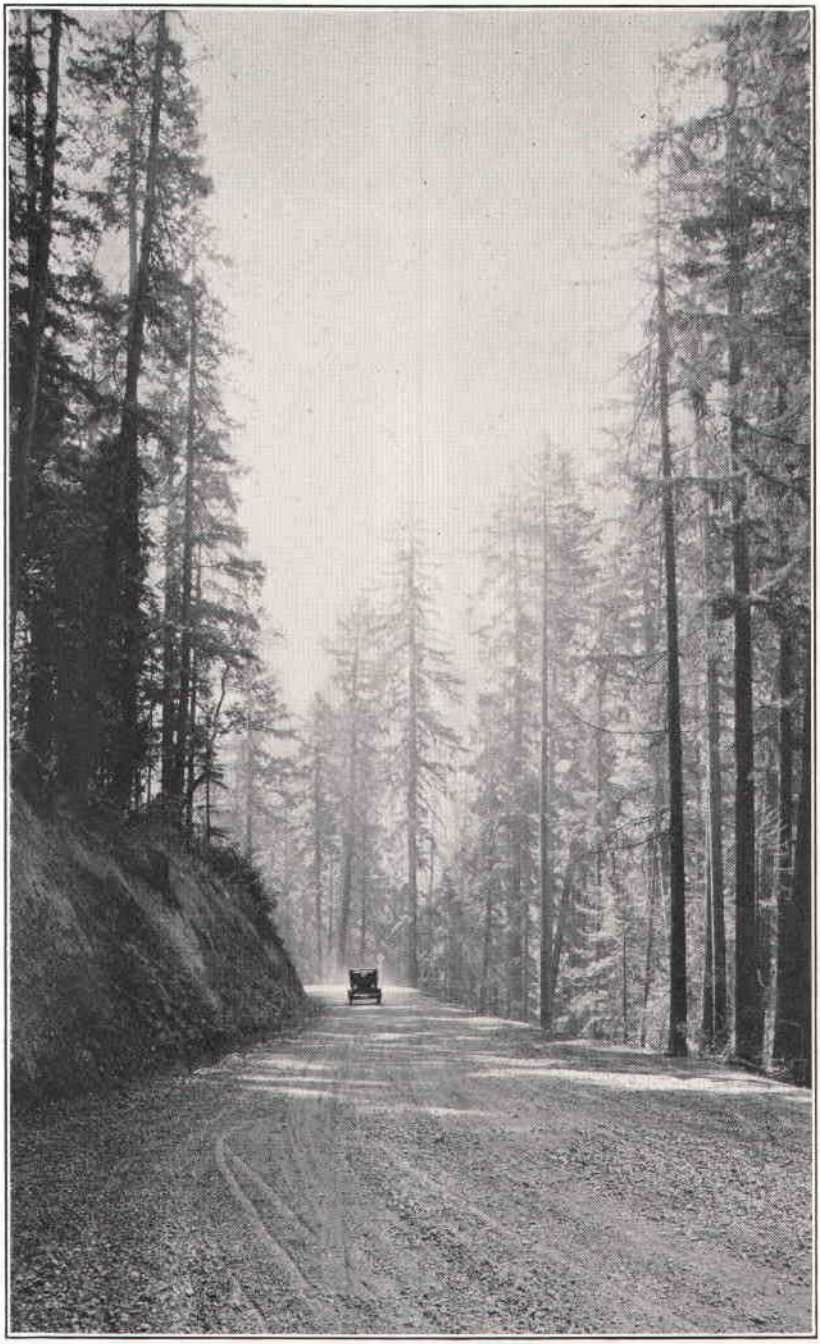

ON THE COOS BAY-ROSEBURG HIGHWAY A FEW MILES EAST OF CAMAS VALLEY

Sixth Biennial Report

OF THE

Oregon State Highway Commission

Covering the period December 1, 1922,
to November 30, 1924

OREGON STATE HIGHWAY COMMISSION

WM. DUBY, Chairman

H. B. VAN DUZER, Commissioner; W. H. MALONE, Commissioner.

ROY A. KLEIN, State Highway Engineer

OREGON STATE HIGHWAY COMMISSION

FORMER MEMBERS AND TERMS

E. J. ADAMS, Eugene, Feb. 28, 1917, to March 31, 1918.

W. L. THOMPSON, Pendleton, Feb. 28, 1917, to Oct. 15, 1919.

S. BENSON, Portland, Feb. 28, 1917, to Nov. 15, 1920.

J. N. BURGESS, Pendleton, Oct. 16, 1919, to Nov. 21, 1919.

E. E. KIDDLE, Island City, Nov. 26, 1919, to Dec. 28, 1920.

R. A. BOOTH, Eugene, April 1, 1918, to May 28, 1923.

J. B. YEON, Portland, Nov. 22, 1920, to March 31, 1923.

W. B. BARRATT, Heppner, Jan. 8, 1921, to March 27, 1923.

PRESENT MEMBERS

WM. DUBY, Baker, appointed March 27, 1923.

H. B. VAN DUZER, Portland, appointed April 1, 1923.

W. H. MALONE, Corvallis, appointed May 28, 1923.

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LETTER OF TRANSMITTAL

Salem, Oregon, December 1, 1924.

HONORABLE WALTER M. PIERCE,

Governor of the State of Oregon.

Dear Sir: In compliance with Section 4432, Title XXX, Oregon Laws, we have the honor to submit herewith the report of the State Highway Commission for the period December 1, 1922, to November 30, 1924.

The Commission appreciates the confidence you have imposed in them in the administration of the state highway program, and expresses its thanks for your helpful counsel. Acknowledgment is made of the cooperation of the U. S. Bureau of Public Roads and the Forest Service, the assistance given by the County Courts throughout the State and the many courtesies extended by other state officers.

Respectfully submitted,

OREGON STATE HIGHWAY COMMISSION

Wm. Duby, Chairman,

H. B. Van Duzer, Commissioner,

W. H. Malone, Commissioner.

Sixth Biennial Report

OF THE

State Highway Commission

OF THE

State of Oregon

1923-1924

PART ONE

The state highway system, because of the rapid increase in the number of motor vehicles and the demand made upon it for better transportation facilities, has become an important factor in the economic life of the state. From small beginnings with the enactment of legislation providing for the present organization and present plan of financing, the program has progressed until at the end of the present year, which marks the end of the eighth working season, a network of improved roads has been spread over the state reaching into every county and affording direct interstate connection as well.

The program of the present biennium has, in a large measure, consisted in completing unfinished contracts, placing new contracts to fill gaps in the main through highways, and extending branch highways and connections, as well as maintaining previous construction, so that travel may secure the maximum benefits from the state highway investment.

The state highway system is 4,464 miles in length, of which there has been improved by the Commission to date 720 miles of paving, of which 170 miles are of cement concrete type and 550 miles of bituminous type, 1,861 miles of crushed rock or gravel surfacing and 2,174 miles of grading. These figures do not include the forest roads on the state highway system, which are constructed under the supervision of the U. S. Bureau of Public Roads, which reports a total of 237 miles of surfacing and 302 miles of grading. In addition there are some counties which have graded or improved sections of state highways with their own forces or by direct contracts and of which this department does not have a record. To be added to the total, also, are the state highways in Multnomah County and through incorporated cities of more than 2,000 population, which have done their own work without assistance from the state. Considering these added mileages, but noting the fact that graded roads have been graveled and graveled roads have been paved, the present status of the state highway system is 879 miles of paving, 1,948 miles of graveled or crushed rock surfacing, 318 miles of graded roads unsurfaced, and 1,318 miles unimproved. There have been approximately 1,000 bridges of standard design over 20 feet in length constructed by the department during the period of its activities.

The gross expenditures of the Commission, not including market roads, beginning in 1917, have been $75,855,012.11, of which $10,532,931.83 is county funds, $7,384,396.89 government funds, $321,257.61 railroad funds and $57,616,425.78 state funds. Of state funds, the sum of $7,452,237.79 has been used in the payment of principal and interest on the bonded indebtedness.

The work accomplished in the biennium by the Commission totals 36.7 miles of paving, divided into 31.5 miles of concrete type and 5.2 miles of bituminous type, 580 miles of rock or gravel surfacing, 415 miles of grading and 115 bridges of over 20-foot span. The forest road construction reported by the U. S. Bureau of Public Roads is 154 miles of surfacing and 142 miles of grading for the same period, which is in addition to the state figures.

The total amount expended in the biennium, excluding market roads, is $21,117,597.30, of which state funds total $14,269,970.83, county $3,785,-883.89, railroad $223,876.34, and Federal Aid $2,837,866.24. Of state funds, the sum of $4,083,099.64 has been used for the payment of principal and interest on the bonded indebtedness. Included in the above state funds there is $1,092,660.31 of state funds expended for forest roads to which should be added $725,942.05 of county cooperation and government forest funds of $1,725,176.76, making a total forest road expenditure of $3,543,779.12 on state highways.

