

VISION TRUCK GROUP HEADQUARTERS & SHOWROOM

At first glance, a transport truck dealership might seem an unlikely setting for a mass timber showcase. The functional demands are considerable: large vehicles require expansive floor areas, generous turning radii, significant vertical clearances, and durable building systems capable of accommodating both public-facing and industrial uses. Yet these same requirements provided the design team behind Vision Truck Group's new headquarters and showroom in Cambridge, Ontario, with an opportunity to explore how contemporary timber construction can perform at a commercial and industrial scale.

The 4,180-square-meter (45,000 ft) facility combines a two-storey office building with a nearly 9-meter-high (30 ft) showroom that brings together workplace, customer experience, and vehicle display functions within a cohesive mass timber structure. Developed by Martin Simmons Sweers Architects Inc. in collaboration with Moses Structural Engineers, the project uses mass timber as the organizing principle behind the building's architecture, spatial experience, and identity



From the outset, the central challenge was to create a vehicle showroom capable of accommodating large transport trucks while celebrating exposed timber construction. The showroom required an expansive column-free floor plate to support vehicle movement, vertical clearances exceeding seven metres, fully glazed exterior walls to showcase vehicles from outside the building, and a substantial roof overhang to help mitigate solar heat gain along the building's curtain wall perimeter. Rather than treating these requirements as constraints, the design team used them as opportunities to develop a structural and architectural solution uniquely suited to timber construction.

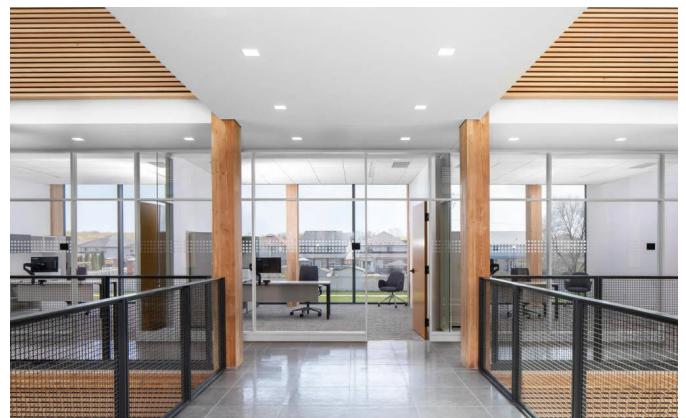
The building's primary structural system consists of glulam post-and-beam framing, CLT floor panels, CLT shear walls, and a limited number of steel braces. Nearly all of the timber structure is left exposed, allowing occupants to understand how the building works while reinforcing the warmth and material character that define the interior spaces. The office wing is organized on a 3 m x 6 m structural grid that was carefully coordinated with the skylight layout above. The resulting rhythm is expressed both inside and outside the building, visible through the extensive glazing that surrounds the structure.



While the architecture emphasizes openness and daylight, the structural system quietly performs a significant amount of work behind the scenes. Multi-storey CLT shear walls form the primary lateral force-resisting system, transferring wind and seismic loads through hold-down connections that extend continuously from the roof to the foundation. Additional steel bracing appears in only a handful of locations, making it one of the few non-timber structural elements in the building. Exposed CLT stairwells and an exposed CLT elevator core further demonstrate the versatility of engineered wood products beyond floor and roof applications.

The office portion of the building showcases timber's ability to create both structural efficiency and memorable occupant experiences. Bright corridors lined with full-height glazing also have large skylights overhead, while glulam columns frame a U-shaped atrium that extends through two storeys. Within this framework, wood slat wall panels reinforce the rhythm established by the structural grid, adding texture and visual warmth throughout the workplace. Daylight filters through the timber structure and across exposed wood surfaces, creating changing patterns of light and shadow like sunlight filtered through a forest canopy.

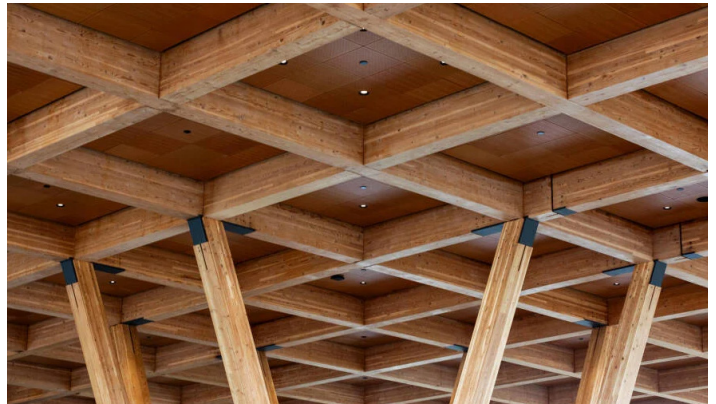
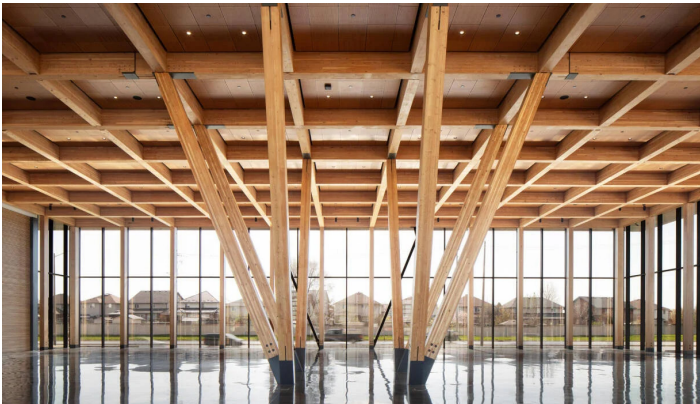
The office structure also achieves significant spans. Central meeting spaces span approximately 11 metres without intermediate supports, creating flexible gathering areas while maintaining the clean expression of the exposed timber framing. Glulam bridges at the second-floor level connect different portions of the office, contributing both to circulation and to the visual experience of moving through the building. Even substantial rooftop mechanical equipment and the associated snow drift loads were accommodated within the glulam structural system, underscoring the capacity of mass timber to support demanding building services and loading conditions.



