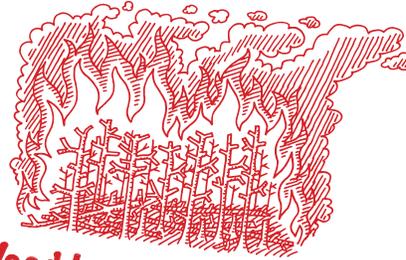


Communication from Public

Name: Jillian Hegedus
Date Submitted: 09/10/2020 05:13 PM
Council File No: 19-0603
Comments for Public Posting: Build With Strength response to BIA letter to council re: "Building a Safer Los Angeles" ordinance.



Los Angeles/Ventura Chapter



Wood is a combustible material that contributes fuel to a fire.

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The cost of noncombustible construction is virtually the same as building with wood.

See RS Means cost data. <https://bit.ly/2yx2Qrr>

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200 years of historical evidence indicates that these areas are at risk for conflagration level fires.

February 26, 2020

Los Angeles City Council Public Safety Committee
200 N Main St.
Los Angeles 90012

Re: Council File 19-0603 "Building A Safer Los Angeles"

Dear Councilmembers:

The Los Angeles/Ventura Chapter of the Building Industry Association of Southern California, Inc. (BIA) represents more than 1,100 companies employing over 100,000 people all affiliated with housing production.

We are very concerned that the "Building a Safer Los Angeles" motion is based upon the false premise that wood construction today creates an elevated wildfire risk. In reality wood construction is very safe and banning it will dramatically reduce housing production in the City and continue to price hardworking Angelenos out of the LA housing market. Just as housing price pressures are at an all-time high, the motion falsely uses the guise of "recent wildfires", "climate change", and "public safety" to suggest that Type IV (heavy timber) and V (wood-frame) construction should be prohibited across most of the city. Type IV and V construction are the most cost-effective construction methods for a very large number of housing projects while still being safe and dependable. Eliminating them will drive up the cost of housing and drive down production while making Angelenos no safer.

The motion calls for the expansion of Fire District No. 1—an existing planning and zoning overlay with provisions prohibiting Type IV and V construction. The motion overextends its reach, not only to include all areas within the City covered by the California Department of Forestry and Fire Protection's Very High Fire Severity Zone and City's High Wind Velocity Zone, but with unfounded reasoning to include "high density population centers with a population density of at least 5,000 residents per square mile." Using the latest census data available¹, this would mean that at a bare minimum, Types IV and V construction would be prohibited in approximately 75% of LA's neighborhoods, including Koreatown, Westlake, South Park, University Park, West Hollywood, Vermont-Slauson, and more (see Attachment A). In some estimates, this could affect the entire City.



Type IV and V construction expose Angelenos to expensive damage or total loss of their home due to fire.

On average, fire in a mid-rise residential building constructed using combustible framing material costs the Los Angeles County a total of \$141.81 in economic impact and \$2.38 in lost tax revenues, per square foot.

<https://bit.ly/2yx2Qrr>

Misleading!
Ordinance will not affect single family or townhomes.

[borhoods/population/density/neighborhood/list/](#)

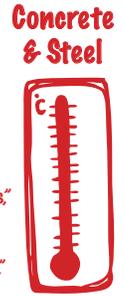


Strength loss for concrete and steel DOES NOT begin until exposure to 300°C, while decline of strength in wood can occur beginning at 65°C.

Get the Facts:

"Properties of Concrete at Elevated Temperatures," <https://bit.ly/3aQ7mze>

"Wood Products: Thermal Degradation and Fire," <https://bit.ly/2IM1qnP>



Wood Construction is Safe and Dependable

BIA-LAV supports methods with which to keep residents safe from fires and natural disasters. However, this motion is a misguided attack on wood, when wood is not the problem. In fact, the homes built from wood decades earlier (typically the casualties of wildfires) are not the homes of today. The National Fire Protection Association (NFPA), defines heavy timber construction as a system having main framing members measuring no less than eight inches by eight inches and with exterior walls that are made of a non-combustible material. Cross-laminated timber (CLT) the chief new component in mass timber, performs exceptionally well in fires. When exposed to the heat from content fires in building, CLT slowly chars at a predictable rate; the charring on the outside then acts as a protective insulating layer for the cooler structural wood behind it, and additionally, maintains significant structural capacity for an extended duration of time when exposed to fire. However, when exposed to similar temperatures, concrete can spall and crack², and steel loses its strength³. *Fire Engineering's* case study on lightweight steel construction notes that "compared with wood, which has a somewhat predictable rate of burn or char—about one inch in 45 minutes—these steel members seemed to fail without warning. When failure occurs, it appears that all the elements fail at one time."⁴

Correction:
The strength of wood **decreases** immediately upon charring.

