Building Mass TimberFriendly Communities









Canadian Wood Council Resource Program



Mass Timber: A multi-solving tool

Mass timber is a *made-in-B.C.* driver of economic growth and jobs.

Jobs and Economic Growth in the face of:

- Tariffs
- Housing Needs
- Low Construction Productivity
- Labour Shortages
- Climate change



- Builds domestic markets
- Drives wood product innovation



- Increases productivity through industrialization
- Manufactures high-value wood products
- Creates good jobs across B.C.



- Speeds up construction
- Builds familiarity with off-site construction

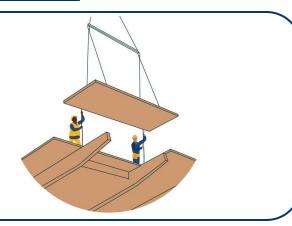


- Unlocks homes that sequester carbon
 - Enhances wellbeing through biophilia

How Mass Timber Benefits Local Governments

Growth while minimizing community disruptions

- Quieter construction
- Smaller on-site crews
- Less congestion
- 30% Faster than concrete/steel



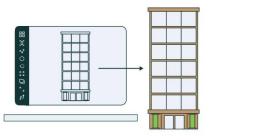
More sustainable

- GHG reductions by 25%-40%
- Less material waste
- Renewable material



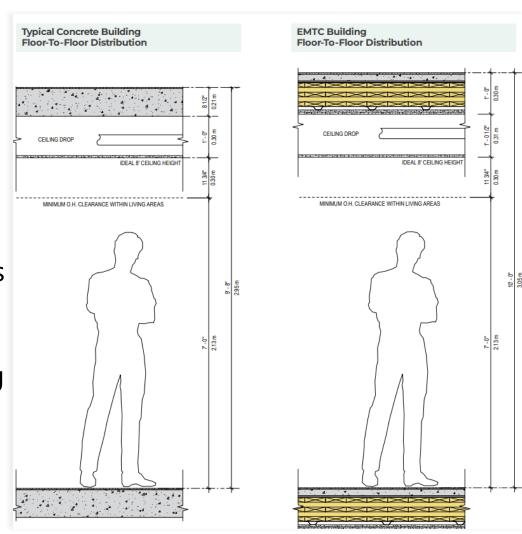
Achieve planning goals and targets

- Meet climate action targets
- Scale mid-rise development



What Municipalities can do to Enable Mass Timber

- Incorporate mass timber-friendly design allowances in OCPs, including possible exceptions for setbacks and podium design guidelines.
- Zone for medium-rise construction (7 to 18 stories), the optimal height range where residential mass timber is most competitive over alternative materials.
- **Amend zoning bylaws** to accommodate thicker mass timber floor assemblies—allowing for 6 additional inches per floor or 10% total building height (*see graphic*).
- Encourage early collaboration between building officials and design teams to ensure a smooth permitting process.
- **Issue early permits** for structural shells and/or excavation, allowing off-site manufacturing to begin sooner and accelerating project timelines.



Source: <u>SFU Design Solutions 2.0</u>

What we Learnt



Local governments are committed to climate action.



Local governments want to learn from each other about mass timber.





Zoning for mid-rise is increasing, but more viable options are needed.

Examples of Mass Timber Language in Official Documents

"To support and promote the use of mass timber construction, exceptions to setbacks and podium design guidelines will be considered to accommodate unique design challenges and technical requirements"

- Kelowna OCP - Chapter 4, Section 4.1.2

"Mixed-use and multi-family residential developments are encouraged to consider sustainable building technologies, including midrise mass timber construction for buildings above six storeys."

- Burnaby Urban Village Design Guidelines – Attachment 2

"For a mass timber building that is 7 storeys or more, the maximum building height is the maximum building height set out in the applicable district schedule, plus an additional 10%, except that this section shall not apply to a CD-1 district."

