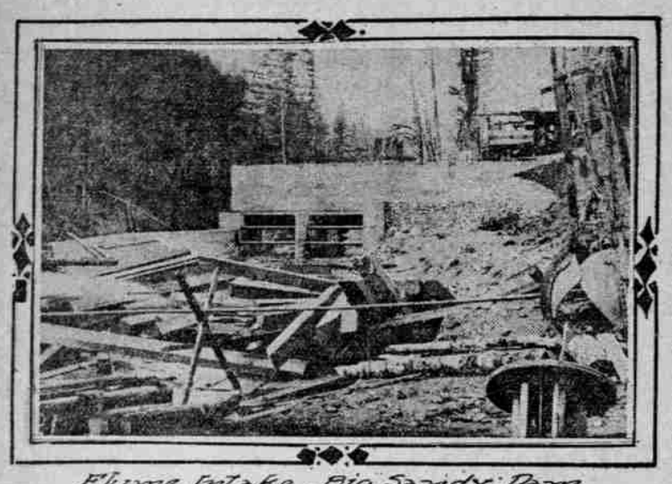
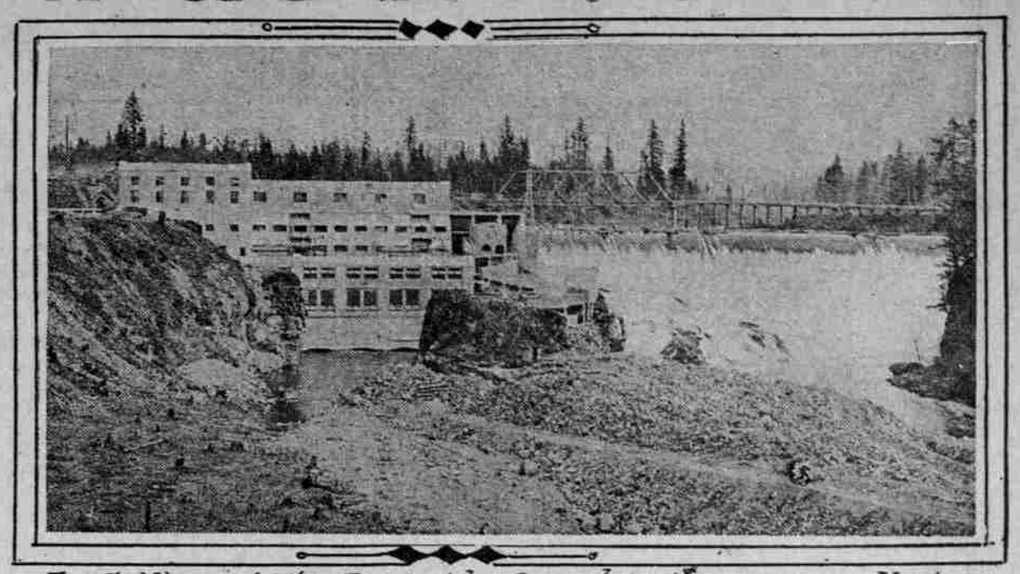
POWER COMPANY MEETS NEEDS OF GREATER PORTLAND

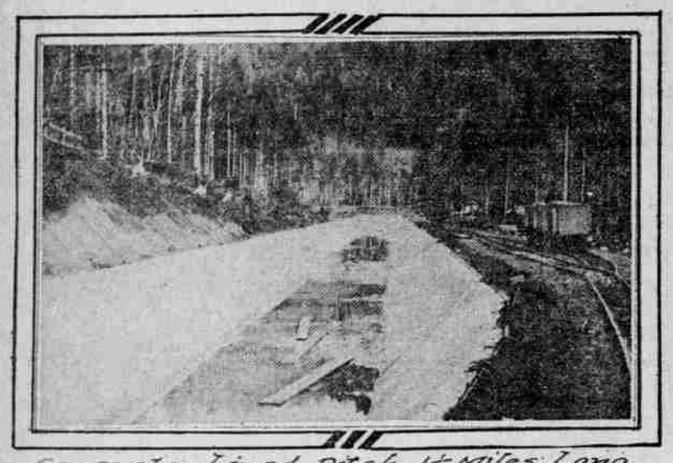


Flume Intake, Big Sandy Dam

Dredging Flume on P.R.L.&P. Co's Big Sandy Project.



