



History of Building and Fire Codes:

History, Tragedy, and Modern Codes

What are Codes?

Design standards and construction requirements to ensure safe and resilient structures with prescriptive and performance related requirements

- Building codes protect
- Building codes work
- Building codes are always improving
- Building codes level the playing field
- Building codes help your community



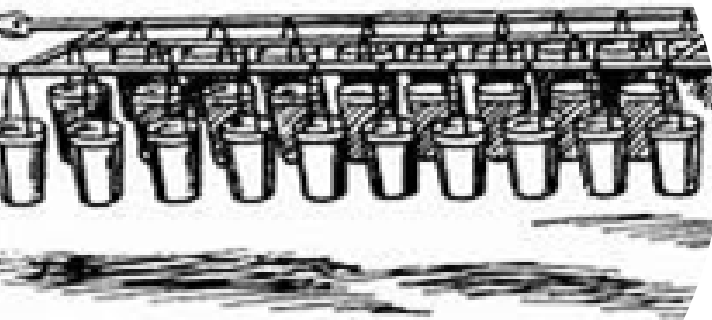
Origins of Codes

- First written building code was enacted by King Hammuradi in Babylon in 1758 BC
- Literally written in stone, it stated, “if a builder has built a house for a man and his work is not strong, and if the house he has built falls in and kills the householder, that builder shall be slain”





Why we Have Codes?



Early Building Codes

- Early building codes were focused on fires
- Insurance company driven after major infernos
- Lack of adequate firefighting services put focus on building construction material

July, 64 AD – The Great Fire of Rome

- Narrow streets, tall buildings, combustible building materials, and common walled buildings contributed to the fire's devastation
- Fire burned for 9 days
- Destroyed 2/3 of Rome



Great Chicago Fire- October 8–10, 1871

- The fire killed approximately 300 people
- Destroyed roughly 3.3 square miles of the city
- 17,000 structures destroyed (1/3 of the city)



- Left more than 100,000 residents homeless
- Almost \$200 million in damage (\$5B in 2023)

February 7-8, 1904 – The Great Baltimore Fire

- Over 1,500 buildings were completely leveled cover 140 acres
- Only 5 deaths



March 25, 1911 – Triangle Shirtwaist Factory fire

- One of the deadliest industrial disasters in U.S. history.
- Caused the deaths of 146 garment workers
- Exits and Stairwell doors were locked



November 28, 1942 – Cocoaunt Grove fire

- Third deadliest single fire in U.S. history.
- 492 deaths
- 200 victims at revolving door, 100 victims at in-swing exit door



What Changed Because of These Events?

Rome - Emperor Nero created a new urban plan including wider streets, height restrictions; separation of spaces, construction with fire resistant material such as stone instead of wooden pillars

Chicago – larger increase in use of masonry & separation of buildings. Fire Prevention week is the first week in October to mark this anniversary