- City of Vancouver Zoning Bylaws – Section 10.22 (Mass Timber Building)

"For a mass timber building that is 7 storeys or more, the Director of Planning may vary the yards, setbacks, site coverage, building depth and external design regulations in the applicable district schedule, if the Director of Planning considers the intent of the district schedule and all applicable Council policies and guidelines."

- City of Vancouver Zoning Bylaws – Section 10.22 (Mass Timber Building)

The Mass Timber Movement





Wood Council Resource Program

- ✓ Continuing Education
- ✓ No Cost Project Support
- ✓ On-demand Resources



Our Team

- Represents the Canadian Wood Products industry
- 25+ technical staff across Canada

WoodWorks BC Staff

- 40+ years' industry experience
- 50+ completed mass timber buildings



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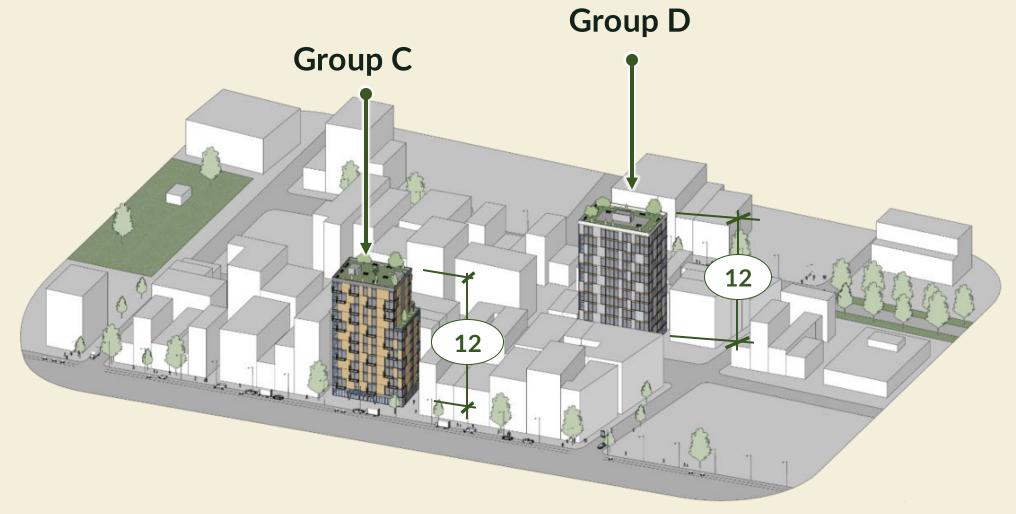


When to use Mass Timber

Code & Sectors



Previous BCBC 2018









Source: OMTI

Tallwood Encapsulation

Max number of storeys based on encapsulation rating

Occupancy	70 min	50 min	0 min
A-2: School, Library, Restaurant, Community Centre	18	12	6
B-3: Assisted Living, Care Facility Hospice	10	6	4
C: Apartment, Hotel, Dormitory	18	12	8
D: Office, Bank, Medical/Dental	18	12	9
E: Market, Shop, Supermarket	12	8	6
F-2: Factory, Workshop, Laboratory	10	7	5
F-3: Warehouse, Parking Garage	12	8	5







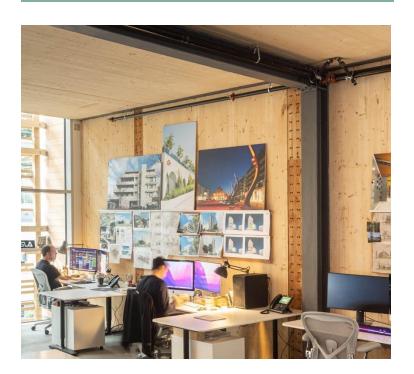


BCBC Updates – Effective Now

Fully Encapsulated No exposure allowed 13-18 Storeys Mostly Encapsulated Some exposure allowed 9-12 Storeys No Encapsulation Full exposure allowed 0-8 Storeys







Brock Commons (ubc.ca)

