# BOEING RAPID TRANSIT CAR

Boeing Vertol Company's rapid transit cars, built for the Chicago Transit Authority, are coupled and operated together as semipermanently married pairs in trains up to 10 cars long. The A cars have conductor facilites; B cars do not. All control functions are trainlined, requiring a crew of only two people regardless of train length. Each car is a modern, stainless steel vehicle featuring:

- One propulsion motor per axle
- Third rail power pickup (400–650 VDC)
- Propulsion control systems
  - Standard cam control
    or
  - Advanced solid state dc regenerative chopper control
- Trucks equipped with elastomer and coil spring suspension
- Motor alternator for auxiliary power

## IT'S COMMUNITY COMPATIBLE

- Low wayside noise levels
- Nonpolluting
- Energy efficient

## DESIGN FEATURES

- 45 (A car) and 49 (B car) passenger seating
- Bi-parting sliding pocket doors with sensitive edges for obstruction protection.
- Air conditioning.
- Car to base radio, car to car intercom, base to car public address.
- Exterior speakers for conductor to platform announcements.
- Cab signalling.

## BODY DESIGN

| | |
|---|---|
| Frame | Stainless steel, high-strength, light-alloy end underframe |
| Exterior | Stainless steel with molded fiberglass at no. 1 end |
| Interior | Melamine and fiberglass |
| Insulation | Fiberglass in ceiling, walls, and under the floor for climate control and noise suppression |
| Floor | Flex-flor rubber on stainless steel clad plywood |
| Roof | Stainless steel |
| Doors | 2 double-leaf sliding doors per side |
| Windows | Glazed 0.25 inch (6.35mm) thick, tinted safety glass |
| Heating | Resistance type |
| Air Conditioning | Ten-ton capacity |
| Seats | Contoured, molded-fiberglass shell with inserted upholstered pads |
| Interior Lighting | High-intensity fluorescent lighting |

## PROPULSION MOTORS

- One per axle — 115 hp (Continuous)
- Voltage per motor — 300 VDC
- Forced air ventilation
- Standard cam/contractor switched resistor, or advanced state dc regenerative chopper control control

## AUXILIARY POWER SYSTEM

- AC auxiliaries except 600 VDC heaters
- 42 KVA motor alternator (230 VAC)
- Brushless ac air conditioning and traction motor cooling motors
- Low maintenance, high reliability

## BRAKES

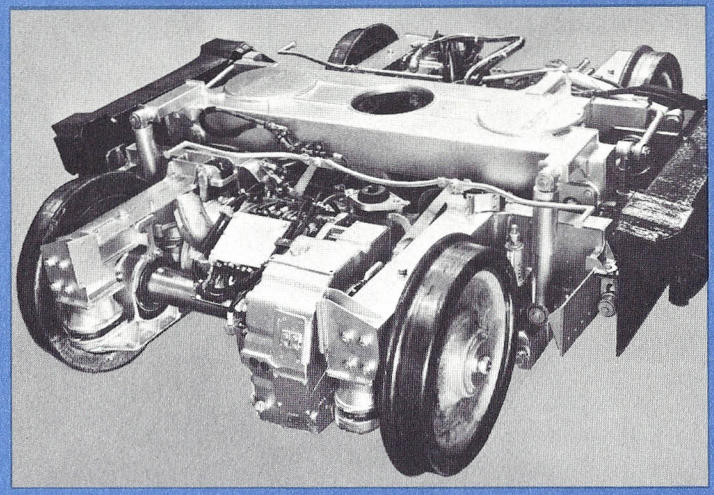
Dynamic braking using the drive motors as generators provides vehicle deceleration from max speed to 3 mph. Electrically controlled hydraulic powered disc brakes on each axle complete the stop. Electromagnetic track brakes in conjunction with dynamic and disc brakes provide emergency braking.

## BATTERY

- 125 AMPH capacity
- 25 steel container nickel cadmium cells
- Battery charger to ensure peak performance
- Rollout battery cradle for ease of maintenance

## TRUCKS

- Dynamically engineered suspension system
- Long life
- Superior ride qualities
- Low maintenance



## DIMENSIONS

| | |
|---|---|
| Length | 48 ft (14,630.4mm) |
| Width | 9 ft 3 in. (2,834.6mm) |
| Height, Rail to Roof | 12 ft (3,657.6mm) |
| Height, Rail to Floor | 3 ft 10 In. (1,168.4mm) |
| Empty Weight | 51,150 lb (23.201 kg) |
| Gross Weight | 73,650 lb (33.407 kg) |
| Inside Width | 8 ft 5 in. (2,565.4mm) |
| Headroom, Center Aisle | 6 ft 9 in. (2,057.4mm) |
| Width, Center Aisle | 2 ft 7 in. (787mm) |
| Doorway Width | 50 in. (1,270mm) |
| Doorway Height | 76 in. (1,930.4mm) |

## CAPACITY

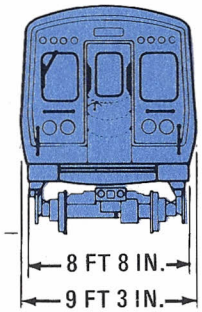
| | |
|---|---|
| Design Capacity | |
| A Car | 45 seats |
| B Car | 49 seats |
| Maximum Capacity | 150 people/car |

