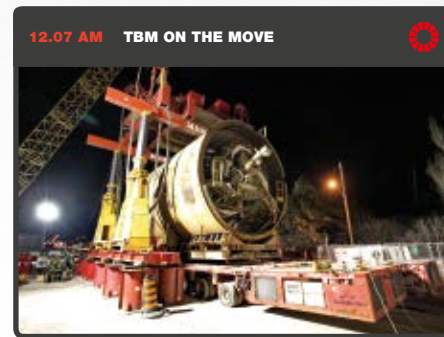
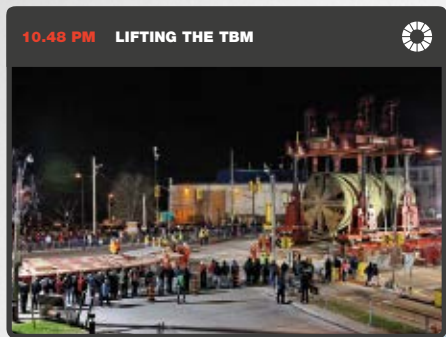


**GETTING  
TORONTO  
MOVING WITH  
MINIMUM  
DOWNTIME.**

**TORONTO, ONTARIO**







## CONNECTING A CITY FROM EAST TO WEST.

**In Midtown Toronto, Eglinton Crosstown is a new light rail component that will run across the city - east to west. It is part of The Big Move; a massive, multi-year public transit upgrade for Toronto's six million inhabitants. With the right equipment and expertise in tight underground spaces, Mammoet was asked to lift and shift two 400-ton Tunnel Boring Machines (TBMs) with minimal disruption to the city residents.**

The two TBMs had been boring towards a critical point: the existing north/south subway line and station.

Concerns about the impact of their vibration on the subway system, and highway above, meant they had to be removed at this point on their route. Mammoet's task was to lift each of them, using strand jacks and a gantry system, transport them on hydraulic trailers for 100 meters beyond the subway line, and lower them again. In a conventional lift of this sort the launch shaft accommodates vertical support columns for the gantry. However, to minimize disruption to the expressway above, the shaft configuration was smaller than usual and did not provide enough space for these columns.

Without the vertical supports, piles in the shaft's wall were used to provide stability to one side of the gantry. For the other side, a beam was needed that could span the shaft. Mammoet had just the right beam to cover the span and provide sufficient load bearing capacity without additional reinforcement. Since the beam was within Mammoet's existing equipment pool, fabrication time and costs were saved. With the gantry in place, the first TBM was lifted from the shaft and onto its trailer for above-ground transportation along Eglinton Avenue. Once over the subway line, it was lowered down the second shaft using a second

gantry and strand jacks onto skid track, to use our jack and slide equipment. The same process was repeated on the following night with the second TBM.

After a year of careful planning the operation took place over just two nights and finished several hours ahead of schedule, enabling Metrolinx to re-open Eglinton Avenue earlier than planned. Toronto's busy Eglinton Avenue was able to continue as normal during the day while underground, the TBMs were swiftly back in place tunneling across the city.



### RESOURCES

#### CRANES

1 hydraulic crane

#### TRANSPORT

24 axle lines of hydraulic trailer

#### SPECIAL EQUIPMENT

2 gantries  
8 strand jacks  
6 heavy duty roll-on roll-off ramps

#### CREW

13 Mammoet professionals