Front View Of The Recently Completed $2,000,000 Hydro Electric Dam At Estacada



Concrete-Lined Ditch, 1½ Miles Long P.R.,L. & P. Diversion of Big Sandy

Coffer dam on Big Sandy to divert water while carrying on construction

By B. S. Josselyn, President of the Portland Railway, Light & Power Company.

CITIES grow through the foresight of their citizens. Experience has taught us this truism. In the main it consists of material and physical preparation. The city that builds for the future is ready, when the opportune moment comes, to take advantage of the situation. This is a sound business doctrine. A merchant puts in a heavy stock in anticipation of his trade. He builds a larger store than he needs, under the impression that his trade will soon demand it. So it is with the factory. It has frequently twice the capacity that is needed to supply the demand, for the reason that the manufacturer knows that he must be ready for the hour when the call comes for a greater supply than he is at present producing.

Patriotic citizens of Portland have the utmost confidence in its future, and all have built, not for today, but for tomorrow. We are to have more citizens, more merchants, more people, more factories, and more of the things that make a city as the years go by. Therefore, to maintain the natural momentum which we have gained, there must be provision to supply the wants of the newcomer who will aid us in developing the latent advantages of Portland and her surrounding territory.

The company that I represent, the Portland Railway, Light & Power Company, has had this economic condition in view since its organization. It has shown its faith by its works, and for many years has invested from $3,000,000 to $5,000,000 new money yearly in betterment; not for operation, but in adding to its capacity to supply the future needs of Portland. We would be untrue to our trust, as the agents of the people in supplying a public necessity, were we not to do this. More or less, every property owner in Portland has risked his money upon the growth of the city. The newcomer, to whom he looks for help in the future development, must be provided with increased streetcar service, increased electric light facilities, and sufficient power to turn the wheels of his factory, if he should decide to build one. Should these material factors not be at hand, it is doubtful whether he would consent to locate in our midst.

To provide for this contingency, the Portland Railway, Light & Power Company, in the matter of electrical energy alone, has now 80,000 available horsepower, of which only 50,000 is at present being used, leaving 30,000 horsepower to care for the growth and the wants of the newcomer. This condition will be found in very few places in the country, and for this reason I am of the opinion that Portland stands well to the forefront in the list of cities of the United States having ample electric light and power facilities.

To provide for some of this 30,000 horsepower surplus, we have been very busy in diversion work upon the Big Sandy River. For the year 1912, upon this section of the Mount Hood power development, there has been expended $500,000. Upon the adjoining unit, known as Bull Run, we invested $245,000 in 1912, making a total expenditure so far for the Mount Hood development of $1,345,000, all in addition to the original purchase price of the property. This represents a very heavy outlay for the sole purpose of providing for the future, and will enable us, for quite a number of years, to take care of any demand that might be made upon us by the manufacturing interests of Portland.

Some idea of the enormity of our work, in our efforts to look after Portland's future growth, may be gathered from the fact that this past year, in hydro-electrical development, street and electric service installation, we have expended $2,945,000. This was not for operation, but for additions to our present capacity. To more effectively provide for emergencies, we have established in Station E, in the city of Portland, a huge 10,000 horsepower steam turbine generator, which cost $142,000. The steel tower construction from Barton to Sycamore cost $50,000, while arc lights, transformers, meters and poles cost us $300,000.

It is true that we have done all this in the hope of reward. That is only natural, but coupled with it is an abiding conviction that it is our duty to deliver to all who come to Portland these public necessities which are so essential to the growth of a modern municipality, and at the lowest possible cost.

As a matter of safety and security for Portland's needs, we have not put all our eggs in one basket. For the production of this 80,000 horsepower, we have plants at Oregon City, Cazadero, Estacada and Bull Run, each of which is many miles from the other, so that whatever accident might occur in one, would not ordinarily be duplicated in the other. Even should all these plants be disabled, we would still have our steam auxiliaries in the city to insure the continuation of the service to all those who are in need of it.

