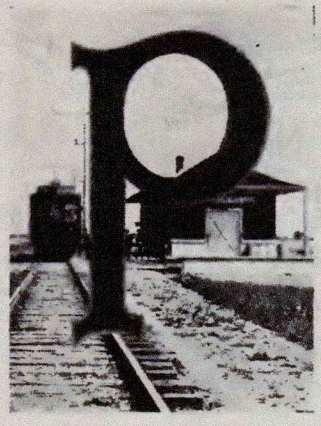
INTERURBAN CENTERS AND INTERURBAN CARS

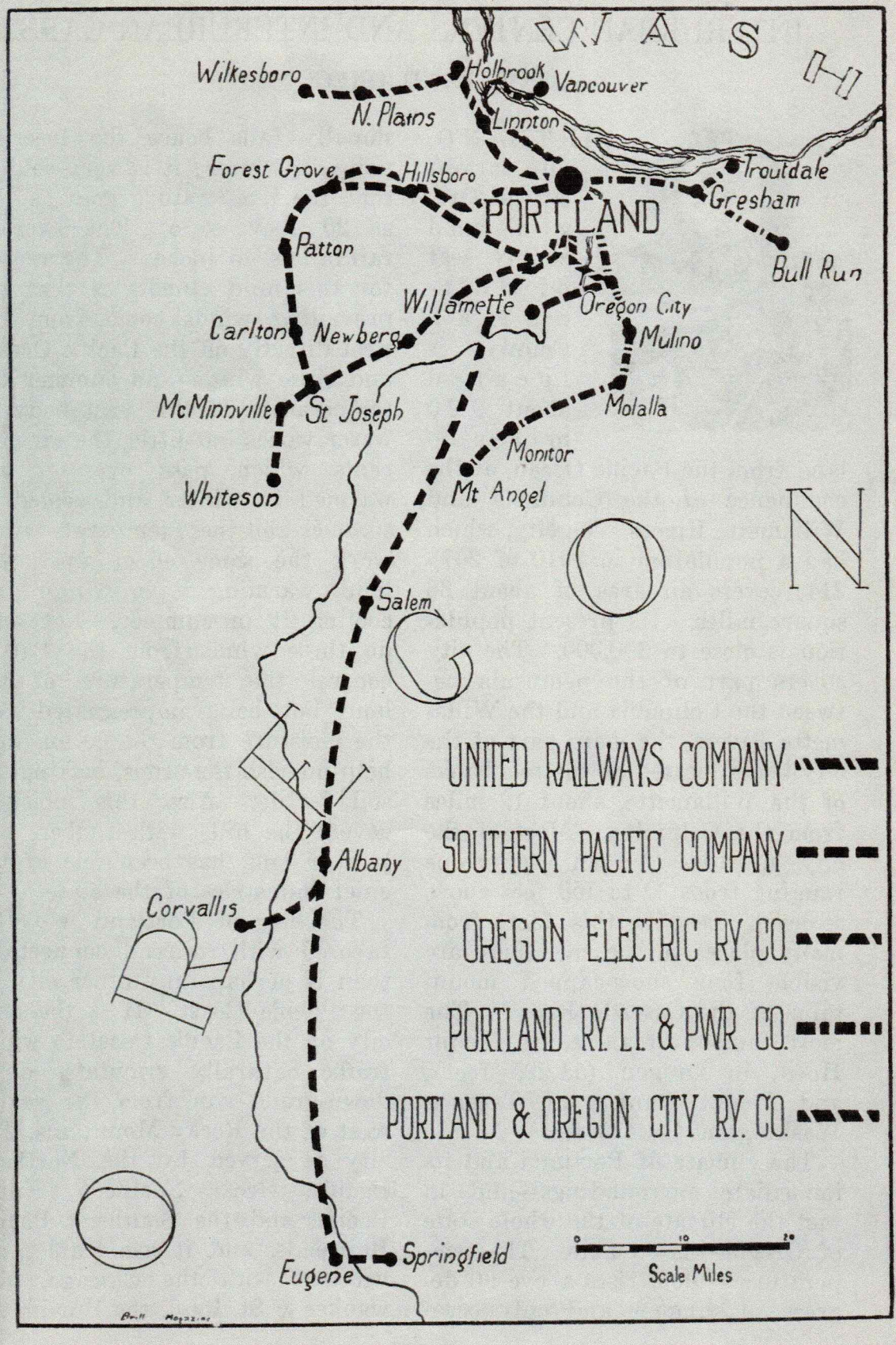
PORTLAND, OREGON



PORTLAND, the largest city in Oregon and county seat of Multnomah County, is located about 120 miles inland from the Pacific Ocean, at the confluence of the Columbia and Willamette Rivers. The city, which had a population in 1910 of 207,214, covers an area of about 66 square miles. Its present population is close to 300,000. The city covers part of the peninsula between the Columbia and the Willamette Rivers, the main part of the city being located on the two banks of the Willamette, about 12 miles from the Columbia. Most of the city spreads over an easy slope ranging from 30 to 150 feet above sealevel. Despite this fact, from many places in the city there are visible four snow-capped mountains of the Cascade Range. The most famous of these are Mount Hood, in Oregon (11,225 feet), and Mount Ranier, at Tacoma, Washington (14,470 feet).

The climate of Portland and its immediate surroundings—and in fact the climate of the whole state of Oregon—is equable. The temperature seldom rises above 90 degrees in summer and only occasionally falls below the freezing point in winter; it is very seldom that the temperature goes as low as 20 above zero. The average rainfall is 45 inches. The reason for this mild climate is that the prevailing winds come from the west directly off the Pacific Ocean, and since winter and