

THE TRAINMASTER

NUMBER 135

MAY 1970

THE ELECTRIC RAILWAYS OF THE TUALATIN VALLEY



Oregon Electric cira 1910



SP&S photo



CALENDAR OF COMING EVENTS

MAY 15, 1970 Regular May meeting of Pacific Northwest Chapter.

See inclosed flyer for meeting details.

JUNE 20.21 1970 Railcon 70 at Victoria, B.C. Climax #10 under steam!

JULY 10. 11, 12, 1970 Annual Oregon Trunk Railway Mixed Train trip. Details

in the June issue of the Trainmaster.

AUGUST 9, 1970 "Skandia Limited" special train to the Scandinavian

Festival at Junction City, Oregon. This is the Chapter's

only public, money raising excursion of the year.

LABOR DAY WEEKEND National Convention of NRHS at Charleston, South Carolina.

THIS "N THAT

SPS	25 to BN	937	ALCO S-2	SPS 802 to BN 9752 EMD F-3A
SPS	311 to BN	4251	ALCO C-425	SPS 863 to BN 4114 ALCO FA-1
SPS	323 to BN	4261	ALCO C-425	

MAY MEETING IN SALEM

The May meeting of the Pacific Northwest Chapter, National Railway Historical Society will be held on May 15th at 7:00pm. The site is the Kopper Kitchen North, 3400 Portland Rd. Salem. Buffet dinner will start the evenings activities followed by a program of slides and movies. Bring your wife/girlfriend and spend a pleasent evening bringing together our Salem and Fortland members. For more information call Roger Phillips at 282-7691 or John Holloway at 654-5807; also call these numbers for reservations. Call early so we will have a good idea as to attendance.

To reach the Kopper Kitchen North at 3400 Portland Road take the first Salem exit from Portland and look for it on your left.

SECOND SECTION

RAILCON 70 will be held June 20 and 21 at Victoria, British Columbia. Saturday's activities will include steam geared engines at the forest museum at Duncan, BC. A banquet on Satruday evening will round out the day's activities. Sunday will feature steam again with a trip behind Climax #10 (ex-Hillcrest Lumber Company) Write to Room 1 Union Station for a flyer describing the two day's activities and cost of the events.

Carolina Special

As part of the national convention of the National Railway Historical Society over Labor Day 1970 will be a special train from Washington, D.C. to Charleston, South Carolina pulled impart by Southern steam engine #4501. A connection will be made with this train from Portland sponsored by the Pacific Northwest Chapter. The trip will feature sleeping car space on the "North Coast Limited", "Capitol Limited" and on the "Carolina Special" itself. Return from the convention will be on the Penn Central's Matroliners and ex-NYC "20th Century Limited". The trip will conclude with a return from Chicago on the "Empire Builder". Total cost which includes meals, hotel, sleeping car space, parlor on the Metro and convention events will be around \$600.00 from Portland. Additional details will be mailed in the near future.

THE ELECTRIC RAILWAYS OF THE TUALATIN VALLEY

By the year 1900 the Tualatin Valley had grown with the influx of settlers attracted by the level, fertile farm lands in close proximity to Portland markets. Hillsboro and Forest Grove became its two largest towns, with other villages such as Beaverton and Tualatin gaining population every day. With such population growth, an efficient transportation network had to be built to connect the towns of the Valley to the city of Portland. The first connections between the towns were wagon roads and horse trails, which led into Portland by way of Canyon Road. The public, however, demanded something better than the wagon roads and soon railroads were projected throughout the Valley. The Southern Pacific had built a line to Corvallis by way of Hillsboro and they soon extended a line to Forest Grove to connect that city with Portland. By 1912, the Southern Pacific had built to Tillamook under the name Pacific Railway and Navigation Co. After service had been operated for several years under the PR&N name. the SP incorporated it into their own system.

Other railroads operated in different parts of the Valley and included such lines as the Willamette Valley & Coast which ran out of Cherry Grove and the Oregon Central which began its journey in Portland and traveled south out of the city and into the Valley. The Southern Pacific gradually managed to acquire most of these lines and connected them to form their railroad down the Valley.

Around the turn of the century the electric interurban railway was being developed in the East and Middle West. It was natural that it should spread to the West and Oregon in particular. The electric interurban railway had several important features which enabled it to compete with the already established steam railway. The most important was frequent service since single electric cars could be operated profitably which made many trains possible. Also, the labor costs were low since usually only a two-man crew was necessary to operate the electric cars. Other features included cleanliness (no soot and cinders to dirty the passengers) along with faster schedules than the steam trains.