(WoodWorks US)

oN5 | Photo credit: KK Law

Why Mass Timber

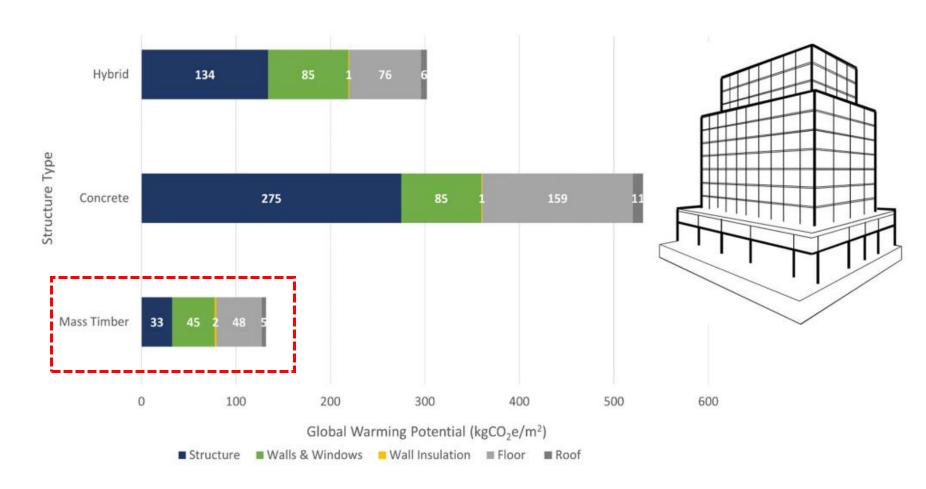
The Value Proposition



Low Carbon Buildings

Embodied

 Carbon is
 25-40%
 lower for
 Mass Timber



Point Tower - City of Vancouver







Construction Benefits

 ~25% faster than concrete comparable

Ascent



25- Storeys MKE, USA 1 Floor / Week

12 Crew 2 Months Savings

1510 Webster



19- Storeys
CAL, USA
2 Floors / Week
6,000 SF
Overlap





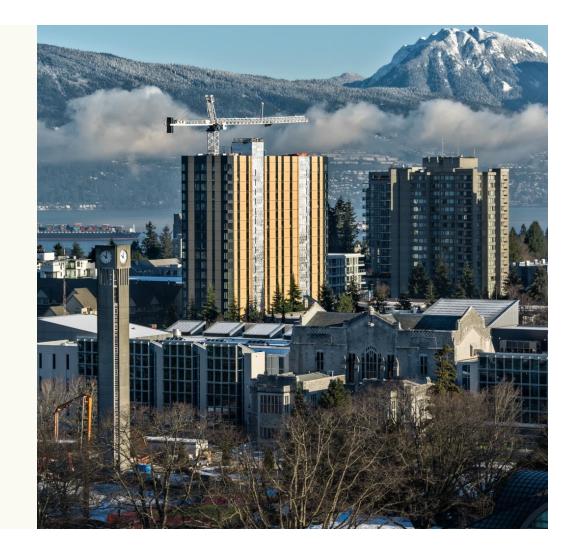


BC Leadership



Mass Timber Leadership in BC

- 50x more mass timber buildings per capita than the rest of North America
- First CLT producer in North America (2011)
- BCBC was the first Canadian building code to allow up to 12 and 18 storeys
- Over 350 complete buildings in BC
- 4x major mass timber suppliers in western Canada









Western Canada Suppliers

Supplier	Location	Products
Kalesnikoff	Castlegar, BC	CLT, GLT, Glulam
Mercer Mass Timber	Penticton, BC Spokane, WA	CLT, GLT, Glulam
StructureCraft	Abbotsford, BC	DLT
Western Archrib	Edmonton, AB	GLT, Glulam
Kinsol	Mill Bay, BC	MT Installers







BC Multi-Family Construction 2019-2023 (5 Years)