summer the temperature of this vast body of water varies but little, the air currents which pass over it are warmed in winter and cooled in summer and these temperate winds work the same effect upon the land, warming it in winter and cooling it in summer. Not only do these winds from the Pacific control the temperature of the land, but, being impregnated with the moisture from the ocean, they help nourish the crops, making the soil fertile. Also, this moisture covers the hills with timber, and lumber long has been one of the chief industries of the state.

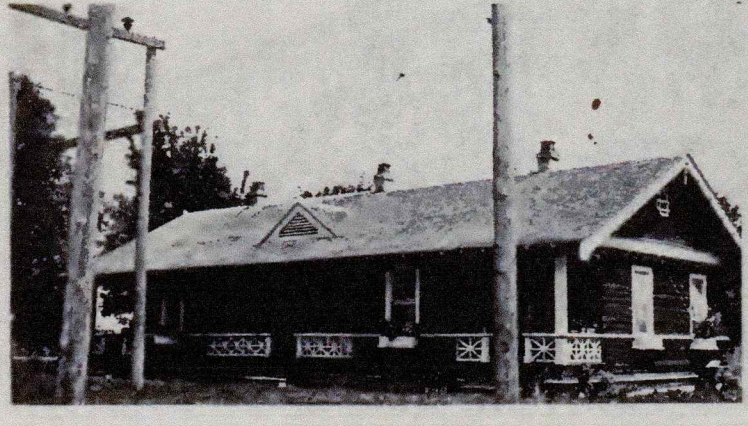
The city of Portland is better favored with railroad connections than is perhaps any other city on the Pacific Coast. It is the only city on the Pacific Coast to which traffic naturally gravitates on a down-grade run from the region west of the Rocky Mountains. The city is served by the Northern Pacific, Great Northern, Union Pacific and the Southern Pacific Railroads, and it has traffic connections with the Chicago, Milwaukee & St. Paul, the Burlington


WASH
Wilkesboro
Holbrook
Vancouver
N. Plains
Lipton
Forest Grove
Hillsboro
Troutdale
Gresham
PORTLAND
Patton
Bull Run
Willamette
Oregon City
Carlton
Newberg
Mulino
McMinnville
St Joseph
Molalla
Monitor
Whiteson
Mt Angel
ON
Salem
UNITED RAILWAYS COMPANY
SOUTHERN PACIFIC COMPANY
Albany
OREGON ELECTRIC RY. CO.
Corvallis
PORTLAND RY. LT. & PWR CO.
PORTLAND & OREGON CITY RY. CO.
Springfield
Eugene
Scale Miles