In the early 1900's several ventures were talked about to project an electric railroad into the Tualatin Valley but nothing came of them. Around 1905, the W.S. Barstow and Company of New York began talking of building an electric railway from Portland to Eugene and south. This railroad was to be called the Oregon Electric and it was to compete with the Southern Pacific steam lines in the area. Unlike many of the electric railway schemes, this one actually began construction: By 1908, the line had built to Salem and in 1908 the branch line to Forest Grove was completed. In 1910, however, the road was acquired by the Spokane, Portland and Seattle Railway, which was in turn owned by the Great Northern and Northern Pacific. The two great figures in American railway construction in the West were at battle once again. The battle between Mr. Hill (Great Northern) and Mr. Harriman (Southern Pacific-Union Pacific) moved from California to Oregon and finally ended in the construction of the railroad up the Deschutes River Canyon.

In a few weeks after construction of the Oregon Electric, they had managed to take quite a few passengers from the Southern Pacific which did not make the SP very happy. They countered by starting to electrify their steam trackage, and the war was on:

Rather than try to comment on the total struggle between these two railways, it is probably better to trace the development of each apart from the other. Included will be other electric lines which operated in the Tualatin Valley.

The Oregon Electric Railway

The OE was the largest interurban system in Oregon with over 130 miles of trackage on the mainline and over 50 in branch lines. The line operated through the middle of the Tualatin Valley and to the western side of the valley with service to Forest Grove. It carried passengers into Portland and hauled farm produce to market. Along with connecting the more important towns of the Tualatin Valley, it also operated commuter service from Tualatin into Portland.

When the Oregon Electric was built, it was equipped with some of the finest electric interurban rolling stock ever built. They represented the "electric pullman" style of the 1900's, with their ornate woodwork, graceful semi-empire ellipses over windows and in the clerestory, and dark green paint outside. Before the acquisition of the line by the SP&S, the cars were painted in orange - a familiar traction color in many places. The SP&S soon changed that. A respectful dark greenish black color gave them dignity and standing!

The original rolling stock of the Oregon Electric consisted of:

- 14 Combines (3/4 passenger, 1/4 baggage)
- 77 Express and baggage cars
- 77 Freight cars
- 2 Freight locomotives.

Of the 14 coaches, eight were built by the Jewett Car Company while the rest of the coaches and the express cars were built by the Niles Car Company of Niles, Ohio. The general dimensions of the cars were:

Length - 57 ft. 8 inches

Height - 13 ft. 10 inches

Weight - 50 tons

Seating Capacity - Main Compartment - 38
Smoking Compartment - 16

Seats - Furnished by Heywood Brothers & Wakefield Company
Main Compartment - Dark green plush
Smoking Compartment - Dark green rattan

Interior - Mahogany rubbed to a dull finish. Ceilings empire style, done in green and gold, and all windows glazed in heavy American plate glass.

The Oregon Electric also bought two parlors cars for service down the Tualatin Valley. These two were named the "Sacajawea" and the "Champoeg" and were some of the very few parlor-observation cars built for interurban railroads. Thus, the Oregon Electric offered refined elegance to patrons in order to lure them from the Southern Pacific trains.

In 1913 in anticipation of an extension from Eugene to California (which was never built), the Oregon Electric added sleeping cars to its growing fleet of equipment. The Electric Railway Journal describes the sleeping cars for the Oregon Electric and says:

The sleeping cars for the Oregon Electric Railway are finished inside in handsomely figured mahogany with inlaid lines and marquetry figures in neat design. Floor covering in the main compartment is Wilton carpet, the seats are upholstered in figured frieze plush and the trimmings throughout the cars are statuary bronze. The ceilings are decorated in green and gold.

Probably this represents the height of elegance on any interurban electric railway in the United States.

The Oregon Electric also carried freight which it interchanged with the transcontinental railroads at Portland. The goods produced in the Tualatin Valley were shipped throughout the West and found markets in the East. Lumber mills grew up along side the track to process wood for the building industry in Portland. The Oregon Electric was the lifeline for many parts of the Tualatin Valley with goods and people moving both in and out. The OE hauled milk from the farms into Portland. Fruits and vegetables were carried in the express cars for sale in the markets. Using the newly developed refrigerator car, produce could be sent throughout the West. The Tualatin Valley became the home of "sidewalk farmers". These people lived in the Valley but worked in Portland. The OE offered commuter services to haul these workers from places like Tualatin, Nasoma, Tonquin into Portland in the morning and out again at night.

