

Electric Railway Department

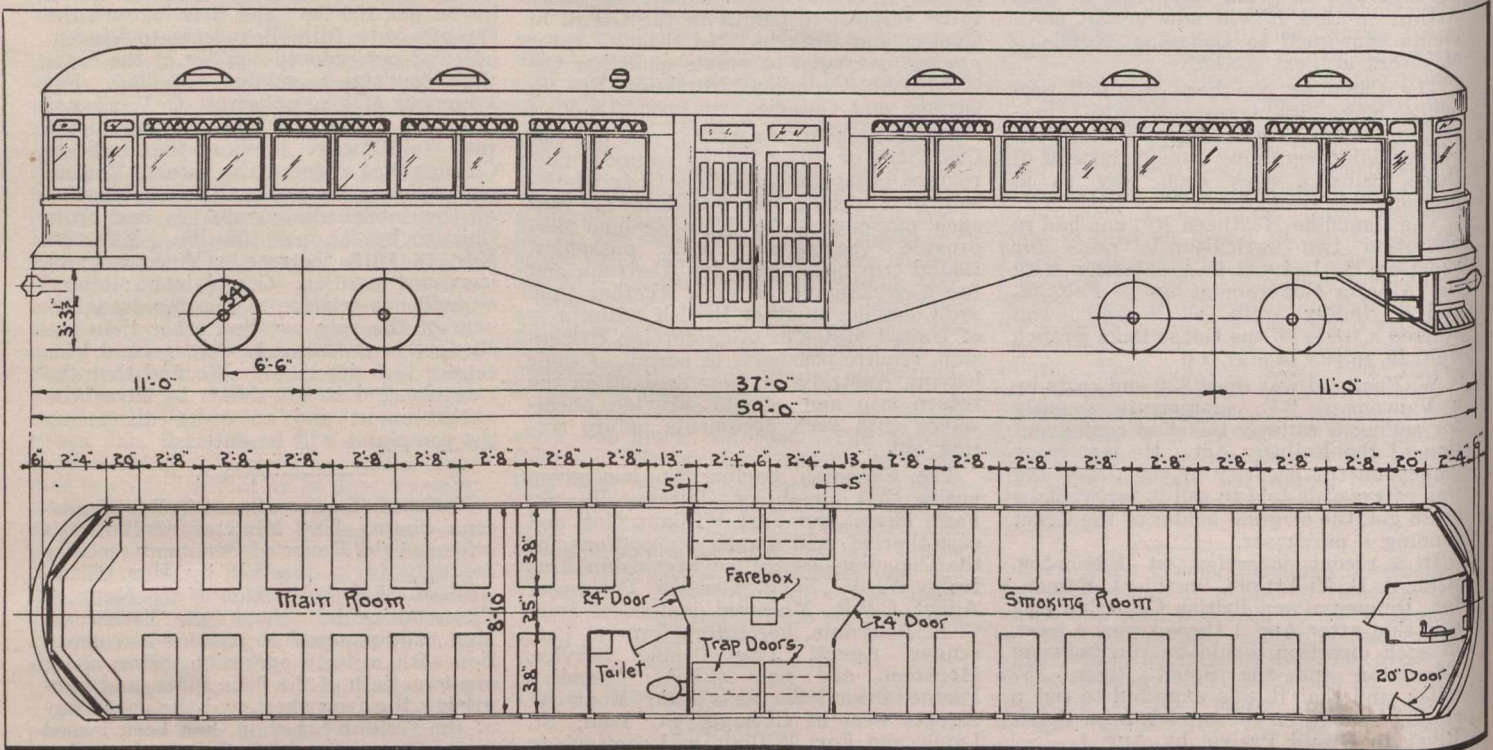
Interurban Cars for Toronto Suburban Railway.