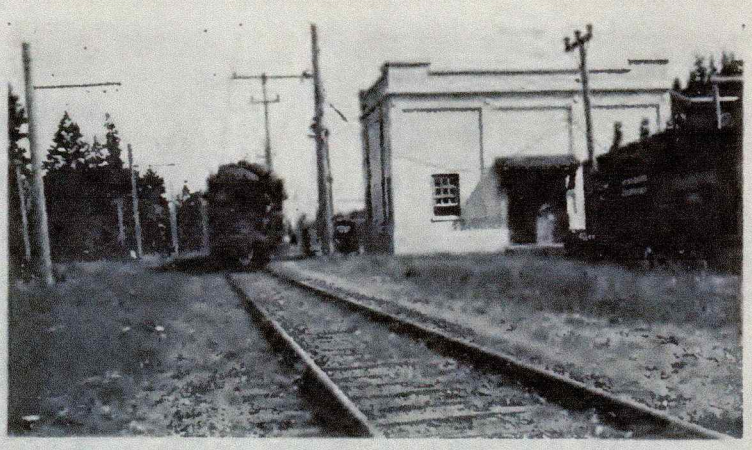
INTERURBAN CENTERS AND CARS. Oregon Electric passenger station in Salem, Oregon's capital

and the Canadian Pacific Railroads. The railroads using the passage of the Columbia River are the Union Pacific, the Great Northern and the Northern Pacific. The North Bank Line, finished in 1908, was built down the Columbia River by the Northern Pacific and the Great Northern at a cost of $45,000,000, paralleling the Union Pacific on the south bank of the river. This new road gave great impetus to the progress of Portland, and in fact the rivalry between the railroads has been of large benefit to the city, the rival roads having spent vast sums of money for the construction of extensions into the interior of Oregon.

In addition to the advantage which the city enjoys because of the large number of important railroads serving it, its progress has been greatly aided by the extensive systems of interurban electric lines which have their terminals in the city. There are electric interurban lines connecting Portland with Salem, capital of the state, 52 miles south



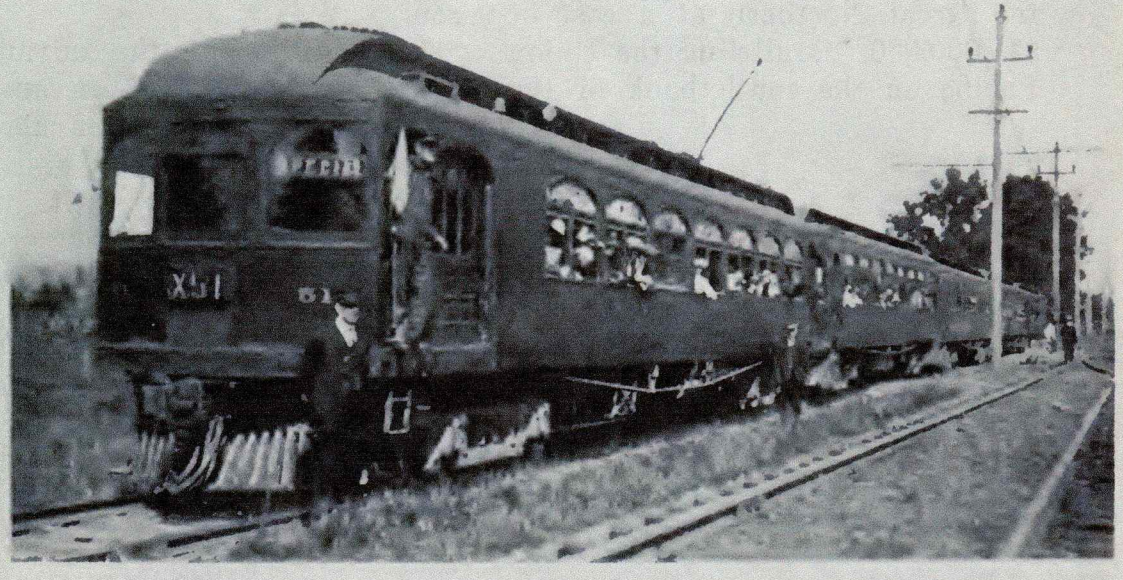
INTERURBAN CENTERS AND CARS. Employes' residence at Orville, Oregon Electric Railway



INTERURBAN CENTERS AND CARS. Substation at Orville, on Oregon Electric

of Portland, and with Eugene, 125 miles, where is located the state university. Also there is an interurban line connecting Portland with Forest Grove, which is the seat of the Pacific University; with Cazadero, 37 miles, where is located a large hydro-electric plant; with Oregon City, 15 miles, where the falls of the Willamette River are used for power purposes; with Vancouver, Washington, 7 miles, and with Bull Run, 30 miles.