Passenger business on the line was seriously affected by the rise of the automobile and by bus competition. By 1931, commuter service between Tualatin and Portland was removed because of the automobile. The service to Forest Grove was down to two trains a day by 1930 and eliminated by 1932. On Saturday, May 13, 1933, the last Oregon Electric passenger train was operated into Portland.

But the end of passenger service didn't mean the death of the CE for freight business was good. While the road was never very profitable, it contributed substantially to through-freight business, and the losses in part reflected unfavorable rate divisions.

In 1945, the OE purchased six 1,000 h.p. diesel-electrics to end 35 years of electric operation. Incidental to the change was the sale of the electric locomotives and more than 100 miles of trolley wire. Some of the locomotives were sold to electric lines in the

5

East while three went to Vancouver, British Columbia, where two are in operation today for the B.C. Hydro Authority. Some of the passenger cars were sold to the Pacific Great Eastern Railway in British Columbia where they served for years before being returned to Oregon for use as coaches on the excursion trains of the VSP&S over the old United Railways line from Banks to Vernonia.

Today, the Oregon Electric is operated as a freight only branch of the Spokane, Portland and Seattle Railway (Burlington Northern) with little evidence remaining of the electrification and glory of the high speed interurban trains it once knew.

The Southern Pacific Electric Lines (Red Electrics)

One of the few instances in the United States in which a steam railroad branch line was electrified and operated essentially as an
interurban by the parent company was that of Southern Pacific's lines
in the Tualatin Valley and the west side of the Willamette Valley.
The decision to electrify these lines was prompted by the acquisition
of the Oregon Electric by the SP&S and their extension of it to
Eugene. Electrification was also a convenient way to replace the
relatively unprofitable local steam trains. The success of the electric lines in the Los Angeles area was another factor influencing
the decision.

Electrification of the two west side steam lines was begun in 1912 and in January of 1914, service was inaugurated as far as Whitson on two lines, one directly via Oswego, Tualatin, and Newberg (known as the East Side line) and the other via Beaverton, Hillsboro, Forest Grove and Carlton (West Side line). The second line closely paralleled the Oregon Electric's Forest Grove line.

The equipment on the Southern Pacific's trains was very different from the Oregon Electric cars. The OE had wooden interurban cars while the Southern Pacific had heavy steel cars. The Oregon Electric used a trolley pole for power collection while the SP used a pantograph.

The SP equipment was built to designs used in the San Francisco area and in the Los Angeles area. The cars were built by the Pullman Company and were all steel with concrete floors. They seated 60 passengers and weighed more than 100,000 lbs. which was very heavy for interurban equipment. They operated with pantographs and used 1,500 volts DC. Their distinctive feature was the set of round windows in the front of the cars. The cars with baggage compartments had three while coaches had only two. These quickly became known as Owl Eyes. The cars were painted a dark red and the riders called them the "Red Electrics", a nickname which has stuck with them ever since. The Red Electrics had RPO (rail post office) service and carried express. Service on the line varied in frequency on different segments of the line, the inner (Portland area) segments saw commuter service while the other parts of the line usually saw but four trains a day.

Like other interurban lines, passenger service was adversely affected by the rise of the automobile. By 1925, the total loss on passenger service had become quite large; in 1927, the Southern Pacific organized the Oregon Motor Stages to take over from the train serfice, and in 1929, announced that the electric trains would be abandoned. The last electric train via Forest Grove operated in July of 1929 while the last electric train via Oswego operated on October 5, 1929.

Except for local switching in Forest Grove, freight trains were never powered by electric locomotives. Two locomotives were used in Forest Grove after the Red Electrics were taken off until a city ordinance was passed to allow steam locomotives to operate in the city. There was a switcher stationed at the electric operation's shops in Beaverton to move the cars around, and it occasionally made a trip into Portland to move some freight if the Southern Pacific was short of steam power.

After passenger service was discontinued, the cars went to the Northwestern Pacific and the Pacific Electric, both California lines owned by the Southern Pacific.

Today, the electrified trackage is operated as branch lines of the Southern Pacific and contribute heavily to freight car loading to the SP system. Only abandoned power houses crumbling near the trackage give mute evidence to fast electric service which once operated over the trackage.



SP "Red Electric" at Forest Grove

BOOK REVIEWS

"The Railroad Comes of Age"
Mary & Albert Langley
Augusta Chapter, NRHS
PO. Box 725, Augusta, Georgia
April 1970, \$1.00

An excellent little booklet (softbound) which tells in 25 pages of the development of the South Carolina Canal and Railroad back in 1830. Although far from an in depth history of this first long distance railroad in the nation, the booklet is readable and seems to have its facts in order.

