



The Insider

National Elevator Industry, Inc.

Jul 10, 2012

Why Updated Building Transportation Codes Matter

For Building Owners and Passengers: Part II

The [previous edition of The Insider](#) discussed the safety of the riding public by using the most updated ASME family of codes and standards for elevators and escalators ([ASME A17.1/CSA B44](#) and [ASME A17.7/CSA B44.7](#)). As critical as this is, it's only half the story.

The Insurance Institute for Highway Safety lists the Subaru Forester as one of its top safety picks for 2012. But no matter how well designed and constructed this vehicle may be, it's only as safe as the infrastructure on which it travels. Crossing an old dilapidated bridge over a ravine in your new Subaru is probably not a good idea. Similarly, elevators built to the newest, state-of-the-art codes face a similar situation. Just as with the Subaru Forester, building transportation conveyances rely on buildings designed, constructed and maintained to updated building, fire and maintenance codes in order to achieve optimal levels of safety.

Information gathered by *NEII*® suggests that a mismatching of elevator and building codes is not typical. A jurisdiction that conscientiously stays up to date on building codes, more than likely does the same for elevator and other safety codes. For example, Oklahoma references both the most current ASME A17.1/CSA B44 codes and ICC [International Building Code](#). Unfortunately, the converse is also true: Our research discovered a southern state that still uses the 2009 SBCCI *Standard Building Code* and also references the old 2004 ASME A17.1 elevator code.



The emerging use of elevators to evacuate building occupants as a result of 9/11 is a case study on the development of elevator, building and fire codes working in concert to safely use of elevators to escape from a building on fire. Within the past year, the ASME A17 Standards Committee approved a new code section entitled *Occupant Evacuation Operation* that specifies how elevators should respond in a fire situation and when they can be safely used for evacuation. Elevators are programmed to respond to floors based on immediate risk. Building occupants are advised by lobby annunciators on how to use the elevators to safely evacuate the building.

This system relies on elevator controllers communicating with the building's fire alarm system to know where a fire has occurred and which floors need to be evacuated. Accordingly, changes to the [NFPA 72 National Fire Alarm Code](#) are being developed that will allow these systems to "talk" to each other, further demonstrating the benefits of cooperation.

Finally, the “envelope” in which this new type of evacuation will occur is a critical piece of the system. Building occupants can’t be expected to wait for an elevator in an unprotected lobby as smoke travels throughout the floor. Further, activated sprinklers spilling water onto the elevator equipment can’t be permitted either. With this in mind the ICC *International Building Code* requires enclosed lobbies have smoke protections and designs prevent the intrusion of nearby water into elevator hoistways. It also prohibits sprinklers in a machine room and requires additional fire protection for wiring providing power to the elevators – all with the goal of making elevators a viable means of evacuation for as long as possible. Finally, if elevators are taken out of service by their automatic firefighters’ emergency operation feature or a first responder, a protected exit stairway must be available from the elevator lobby. This will make it unnecessary for people to re-enter a smoke-filled floor to find another way out of a building. Occupants will also be advised that the elevators are no longer available for evacuation by the lobby annunciators.



There are scores of similar examples where public safety would be strengthened by coordinating code updates. Safe elevators rely on current and sound structural design in high seismic areas. Escalators in airports and shopping malls are made safer when current building codes require proper balustrades and guarding around the escalators’ floor openings. And of course, all of the safety features designed and constructed into a building and its transportation systems require proper maintenance so people will remain safe years after the building goes up.

In some jurisdictions, laws require automatically updating to the most current elevator and building code unless the jurisdiction’s code regulatory agency decides to amend or reject those documents. Such “triggers” ensure that the latest engineering and building design will be applied when building transportation systems are installed. State and provincial legislatures and city councils should consider “auto-adopt” legislation to achieve this result.

NEII is committed to public and building transportation safety and is ready to support jurisdictions in understanding the latest version of the code and assist in its adoption. *NEII* has representation on technical advisory groups within the regulatory structure of states and is actively involved in the code development process. *NEII* representatives are also willing to meet with state or local officials to discuss these comments and any other elevator-related code issues.

Quite simply, *NEII* strongly encourages the adoption in all jurisdictions of the model codes and standards promulgated by the [International Code Council](#) and the [National Fire Protection Association](#). This unified approach will ensure the most advanced design, construction and safety systems for the riding public.

Have a comment or question for the experts? Want to submit a topic for a future issue of the newsletter? Send us your thoughts at theinsider@NEII.org to keep the conversation going!



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