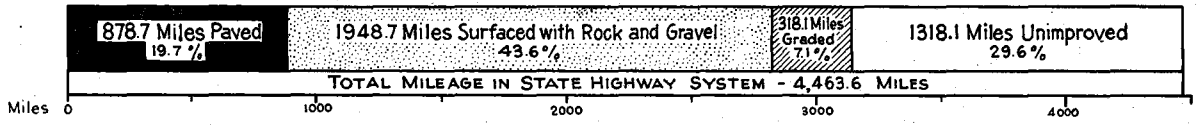
The outstanding features of the work accomplished during the biennium are briefly noted.

On the Pacific Highway, between Oregon City and Canemah, a new location, eliminating a railroad grade crossing and a dangerous, narrow plank roadway along the river, has been graded and graveled. At Pudding River, a new reinforced concrete and steel bridge, replacing an old light structure, has been constructed. The concrete paving south of Halsey has been completed, and a standard steel bridge to supplant the inadequate ferry service has been commenced at Harrisburg. The pavement between Eugene and Goshen has been thickened and widened. The one-half mile north of Cottage Grove has been graded and paved. Spanning the North Fork of the Umpqua River near Winchester, a few miles north of Roseburg, a reinforced concrete bridge consisting of seven 112-foot arch spans, which has been named in honor of the former chairman of the Commission, the Robert A. Booth Bridge, in appreciation of the splendid service which he has rendered the State. In October, 1923, following the opening of new paved sections on the Pacific Highway in Washington, the Pacific Highway in the two states was officially dedicated with appropriate exercises at Olympia and Salem.

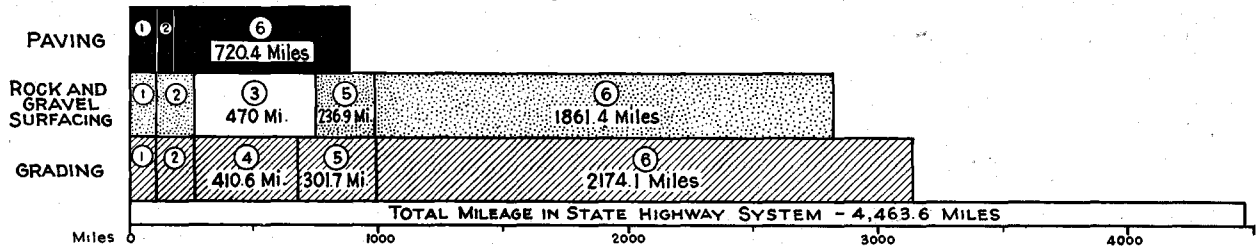
Supplementing the Pacific Highway is the West Side Pacific Highway, which was opened for through traffic in October of the present year, which was made possible by the completion of the Holmes Gap-Rickreall paving contract in 1923 and the Monmouth South contract in 1924, which had been the subject of litigation in Polk County, and had delayed the completion of this highway. The most important improvement in the Willamette Valley, however, has been the completion of the Albany-Corvallis pavement, and the beginning of the new bridge across the Willamette River at Albany, both of which have been urgently needed.

CHART SHOWING PROGRESS IN STATE HIGHWAY IMPROVEMENT

I. State of Improvement Nov. 30, 1924



II. Mileages of Various Classes of Work Performed in Bringing the State Highway System to its Present State of Improvement.



1. Work done by Multnomah County and City of Portland (104.4 miles of Grading, Rock Surfacing and Paving.)
2. Work done by Incorporated Cities outside of Multnomah County (150 miles of Grading and Rock Surfacing, 53.9 miles of Paving.)
3. This space represents sections of Highway which were not surfaced with Rock or Gravel prior to Paving
4. Work done by Counties other than Multnomah County
5. Forest road work done by Federal Government
6. Work done under supervision of State Highway Commission

On the Columbia River Highway, grade widening between Astoria and Svenson, 10 miles, has been completed. On the upper highway, grade widening and resurfacing has improved the section between The Dalles and Umatilla. The new bridge across the Umatilla River has been commenced. Between Umatilla and Pendleton, on the Old Oregon Trail, grade widening and resurfacing has improved conditions. The last section, located at the summit of the Blue Mountains, was dedicated by President Harding on July 3, 1923, scarcely a month before his death. The new bridge across the Snake River at Ontario has just been opened to traffic. With the completion of the Minam Hill Section, the La Grande-Wallowa Lake Highway has been graded and rock surfaced in its entirety, thus opening Wallowa Lake by an improved highway. Similarly, the completion of the Cascade Gorge Section of the Crater Lake Highway now completes an improved highway from Medford through the Crater Lake National Park to Fort Klamath.

Progress on The Dalles-California Highway has been rapid, made possible largely by generous cooperation in Wasco County, where the grading has been completed throughout and the entire unsurfaced section placed under contract for surfacing in 1925. South of Bend, continuing to the Klamath County line, grading has been completed or is under contract, while in Klamath County grading and surfacing have been completed from Klamath Falls to a point six miles north of Sand Creek, with a 17-mile section adjoining on the north under contract for grading and surfacing. The Sherman Highway, in Sherman County, and its connection in Wasco County, completed in the present year, gives a through all-year connection over an improved highway from Bend to the Columbia River, except for a six-mile gap at Crooked River.

The opening of the John Day Highway by completing the gap between Olex and Gwendolen, north of Condon, and surfacing between Spray and the North Fork, has made possible all-year travel into the John Day Valley, with resulting saving to the residents of that region in decreased hauling costs on wheat, wool, etc. The extension of the forest project from Prairie City through Austin to Unity, all of which has been graded and part surfaced, will be the means of opening this entire highway to through travel from Ontario, via the wonderful Picture Gorge and fossil beds, to Arlington, as an alternate route to the Old Oregon Trail.

Beginning at Astoria and going south, new improvements will be found on the Roosevelt Highway. The new Lewis and Clark bridge, replacing an old structure of light construction, will soon be open for travel. Three miles of new grade and surface between Seaside and Cannon Beach Junction and the improved section between the Tillamook County line and Mohler is noted in the program for the biennium. Between Jetty Creek and Brighton, construction of a three-quarter-mile section has just been completed, which removes a barrier on the coast route in Tillamook County. South of Tillamook, between Hebo and Siletz Bay, is continuous improvement, opening up a hitherto undeveloped section. North of Newport grading is under contract between Agate Beach and Rocky Creek, an eight-mile section, which will be followed by surfacing.

In southwestern Lincoln and western Lane and Douglas Counties, there has been no improvement on the Roosevelt Highway. Beginning at the Coos County line, a forest grading contract is in progress to Hauser. From Hauser to the north shore of Coos Bay is a completed graded and

surfaced roadbed. South of Marshfield, the completed Coquille-Bandon section makes possible all-year travel from Northern Curry County over improved highways. South of Arizona Inn to Mussel Creek, grading is in progress, while south of Gold Beach there is now continuous improvement from Hunters Creek to Myers Creek. There is a vast amount of work yet to do on this highway. Surveys, however, have been practically completed over its entire length. Last season was the first winter that all-year travel passed over the Coos Bay-Roseburg Highway and the Corvallis-Newport Highway, which has marked a new era in transportation to these coast communities.

The McKenzie Highway is now completely graded through the national forest between Blue River and Sisters, and only 12 miles yet remain to rock surface. Travel from the Willamette Valley to Central Oregon will be greatly expedited by this route. Mention should also be made that the Mt. Hood Loop, after several years of construction, has now been completed from the Multnomah County line, near Sandy, circling Mt. Hood and north to Hood River City, and next year will be open to travel.

The name Redwood Highway has been given to the former Grants Pass-Crescent City Highway, in order to have the same designation in Oregon that it has in California, and thus avoid confusion. During the biennium, new bridges have been constructed over the Applegate and the East Fork of the Illinois River, and the new connection to the California state line via Elk Creek has been graded and bridged. Extensive progress has been made on the California side, and with the removal of the Oregon Mountain barrier, this road will become an important interstate connection. The road to Oregon Caves, branching off near Kerby, has been improved and is carrying increasing traffic each year.

On the Prineville-Lakeview Highway, eight miles of grading along the west shore of Summer Lake has been completed, and Paisley and Lakeview are now joined with a standard graded and surfaced road, while between Klamath Falls and Lakeview, the Drews Valley Section, in Lake County, and the Dairy-Bonanza Section, in Klamath County, have reduced the unimproved mileage between the two county seats. A substantial improvement on the Baker-Unity Highway has been made by regrading the road over Dooly Mountain, in Baker County. These and many other improvements, which are not mentioned, will be found described in detail and shown in the progress maps in the State Highway Engineer's report, which follows.