Portland has the only important fresh-water harbor on the Pacific Coast. The basin of the Columbia River and its tributaries drains about 250,000 square miles. The agricultural products of the territory surrounding Portland are varied. The chief of these agricultural products is wheat, of which cereal there is produced annually a total of between 50,000,000 and 60,000,000 bushels. The exports in addition to wheat are featured by lumber shipments, both coastwise and by rail. The chief article of manufacture is lumber, and in fact Portland is noted as the greatest lumber-producing city in the world. The city ships by rail and by water large quantities of farm products,

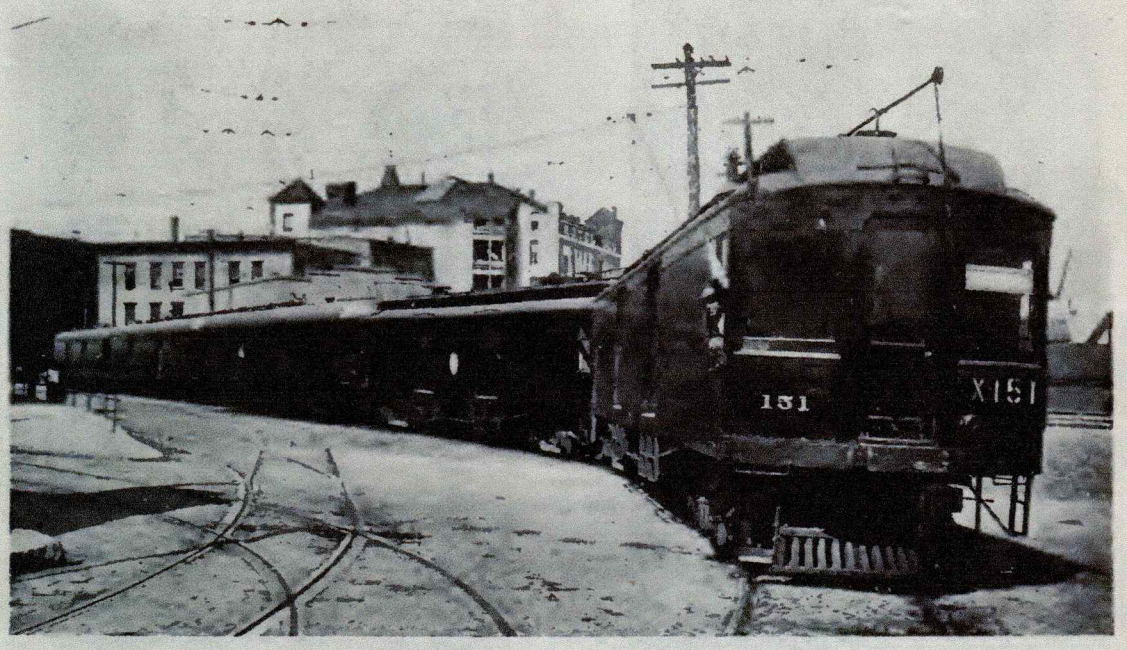


INTERURBAN CENTERS AND CARS. Special hop pickers' train, Oregon Electric. The annual exodus from the cities to the hop and berry fields in the Williamette Valley constitutes a feature of traffic on this line

OREGON ELECTRIC RAILWAY

Typical stretch of double track
Double track entering South Portland; Willamette River below on right
A seventeen-mile tangent through Willamette Valley, south of Portland

Freight train—Willamette Valley
Bridge over Willamette River; 109 feet above low water;
2600 feet of trestle; 800 feet of steel

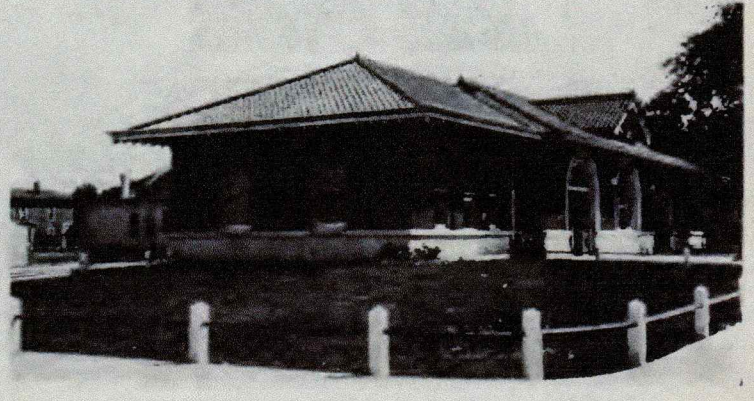


INTERURBAN CENTERS AND CARS. Special train of baggage cars, Oregon Electric. A feature of such special movements as hop pickers