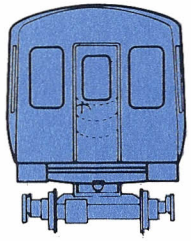
## SOUND LEVEL

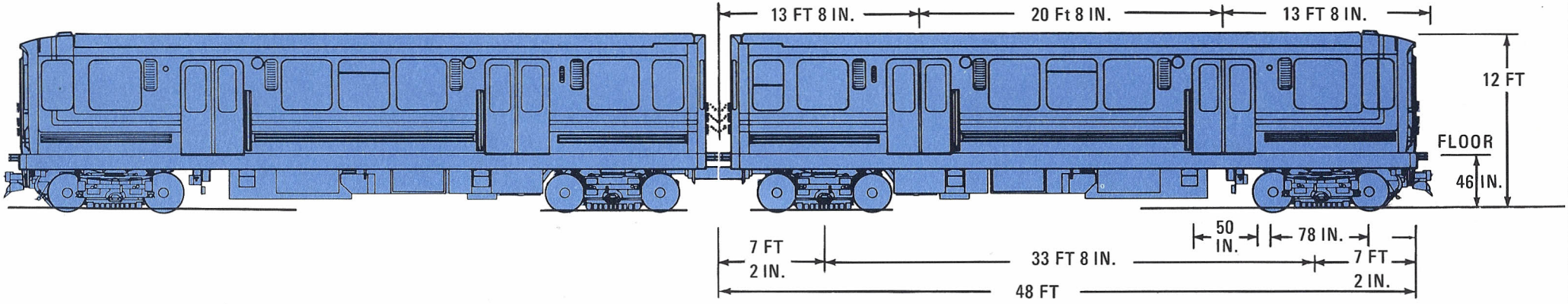
| | |
|---|---|
| Wayside at 60 mph (96.56 kph) at 50 ft (15.25 m) from track | 80 dBA |
| Wayside at 0 mph (0 kph) at 50 ft (15.25 m) from track | 60 dBA |
| Internal at 60 mph (96.56 kph) | 72 dBA |
| Internal at 0 mph (0 kph) | 69 dBA |

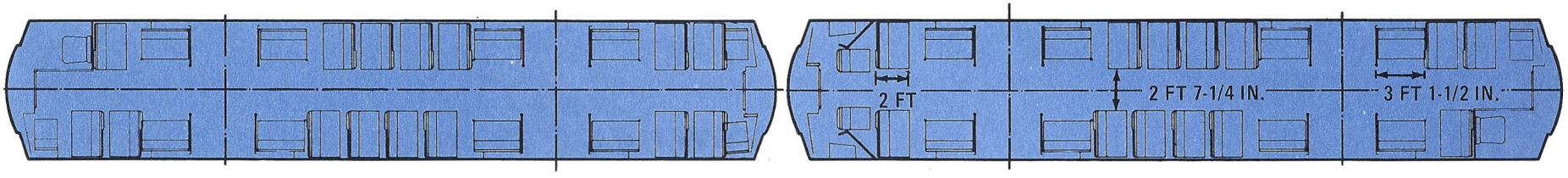
## PERFORMANCE

| | |
|---|---|
| Max Speed | 70 mph (113 kmh) |
| Max Service Acceleration | 3.2 mph/sec (5.15 kmh/sec) |
| Max Service Deceleration | 3.2 mph/sec (5.15 kmh/sec) |
| Emergency Deceleration | 7.5 mph/sec (12.03 kmh/sec) |
| Min Horizontal Turn Radius | 85 ft (26m) |
| Min Vertical Turn Radius – Crest and Dip | 690 ft (210m) |






"B" CAR

"A" CAR

Boeing Vertol Company's Rapid Transit Cars are handsome, modern railcars. Their sculptured, stainless-steel exteriors are impervious to weathering and the gracious interiors are resistant to wear and vandalism.

Two wide, sliding doors on each side of both A and B cars provide easy boarding and departure. Door opening and closing is controlled by a conductor. The doors have sensitive edges to prevent injury to riders.

Each married A and B car has a combined capacity of 300 passengers. The seats are arranged to leave wide aisles for free movement and the accommodation of standees.

The Boeing Vertol Rapid Transit Car is people engineered to introduce new comfort and safety levels to rapid transit. The weight-saving aluminum wheels with steel tires are fitted to fabricated steel trucks. The wheels and axles are isolated from the carbody by elastomer primary springs and steel secondary springs. This produces a softer ride, free of vibration. The car is provided with a self-contained air conditioning and heating system furnishing year around comfort of 65 to 75 degrees Fahrenheit. The contoured fiberglass seats with padded inserts are color-coordinated with the walls and ceilings. Modern fluorescent lighting permits reading at night, and augments the light from the large, tinted, safety-glass picture windows by day.

The Rapid Transit Car is another piece of fine equipment from a company with an established reputation among travelers. It's a boon to automobile-choked, energy-short communities, and among the most efficient means of urban transportation.

**BOEING VERTOL**
**SURFACE TRANSPORTATION**

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