



# Destination Hall-Call Control in Broadgate Tower

by Adrian M. Godwin

## Broadgate Tower

Developed by British Land and designed by Skidmore, Owings & Merrill of Chicago, the commercial building rises 33 floors at a height of 164 m. The development is built on a steel raft weighing 6,000 metric tons suspended above the railway tracks to London's mainline Liverpool Street Station. Due to the restricted space below ground, there is no main passenger lift service at the ground floor. KONE and Toshiba Elevator completed contracting of the following units in August 2008:

- ◆ Five 1350-kg (18-person) double-deck, low-rise passenger lifts at 4 mps with destination control
- ◆ Five 1350-kg (18-person) double-deck, high-rise passenger lifts at 6 mps with destination control
- ◆ Two 3000-kg goods lifts at 3 mps
- ◆ Two 630-kg (eight-person) firefighting lifts at 3 mps
- ◆ One 1000-kg (13-person) disabled-access MRL lift at 1 mps
- ◆ Four 1-m-step-width escalators at 5.92-m rise and 10.07-m rise

Broadgate has a double-transfer floor arrangement at floors 18 and 19 that allows both decks of the high-rise group to access transfer floors outside peak periods.

The project's general contractor was Bovis Lend Lease, the developer was British Land plc, the project manager was M3 Consultants, and the vertical-transportation consultant was Lerch Bates.

Above:

Four escalators were strategically placed in Broadgate Tower for access to the upper decks.

Right:

Destination control can integrate lifts with security access-control turnstiles (bottom) and other systems.

### The Question of Double Deck and Destination Control

Double-deck lifts have, on occasion, suffered some “bad press” from tenants. These user frustrations can be summarized as follows:

- ◆ Sometimes, building design has precluded the bottom deck from serving the top floor of the zone, placing limitations on access to these floors.
- ◆ Depending upon the design of the main-floor lobby being always the same, 50% of the population has to use escalators to access the upper decks.
- ◆ Main floor lobbies sometimes provide difficult routes by which to get to the upper decks.
- ◆ Odd/even demarcation of floors served at the main lobby have often brought about confusing signage.

Since 1999, Lerch Bates Ltd. has believed that the vast majority of these frustrations could be dispensed with by using destination hall-call control and certain design principles:

- ◆ Access for both decks into the top office floor of each zone or utilization of a “destination hall-call” control system to eliminate the access problem
- ◆ The escalators in the main floor lobby could be positioned for the least walking distance and most direct access to the upper decks.
- ◆ The use of a destination hall-call control system could also bring several benefits such as democratic use of the main lobby escalators and better utilization of decks, which would no longer be strictly limited to segregated odd/even floors.
- ◆ A reduction in the incidents of “other deck loading” events could be anticipated by

*Continued*





Right:

- Touch-screen scheduling is available at two terminals per lobby.

## Broadgate Tower

Continued

ensuring that the right deck of the right car was assigned to pick up each prospective passenger.

Destination control provided for increased quality of service during morning up-peak traffic with the same number of lifts. Also, average times to destination (“journey times”) are reduced due to fewer stops. There is also increased flexibility with destination control. For example, it can integrate lifts with security access-control turnstiles, security card readers, etc.

Touch-screen booking can be performed at two terminals per lobby. For handicapped passengers, terminals with a tactile keypad announce both audibly and visually which floor has been selected and which car has been allocated. Longer walking times are provided for these passengers, and doors will stay open longer, as well, on entry and exit floors. Additionally, more space is provided inside the lift car per disabled person.

---

**Adrian M. Godwin** is chairman of Lerch Bates.

---

## 201 Bishopsgate

Lerch Bates is also involved in other double-deck-lift projects with destination hall-call control, including Heron Tower and The Shard, London; Russia Tower, Moscow; and Central Market Development, Abu Dhabi. Another completed installation of this type occurred approximately 6 mi. east of Broadgate Tower in London, at 201 Bishopsgate. At 12 floors (63 m) high, this building has 17 units of vertical transportation contracted by KONE, including:

- ◆ Eight 2000-kg (26-person) passenger lifts at 2.5 mps with destination control
- ◆ Two 3,000-kg goods lifts at 1.6 mps
- ◆ Two 630-kg (eight-person) firefighting MRL lifts at 1.6 mps
- ◆ One 1250-kg (16-person) service MRL lift at 1 mps
- ◆ Four 1-m-step-width escalators at 6-m rise and 4.5-m rise

August 2008 saw the completion of these installations.