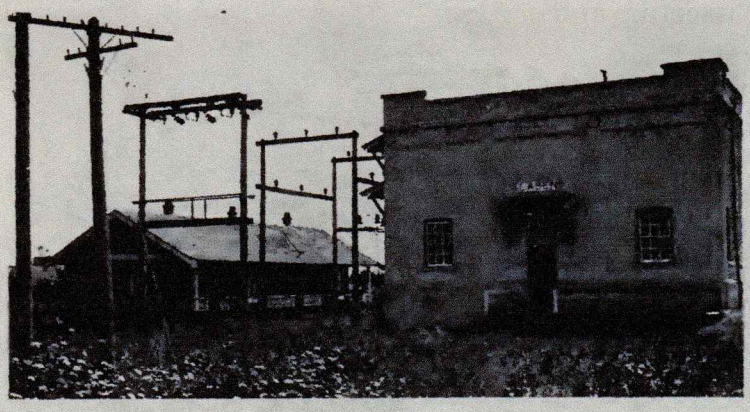
the famed Oregon apples being one of the most important products. In addition to its lumber business Oregon is noted as one of the greatest wool-producing states.

With Portland as the center of trade, the commerce of the city reaches the Orient, Europe, Africa, South America, Hawaii and Australia. Portland is the center of the Columbia River salmon trade, a business which is taking on larger and larger proportions annually. In addition to lumber, the city manufactures flour, woolen goods and clothing, furniture, cordage, machinery, steam boilers, etc.

The city has a public water system which embraces about 410 miles of water mains and which gives the city an available daily supply of 67,500,000 gallons of water. The chief source is the Bull Run River, in the foot of the Cascades, 33 miles distant from the city. Four free bridges span the Willamette and in addition there are two big viaducts which were built in 1912. The city has two drydocks, and a great deal of attention is being paid to the docking system, which at present totals about 32,000 run-



INTERURBAN CENTERS AND CARS. Passenger station at Albany, Oregon. Oregon Electric Railway



INTERURBAN CENTERS AND CARS. Concrete substation and employes' residences at Lasen, near Eugene, on the Oregon Electric

ning feet of docks and warehouses.

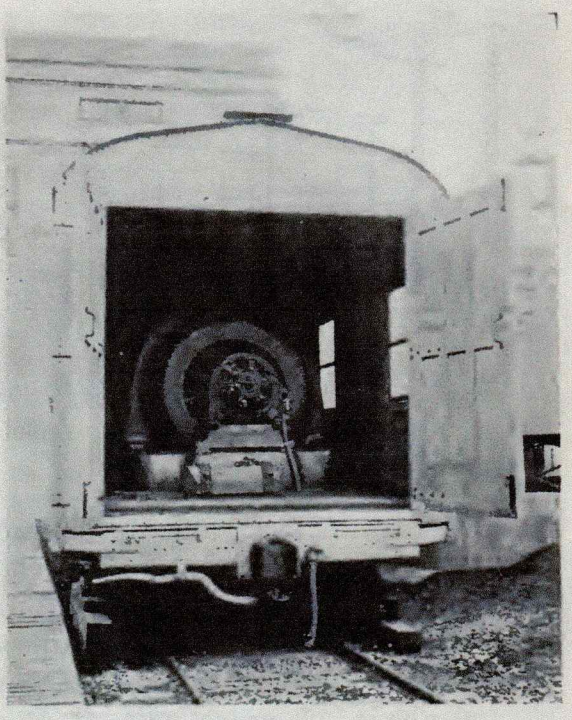
The Columbia River Highway, the great roadway recently built through the Cascade Mountains at a cost of about $2,000,000, extends for about 47 miles east of Portland. The electric railways do an enormous Sunday business in bringing people to Portland to enjoy the scenery along this highway. Oregon as a whole, and western and southern Oregon particularly, are characterized by the beauty of the landscape, the undulating valleys, beautiful rivers and the verdure which is so characteristic of the state all lending enchantment to the view. Crater Lake, in southern Oregon, is one of the natural wonders of the world and is the mecca of camping and sightseeing parties. Fishing and hunting both are excellent throughout the state, the many streams which have their source in the Cascade Range being well stocked with gamy fish. Crater Lake is but one of many interesting points that are reached by the Columbia River Highway, and so it may be seen that the electric roads linking the people of the state with this interesting highway naturally would reap large bene-

INTERURBAN CENTERS AND CARS. Georgian Colonial type of passenger station, Oregon Electric Railway. Recently completed

fits from holiday sightseeing and excursion traffic.