In the development of our street railway we have for the year 1912 expended in betterments, $960,000, making with that expended in hydro-electric betterments, a total of $3,905,000 that the company has invested this year to improve its service and provide for future contingencies.

Some idea of what we have accomplished can be gathered from the statement that we expended in 1912 for equipment upon the interurban and streetcar lines, $140,300; for new carbarns, $68,200, and for improvement and extensions of city track, $449,000. Upon the new shop buildings and warehouse which we have been building on Center street, near Sellwood, there has been expended this year $300,000. Some of the larger expenditures made for improvement of tracks, was upon Sandy Road, where we expended for double-tracking and paving $65,000. The estimated cost of this work when complete is $116,000. Upon the Fulton line, the improvements upon Corbett, Nebraska and Virginia streets will cost $80,000, of which $40,000 has already been expended. The Raleigh street work will cost $25,000, East Twenty-sixth street, $23,000, and Twentieth street, $20,000. Milwaukie street improvement represents an expenditure of $109,000. The Burnside street barn cost us $30,000.

The $960,000 which we have expended on railways the past year was all made for the improvement of the service, and is quite a considerable item, when everything is considered, in the matter of the operation of the streetcar system. It is illustrative of our purpose to give Portland the best system that can be produced by the expenditure of money.

The company is probably the largest employer of labor in the city, and, therefore, it has a manifest duty to perform with regard to the welfare of its army of men and women who gain their livelihood by serving the public. There has been established upon the company's properties six large reading and rest rooms. Each of the carbarns has excellent facilities for rest and recreation. During the year we established a clubroom in the Hawthorne building for the light and power department employes, and the latest addition to this feature of our work is the establishment of a reading and rest room in the car shops on Center street. We employ a man whose sole duty is to visit the men, encourage them in good deeds and to live upright lives.

The welfare work is an important feature of the life of an institution of the magnitude of the company, and a very earnest and sincere effort is made to look after the wants and comforts of all. I have been told that the welfare work of our company is equal to, if not superior to, anything upon the Coast. We at all times have endeavored to inculcate in the minds of our men that the golden rule is the most important basis for human action, and that if they will live up to its doctrine, public service will be improved and a better feeling prevail.

PORTLAND SOON WILL HAVE 673 MILES OF TRIBUTARY INTERURBAN ELECTRIC ROADS

Benefits That Have Been Experienced in Other Centers Already Felt Here. President Shoup, of Los Angeles System, Comments on Situation.

PORTLAND SECOND ON COAST.

When the lines now definitely authorized to be built in 1913 are completed, Portland will rank second in tributary interurban electric railroads on the Pacific Coast, being exceeded only by Los Angeles. The following table shows total interurban mileage, city streetcar systems not being included, except in the San Francisco figure, 166 miles of which represents the lines of the Oakland Traction Company:

Portland	673.74
Spokane	195.00
Seattle	106.00
Tacoma	135.00
San Francisco	292.08
Los Angeles	900.00

THAT Portland will eventually develop into one of the greatest centers for interurban electric railroads in the United States is indicated by the lines now in prospect and assured. Indeed, Portland in this respect ranks second among the Pacific Coast cities, being exceeded in tributary mileage only by Los Angeles. Besides benefiting the country traversed, these lines will be a great factor in the up-building of Portland as they have been in the advancement of many other cities.

Electric line development in Oregon is comparatively new, with the exception of the lines now operated by the Portland Railway, Light & Power Company, including the old Oregon water power system. It was not until the last few years, that the Oregon Electric & United Railways, both now a part of the Hill system, started the present movement which promises to end only when the electric railroad has tapped every section of the Willamette Valley. In fact it will probably not end then, for there is already talk of extensions to the Rogue River and Umpqua River Valleys, the rich fruit raising districts of Southern Oregon, while the interurban may in time play an important part in the development of Eastern and Central Oregon.

There are lines now constructed and assured which will give Portland 673.74 miles of tributary electric lines. This is no mean showing, even in comparison with the cities that have become noted as the great interurban centers of the United States. Few cities have more mileage, exclusively their own, than Portland will have when these lines are completed. A number of cities have larger totals, but the traffic that originates along the lines is divided with other cities. On the other hand, Portland is the only city of metropolitan proportions that will be served by the lines in Oregon.