The most recent experiment in car body arrangement for interurban service on electric railways operating in Canada is to be found in the Toronto Suburban Ry's ten new centre entrance cars for its extension to Guelph, Ont., now approaching completion. Their principal dimensions are:—

Length over buffers	59 ft.
Length over ends	58 ft.
Width over steel sheathing	8 ft 10 in.
Width overall	9 ft.
Height from top of rail to underside of sill at bolster	3 ft. 2½ in.
Height from rail to top of first step	tread 1 ft. 4¼ in.
Height of step risers	10½ in.

the longitudinal member to the end member. The buffer beams are formed from 5 in. rolled steel channels, bent to proper contour, with flanges turned outward and projecting 6 ins. beyond the end sheathing. The tops of the buffer beams are flashed with sheet steel, which is bevelled upward forming an angle of 45 degrees. The body bolsters are of built up construction, with top and bottom cover plates 15 ins. wide, the first being 5/16 in. thick and the latter ⅝ in. The bolster diaphragm web plates are 3/16 in. thick stiffened top and bottom with 2½ ins. by 2½ ins. rolled steel angles.

body sashes are of the raising type and single storm sashes are also promised for side windows. The centre window in front vestibule is divided in two parts, the upper one made to drop and with provision for holding it at different heights. The two corner windows in each end are made to drop and are not provided with cross bars. Five automatic ventilators are provided in each compartment and one globe ventilator in lavatory. All of the side windows are fitted with pantasote curtains, mounted on 1 in. diameter concealed metal rollers and provided at the bottom with pinch handle fixtures.



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There are the usual walkover seats in the passenger and smoking compartment, an emergency exit door at motorman's end, right hand side, and the fare box is located in the centre of the car, making it possible to take full advantage of the large double door openings, which permit loading the maximum number of passengers found at any stopping point without the delay incident to undue crowding in discharging or receiving passengers. The cars are designed especially for through service and provided for single end operation only.

The design of the steel framing presents a striking feature in the omission of continuous centre sills between buffers. Although this constitutes a novelty for interurban service it conforms to the most modern practice in the design of side-girder steel cars where light weight is imperative and single car operation is contemplated. The main centre longitudinal members at each end, extending from buffer beam to bolsters, consist of 5 in. rolled steel channels spaced 16 ins. apart, back to back. Rolled steel angle braces extend diagonally from the intersection of the first crossing member and

The side framing is built up from 5 ins. rolled steel channel side sills, 2 x 1½ x ¼ in. rolled steel T iron side posts, so formed in one piece as to maintain the roof contour and join both side frames. Insulation is provided by a 1 in. thick wall of cork. The side and end sheathing and letter board plates are of No. 12 B. & S. gauge rolled levelled steel with double splice plates of ⅛ in. steel. All rivets in side and end frame above side sill are 5/16 in. diameter, the under frame rivets throughout being ⅜ in. in diameter.

A turtle back roof is employed, formed by extension of steel side posts and wooden carlines spaced 9 ins. centre to centre and sheathed with ¾ pine and covered with No. 10 cotton duck laid in white lead and oil. The centre entrance steps are formed as part of the framing and are simply covered with composition treads 4 ins. wide. The interior finish of the car is of cherry and designed to have smooth flat surfaces so far as is possible. The transom and bottom panels of centre bulkheads are of steel, painted cherry color on both sides. Headlining throughout is of three ply poplar veneer. All

Thirty one walkover seats and one circular seat in two sections in the rear end are provided. Each seat is fitted with a stationary foot rest and polished bronze hand hold on the aisle end of the back. Smoking compartment has low back seats upholstered in green pantasote and the main compartment has high back seats with head roll and is upholstered in green plush. The cars are wired for lights, trolley control, heaters, headlights and air brake equipment, all of which is placed in conduit and insulated for 1500 volt d.c. operation. A foot gong 12 ins. in diameter is placed under front platform. Signal bells are placed in motorman's compartment, near fare box, with cord running along the centre of car entire length. Annunciator push buttons are furnished for each seat with connection buzzers near fare box and in motorman's compartment, a switch being provided on the buzzer circuit wiring, so that it can be cut in or out by the conductor. Continuous basket racks and polished bronze trimmings are provided throughout. Drawbars are fitted to each end of car. Steel pilot is provided at motorman's end of car, connected to body. Two