The personnel of the Commission has been changed because of the resignation of the former commissioners. Wm. Duby of Baker succeeded W. B. Barratt on March 27, 1923, H. B. Van Duzer of Portland succeeded J. B. Yeon on April 1, 1923, and W. H. Malone of Corvallis succeeded R. A. Booth on May 28, 1923. Wm. Duby was elected chairman of the Commission on May 28, 1923.

Herbert Nunn resigned as State Highway Engineer, effective April 1, 1923. Roy A. Klein, Assistant State Highway Engineer, was appointed State Highway Engineer, which was later confirmed on June 26, 1923, by the present Commission. Mr. Klein also serves as secretary to the Commission.

The Commission has held 35 meetings in the two-year period, occupying 62 days. In addition, the members of the Commission, individually,

have traveled about the state extensively in the interest of highway matters, and have given a considerable part of their time at home to the details of the work.

The County Commissioners of Multnomah County have generously granted the use of a suitable room in the Multnomah County courthouse, Portland, for the meetings of the Commission, which has proved a great convenience to bidders, representatives of the counties and communities and others who have had business to transact with the Commission.

In the two-year period, 895 bids have been received on state projects and 35 bids on projects advertised for the counties. A total of 144 state contracts and six county contracts have been awarded. Competition has been keen, but in a few instances it has been found necessary to readvertise the projects, with the result that lower bids were secured.

Practically all work has been done by contract, except that on a few resurfacing jobs it has been found advantageous to do the hauling and processing with state equipment, the contract being limited to the furnishing of materials at the bunkers.

Generally speaking, industrial conditions during the biennium have been good, with the result that work has been handled expeditiously and with a fair margin of profit. In the first year of the period, 1923, a shortage of labor was experienced which retarded progress to some extent, but the present year, 1924, has witnessed a return to more normal conditions, with ample labor, material, equipment and supplies obtainable at short notice. As a consequence, jobs which had been carried over from the previous year were quickly finished, and new projects were rapidly carried through to completion. It is believed that the 20-mile section on the Sherman Highway from Wasco County line through Shaniko to the head of Cow Canyon establishes a record, in that both grading and surfacing of the entire unit were completed in the remarkably short time of eight months. As a result of favorable conditions during 1924, there are fewer projects being carried over than in any other previous year.

While there have been a very few instances in which contractors have become financially embarrassed, and it has been necessary for the surety company to step in and finish up the jobs, yet the percentage has been very low, considering the amount of work under construction; in fact, lower than in other years, which speaks well for the class of contractors engaged in state highway construction.

The state financial program has been greatly assisted by Federal Aid allotments, which began in 1917, at first as an aid to the construction of post roads, but later broadened to include a system of intrastate and interstate roads adopted by joint action of the state and government in 1922. This system approximates 7 per cent of the mileage of the public roads within the state, or 2,784 miles. Federal Aid funds may be spent only on this system.

Originally the Federal law provided for 50 per cent cooperation by the states, but a later change gave an advantage to the states having large areas of public lands by providing that the cooperation could be reduced in proportion. Under this amendment, Oregon is required to cooperate 39 per cent. There is a limiting factor, however, as to the maximum Federal Aid expenditure per mile, excluding bridges of over 20-foot span, which applied to Oregon gives a maximum allotment per mile of $18,341 of federal funds.

Supplementing the Federal Aid Act, appropriations are made by the Federal Government for the construction of roads within, partly within or adjacent to the National Forests. This appropriation is divided into two parts, one for forest highway work which is applicable to state highways or important county and community roads, and the second to roads and trails for forest development. Under the law, the state, Bureau of Public Roads and Forest Service are required to agree on a system of forest highways. This has been prepared, and the major details tentatively agreed upon but not in entirety.

The principal projects completed or in course of construction under cooperative agreements are the Mt. Hood Loop from the west forest boundary to the north forest boundary, the McKenzie Highway from Blue River to Sisters, the Crater Lake Highway from Trail to Ft. Klamath, excluding the section within the Park boundaries and a section between McLeod and Cascade Gorge, the John Day Highway between Prairie City and Unity, and the Coast Highway between Neskowin and Siletz Bay in Tillamook and Lincoln Counties, between Hauser and Lakeside in Coos County and between Brush Creek and Euchre Creek in Curry County. There should also be included, the Alsea Highway between Waldport and the Benton County line, the Ochoco Highway through the Ochoco Forest east of Prineville, The Dalles-California Highway between Ft. Klamath and Crescent, and other important projects. The Commission appreciates the cordial cooperation between the local representatives of the Bureau of Public Roads and the Forest Service in carrying out a successful forest road program which has been an immense aid in advancing the state highway program.

FEDERAL FUNDS ALLOTTED TO OREGON FOR COOPERATIVE WORK

	For Post Roads	For Forest Roads	Totals
Act of July 11, 1916, available July 11, 1916, to June 30, 1926	$1,181,416.50	$1,310,639.00	$ 2,492,055.50
Act of February 28, 1919, available Feb. 28, 1919, to June 30, 1921	3,150,761.76	596,681.00	3,747,442.76
Act of November 9, 1921, available Nov. 9, 1921, to June 30, 1923	1,182,663.90	1,157,109.00	2,339,772.90
Act of June 19, 1922, available July 1, 1922, to June 30, 1925	2,991,316.84	906,488.00	3,897,804.84
Total funds appropriated	$8,506,159.00	$3,970,917.00	$12,477,076.00
Less expenditures and obligations to complete present contracts and agreements	8,489,656.52	3,807,624.95	12,297,281.47
Net balance available	$ 16,502.48	$ 163,292.05	$ 179,794.53

A total of $2,500,000 bonds, par value, was sold in 1923, but none in 1924. All sales were made under sealed bids, and very wide and keen competition was secured from several well-known bond dealers. The bonds sold were serial bonds maturing one-twentieth each year beginning with the sixth year. The coupon interest rate was four and one-half per cent. The total bonds sold to date equal $38,700,000 par value, and $639,250 has matured and has been paid. Included in the above is $3,000,000 of short term bonds issued in 1921, during a period of high interest rates, which mature in 1925. Authority has been given under previous legislation to refund these bonds at maturity, and at current prices a substantial reduction in the interest rate may be expected.

STATUS OF STATE HIGHWAY BONDS

December 1, 1924

Authority	Sold (Par Value)	Matured	Balance Outstanding
State Cooperative Bonds, Chapter 175, Laws 1917	$ 1,200,000.00	$300,000.00	$ 900,000.00
State Cooperative Bonds, Chapter 31, Laws 1920	5,000,000.00	.....	5,000,000.00
Six Million Bonds, Chapter 423, Laws 1917	6,000,000.00	264,250.00	5,735,750.00
First Ten Million Bonds, Chapter 173, Laws 1919	10,000,000.00	75,000.00	9,925,000.00
Second Ten Million Bonds, Chapter 43, Laws 1920	10,000,000.00	.....	10,000,000.00
Seven Million Bonds, Chapter 383, Laws 1921	6,500,000.00	.....	6,500,000.00
Total sold	$38,700,000.00		
Total matured and paid	.....	$639,250.00	
Total balance outstanding	.....	.....	$38,060,750.00

Five hundred thousand dollars of the Seven Million Dollar authorization remain unsold. Further bonds under the Second Cooperative Act may be sold to meet Federal Aid, although the amount is indefinite. The Attorney-General holds that the Roosevelt Coast Military Highway $2,500,000 bond authorization is not available until Congress has made a specific appropriation of an equal amount for this highway. The constitutional bonded debt limit for highway purposes is four per cent of the assessed valuation. The total state valuation, as equalized and apportioned by the State Tax Commission for the year 1924, is $1,058,880,736.61. Four per cent of this is $42,355,229.46.

ANNUAL INTEREST AND PRINCIPAL REQUIREMENTS ON $38,700,000 BONDS SOLD TO DATE OF DECEMBER 1, 1924

Year	Interest	Principal	Total
1917	$ 5,000.00	$	$ 5,000.00
1918	72,900.00	.....	72,900.00
1919	157,100.00	.....	157,100.00
1920	503,725.00	.....	503,725.00
1921	974,870.83	.....	974,870.83
1922	1,521,266.67	125,000.00	1,646,266.67
1923	1,742,150.00	179,750.00	1,921,900.00
1924	1,824,240.00	334,500.00	2,158,740.00
1925	1,800,516.25	797,000.00	2,597,516.25
1926	1,726,073.75	1,297,000.00	3,023,073.75
1927	1,660,886.68	1,750,000.00	3,410,886.88
1928	1,576,998.12	1,900,000.00	3,476,998.12
1929	1,487,765.63	1,975,000.00	3,462,765.63
1930	1,396,283.12	1,975,000.00	3,371,283.12
1931	1,304,800.63	1,975,000.00	3,279,800.63
1932	1,213,318.12	1,975,000.00	3,188,318.12
	etc. until full	etc. amount is paid	etc.