The electrification of steam roads and the building of new electric roads will give the Portland, Eugene & Eastern a total of 340 miles of electric line in Oregon, the greatest trackage possessed by any company. The remaining mileage is divided as follows: Oregon Electric, 154.44 miles; Portland Railway, Light & Power Company, 127.37 miles; United Railways, 33.93 miles; Clackamas Southern, 18 miles. All of this is strictly interurban system, having been segregated in the case of the Portland Railway, Light & Power Company, from its city streetcar system.

Los Angeles is known all over the United States for its excellent system of tributary electric lines, and yet Los Angeles, with 900 miles of interurbans, exceeds the total Portland will soon have by only a little more than 200 miles. It is recognized by all that these electric railroads have been one of the greatest, if not the greatest, factor in the development of Los Angeles, putting it far ahead of its northern rival, San Francisco, in rate of growth. Although Portland in the decade ending in 1910 grew rapidly with the help of only a few electric lines, this growth is expected to be even more rapid henceforth because of the network of electric roads that put it into quick and convenient communication with the different parts of the Willamette Valley.

Paul Shoup, who used to live in Portland and is now president of the Pacific Electric, the interurban system of Los Angeles, is enthusiastic over what the present electric road development means to Portland and Oregon. The results here, he believes, will be the same that they have been in the south, and he is positive about the benefits there.

"I think if one were to obtain the opinion of real estate owners and operators and others closely in touch with the development of Southern California he would almost certainly find that the Pacific Electric is looked upon as a most important factor in Southern California in the development of this territory next to its natural advantages," writes Mr. Shoup. "The value of electric railway service to the city and the country is recognized by the fact that practically everywhere the communities, in order to get our lines, are providing free private rights of way, in many cases through very valuable property, and in addition are supplying cash bonuses to take care of the railway operating losses during the period of development.

"I am familiar with your Willamette Valley and your section surrounding Portland," continues Mr. Shoup. "In my judgment the greatest single factor in the development of the Willamette Valley, especially when your climatic conditions are considered, will be electric railway service. These railways, however, can only extend and be successful through the co-operation of the people served. I do not allude in this particular to matters of rights of way or bonuses, but to a different kind of co-operation.

"There must be an associated development that will take advantage of this electric railway service. Communities must advertise it; real estate owners must subdivide their properties, show the advantage of the intensive cultivation and show how people may live in the country, and yet be in close touch with the city through electric railway communication. Advertising should be of a practical and simple nature, showing first that the man who settles at the particular place advertised on the electric railway line will have good home advantages in that he will have plenty of neighbors, improved roads, good church and school facilities, good water system, electric lights, etc.; second, that on certain limited area he can make a living by intensive cultivation, naming the nature of the employment and product, the range of prices through several years, the increasing value coming to his land through the denser population and the electric railway service; and, third, the value of the electric railway service itself, with cars every hour or two hours, its bringing in touch with the community served the outside world through making it easy and inexpensive by commutation tickets for traveling to and from the city, and, in isolated communities of small population, the advantages of being able to obtain merchandise quickly and inexpensively, of telephones and electric lights, of not being out of touch with a physician's aid, ability to send children to school inexpensively, and so forth.

"The interurban railway brings to the country the advantages of the town. If it is to fulfill its mission it must provide frequent service. It must take passengers from the country to the center of the city or to the center of the town; it must have private rights of way in order that it may operate with the least danger to its passengers and to the public, and it must run its cars so as to give quick as well as frequent service. Interurban electric railway cars can be operated safely at just as high rates of speed as steam cars.

"The interurban railway provides not only superior passenger service, but for strictly local freight business a superior freight service and greatly improves the express and passenger service. Where power companies do not operate, it can and does provide electric light and electric power for pumping or manufacturing."

Los Angeles is only one instance, although a conspicuous one, of the benefits that come with adequate interurban railway service. The cities of the central states have found the electric railway their greatest asset. All of the cities that can properly be termed interurban centers went ahead rapidly during the last decade. Their growth was not as large, of course, as the growth of Portland and other Pacific Coast cities, with their deep-water shipping and other natural advantages, but their progress was rapid, and due in large part to the interurbans.

