



Significant Fires in History

How They Happened and What Changed as a Result



Cocoanut Grove-Boston, MA

- November 28, 1942
- 492 casualties
- Young man unscrewed a light bulb to have a private moment with his date
- A busboy lit a match to screw the lightbulb back in
- Match ignited and caught the faux palm trees and spread to the other décor
- Fabric draping down from the ceiling quickly caught sending sparks over the patrons
- With one visible and usable exit patrons stampeded each other
- The pile grew until the door broke
- The sudden burst of oxygen caused a fireball and burned everyone trying to escape
- Officials testified if the doors were outward swinging 300 people could have been saved

The Aftermath

As a result, new regulations were put in place by May 1943:

- Became illegal to have only revolving doors as main entrance
- Revolving doors need to be able to fold and open manually **or** need to be flanked by doors that open outward
- Installment of automatic sprinklers in any room occupied as restaurant, night club, or entertainment
- Prohibition of using basement rooms as places of assembly
- Required to define aisle space between tables in restaurants
- Exit doors in place of assembly to have so-called panic locks and no others
- Window openings of sufficient areas
- **This tragic event inspired building code change, treatment for burn victims , popularized use of penicillin, and put the mob on display**





The Station Nightclub Fire- West Warwick, RI

- February 20, 2003
- 100 casualties with more than 200 injured
- Heavy metal band set off pyrotechnics that ignited soundproofing foam on the club's walls and ceiling surrounding the stage
- It reached flashover within one minute
- Hundreds of people stampeded toward the exits, but the flames spread too rapidly
- Within 15 minutes the building was engulfed in flames



The Aftermath

- RI rewrote their fire codes, becoming one of the toughest in the nation
 - Fire sprinklers required in any club that can hold more than 150 people
 - Music must shut down when fire alarm goes off and lights must come on
 - Full annual inspections required for every club in Rhode Island, every year



Our Lady of the Angels School-Chicago, IL

- December 1, 1958
- 92 casualties and 3 nuns
- The causes:
- Construction of the building, with interconnected concealed spaces
- Open and combustible stairways
- Lack of fire-rated partitions and 4 doors between corridors and classrooms
- Glass transoms above classroom doors
- Lack of automatic sprinkler system
- Lack of working fire alarm system throughout building, connected to fire department
- Lack of evacuation procedures
- Delayed notification/arrival of fire department





The Aftermath

- Major changes nationwide in school fire safety regulations
- NFPA 101 building exit code > NFPA 101 code for safety to life from fire in buildings and structures > NFPA 101 Life safety code
 - Requires automatic fire sprinklers in any area greater than 20,000 square feet
 - Requires automatic sprinkler system in areas below exit level that are not separated from the rest of the building by fire-resisted-rated assemblies
 - Classrooms and corridors required to be separated by one-hour-rated walls
 - Stairways and other vertical openings required to be enclosed
 - Replace and require concrete building materials in place of wood and plaster in schools

Why Our Lady Angels Fire Was So Bad

- <https://www.pbs.org/video/why-our-lady-angels-fire-was-so-bad-q2tnmy/>



Resources

- <https://www.femoran.com/blog/fires-in-history-cocoanut-grove-fire>
- <https://www.fireengineering.com/fire-prevention-protection/construction-concerns-for-firefighters-our-lady-of-the-angels-fire-part-2/#gref>
- <https://www.boston.com/news/local-news/2021/10/25/Jeffrey-Michael-derderian-station-nightclub-speak-out-deadly-2003-fire/>
- <https://turnto10.com/amp/archive/ri-fire-code-changes-since-the-station-fire>
- <https://guides.library.illinois.edu/c.php?g=416856&p=2840506>