The policy of eliminating railroad grade crossings, established by previous commissions, has been consistently followed as fast as funds would permit. Briefly mentioned, attention is directed to the Canemah crossing on the Pacific Highway in Clackamas County, the Oro Dell and Perry crossings on the Old Oregon Trail in Union County, and the Blodgett crossing on the Corvallis-Newport Highway in Benton County.

Also grade crossings have been eliminated by relocation on one side of the track avoiding a double grade crossing such as in Coos County on the Coos Bay-Roseburg Highway north of Myrtle Point.

Traffic counts are made at monthly intervals during the summer months to secure definite statistics as to the number of vehicles using the roads. The stations are selected with a view to securing representative averages rather than large counts. At some points, however, higher than 3,000 vehicles per day have been counted.

Indicative of the increase in traffic are the counts made at points on the main traveled highways not influenced by local travel at approximately the same date in the month of July in each of the past four years. Significant also is the number and the increase in nonresident vehicles.

	1921	1922	1923	1924
Pacific Highway near Wolf Creek:				
Nonresident	151	268	583	678
Oregon	168	160	240	337
Totals	319	428	823	1,015
Old Oregon Trail, Nolin (north of Pendleton):				
Nonresident	63	139	275	344
Oregon	139	169	231	288
Totals	202	308	506	632
Old Oregon Trail, Meacham:				
Nonresident	38	87	104	273
Oregon	98	86	70	320
Totals	136	173	174	593

The average percentage of each class of traffic as indicated by traffic counts taken in months of June, July, August, September and October in years of 1923 and 1924 at approximately 200 representative points scattered over the State is as follows:

Horse drawn	1.331
Motorcycle	0.715
Oregon passenger automobiles	69.425
Nonresident passenger automobiles	20.844
Trucks 1.5 tons and under	4.142
Trucks over 1.5 tons	3.543
	100.000

It has been the consistent policy of the Commission to discourage the placing of advertising signs along the state highway routes, and it has had all signs illegally placed removed in the interest of public safety. It is hoped that property owners in greater numbers will refuse to sell advertising rights and thus permit the disfigurement of the landscape. Travelers prefer natural scenery to miscellaneous reading matter. Since the value of outdoor advertising of this nature derives its value from the travel on the highway, it would not be unfair to tax such billboard space for the benefit of the road fund.

Distance and direction signs have been placed to plainly mark the state highways, and frequent caution signs at schools, cross roads, curves, railroad crossings, etc., have been erected to make travel safer. Informative signs, such as elevations of mountain summits, historical points, etc., have also been placed.

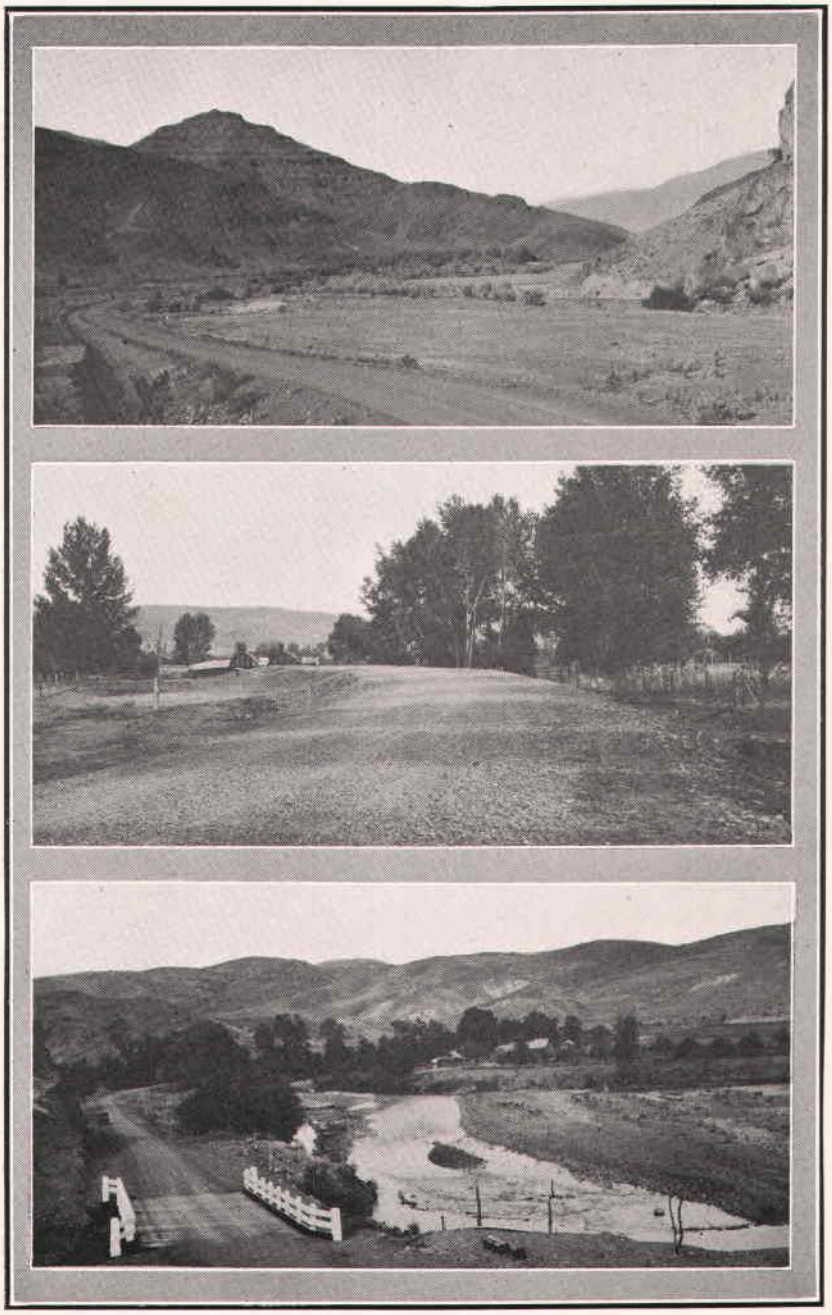
Concrete mile posts indicating the distance from Broadway and Washington streets, Portland, have been set on the entire length of the Pacific and West Side Pacific Highways, also the Upper and Lower Columbia River Highways and Old Oregon Trail through to Ontario. These mile posts, having been accurately set, become an interesting and informative guide to tourists as well as affording valuable aid in designating maintenance operations, etc. Supplementing the mile posts, each bridge, culvert or other structure has been measured in and indicated on the department records with the proper decimal of the mile in which it is located. This permits the immediate location of all bridges and structures. Center lines of pavements on curves have been painted as a safety measure, and the results have more than justified the expense.

The Commission is pleased to report progress in the matter of tree planting along the routes of state highways. In several instances civic associations have planted trees on the state highways near their respective communities, and it is hoped that this practice will be continued. Some tree planting has been done by state forces in Eastern Oregon, particularly along the Columbia River. The Commission takes pleasure in announcing the acceptance of appointment on an Advisory Committee on Tree Planting by Jesse A. Currey of Portland, Prof. A. R. Sweetser of the U. of O., Eugene, and Profs. A. L. Peck and G. R. Hyslop of O. A. C., Corvallis. The State is fortunate in securing the services of these men who are authorities on this subject.

Efforts to preserve standing timber along the routes of state highways have been successful in a limited way. Cooperative arrangements with Deschutes County and the Shevlin-Hixon Company, will result in saving a stand of pine timber along The Dalles-California Highway in Deschutes County south of Lava Butte. It is hoped that federal legislation may be enacted in the near future which will make possible the exchange of timbered areas along the highway for equivalent stumpage in the national forests. Especially desirable is such a program along the Ashland-Klamath Falls, Ochoco, The Dalles-California, McKenzie, Willamette, Crater Lake and Coast Highways. An urgent need at the present time is the securing of a timbered strip along the Old Oregon Trail over the summit of the Blue Mountains which is rapidly being cut off for the firewood.

The Commission is now authorized to purchase or condemn property for park purposes a distance of 300 feet on each side of the roadway which has been done in a few instances, principally in timbered areas. It has been found that in several places where splendid parks were available, the springs which would furnish the water supply were located more than 300 feet away so that the necessary water could not be secured or protected by the purchase of sufficient area to prevent contamination. Also, in many cases some natural beauty spot which it would be desirable to acquire is located at a greater distance than the prescribed limit. Therefore, it is recommended that the limit be removed from the present law.

At Clatsop Crest on the Lower Columbia River Highway in Clatsop County, a twenty-acre park site donated by the heirs of the Bradley Estate has been improved by leveling up the grounds, installation of a water supply and sewage system and the building of a comfort station, also a



ON THE JOHN DAY HIGHWAY IN GRANT COUNTY

building for living quarters and store. The privileges were given for a two-year period to the highest bidder, whose duty it is to clean up the park grounds and keep the buildings in sanitary condition.