Considerable mention is made of the "Best Friend of Charleston", the first steam locomotive built in the United States for actual service. As a 1928 replica (the original blew up in 1831) of this locomotive will perform at the 1970 NRHS convention, this section is most timely.

In summary, a work done well which is certainly worth the \$1.00 asking price. Profits from the sales go towards Augusta Chapter's museum.

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"Railfan's Guide to South Carolina" Augusta Chapter NRHS PO Box 725, Augusta, Georgia May 1970, \$.50

Jumping aboard the list of those who are following the lead of Wisconsin Chapter is Augusta Chapter with this newest of guides. Eight pages for \$.50. It will be available from the same address as "The Railroad Comes of Age" about mid-May. Sounds like a must for convention goers.

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"Rails in the Mother Lode" Adolf Gutohrlein Kratville Publications Omaha. Nebraska \$14.50 205 pages

When Adolf first told me that he was writing a book on the railroads of California's Mother Lode country my first reaction was "Why?". Two excellent books "last of the Three Foot Loggers" (West Side Lumber Co.) and "Sierra Railway" had already been done and it seemed to me that the area had already been covered to the n'th degree.

It therefor came as a pleasant surprise when "Rails in the Mother Lode" finally showed up and I discovered that Adolf had indeed turned up much new material and hundred of unpublished photographs.

Along with Sierra and West Side coverage, Adolf digs into the Hetch Hetchy, Pickering Lumber Co., and Empire City Railroads. With West Side Lumber at 36 inch gauge and Empire City at 30 inch, the book has lots for the narrow gauge fan.

If the names Sugar Pine, Chinese, Hog Ranch Junction, Sour Grass, Hetch Hetchy and Jimtown aren't a part of your railfan vocabulary, you've missed alot and need this book to catch up. On the other hand, if you have followed Pickering from Strawberry to Scap Creek via Schottgen Pass, you can't pass this one up so it gets you either way. This Mother Lode Country was the last stand of steam in California and as a result it became a Mecca for the logging and steam power fans from all over the West. For most of us, our visits were too hurried and infrequent to develop a good acquaintance with the area and really determine what is was all about. This book nicely fills in this gap.

The most serious omission in the book was the failure to update the text to the present time. The book was completed about five years before it was finally published and the interim time saw the abandoment of Pickering's railroad and a revival of a portion of West Side's as a tourist line and a scattering of the motive power throughout the West. The book would have been much more satisfying had this information been brought up to date.

The other serious flaw is in sloppy proofreading which has resulted in frequent misspellings and a few rather strange situations such as the photo caption of a railtrack in California in 1821!

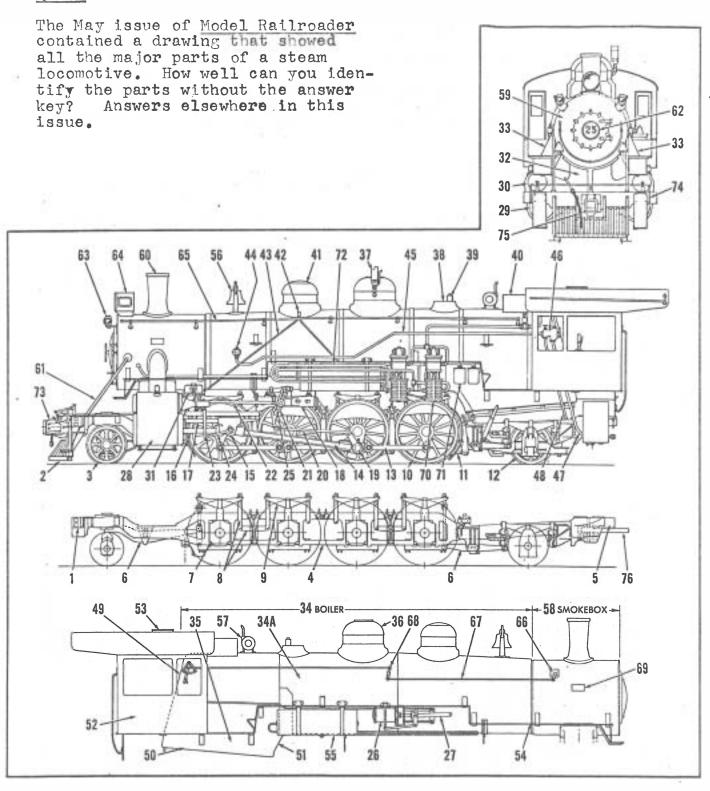
The quality of photo reproduction is somewhat uneven, but for the most part is acceptable. The selection of heretofor unpublished photos is worth the price of the book by itself. Wait until you get a load of the Hetch Hetchy dam construction photos and some of the railcars that were used throughout the area!