What is "Fire Safe"? What Is "Fire Resistant"? Who Determines It?

"Fire-Resistance Rated Construction" is first determined and defined by the International Fire Code (IFC) and International Building Code (IBC) requirements. Those requirements and regulations are then adopted by the California State Fire Marshall, the Los Angeles Fire Department and the Los Angeles Department of Building and Safety.

The IBC defines "fire-resistance" as "the ability of a material to prevent or retard the passage of excessive heat, hot gases or flames under conditions of fire". A fire-resistance rating is defined as the period of time a building element maintains the ability to confine a fire, and/or continues to perform a given structural function. A Standard fire-resistance test has three failure/acceptance criteria: structural resistance, integrity, and insulation. The time at which the material can no longer satisfy any one of these three criteria defines its fire-resistance rating (IBC, Section 703.3 and Section 715). The International Building Code (IBC) Section 703.2 determines fire-resistance ratings in accordance with "ANSI/UL 263" or "ASTM E119", which are supervised, certified standards; these "time-temperature curves" are reproducible test fires, conducted under laboratory conditions, and then codified in all of the above-mentioned Codes. The International Fire Code Section 701.1 governs maintenance of materials, systems and assemblies used for: structural fire resistance and fire-resistance-rated construction; separation of adjacent spaces to safeguard against the spread of fire and smoke within a building; safeguards against the spread of fire to and from buildings. Wood products and wood construction—which includes mass timber, heavy timber, and light-frame construction—are contained in all of the above-mentioned codes, (listed as approved and safe) by all of the

These are reference times based on test conditions and don't represent actual fire resistance.

FALSE!
While the tests are reproducible, the fires aren't real fire scenarios. The ASTM E119 is a test fire curve and does not represent real fire conditions.

FALSE!
Codes do not list materials as safe. Listing agencies are responsible for approval of materials. Codification is not an endorsement of construction materials.



“ Due to a combination of materials ‘concrete generally provides the best fire resistance properties of any building material.’ ”
-Venkatesh Kodur, Ph.D., P.E., FCAE, FINAE, FASCE, F.A.C.I., F.S.E.I.

OVERLY SIMPLISTIC:
Embers from burning wood can travel over miles!

above-mentioned professional authorities on fire safety. In fact, wood is so safe that “insurance companies pushed for a type of construction that would be slow burning”;⁵ heavy timber construction is also recognized in fire insurance rating schedules through lower rates.⁶

Building Standards & Materials for Building Code Chapter 7A, 2007 CA Building Code: Wood is Safe.

There are three ways a building can burn: 1) radiant heat (close proximity to the flame), direct flame impingement (direct contact with flame), and embers (small ashes which start additional fires). On January 1, 2008, and in order to protect light frame construction buildings from fires, California implemented requirements for building materials, systems and assemblies used in the exterior design and construction of new buildings within designated Fire Hazard Severity Zones (FHSZ). These new codes, initiated by the California State Fire Marshal’s Office (OSFM), created new requirements under Chapter 7A, “Materials and Construction Methods for Exterior Wildfire Exposure” of the California Building Code (CBC), for the “Wildland Urban Interface” (WUI). These new codes include provisions for ignition-resistant construction standards in WUI areas, and the fire hazard severity zones are used by building officials to determine appropriate construction materials for new buildings in WUI areas. These regulations were created to prevent fires from spreading and burning homes, if and when they do ignite.

That article references the need to increase and expand “very high fire hazard” zones over the state, much like the Expansion of Fire District 1.

It’s clear from the recent wildfire damage this is not enough to protect Angelenos.