Helmick Park a five and one-half-acre timbered area, on the south bank of the Luckiamute River on the West Side Pacific Highway in Polk County, the gift of Sarah Helmick, was dedicated with appropriate ceremonies on September 12, 1924, coincident with the opening of the West Side Pacific Highway.

On the Columbia River Highway between Mosier and The Dalles, Mayer Park, a tract of 260 acres, has been generously donated to the State by Mark A. Mayer of Portland. The westerly portion of the tract includes the Rowena Heights, a precipitous point rising to an elevation of about 600 feet above the water, from which a splendid view up and down the river can be had, rivalling Crown Point in Multnomah County. This viewpoint is being improved by a roadway circling the rim and protected with a masonry parapet wall. Later it is hoped that sanitary conveniences may be provided by the civic organizations of the nearby cities or interested public spirited citizens. A considerable portion of the park lies on the east slope extending toward Rowena through which the highway loops in its descent. This area is covered with a growth of oaks which make convenient resting and camping places during the summer season.

By means of condemnation, a timbered tract at Emigrant Springs, the site of the Old Oregon Trail dedication by President Harding. has been secured at a cost of $3,000. It is planned to improve the spring with a drinking fountain and to develop park facilities.

It is hoped that further donations of park sites to the public along state highway routes may be made by generous public spirited citizens to preserve the natural scenic beauties and provide free resting places for the traveler.

Drinking fountains have been constructed at several places along the highways which is a convenience much appreciated by tourists.

Acting upon authority conferred upon it by the legislature, the Commission has located state highways through cities and towns so as to eliminate right angle corners in so far as possible and also avoid congested business streets and the hazard of street car traffic.

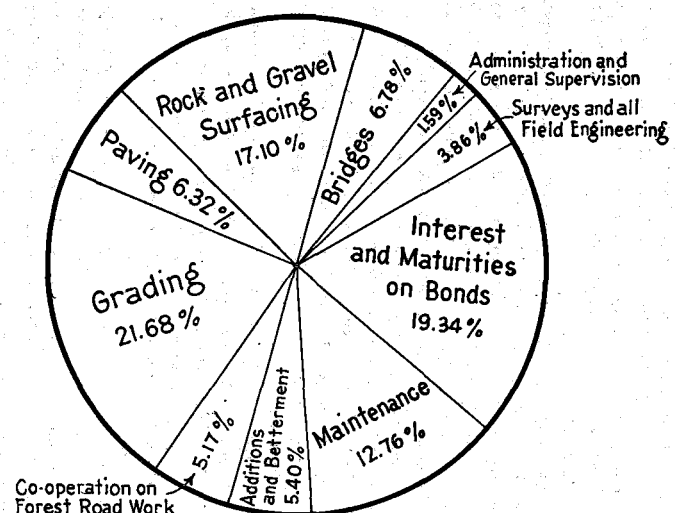
This is the fifth year since the Market Road Fund has been available, and in that period a sum in excess of $10,000,000, including both state and county funds, has been expended under this statute. With this expenditure, a large mileage of important market roads has been improved with grading, rock or gravel surfacing and pavement; also, many new bridges have been constructed.

During this period Multnomah County has contributed the sum of more than one and one-quarter million dollars to the fund which has been divided among the other counties, by reason of the provision of the law which prohibits any county from receiving more than 10 per cent of the fund while Multnomah County pays into the fund approximately one-third of the total.

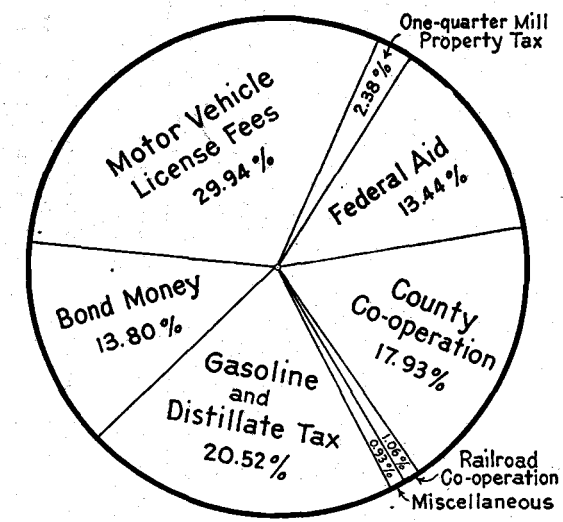
The present law provides that the market road projects shall be selected by the County Court but that the plans and specifications shall be approved by the State Highway Commission. Most of the counties have selected meritorious projects leading from producing points to market centers and are securing excellent results. In many instances, where too

Chart Showing Graphically the Relative Amounts of Road Funds Expended for Different Purposes and the Relative Amounts of these Funds Derived from the Different Sources of Revenue.

APPLIES TO $21,117,597.30 EXPENDED DURING THE TWO YEAR PERIOD
Dec. 1, 1922 to Nov. 30, 1924



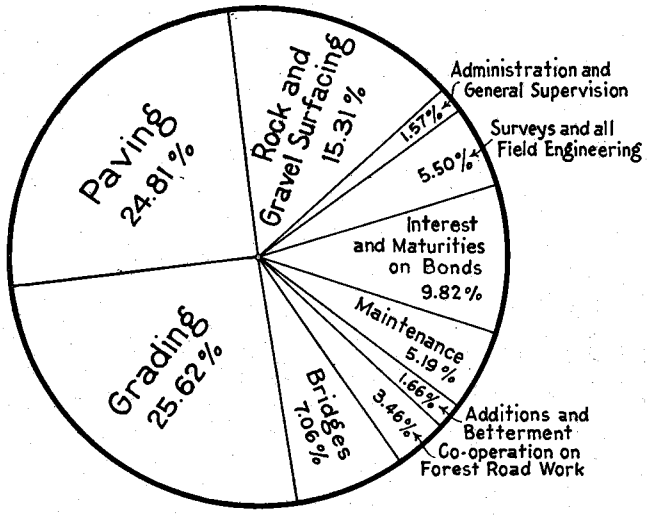
DISTRIBUTION OF EXPENDITURES



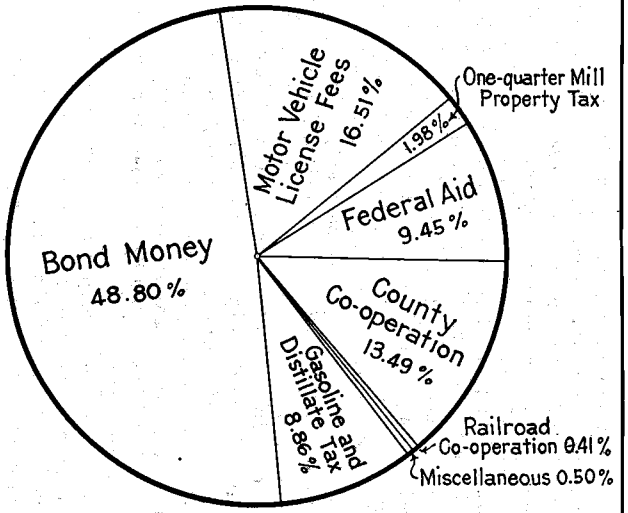
SOURCES OF MONEY EXPENDED

Chart Showing Graphically the Relative Amounts of Road Funds Expended for Different Purposes and the Relative Amounts of these Funds Derived from the Different Sources of Revenue.

APPLIES TO $75,855,012.11 EXPENDED DURING THE EIGHT YEAR PERIOD
Dec. 1, 1916 to Nov. 30, 1924



DISTRIBUTION OF EXPENDITURES



SOURCES OF MONEY EXPENDED

great for one year's appropriation, the project has been made continuous by the application of appropriations for successive years. In other counties, however, the funds have been spread over very many projects with the result that no definite permanent improvement has been secured; in fact, there are cases where the funds have been largely dissipated if considered in the light of the original intention of the act.

The matter of approval of the plans and specifications by the Commission is not conclusive. Both may be prepared according to the best approved practice, but there is nothing compulsory in the law to require adherence to them on the part of the county, and the road itself may be constructed without regard for plans or specifications.

Under the present law, the payment of the state share is predicated on a showing that the levy to match state funds has been made and after plans and specifications have been approved by the engineer, but the actual expenditures by the county are uncertain and difficult to check, particularly where done by county employes on a day labor basis.