The Southern Pacific Company operates 96 miles of electrified track—94 miles of which is single track—out of Portland. This line connects Portland with Whiteson by way of Hillsboro, Forest Grove, St. Joseph and McMinnville, and also it operates a line from Portland to St. Joseph by way of Newberg. In addition, city lines are operated at Springfield, Salem, West Oregon City, Albany and Eugene, the latter city being the southern terminus of the Oregon Electric Railway Company. Also the Southern Pacific operates two short interurban lines, one running from Eugene to Springfield, a distance of five miles, and the other running from West Oregon City to Willamette, a distance of six miles. These two short lines present a rather interesting situation, neither of them being connected with the rest of the Southern Pacific's interurban trackage.

The electrified lines of the Southern Pacific formerly were steam lines, and therefore they have direct connection with the remainder of the Southern Pacific steam system at Portland and at Whiteson. Also at Portland connection is made with the Oregon - Washington Railroad & Navigation Company, the Northern Pacific, the Oregon Electric, the United Railways and the Portland Railway, Light & Power Company, from which latter company all the power used in the operation of the lines is purchased.



INTERURBAN CENTERS AND CARS. Portable substation of Southern Pacific

Aside from Portland, the terminus of the Southern Pacific lines, there are four fairly large towns on the line. These include Hillsboro, 4,000; Newberg, 32,000; Forest Grove, 3,000, and McMinn-

INTERURBAN CENTERS AND CARS. Junction at Fourth and Jefferson Streets, Portland. Southern Pacific line

Portland Terminal
Baggage and express car

SOUTHERN PACIFIC RAILROAD

Standard passenger coach
Typical station

ville, 3,500. In addition, it is estimated that the company has a total tributary population from rural districts of about 10,275.

The standard car measures 54 ft. 10 in. over the vestibules, 56 ft. 10 in. over the bumpers, 9 ft. 2 in. over the side sheathing, has a seating capacity of 60, and a weight of carbody including brake and electrical equipment of 29 tons, the total weight of car and trucks fully equipped being 51 tons. The standard car is built on a steel underframe with the girder type of side construction.

Steam operation is used to take care of the freight business. Farm products and consignments from the Wells Fargo Express Company make up a sizable express business.

Traffic statistics for the year 1915 showed a total of 20,541 trains operated with a total train mileage of 549,363, and a total car mileage of 1,428,271. Within the next year it is purposed to electrify the steam track between Whiteson and Corvallis.

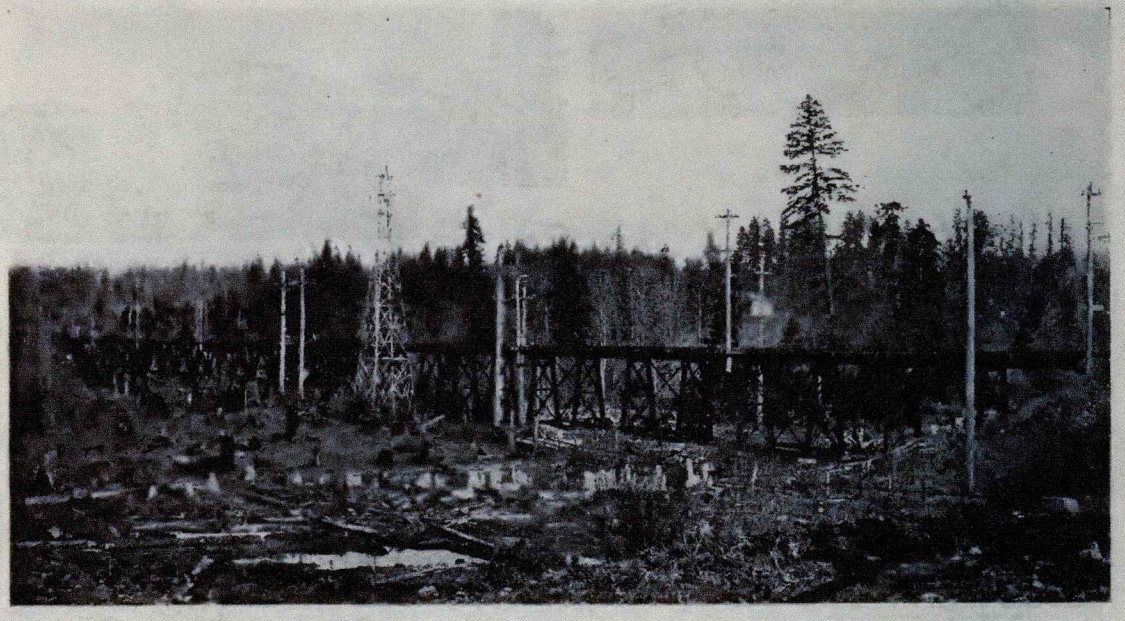
Both the United Railways Company and the Oregon Electric Railway Company are under the control of the Spokane, Portland & Seattle Railway Company. The Oregon Electric connects Portland with Hillsboro, Forest Grove, Salem, Albany, Corvallis and Eugene. It operates a total of 195 miles of track with an equipment which includes 58 passenger motor cars and twenty-four other passenger cars, ten electric locomotives, 122 freight cars and 17 miscellaneous cars. Like the Southern Pacific, the company purchases its energy from the Portland Railway, Light & Power Company, transmission voltage being 60,000 and the trolley voltage 1,200.