During the Tubbs Fire in Santa Rosa in 2018, 51% of the 350 single-family homes built after 2008 in the path of the Camp Fire were undamaged, according to a McClatchy’s analysis⁷ of CalFire Yuba and Butte County property records. This is because homes built in the State after 2008 implemented the fire-resistant building codes in high risk areas (WUI). By contrast, only 18% of the 12,100 homes built prior to 2008 escaped damage. In the Tubbs Fire, an ember started the fire at the Walmart; that building had concrete exterior walls. It burned it to the ground.

This claim was made by The American Wood Council, not the insurance industry.

For more information on losses due to fires in wood structures: bit.ly/2WQW1tC

The information does not list a source. A recent lawsuit reports that several Walmart stores with solar panels have experienced fires.

The Motions Threatens the City’s Goals to be Sustainable and Threatens the Mayor’s Green New Deal

The Council motion states “much of this increased risk [of wildfires] comes from the growing impacts of climate change that has changed the ecological makeup of our forests and climatic shifts that have driven the region into drought year after year.” Prohibiting wood is a superficial and short-sighted solution to the underlying problem—climate change—and is indeed no safer. Doing so would eliminate climate-friendly building materials in lieu of those that contribute to climate change.

Homes built after 2008 were required to have roofs **NOT** made of combustible timber or wood shakes.

Steel and concrete are by far the largest polluters of greenhouse gases in the building and construction industry, contributing overall to the root cause—again, climate change—leading to the very fires mentioned in the motion. We need wood construction so as to not push us further into this climate change nightmare. Wood from managed forestry stores carbon, as opposed to emitting it. As trees grow, they absorb CO2 from the atmosphere; a cubic meter of wood contains around a ton of CO2. Conversely, worldwide steel production currently accounts for 9% of all direct emissions from fossil fuels⁸. Concrete

VIEW THE LEGAL DOC:
<https://bit.ly/2R8AXwd>



Get the facts

<https://bit.ly/2R83AJN>

Less trees cannot sequester more carbon. Deforestation and forest degradation have turned some forests into carbon emitters.

Seriously?!

This overgeneralization **DOES NOT** consider the overall building cycle.



“ This fails to mention the percentage of CO₂ emissions that the Timber industry is responsible for. Industrial logging across large areas can be a major source of CO₂ emissions. In Oregon, clearcutting over millions of acres since 2000 generated 16% to 32% of total emissions from all industrial sectors, making logging one of the state’s biggest carbon polluters. ”

“ However, the claimed benefit of such (wood) substitution is highly misleading when the impact of logging on forests and forest carbon is left out of the emissions equation. ”

Get the facts
<https://on.nrdc.org/3bZoBP1>

- Sierra Club

is responsible for 8% of the world’s carbon dioxide (CO₂) emissions (2.8B tons). Not only does wood remove more CO₂ from the atmosphere than it adds through manufacture, but by replacing carbon-intensive materials such as concrete or steel, it doubles its contribution to lowering CO₂. A recent advisory report to the UK government found that “the greatest levels of [greenhouse gas] abatement occur when wood is used as a construction material...to both store carbon and displace high carbon cement, brick and steel.”⁹ The report concluded that increasing the use of timber in construction could triple that amount. However, while we can craft methods to offset the emissions steel contributes, eliminating it from building materials is simply not an option. We need it all.



Continuing to sacrifice fire-resilient construction for cheap combustible construction costs Angelenos extensive fire damages and potentially human lives.

Wood Construction is Significantly Less Costly than Steel and Concrete

Wood is a more economically-viable solution for builders who build six stories or less. In a cost comparison of wood framing vs. steel framing, the wood building design saved an estimated 22%.¹⁰ Wood allows the reduction of labor costs by allowing off-site materials preparation; reduces carrying costs by enabling shorter construction schedules, delivering projects to market faster; and reduces foundation costs and transportation costs due to its light weight.