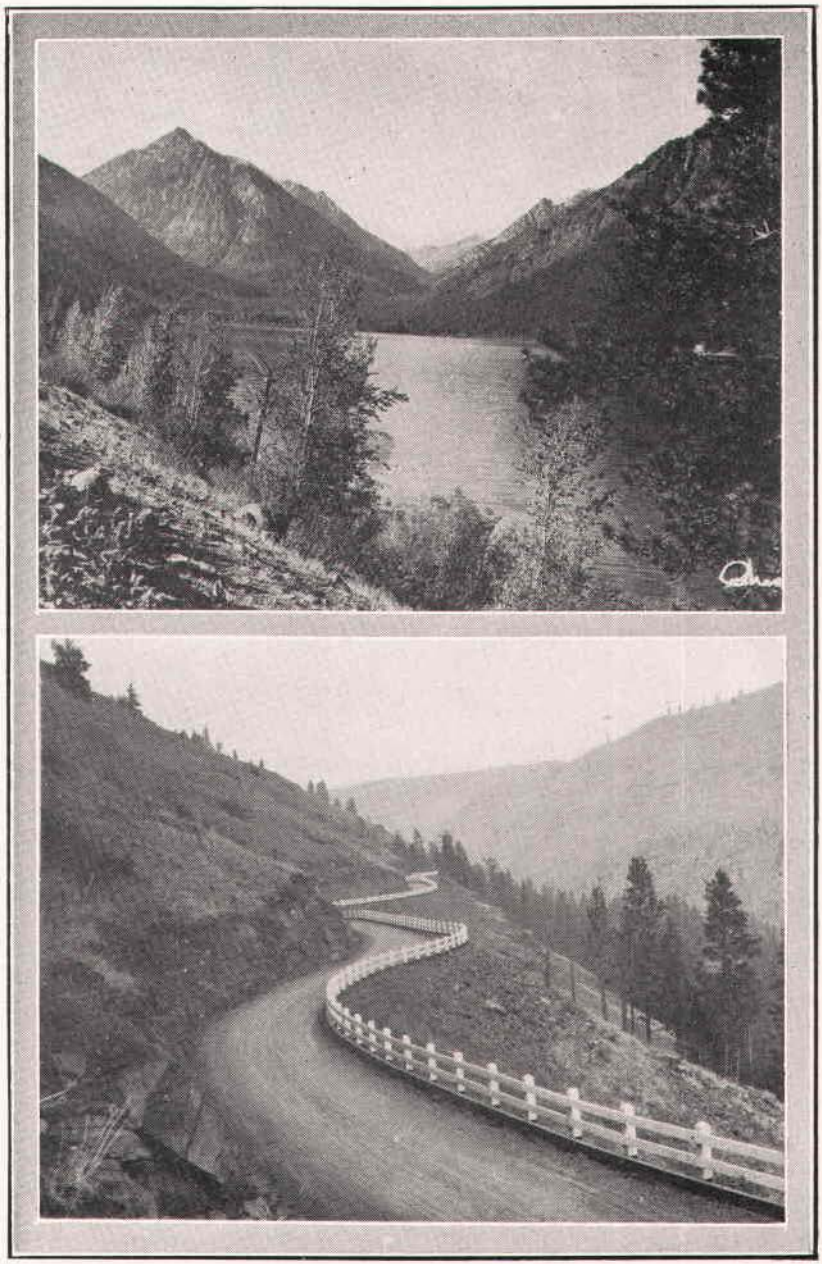
The matter of maintenance of market roads is, in many instances, being neglected. After once being constructed from market road funds, there should be an obligation upon the county to maintain them. It is thought that the law should be amended to permit a part of the fund to be used for that purpose.

In brief, the Commission recommends that the Market Road Law be amended to provide that a definite system of market roads in each county be approved, and that expenditures from the fund be made only upon that system in a consecutive manner, to the end that the best interests of the entire county may be served. Also that the State Highway Commission, or its engineer, should have authority to inspect and challenge the work during progress and at completion, in order to insure compliance with plans and specifications as well as formal approval of the plans before work is commenced, and the payment of market road funds to the counties be thus conditioned upon proper construction according to approved design and location.

The Commission's interest in the whole market road matter is to assist the counties to secure the best construction in the proper location and give the counties the benefit of the larger experience of its engineers. It is not its intention to encroach upon or assume the duties of the county officer on whom is the responsibility for the county road program, but in any event, in the judgment of the legislature, whether the Commission's authority should be increased or curtailed, more definite responsibility for the expenditure of this fund should be fixed and not continued divided as at present.

It has been suggested by several of the counties that the market road fund be made available for use on state highways, which is not possible at present because of a Supreme Court decision which prohibits its use for this purpose. The application of market road funds as a part of county cooperation on state highway construction would be found very convenient in some counties where other funds are very limited and where state highways are also important market roads, the improvement of which has been held up because of lack of funds.

Paving operations during the period have been considerably less than in former years, a total of 37 miles of new paving having been laid. The two paving projects, Holmes Gap-Rickreall and Monmouth South, were both constructed of cement concrete laid seven inches thick and 16 feet wide with extra width on curves and with gravel shoulders. On the



WALLOWA LAKE AND A PART OF THE LA GRANDE-WALLOWA LAKE HIGHWAY

Albany-Corvallis paving, a design having a width of 18 feet and a thickness of seven inches over the center 14 feet, tapering to 10 inches at the edges, was adopted, which design gives a pavement of very high strength.

A new feature in resurfacing work, which has caused much favorable comment, is the new pavement between Eugene and Goshen; originally a 16-foot 2-inch bituminous pavement on compacted stone base. Traffic requirements made thickening and widening imperative. Two-foot cement concrete shoulders, seven inches thick, were added to each side, and approximately 3½ inches of bituminous material added to thicken the center section, giving a 20-foot width and not less than five inches of thickness.

The Commission appreciates the necessity of keeping all highways up to a high standard, and for that reason extensive and continuous maintenance is necessary. On pavements, cracks must be filled, depressions restored, breaks repaired, shoulders rebuilt, etc. On macadam roads, dragging must be done at the proper time to maintain a smooth riding surface. In addition, ditches and culverts must be kept open, slides removed, weeds cut, papers and litter picked up, guard fences repaired and repainted, bolts in bridges tightened, timber bridges renewed, steel bridges repainted, channels cleared, etc.

Snow removal on main highways has become an important feature of the maintenance work in order to secure the maximum use of the road and avoid delays to travel. The Pacific Highway over the Siskiyou Mountains has been kept open for four successive seasons, and the Old Oregon Trail over the Blue Mountains between Pendleton and La Grande was kept open last year for the first time as well as many other main roads. To efficiently handle heavy falls of snow, snow ploys and tractors supplemented by blades mounted on trucks and blade grading machines are stationed at strategic points about the state. Also, the construction of snow fences in locations where excessive drifting occurs has been found necessary. It is confidently expected that with this preparation and equipment the main highways can be kept open throughout the entire year at a reasonable expense.

Since April 1, 1921, the state has taken over the maintenance of all finished sections of the state highway at its entire expense without help from the counties, although not specifically required to pay the entire costs under legislation on this subject. Under this policy in the previous biennium there was expended the sum of $1,052,268.31 and in the present biennium the sum of $2,683,021.82.

The rapid gain in the registration of motor vehicles in the State, increasing from 48,632 in 1917 to approximately 193,000 in 1924, together with the great increase in tourist traffic, has added to the maintenance problem in the same proportion. Road surfaces which have carried light traffic well, rapidly disintegrate and wear out under the greatly increased traffic burden put upon them. The heavy use of the roads has demonstrated that 2-inch bituminous pavements are not adequate, and many of these pavements laid several years ago must soon be thickened and widened to meet increasing demands of traffic. Six-inch cement concrete pavements are also found inadequate, and the present standard is seven inches thick in the center with thickened edges.

Quarters for patrolmen have been constructed north of Ontario on Snake River and also at Siskiyou on the Pacific Highway in Jackson County, so as to provide living quarters for men at strategic points where there are no other accommodations.

To facilitate paving repairs and also handle small projects the Commission purchased, in 1923, a portable bituminous paving plant, turning in as part payment a stationary plant purchased some years before. During the first season the plant made repairs on the Multnomah County Line-Hood River Section and also widened the pavement to correspond with the widened roadbed. In 1924 the same plant covered the Pacific Highway between Myrtle Creek and Oregon City as well as a few miles on the West Side Pacific Highway, repairing pavement and widening curves. It was also used to pave the uncompleted gaps at Myrtle Creek, McVeigh Overhead and Pudding River. A second portable plant, similar in design, was purchased and delivered late in 1924, which operated on the Lower Columbia River Highway and the Tualatin Valley Highway.