It is difficult to compare Portland's interurban system with the systems that have been growing up for years around these cities of the central states. It is especially difficult, because in the East there is no city that can claim a large electric system as entirely tributary to itself. One of the most noted interurban centers in the country is Indianapolis. There are 1900 miles of interurban electric railroads in Indiana, and Indianapolis is the focal point for a large portion of this trackage. But it cannot be said, by any means, that all of this 1900 miles is tributary to Indianapolis. It is divided with Fort Wayne, South Bend and Chicago on the north, with Terre Haute on the west, with Dayton, O., on the east and with Evansville and Louisville, Ky., on the south.

In Ohio there is 2700 miles of electric railroad, but it is divided up among a large number of cities. Cleveland is one of the chief centers, and yet but 645 miles, or less than the mileage tributary to Portland, is claimed by Cleveland. Columbus, Dayton, Cincinnati, Springfield and Toledo all figure as important interurban centers in Ohio.

Michigan is another important interurban electric state, with a total of 1200 miles of track within its borders. Of this, 527.29 miles is claimed as tributary to Detroit and the remainder belongs to the districts around Grand Rapids, Lansing and other cities.

Portland's position as one of the great interurban electric centers of the country is assured. Already she has the certainty of greater trackage than some of the cities that have boasted for years of their electric railways. And Portland has the great advantage that it will always be the terminal for the traffic developed by electric lines in the Willamette Valley, as well as for those that may be built in other parts of Oregon or in Southern Washington.

ELECTRIC LINE TO MOLALLA BUILT BY OREGON CAPITAL

Clackamas Southern, Financed by Public-Spirited Citizens, Will Traverse Valley of Great Fertility.

THAT richest part of Clackamas County, known as the Molalla Valley, one of the oldest settled, as well as one of the most fertile, sections of the Willamette Valley, after waiting and offering every encouragement for the building of a railroad, is now going to have it, and is going to own a good share of its stock.

In addition to the Molalla Valley, the Clackamas Southern Railway now being built will serve the Maple Lane, Beaver Creek, Clark, Highland, Carns, Mulino, Liberal, Yoderville, Monitor and Mount Angel sections, all thickly settled. These districts will be put into direct communication with Oregon City and Portland.

Nearly 20 years ago a line was projected through the Molalla Valley to Silverton and some grading was done but later abandoned. Since then several different attempts have been made by different interests to build a railway line. Almost five years ago surveys were made, rights-of-way and station grounds secured, terminal properties at Oregon City bought and an effort made to finance the project in the Eastern money markets. Engineers were sent out by various financial interests and all reports were extremely optimistic, but no financial aid was secured.

In March, 1911, the Commercial Club at Oregon City became interested and with the Live Wires, an auxiliary of the Commercial Club, local people took up the project and it was concluded to build the road with local capital.

F. M. Swift, who had secured the rights-of-way and made surveys, retained stock for exactly the amount he had expended, and on the basis of $50 a share the balance was turned over to a trustee to be sold to the public. Local people of well-known business standing were elected as officers, agreeing to serve without salary.

Then a vigorous campaign of stock selling was started and when only $5000 had been subscribed grading was begun in a small and economical way. With this small start, different sections came in with subscriptions until today more than $150,000 has been expended in grading and bridges, and subscriptions and money to the extent of over $200,000 more and available to buy and lay rails. The road will cost, completely equipped, less than $20,000 a mile, built, owned and operated by Oregon capital. The stockholders now number over 440 men and women.

On December 10 a spike-driving celebration was held at Oregon City to celebrate the laying of the first steel on the 16 miles of road already graded.

Grading, bridging and steel laying will be pushed all Winter and by June, 1913, the line to Molalla will be ready for operation, and by October 1 the balance to Mount Angel will be completed, making a total of 32 miles.

The officers and directors are the following well-known Clackamas County men: George A. Harding, O. D. Ely, Grant B. Dimick, W. A. Huntley, Frank Busch, Dr. F. M. Wood, Oliver Robbins, F. M. Swift.

Henry Bering, connected with the Bank of Mount Angel, recently was elected as director. Mount Angel, the section Mr. Bering comes from, subscribed $20,000 in a few days to the stock in the company.