Baltimore - standardization developed on hose & fitting sizes

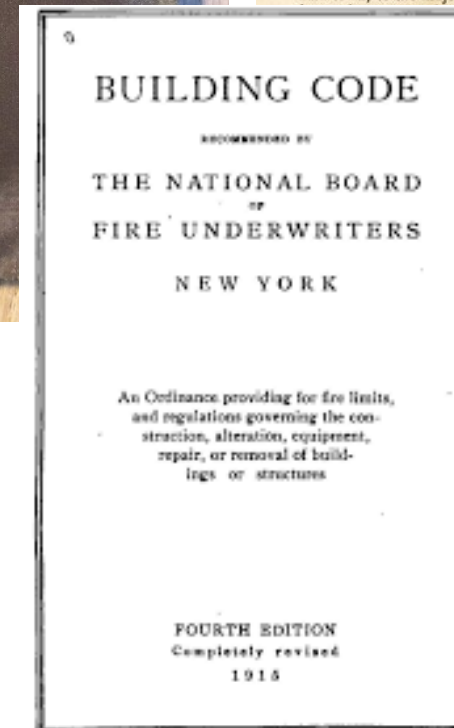
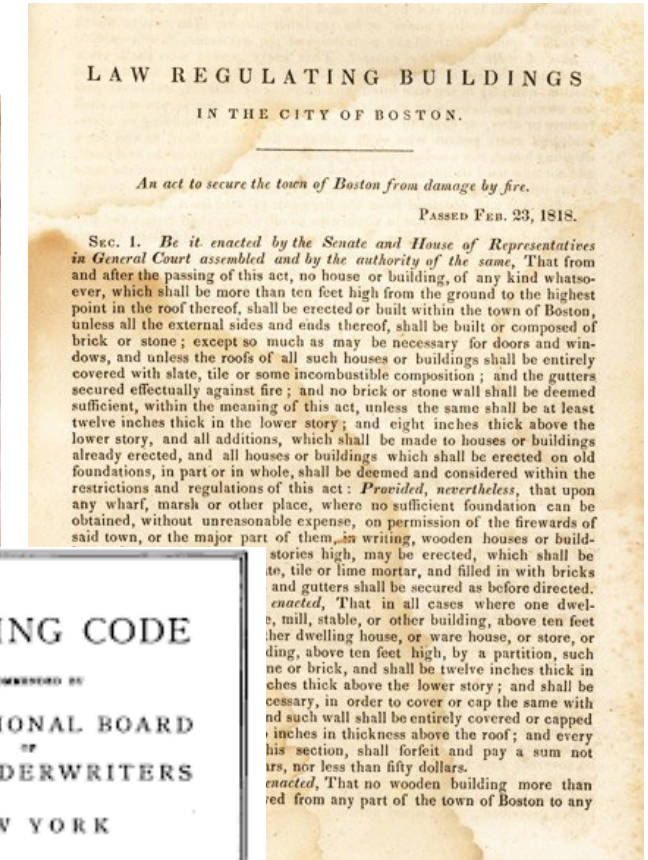
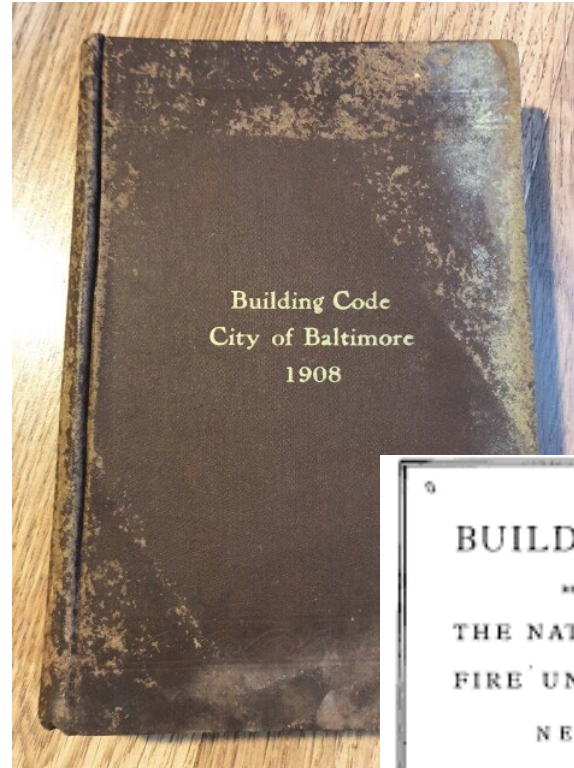
Triangle Shirtwaist fire- first laws around egress and also workers' rights

Cocoanut Grove fire- laws changed around flammable decorations/revolving doors/outswing doors

Making the Code “Standard”

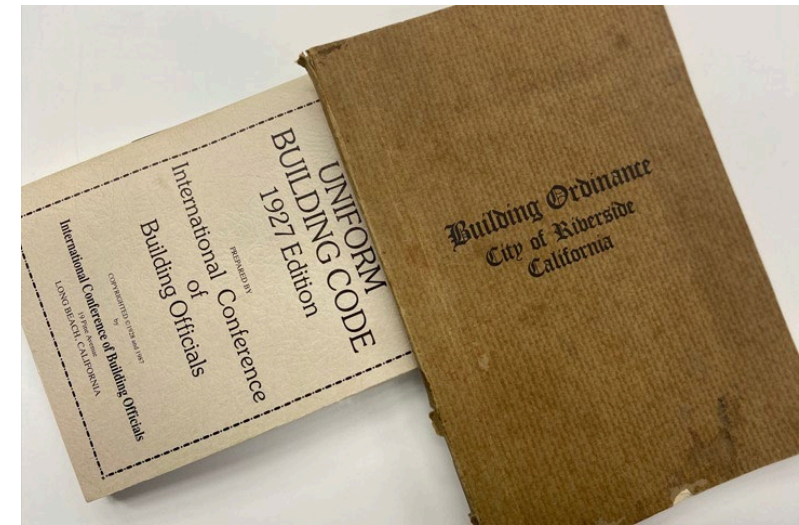
With these disasters- localities would add code and Insurance companies would push for it.

Unfortunately- these codes were regional and not consistent



Making the Code “Standard”

- 1905 – National Building Code
- 1922 – International Code of Building Officials
- 1927 – Uniform Building Code
- 1941 – Southern Building Code Congress
- 1950 – Building Officials and Code Administrators
- 1974 – Council of American Building Officials
- 1982 – National Building Code



Through several mergers the legacy codes were combined into the International Building Code (IBC) in 2000 and are now published by the International Code Council (ICC).

California Timeline- slightly different....

Regional Code Adoption

1890 – San Jose adopts first set of codes

1903 – San Francisco

1912 – Oakland

1927 - Uniform Building Code created in Whittier, CA

1928 –1978 “Home rule” doctrine- led primarily by SF

1979 – State Legislator creates California Building Standards Commission

California Timeline- slightly different....