The very heavy traffic on the Upper Columbia River Highway and Old Oregon Trail made necessary the resurfacing and widening of this unit between The Dalles and Pendleton. On account of the sandy subsoil and extremely dry conditions on this section, a clay binder was added to the new material which results in a more compacted surface, less dust and more resistance to the formation of corrugations. Clay binder has also been added on The Dalles-California Highway in Deschutes County and also on the Prineville-Redmond Section which has remedied former conditions. Oiling has been done on some heavily traveled sections which has eliminated the dust nuisance and prevented a loss of binder and filler materials. The larger sections so treated were the Columbia River Highway east of The Dalles, through Wasco and Sherman Counties, and the Mt. Hood Loop in Clackamas County.

The most important bridges constructed during the biennium were the Pudding River structure at Aurora, the R. A. Booth bridge at Winchester, the Lewis and Clark River bridge near Astoria, the Snake River bridge at Ontario and the Winchuck River bridge in Curry County, with numerous smaller structures of adequate strength and pleasing design. Mention should also be made of the Umatilla River bridge at Umatilla and the Willamette River bridges at Albany and Harrisburg which have been commenced in the present biennium.

The distribution of surplus war materials begun in 1919 has been practically completed, and very little equipment has been distributed recently. The government allotment of trucks and tractors has formed the nucleus of the Department's maintenance equipment, particular use being made of the lighter trucks and smaller tractors for dragging scarifiers and blades. The tractors are especially advantageous in snow removal and in processing operations on resurface projects. Many trucks have been equipped with water tanks especially needed in surfacing operations. Other trucks have been equipped with dump bodies and have been used for hauling materials. Many trucks have been allotted to the counties for their use at approximately cost. Some equipment has been rented to contractors on both department and other work, and there has been a substantial return from this source. It is the policy of the Commission to convert this surplus war equipment into equivalent road value. The use of state equipment is properly charged against each project on a rental basis, so that by the time the equipment is worn out the cost will have been liquidated and each project will have been charged its proportionate amount.

The main shops for the repair and maintenance of business cars, trucks, tractors, graders and other types of road building equipment are located at Salem, with branch shops at La Grande and Klamath Falls. A new brick building has been erected on the grounds at Salem to house a heating plant, wash room, locker room and provide gasoline filling and greasing facilities. The new building, by separation from the rest of the frame buildings, will reduce the fire hazard. The Equipment Department, in addition to paying for all new equipment, turned back into the state highway fund a substantial sum at the close of the biennium which is applied to the reduction of the equipment capital account.

Fire insurance in limited amount is carried on business cars and trucks and also on parts and supplies in the shops. Under a ruling of the Attorney-General, there seems to be no provision of the law which authorizes insurance on buildings. Since the Commission owns some buildings in various parts of the state, it would seem to be good business practice to carry fire insurance on these, and legislation on this point is recommended.

The Commission has exercised its control over state highways as authorized by law, and franchise for water pipe lines, gas mains, sewers and telephone, telegraph and power lines are given only after satisfactory arrangements have been made as to the proper placing of poles or pipe lines so as not to interfere with highway widening, etc., in the future. One requirement insisted upon is that new wire lines take care of the existing lines by relocation to avoid crossing and recrossing the highway and the use of common user poles where possible.

Log hauling is permitted on state highways only by special permit, and the Commission grants these permits only after investigation of the route proposed to be hauled over and the posting of a bond to guarantee faithful compliance with the terms of the permit and a bond to make good any damage in excess of ordinary wear.

The protection of the roads against overloading and speeding is a matter which requires constant vigilance. The Commission employs six traffic officers who work under the direction of the Chief Inspector of the Motor Vehicle Division of the Secretary of State who employs an equal number. This arrangement is made so that the work of the two departments will coordinate and harmonize and avoid duplication of effort. Many of the Commission's regular employes working in various parts of the state are deputized to enforce the traffic laws. These men do not receive extra compensation for this work.

Since the preparation and publication of the last biennial report, the case of Warren Brothers Company vs. Huber, which is a case involving the validity of the Warren patent, and in connection with which a claim was made for royalty for pavements laid for the State of Oregon by Oskar Huber, the appeal from the decision of the Federal Court has been perfected, and the cause was argued October 15, 1924, before the United States Circuit Court of Appeals in San Francisco. The matter has not been disposed of as yet by the Circuit Court of Appeals, but a decision is expected soon. It is the contention of the Attorney-General's office that a decision in the Huber case is not controlling with respect to similar pavements laid by other contractors. The total yardage involved in the Huber case is 74,542 square yards, for which the Federal Court in its decision allowed 25 cents per square yard as royalty. From this decision an appeal was taken to the United States Circuit Court of Appeals.

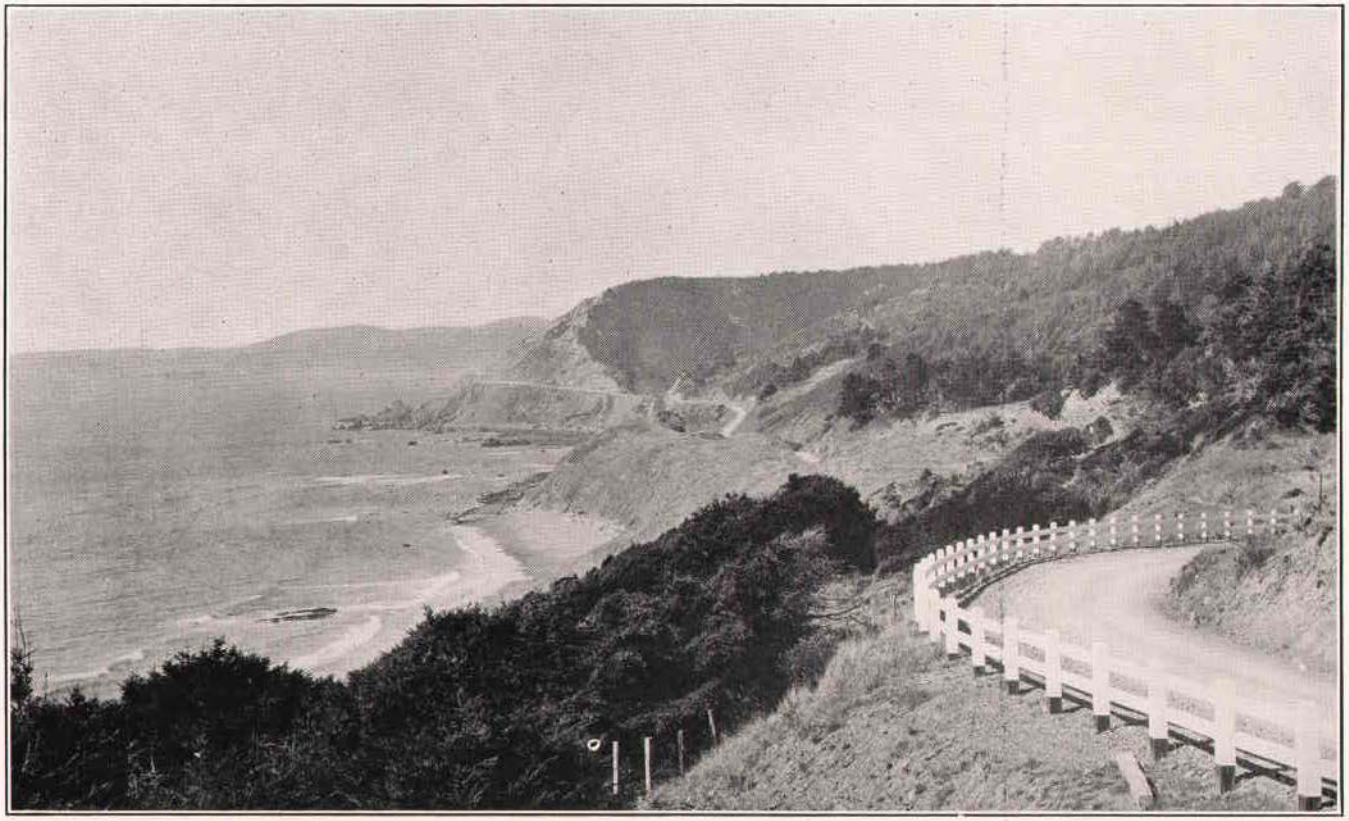
The Strauss Bascule Bridge Company has not urged its alleged claim for royalty resulting from what the Company claims is an infringement of its patent in connection with the construction of lift spans employed in the Young's Bay bridge near Astoria. Litigation in connection with this alleged infringement has been threatened, but as yet nothing definite has been done. This matter has been placed by the Highway Commission with the Attorney-General.

Betterments on the main traveled roads are becoming an urgent necessity because of the great increase in traffic. In order to meet the emergency, roadbeds should be widened now so as to give plenty of time for settlement. Also many changes should be made to straighten alignment and reduce curvature in keeping with higher standards of construction. Widening and straightening such as above described has already been completed between Hood River and Cascade Locks and on the Lower Columbia River Highway between Svensen and Astoria. It is also apparent that with the increase in traffic, pavements will have to be widened also, so adequate financial provision should be made to meet these conditions.