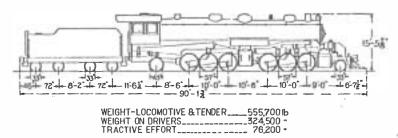
The book contains adequate, but again, outdated motive power ro sters of the principal lines covered. A well drafted, detailed map of the area is featured on the endpapers.

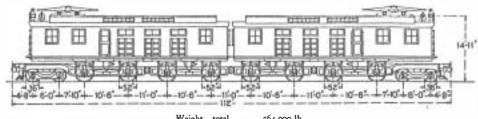
One can not say that, as a history, this book is a satisfactory substitute for "Last of the Three Foot Loggers" and "Sierra", yet if your interest in this area is only cursory, it would be a better bargin than purchase of the other two (plus the forthcoming book on Hetch Hetchy). For the serious study of this area, all books would of course be necessary. My recommendation is to buy "Rails in the Mother Lode" as your first acquaintance with the area. If you are as fasinated by these lines and their geared locomotives as the reviewer (and this area contained the largest concentration of geared power in the West during the "40s and '50s), you will not be satisfied with less than all of these books.

Jack M. Holst

Quiz







outlines and dimensions of mallet compound locomotive which is now being used on the chicago, milwaukee ${\cal G}$ st. paul railway and of the electric locomotive which is replacing the mallet type

Electric Locomotives

The above comparison indicates that the electric locomotive has a hauling capacity one-third greater than the steam engine and tender of about the same total weight. It has approximately the same weight per axle and is provided with a four-wheel guiding truck in place of two-wheel, requires no turntable as it operates equally well in either direction, and, finally, eliminates the necessity for stopping to take on coal and water.

The general data applying to the freight locomotives are as follows:

	Type of locomotive	3000 volts direct current			
	Total wheel hase	102 ft. 8 in.			
	Total wheel base	10 ft. 6 in.			
	Total weight	564,000 lb.			
	Weight on drivers.	448,000 lb.			
	Weight on drivers. Weight per driving axle. Weight per guiding axle. Diameter of driving wheel.	56,000 lb.			
	Weight per guiding axle	29,000 lb.			
	Diameter of driving wheel.	52 in.			
	Diameter of guiding wheel	36 in.			
	Number of driving motors.	8			
	Total output (continuous rating)	3000 h.p.			
	Total output (I hour rating).	3440 h.p.			
I ractive effort (continuous rating).					
Per cent of weight on drivers (tractive coef.)					
	Speed at this tractive effort at 3000 volts.	15.75 m.p.h.			
	Tractive effort (1 hour rating)	85,000 lb.			
	Per cent of weight upon drivers (tractive coef.)	19			
	Speed at this tractive effort at 3000 volts	15.25 m.p.h.			

The same type of locomotive is used for both passenger and freight service, the only difference being the gear ratio which is 4.56 for freight and 2.45 for passenger service.

A page from General Electric Company
Bulletin #44012, October 1915.
PNW files.

ESCO Corporation of Portland has taken delivery of ten new bright red 51 foot cars from Thrall Car Company to transport foundry supplies between Portland and Danville, Illinois. car contains room for 100 container tubs which are secured much Thus ESCO joins Industrial Air like an automobile seatbelt. Products as two of the local firms with their own railroad cars.



ESCO Photo

37 Whistle
38 Auxiliary steam dome 35 Firebox 36 Steam dome 34A Boiler jacke 12 Trailing truck and wheels Steam pipe Cylinder saddle Mechanical lubricator Piston valve Cylinder head cover Cylinder Power reach rod Power reverse Reverse arm Crosshead link Radius rod Reverse link Eccentric link or rod Reverse link support Crosshead guide Piston rod Crosshead Main rod Side rod Brake hanger and shoe Drive wheels Combination lever **Eccentric crank**

62 Number plate

63 Classification lamp 61 Front boiler brace

65 Handrail

64 Headlight

68 Throttle equalizer lever

Throttle linkage Front-end throttle

Uncoupling rods Coupler Cooling pipes Airpump filters Builder's plate

Air pumps

Locomotive parts Safety or pop valve

Sand pipe

Driver springs

52

Cab

50 Mud ring 49 Boiler backhead 48 Overflow pipe Driver journal box Truck equalizer bar Main frame

Pilot truck and wheels

Smokebox

Smokebox front

Generator Bell and bracket Running board Cab roof vent Throat sheet

Air reservoir

Stack

PACIFIC NORTHWEST CHAPTER NATIONAL RAILWAY HISTORICAL SOCIETY

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