

operation of the cars on the necessarily congested tracks.

Brill 77-E-1 trucks carry the car bodies. These trucks have a 5-ft. 9-in. wheelbase and are equipped with 33-in. rolled steel wheels. The wheels are mounted on Valley steel, heat-treated, standard E-5 axles. The trucks are provided with standard Brill center bearings, Perry side bearings, Anderson slack adjusters, Brill cast-steel bolsters, the Brill graduated spring arrangement, the Brill bolster guide arrangement, and Brill semi-steel journal boxes.

INTERIOR ARRANGEMENT PROVIDES AMPLE STANDING ROOM

As illustrated, the cars are equipped with longitudinal seats of the wooden slat type. This arrangement gives a seating capacity of fifty-two persons and provides for large standing capacity. As many as 200 passengers have been carried per car during the rush-hour periods. A motorman's folding seat of the Keystone type, arranged to fold against the inside vestibule lining, is installed in each end of the car. A Philadelphia Rapid Transit Company's standard conductor's seat is attached to the conductor's control stand.

The car interior is of cherry, stained and finished dull. All moldings are of plain design so as not to catch dust. The ceiling is of Nevasplit, painted white, and is held in place by a suitable molding which is secured with bronze oval-head brass screws. Moldings for advertising cards run the full length of the side decks. Twenty-six pushbuttons are provided for the convenience of the passengers in signaling stops, Consolidated equipment of the high-voltage type being used for the purpose.

General Electric emergency straight-air brakes arranged for train operation, and National staffless hand brakes constitute the braking equipment. A summary of other accessory equipment was published in the issue of the ELECTRIC RAILWAY JOURNAL for March 16, page 552.

The new cars are about 12,000 lb. heavier than the large, nearside, pay-as-you-enter cars now in service on a number of the surface lines of the company. Another point of difference is that the older cars are equipped with maximum-traction trucks and consequently carry only two motors.

DATA OF P. R. T. HOG ISLAND SHIPYARD CARS

Length of car body over anti-climbers.....	45 ft. 6 in.
Length of car body over corner posts.....	33 ft.
Width of car body over sills and posts.....	8 ft. 4 in.
Extreme width of car body, maximum limit.....	8 ft. 6 in.
Height from rail over trolley board.....	11 ft. 8 in.
Truck centers.....	21 ft.
Height from rail to top of first step.....	14 1/2 in.
Height from top of step to platform floor.....	13 1/2 in.
Height from platform floor to car floor.....	10 1/2 in.
Radius of shortest curve that can be rounded.....	35 ft.
Total weight, empty.....	44,000 lb.

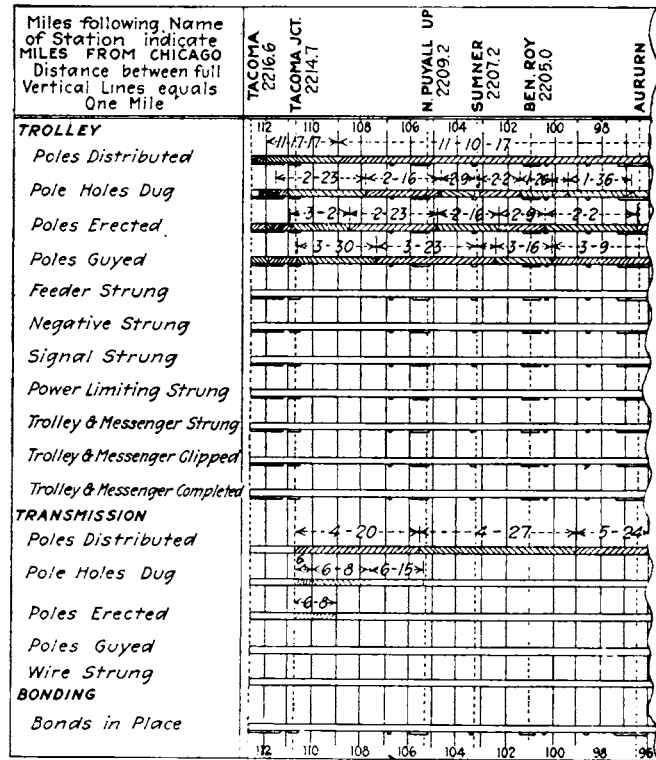
The War Industries Board, through its employment management division, has arranged courses of instruction in employment management at a number of educational institutions. The only cost is that incident to living expenses and about \$15 for text-books and supplies. The idea is to train those who have to do with the "hiring and firing" of men so that the best results can be obtained with the available labor supply.

Progress of St. Paul Electrification Out of Seattle

All Buildings Have Been Erected Except at One Station—One 113-Mile Section Is Complete with Poles and Fixtures

DESPITE the nation-wide handicap of labor shortage, the electrification of the Seattle-Tacoma division of the Chicago, Milwaukee & St. Paul Electric Railway is making good progress. All of the substation buildings are up except Renton, which has just been started; and even some transformers are reported by the Westinghouse Electric & Manufacturing Company as ready for shipment. At each station three bungalows are built for the three shifts of operators.

Between Cle Elum and Tacoma, 113 miles, poles and fixtures are practically complete, and about one-third is



PART OF PROGRESS CHART FOR LINE CONSTRUCTION ON THE ST. PAUL ELECTRIFICATION

done on the remaining section eastward for 98 miles to the Othello terminus of this division. The steel overhead structure for Renton is still to go up, while the unification of terminals at Tacoma is delaying work there until it is definitely determined what tracks shall or shall not be electrified. A sample chart used in checking progress on the work is given above.

Separate schedule progress charts are made covering signals, individual substations and the Tacoma-Cle Elum and Cle Elum Othello sections. The line progress report reproduced in part relates to the first 16 miles out of Tacoma. The small additional horizontal lines denote extra tracks as sidings and yards. The top of the complete line chart shows in addition to "crews" and "average number of men," the items of "work trains," "week ending" and "weather conditions." Operation of the Othello-Tacoma (Seattle) division is expected to begin in July, 1919.