HOP CROP VALUABLE.

The hop crop of 1912 was one of the most valuable that the state has harvested. It was slightly below that of 1911, but above any other hop crop of recent years. The value of Oregon hops grown since 1907 follows:

1907	$2,600,000	1910	$2,622,000
1908	1,800,000	1911	3,800,000
1909	2,380,000	1912	3,850,000

ELECTRIC RAILROADS SURE TO INCREASE PROSPERITY OF BOTH TOWN AND COUNTRY

New Sections Will Soon Feel Results Already Reported Along Oregon Electric and Other Lines. Some Districts to Be Tapped Have Only Wagon Roads Now.

By Addison Bennett.

THE electric railway is the greatest of all community builders yet discovered, and it is not likely that the future will see any force that will make transportation as economical and as efficient as electricity. Railways operated by steam power cannot compete with the electric railways for short hauls, frequent stops and the climbing of heavy grades. And as the electric trains are very much lighter than those operated on steam roads, the cost of maintenance of track and roadbed are much less.

But the great secret of the electric road as a community builder lies in the number of trains operated per day and the short distance between stations. These advantages place everyone living along the line in constant touch with neighbors, markets and the world at large, giving the suburbanite and the rural dweller many city advantages at but a trifling cost.

No improvement or innovation ever conceived can compete with these roads in reducing the size of farms, which means more people on the land. Many of the wisest and most progressive minds in the country have been laboring with the problem of keeping the young people from flocking from the farms to the city, but the cities have gone on growing in an increased ratio at the expense of the rural communities. With the telephone, free mail deliveries, automobiles, better roads, with city ways and city conveniences taken to the farmhouse, still the farmers' sons and farmers' daughters seem to have less and less desire to stay in the old home, preferring a life of dependence, of servility, in the city to a life of independence and mastership on the old homestead.

If, however, it were possible to get accurate statistics on the subject we would no doubt find that wherever electric railways have been put in operation the trend has been from the city to the country. The result is not suddenly felt after the completion of a line. It takes time for matters to adjust themselves. One of the first results often following the completion of such a road is for a horde of irresponsible real estate agents to begin a "boom" in property along the line, jumping the prices of acreage up from 1 to 500 per cent above its value. This is a real evil, and it takes time for matters to adjust themselves.

But in a short time the landowners see the futility of attempting to get these exorbitant prices for their property and usually, taking the matter in hand themselves or placing it in the hands of legitimate dealers, they sell small tracts to homebuilders at a reasonable price. When this system is once started the real estate dealers as well as the owners begin to make sales and the lands are rapidly cut up into small tracts and intensive farming, gardening and fruit culture make the newcomers not only self-supporting, but embarked upon careers of independence, and in many cases on the road to fortune.

In the Willamette Valley we may be said to have three "systems" of electric railways — that of the Portland Railway, Light & Power Company, operating lines in Multnomah and Clackamas counties; the United Railways Company, operating lines in Multnomah, Clackamas, Washington, Marion, Linn, Benton and Lane counties, and the Portland, Eugene & Eastern, which has in operation, or under construction, a system aggregating 340 miles, which will cover the counties of Multnomah, Clackamas, Washington, Yamhill, Polk, Benton, Linn and Lane. These are but crude statements. Other articles in this section of the Annual will deal with the mileage and location of all of these lines.

And it is more than likely that before another Annual is issued it can be said that every town of any importance in the Willamette Valley from Roseburg north will be touched by one or more of these roads, or perhaps with those of other systems soon to be begun. It is perhaps well within the facts to state that before another new year rolls around we will have well over 700 miles of electric roads, exclusive of those in the towns and cities, in operation in the valley.

Many sections will be touched by these roads, which have had but the wagon roads to depend on heretofore. This is particularly true of the Molalla section and the district between Eugene and Monroe. In the former valley there are now as fine openings for people of small means to get a home on the land as can be found anywhere. The whole section from Canby east to the mountains is admirably adapted to truck and fruitraising and the dairy and hog industries, and another very profitable branch of farming is the raising of clover seed. There is but a sparse settlement now, the land holdings are too big, and many fine fields are lying idle. It is true there are some fine little towns between Canby and Silverton, such as Molalla and Scott's Mills, and the two former places are among the progressive places in the valley.