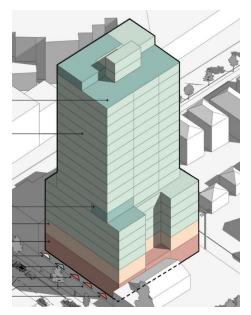


Tall Residential Housing (+7 Storeys)

Planning + Development

Under Construction

Complete











City of Vancouver 19 Storeys

City of Vancouver 18 Storeys

City of North Van. 18 Storeys

City of Vancouver 17 Storeys

City of Langford 12 Storeys







✓ Connect With Us



✓ No Cost Project Support

WoodWorks BC

Thank you to our funders and partners for their ongoing support

Natural Resources Canada

National Partners

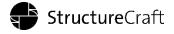
Provincial Funder

Industry F



























What's in this for us?

Address Local Challenges

- Community disruptions
 - Noise, dust, traffic, light
- Project timeline impacts
 - Permitting, procurement, weather
- Site deficiencies
 - Repeat work, failed inspections
- Location premium
 - Workers, materials

Create Local Opportunities

- Higher quality control (at design/permit/site)
- Potential for faster permit issuance
- Potential for cost savings
- Minimized neighbourhood disturbance
- Consistent access to labour
- Reduced environmental impacts
- Faster project completion



- 1. Review land use regulations
 - OCP, Zoning Bylaw



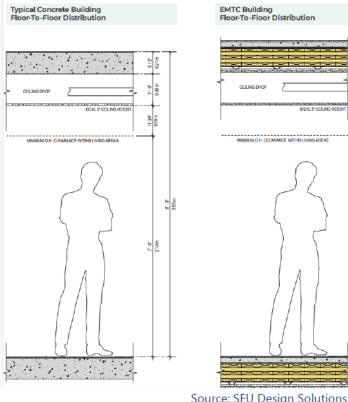


2 storeys

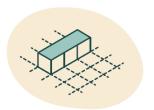
Credit: SFU Renewable Cities

1. Review land use regulations

- OCP, Zoning Bylaw
- Development policies, DP Guidelines







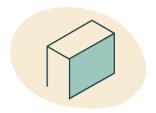
Mass Timber Structural Logic



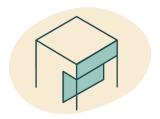
Building Height



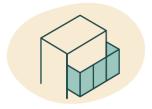
Prescribed Articulation of Massing



Massive Bar



Public / Ground Interface

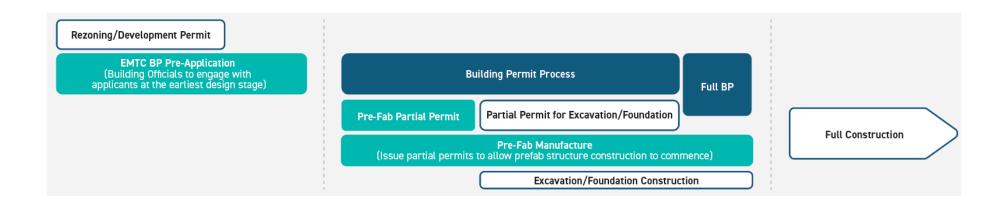


Balconies / Private Outdoor Space



Credit: SFU Renewable Cities

- 1. Review land use regulations.
- 2. Incorporate a "Pre-Fabrication Building Permit" into standard phased permitting.
 - Development Control and Construction Bylaws





Credit: SFU Renewable Cities

- 1. Review land use regulations.
- 2. Incorporate a "Pre-Fabrication Building Permit" into standard phased permitting.
- 3. Advocate, educate, and champion.



CNV Experience – Commercial

PH1 – 1 Lonsdale











Credit: WoodWorks BC 31

CNV Experience – Residential

Crest (8 storeys, 179 strata units)







RED Upper Lonsdale (6 storeys, 60 purpose-built rental units)





32





Credit: Bokuria Creative

CNV Experience – Public Sector

Westview Elementary School (Addition)





Cloverley Elementary School (New)









CNV Experience – Institutional / Affordable Rental

North Shore Neighbourhood House Hub Redevelopment

















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