This Motion will Dramatically Increase the Cost of HHH Projects, Affordable Housing and TOC Projects

New regulations like this motion, as well as other mounting costs, continue to make housing too expensive to deliver. One of our members, who builds solely affordable projects, specifically for veterans, has priced out the cost of this motion, if it were to pass. In one project, where prevailing wage is not required, the final cost of the product delivered to the veterans would increase from \$250,000 to \$373,650 per home. In North Hollywood, a smaller square footage home under prevailing wage already costs \$347,000; the motion’s requirements would change the project cost to \$362,000. Additionally, this increase in cost would cut out the lowest income buyers at 60% of the average median income.

FALSE Reference!

“This study is in a document labeled as “Educational-Advertisement” with no real cost data.”

FALSE!

Information is irrelevant as the motion will not affect the construction of single family homes.

Los Angeles magazine reported in March 2019 that “the average total cost of a unit of homeless housing under the HHH program—first projected at \$350,000—had exceeded \$502,000 by early [2019]. There are more than 1,000 units in the HHH pipeline whose cost will exceed \$600,000 each, and one project in which the cost per unit tops \$700,000,¹¹ quoted in the audit conducted by Controller Ron Galperin. On materials costs alone, this motion would increase the cost of a unit by \$10-\$12 per square foot, **leaving less money to spend on the production of units and balloons the cost of production, all while making residents no safer.** The City has taken enough heat from the public and the media over the embarrassingly high costs to produce subsidized housing; why make matters worse?

Mass Timber Is the Future

The International Code Council (ICC) approved code change proposals in 2018, allowing up to 18 wood



Focusing only on initial costs ignores the longer-term costs to the building owner and the community. Mayor Eric Garcetti said that “Resilience is a value that guides everything we do in Los Angeles, because we know that the decisions we make today will shape the future our children and grandchildren will inherit.” By ignoring the fire threat and choosing to focus only on erroneous first costs, the BIA is ignoring the future effects of their current decisions.

“ We are potentially facing the same risks caused by the building facade revolution over the past decade. ”

- Brian Meacham, PhD, PE, CEng, EUR ING, FIFireE, FSFPE. "The Past, Present, and Future of Performance-Based Design." Presentation delivered at the 2020 Performance-Based Design Conference, Auckland, New Zealand, 11 March 2020



Los Angeles/Ventura Chapter

construction stories for inclusion in the 2021 International Building Code (IBC). The State Fire Marshall is currently navigating an accelerated review process via Gov. Brown's Executive Order B-52-18 in support of wood products innovation, recognizing wood's abilities to sequester carbon and mitigate the effects of climate change. This new regulation will allow additional height using wood construction, as Oregon and Washington State did in 2018. After a determination made in late September this year, the CA State Fire Marshall is submitting a code change to expedite the adoption of the policy that ICC has proposed for tall wood buildings. Even if the request is not approved, it will take effect in the State de facto in January 2023, or as early as July 2021 if all code change requests are approved. Eliminating wood construction in LA would not only be counterintuitive to the motion's acknowledgement of climate change, worsening the very effect it aims to address, but it would regress L.A., rather than move us into the future.



Continuing with mass wood construction will lead to a future of heightened fire risk in Los Angeles

We've Been Here Before—the Result is the Same. Wood Is Safe, and Necessary

Council reports concerning the fire safety of wood have already been deliberated at Council. Both times, in staff reports and interviews with the Department of Building and Safety, DBS has clarified: "unprotected wood is a hazard. However, the code requires wood to be treated with fire retardant chemicals and wrapped into fire resistance drywalls when wood is used" (DBS report, Dec. 5, 2016)." The "Building a Safer Los Angeles" motion has nothing to do with fire performance or fire safety. We must put our trust in the International Code Council (ICC) to determine the highest levels of safety. Today, buildings are designed to withstand fires, irrespective as to whether they are built with wood or steel. Let's work together to keep costs low, not increase them, so that we can continue to safely house more Angelenos.

Sincerely,

Tim Piasky
Chief Executive Officer
BIA-Los Angeles/Ventura

CC: Vince Bertoni, Director, LA City Planning
Rushmore Cervantes, Executive Manager, HCID



Housing Angelenos in wood construction opens them up to the risk of large loss fires.



Wood buildings are not designed to withstand the full duration of a fire -
only a short period of minimum specified fire resistance.
Concrete buildings are inherently designed to sustain burnout of the structure and allow maximum time for evacuation.