The project's most ambitious structural achievement, however, is the showroom.² Measuring approximately 1,100 square meters (12,000 ft²) within a 33 m x 33 m footprint, the double-height showroom was required to accommodate large transport vehicles while maintaining an open, flexible floor plan. Multiple structural concepts were explored before the design team settled on a distinctive arrangement of angled glulam supports that has become one of the defining features of the building. The resulting V-shaped structural theme allows the roof structure to achieve clear spans of approximately 33 m x 13 m while preserving the circulation routes and display areas necessary for the trucks below.



Rather than expressing the roof framing through a conventional hierarchy of primary and secondary members, the design sought a more balanced and visually unified ceiling. Although the roof structure consists of primary girders and secondary beams, suspended perforated wood ceiling panels are positioned within the structural grid to conceal portions of the framing depth. The finished ceiling appears as a continuous timber waffle grid, creating the impression of a consistent beam depth throughout the space. The effect is remarkable: despite the substantial mass required to span such distances, the ceiling appears light and refined, floating above the showroom floor like a timber canopy.

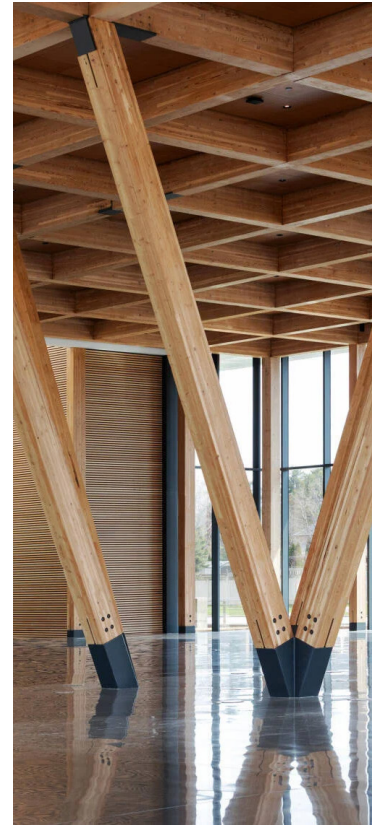


Achieving this level of refinement required considerable attention to detailing. Custom steel hardware was developed for the project, including the connections supporting the long-span showroom structure. Column base connections within the showroom are recessed into the floor slab to conceal much of the supporting hardware, leaving only exposed steel plates visible. This strategy creates a cleaner architectural expression while maintaining the structural performance required of the system.

The dialogue between wood and steel is a recurring theme throughout the project. From structural connections to handrails and architectural details, timber provides warmth, texture, and visual richness while steel introduces precision and refinement. Together, the materials establish an architectural language that feels simultaneously sophisticated and industrial — a fitting response for a headquarters serving the transportation sector.

Several unusual design solutions emerged from the building's specialized program requirements. Preservative-treated heavy timber bridges outside the showroom allow trucks to drive directly into the display space, extending the timber design language beyond the building envelope itself. At the foundation level, a 2 m x 2 m mechanical plenum was integrated around the perimeter of the showroom, creating a concealed service zone built directly into the foundation system. These less visible interventions are as important to the building's performance as its more celebrated architectural features.

Natural light is another defining characteristic. Full-height glazing surrounds much of the building, while skylights illuminate both the office and showroom spaces from above. The extensive use of daylight reinforces the openness of the architecture and highlights the exposed timber structure throughout the interior. Combined with the building's biophilic design aspirations, these elements create an environment that feels markedly different from the industrial facilities and commercial showrooms typically associated with the trucking industry.



For Vision Truck Group, the building serves as both a workplace and a statement of long-term commitment to the region. For the project team, it provided an opportunity to explore how mass timber could be applied at a scale and in a building type where it is still relatively uncommon.

The result is a facility that balances the practical demands of a truck dealership and service operation with the warmth and character of exposed wood. Its structure is largely hidden in plain sight, quietly supporting the long spans and flexible spaces required for the business while shaping an environment that feels markedly different from a conventional industrial building.

For John Slotegraaf, President and Owner of Vision Truck Group, the building's full impact became apparent only once it was complete. "Our goal at the start of this project was to design a facility that served both as a unique workspace and customer engagement space. While we were excited about the design elements of mass timber, the finished project exceeded our expectations for beauty and comfort. Even in the large space of the showroom, there is a warmth and calm that other building materials cannot provide."



Project Team

Owner: Vision Truck Group

Architect: Martin Simmons Sweers Architects

Structural Engineer: Moses Structural Engineers Inc.

General Contractor: Zehr Group

Mass Timber: Timmerman Timberworks

Photos: Joe Martz | joemartz.com