The United Railways Company connects Portland with Linnton, Burlington, North Plains and Wilkesboro. The line operates from Wilkesboro to Linnton, at which point it forms a junction with the steam line of the Spokane, Portland & Seattle Railway, operating into Portland. The territory served by this line exclusive of Portland has a population whose total is about 10,000, the towns served by the line being comparatively small. Like the Southern Pacific, this company purchases its power from the Portland Railway, Light & Power Company, maintaining a substation at Harborton. The transmission voltage is 1,200. At Linnton the Oregon Electric connects with the Spokane, Portland & Seattle and in the North Bank Station, Portland, it connects with the Oregon Electric Railway and other lines.

The standard car of the company measures 56 ft. 3 in. over the vestibules, 59 ft. 2½ in. over the bumpers, 8 ft. 7¾ in. over the side sheathing, has a seating capacity of 66 and a carbody weight, including brake and electrical equipment, of 49,552, the total weight of car and truck, fully equipped, being 84,500 lb. The cars are built for double-end operation on composite underframes, being of Pullman wooden construction. They are run singly and in trains of up to four cars.

The Portland Railway, Light &

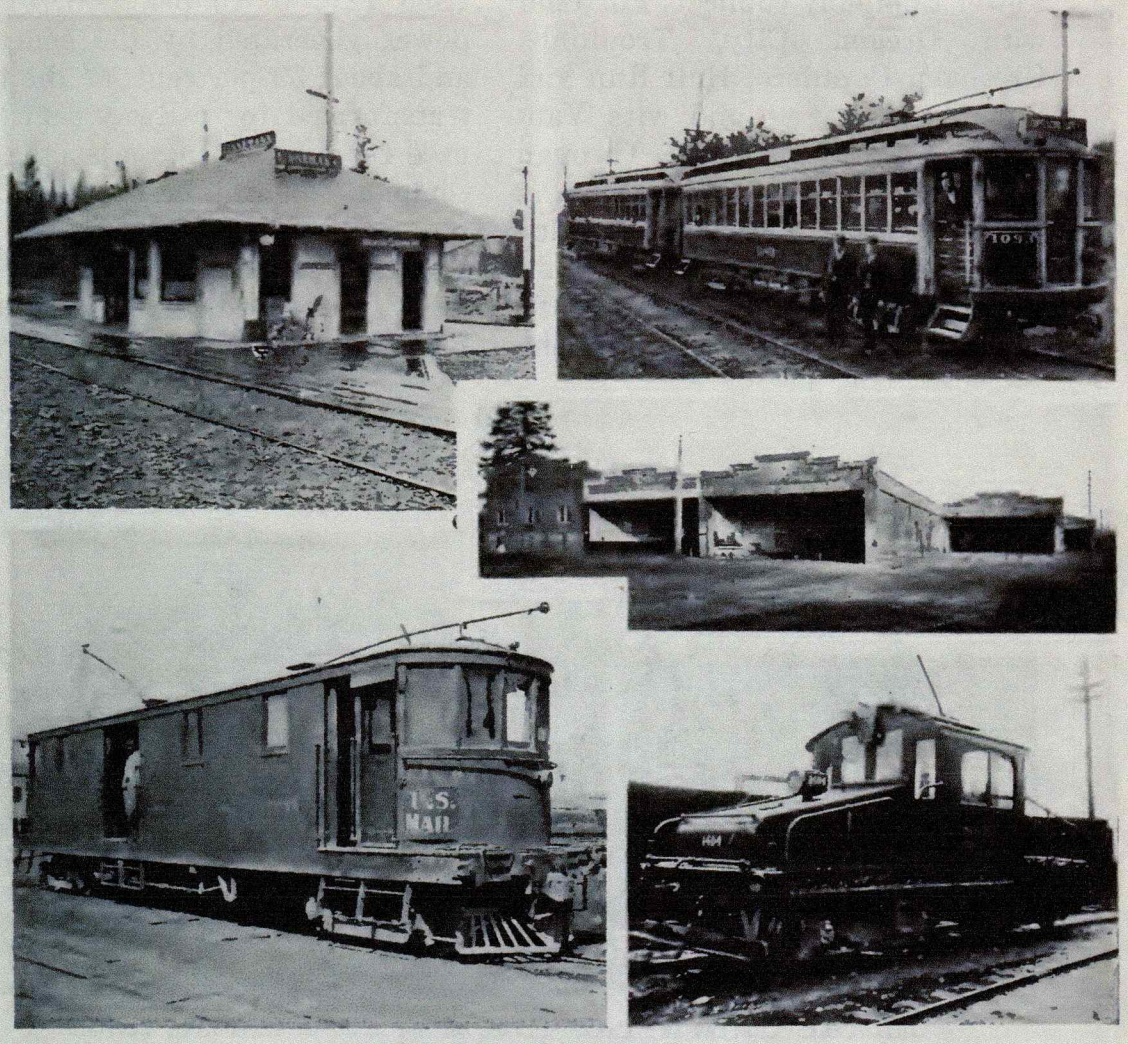
Power Company connects Portland with Oregon City, Troutdale, Gresham, Cazadero, Bull Run and St. Johns, Oregon, and with Vancouver, Washington. Through ownership of stock this company controls the Willamette Valley Southern Railway and the Yamhill Electric Company. Also it owns the ferry system across the Columbia River to Vancouver and the Portland-Troutdale Electric Railway Company. Altogether the company operates 76 miles of first track and six miles of second track. Its connection with the Willamette Valley Southern Railway is made at Oregon City.



INTERURBAN CENTERS AND CARS. Bridge on Springwater Division of Portland Railway Light and Power Company