Example of Code Iteration adoptions

UBC	City of San Jose	Effective	City of Oakland	Effective
1927	Yes	10/11/1928	###	###
1930	###	###	###	###
1933	###	###	###	###
1937	Yes	02/24/1938	###	###
1940	###	###	###	###
1943	###	###	###	###
1946	Yes	06/24/1946	Yes	11/15/1948
1949	Yes	07/06/1949	###	###
1952	Yes	11/27/1952	###	###
1955	###	###	Yes	12/19/1957
1958	###	###	###	###
1961	###	###	Yes	01/03/1964
1964	Yes	12/02/1964	###	###
1967	###	###	Yes	08/10/1968
1970	Yes	12/22/1971	Yes	08/16/1971
1973	Yes	02/03/1975	Yes	02/22/1974
1976	Yes	08/18/1978	Yes	06/16/1977
1979	Yes	05/08/1981	Yes	02/06/1981
1982	###	###	Yes	09/15/1985
1985	###	###	Yes	02/01/1988
1988	Yes	01/01/1990	Yes	02/01/1990

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1980 – 2008- California Building Standards Commission issues California Building Code

2008- Current- Codes are built on I-Codes

California Seismic Code Timeline

1927 – First Seismic Code as Voluntary Appendix in UBC

1933 – Long Beach Earthquake → Field Act- school safety

1971 – San Fernando Earthquake → Alquist-Priolo Special Studies Zone Act

1994 – Northridge Earthquake → Pre/Post Northridge connections

6.7 magnitude, 60 Killed, \$50 Billion in damage.

damaged- 75% of all schools in area



SOUTH WING, POLYTECHNIC HIGH SCHOOL - LONG BEACH



How the Code Development Process Works



What are the “I – codes”?

These codes are developed by the International Code Council, are a family of fifteen coordinated, modern building safety codes that help ensure the engineering of safe, sustainable, affordable and resilient structures.

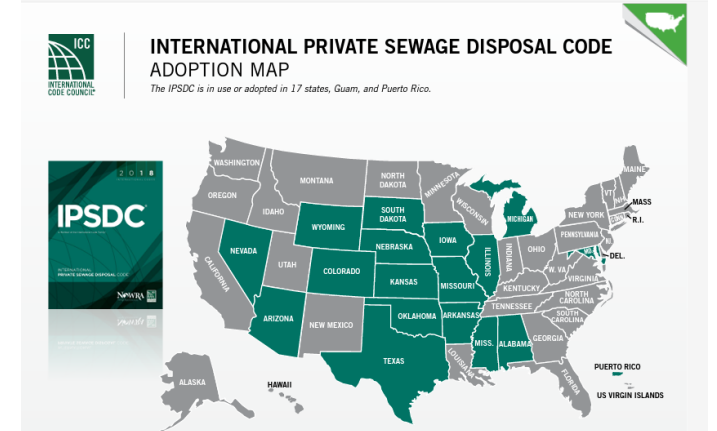
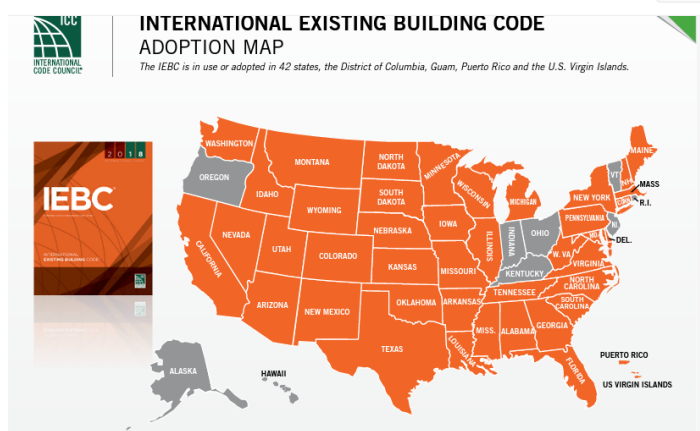
IBC – Building Code
IRC – Residential Code
IFC – Fire Code
IPC – Plumbing Code
IMC – Mechanical Code
IGC – Green Construction
IZC – Zoning Code
IECC – Energy Conservation

IEBC – Existing Building
IFGC – Fuel Gas
IPMC – Property Maintenance
ISPSC – Swimming Pool and Spa
ICCPC – ICC Performance
IWUIC – Wildlife Urban Interface
IPSDC – Private Sewage Disposal



Code Adoption

After the ICC publishes new codes, they must be “adopted” before they are implemented and can be done by the state, county or city. They can be amended by the jurisdiction



California Code Adoption History

California Building Code Part 2 of Title 24	Effective Date	Model Code
1981	September 15, 1984	UBC 1979
1985	Misc	UBC 1979, 1982, 1985
1989	July 1, 1989	UBC 1988
1992	July 1, 1992	UBC 1991
1995	January 1, 1996	UBC 1994
1998	July 1, 1999	UBC 1997
2001	November 1, 2002	UBC 1997
2004	2001 CBC remains in effect	
2007	January 1, 2008	IBC 2006
2010	January 1, 2011	IBC 2009
2013	January 1, 2014	IBC 2012
2016	January 1, 2017	IBC 2015
2019	January 1, 2020	IBC 2018
2022	January 1, 2023	IBC 2021

- 2025 Code cycle wraps up in 2024 - goes into effect 1/1/26
- Getting geared up for 2027 I-Code





Thank you!