authorizing the permanent installation of a nonremovable, hoistway door space guard to comply with section R321.4.1(c)2-5 of the 2016 supplement to the 5th edition of the Florida Building Code (Residential). The provision must require the hoistway door space guard to withstand a force of 75 pounds without permanent deformation.

Mr. Sharkey indicated these requirements are easier to comply with and do not reduce the safety standards enacted by the Legislature.[13]

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

None.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

Residential Elevator manufacturers and installers may incur an indeterminate reduction in costs in complying with safety requirements that are easier to meet.

Homeowners may incur an indeterminate reduction in costs of complying with the new provisions when installing new residential elevators.

D. FISCAL COMMENTS:

Residential elevators are not regulated by DBPR, so there is no fiscal impact to the state.[14] Local governments will enforce the provisions of the bill while conducting building inspections, so no fiscal impact is anticipated on local governments.

[13] Sharkey, *supra* note 9.
[14] s. 399.02(3)(u), F.S.