And everybody knows that Silverton is a veritable gem of a small city. It is one of the quaintest, most beautiful and most prosperous places in Oregon, and with the completion of the electric road now building from Canby around via Molalla, Scott's Mills and Silverton and on to Salem this famous town will take on new life, for it will not be long before the famous valleys tributary to the town will double in farmhouses and farm population. As much could be said about the Monroe section, for there is no more prosperous district than that. The trouble has been the lack of transportation. It is true there has been a steam road running from Corvallis to Monroe for a short time, but it is no great shakes of a road and the service is somewhat lacking. This road was bought by the Portland, Eugene & Eastern and will be electrified at once and the extension will carry it on to Eugene. Monroe will then be an important station on the through line from Portland to Eugene. And what was said about the Molalla section applies to the Long Tom section around Monroe and Mount Vernon. Land is still cheap in that whole neighborhood and the old settlers will extend a cordial welcome to newcomers and see that they are fairly dealt with.

Of course the new roads will mean a great deal to Salem, Albany, Corvallis and Eugene, but I am not writing from a city standpoint, or rather for the benefit of the cities directly. However, if the small towns and the rural sections grow and prosper, the cities mentioned will be sure to grow and, if they grow, Portland will also receive a great influx of people and money. The crops from the soil are the foundation of practically all of our wealth. If the farmer prospers, we all prosper.

BIG CARGOES TAKEN FROM PORTLAND.

In four years 26 off-shore carriers have departed from Portland with lumber cargoes in excess of 3,500,000 feet. Of the fleet the British steamer Knight of the Garter retains first place for having loaded 5,023,000 feet of fir in June, 1910, which was the world's record. While she loaded 5,000,000 feet later, her closest competitor for honors has been the British steamer Robert Dollar, which left on her last voyage in November, laden with 4,815,921 feet.

In the same period 28 vessels have been dispatched with wheat cargoes of 200,000 bushels and over and the Willesden, while having considerable wheat, also carried a part cargo of barley. There were nine of the fleet having more than 250,000 bushels, a complete list for three years of which follows:

Vessel.		Lumber, Feet.	Wheat, Bushels.
1910.			
Feb.	Falls of Orchy	3,582,000	.....
May	Augustus	.....	244,559
June	Knight of the Garter	5,023,000	.....
Aug	Hazel Dollar	3,693,000	.....
Aug	Jethou	3,600,000	.....
Aug	Belle of Scotland	3,900,000	.....
Oct	Scottish Monarch	.....	266,876
Oct	Knight of the Garter	5,000,000	.....
Oct	Uganda	.....	242,656
Nov	Masunda	.....	256,654
Nov	Camphill	.....	214,823
Dec	Bjornstjernen B	.....	305,866
Dec	Hazel Dollar	3,551,314	.....
Dec	Solveig	.....	224,333
1911.			
Feb	Strathness	.....	229,317
April	Berkenham	3,643,082	.....
July	Ethelwolf	3,650,200	.....
Sept	Hans B	.....	214,433
Oct	Heliopolis	.....	250,917
Oct	Strathspey	3,658,482	.....
Oct	Strathness	.....	229,761
Oct	Strathblane	3,780,000	.....
Nov	Guernsey	3,500,000	.....
Dec	Fitzpatrick	.....	227,160
Dec	Strathearn	3,744,950	.....
1912.			
Jan	Hercules	3,785,960	.....
June	Strathallan	3,541,737	.....
July	Robert Dollar	4,750,000	.....
Aug	Guernsey	3,521,301	.....
Sept	English Monarch	.....	258,285
Sept	Artemis	4,530,706	.....
Sept	Harley	.....	228,273
Oct	Rygja	.....	220,000
Oct	Willesden	.....	*301,987
Oct	Strathfillan	.....	229,747
Oct	Kina	.....	265,583
Oct	Strathness	.....	234,130
Nov	Robert Dollar	4,815,921	.....
Nov	Strathdene	3,621,346	.....
Nov	Strathlyon	.....	†289,897
Dec	R. C. Rickmers	.....	271,040

*Part cargo barley. †Barley.