The company generates not only the power used in the operation of its own interurban line but it furnishes power to other industries, prominent among them the interurban roads previously mentioned as purchasing power from it. The records of the company show that from 12½ to 15 per cent. of the power generated by the company and about 33 per cent. of the total transformed for railway service is used for interurban operation. The company maintains ten power plants, five of them located on mountain streams and consequently being equipped with hydraulic machinery and the other five being steam plants located in towns and cities. The capacity of these powerhouses is 65,000 kw.

The standard car in use by the company measures 49 ft. 10 in. over the vestibules, 51 ft. 1 in. over the bumpers, 8 ft. 10½ in. over the side sheathing, has a seating capacity of 56, a carbody weight, including brake and electrical equipment, of 35,640 lb. and a total weight of car and trucks, fully equipped, of 61,600 lb. The car is built for double-end operation on a composite underframe with wooden side construction. Although some of



PORTLAND RAILWAY, LIGHT & POWER COMPANY

Linnemann Junction station — Typical two-car train

United States mail and express car — Sellwood car houses — 45-ton freight motor

the short runs are operated with single cars, trains usually are used. Brill 27-E Trucks are used.

Traffic statistics for the last year showed a total of 4,000,800 passengers carried, of which number 3,280,500 were revenue passengers, 547,000 were transfer passengers and 180,500 were non-revenue passengers. For this operation the carmiles totaled 1,593,000, with a total of 119,000 carhours.

The Portland & Oregon City Railway is a road about 16 miles long, extending from a point in East Portland to Baker's Bridge on the Clackamas River, passing through the towns of Milwaukee and Clackamas, both towns being located in Clackamas County. At present the line is being operated with a steam locomotive and coach for passengers and also an automobile bus is operated from East Portland across the bridges to the hotel district on the west side. Just what type of electric traction will be used when the construction work has been completed has not as yet been decided.