The Commission strongly recommends that no new roads be added to the state highway map until the present system is completed. It is believed that the present system, which represents approximately ten per cent of the public road mileage, is adequate to cover the needs of the state. An interesting comparison is made with the state highway mileage of the two adjoining states, Washington and California. In Washington, with greater population and wealth and approximately 100,000 more motor vehicle registrations, the state highway mileage is approximately 75 per cent of that of Oregon, while in California, with approximately 1,000,000 more registrations than Oregon, the state highway system is only 46 per cent greater.

The report of the Engineer follows which gives in detail the various projects undertaken during the year. It will be noted that the program is well advanced, but that there are still many important gaps to be filled and extensions and connections made to roads which form important links in the state highway system, to properly serve all sections of the state.

The actual accomplishment of work during the biennium has been somewhat less than during the previous period because of lesser available funds. However, the work has been very gratifying to the Commission for the reason that in many cases the work which has been done will affect the coupling up of many completed sections of finished highways which heretofore have not been available for full service by reason of the uncompleted sections adjacent. In other cases, extensions and connections have been constructed opening up large sections of producing country or making possible connections with adjoining states. All of these improvements bring closer to completion the comprehensive system of state highways toward which the supporters of the highway program have been working since the initial steps were taken in 1917. As one highway after another has been opened up, the realization has come to all that the immense sums invested in the state highway system are coming back in dividends of increased business, better markets, higher property values, more pleasant travel, decreased motor vehicle operating costs and all the other benefits that go hand in hand with good roads and economical transportation.



THE ROOSEVELT COAST HIGHWAY AND THE PACIFIC OCEAN FROM A POINT ABOUT FIVE MILES SOUTH OF PORT ORFORD

STATEMENT OF RECEIPTS AND DISBURSEMENTS THROUGH STATE HIGHWAY FUND

DECEMBER 1, 1922, TO NOVEMBER 30, 1924

This statement includes only those receipts and disbursements which have been handled through the State Highway Fund. For complete statements of the revenues and expenditures of the State Highway Commission see Part Three of this report.

RECEIPTS

Balance on hand December 1, 1922:		
Funds for State Roads (Cash)	*$2,117,809.58	
Funds for State Roads (Uncashed warrants)	138,369.52	
Funds for Market Roads	213,649.85	
		*$2,469,828.95
Sale of Bonds, 1923 (Includes premiums and accrued interest)	2,489,875.00	
Sale of Bonds, 1924	.....	
		2,489,875.00
Motor Vehicle License Fees, 1923	2,902,476.56	
Motor Vehicle License Fees, 1924	3,419,808.55	
		6,322,285.11
Gasoline and Distillate Tax, 1923	1,975,174.23	
Gasoline and Distillate Tax, 1924	2,358,277.17	
		4,333,451.40
One-Quarter Mill Property Tax, 1923	246,452.30	
One-Quarter Mill Property Tax, 1924	255,863.20	
		502,315.50
Market Road Tax, 1923	§1,265,039.64	
Market Road Tax, 1924	1,023,460.86	
		2,288,500.50
Federal Aid Payments, 1923	1,719,088.71	
Federal Aid Payments, 1924	1,118,777.53	
		2,837,866.24
County Cooperative Payments, 1923	662,080.18	
County Cooperative Payments, 1924	596,025.27	
		†1,258,105.45
Railroad Cooperative Payments, 1923	126,089.74	
Railroad Cooperative Payments, 1924	83,632.75	
		209,722.49
Interest on Bank Balances, warrants, etc., 1923	48,084.45	
Interest on Bank Balances, warrants, etc., 1924	62,047.49	
		110,131.94
Fines for Traffic Law Violations, 1923	2,915.25	
Fines for Traffic Law Violations, 1924	19,540.07	
		22,455.32
Sales and Rentals of Equipment and Supplies, 1923	111,665.02	
Sales and Rentals of Equipment and Supplies, 1924	74,616.64	
		‡186,281.66
Total Receipts (including $159,299.75 in uncashed warrants)		*$23,030,819.56

* Includes $75,000 in Revolving Fund.
† Includes $145,869.34 in uncashed warrants.
‡ Includes $13,430.41 in uncashed warrants.
§ The amount here shown is the amount of market road funds paid in during the fiscal year. The amount of the 1923 market road levy was $1,009,499.16, and the amount of the 1924 levy was $1,042,410.62.

DISBURSEMENTS

New Construction (State share only)	$ 5,014,120.47	
Major Additions and Betterment (State share only)	502,189.36	
Minor Additions and Betterment (State share only)	382,155 49	
Special Maintenance (State share only)	898,717.90	
General Maintenance (State share only)	1,788,422.69	
Forest Road Construction (State share only)	1,092,660.31	
Road Signing	19,306.81	
Remeasurement of Highways and Placing of Mile Posts	11,367.84	
Enforcement of Traffic Laws	46,823.49	
Purchase and Development of Parks	20,048.18	
Purchase and Development of Gravel Pits, Right-of-way and Patrol Stations	7,796.43	
Operation and Maintenance of Draw Bridges (State share only)	5,362.47	
Interest and Maturities on Bonds	4,083,099.64	
Equipment and Supplies (Gross disbursements)	1,102,491,79	
Equipment and Supplies (Credits from sales and rentals)	1,245,993.07	Cr.
Administration and General Supervision	336,416.91	
Surveys	101,502.78	
Engineering County Construction (State funds only)	1,603.23	
State Expenditures on Market Roads	65,111.15	
Market Road Apportionments to Counties	1,981,343.30	
Delayed Charges on Completed Work	2,323.91	
Miscellaneous General Expense	34,443.05	
Federal Government Funds Disbursed Through Highway Fund	2,837,866.24	
County Funds Disbursed Through Highway Fund	1,258,105.45	
Railroad Funds Disbursed Through Highway Fund	209,722.49	
Disbursements for Which Corresponding Credits Accrue Through Sale and Rental of Equipment and Supplies	186,281.66	
Total Disbursements		$20,743,289.97
Balance on Hand December 1, 1924		‖$ 2,287,529.59

‖ Includes $159,299.75 in uncashed warrants, $455,695.90 of Market Road Funds, and $75,000 in the Revolving Fund.

RECONCILIATION OF DISBURSEMENTS THROUGH THE STATE HIGHWAY FUND WITH NET EXPENDITURES ON STATE HIGHWAY WORK

Total disbursements through State Highway Fund			$20,743,289.97
Add for county payments made direct	$ 2,527,778.44		
Add for railroad payments made direct	14,153.85		
Total Additions		$ 2,541,932.29	
Deduct for market road payments to counties	$ 1,981,343.30		
Deduct for disbursements for which corresponding credits accrue through sale and rental of equipment and supplies	186,281.66		
Total Deductions		$ 2,167,624.96	
Difference to be added			$ 374,307.33
Net total of expenditures made upon state highway work under the direct supervision of the State Highway Commission			$21,117,597.30

CERTIFICATES OF AUDIT

G. ED. ROSS

PUBLIC ACCOUNTANT AND AUDITOR

Salem, Oregon

Oregon State Highway Commission, Salem, Oregon.

Gentlemen: In accordance with arrangements made with your Commission, a careful audit of the State Highway Fund and State Highway Engineer's payroll account (Revolving Fund) has been made for the period from November 10, 1922, to March 31, 1923, inclusive.

All funds have been properly accounted for and all disbursements found to be made in accordance with authority given for the operation of the State Highway Department.

I wish to certify on honor that to the best of my knowledge and belief, and after careful examination, schedules attached, pages 1 to 11, inclusive, reveal the true status of the accounts of the State Highway Department, as of March 31, 1923.

Dated at Salem, this 28th day of April, 1923.

Respectfully submitted,
G. ED. ROSS,
Public Accountant and Auditor.

WHITCOMB, PIEPENBRINK & CO.

ACCOUNTANTS AND TAX COUNSELORS

Portland, Oregon

January 12, 1924.

Oregon State Highway Commission, Salem, Oregon.

Gentlemen: We have made an audit of your records of Receipts and Disbursements covering the period from April 1, 1923, to November 30, 1923, and submit herewith our report.

This report is made up of the following:

Statement of Receipts.
Reconciliation of Fund Account with Secretary of State.
Statement of Vouchers in Transit.
Reconciliation of Fund Account with State Treasurer.
Reconciliation of Revolving Fund.
Statements of Outstanding Revolving Fund Checks.
Statement of Registered Warrants on Hand.

The scope of this audit conformed with that outlined in our proposal, dated November 22, 1923, and consisted of an audit of Receipts and Disbursements only, no investigation being made into the status of any contracts in progress, the relations of the Commission with the Federal Government or Counties within the State, nor was any check made of the Cost Records and other subsidiary records kept in your office, nor of the correctness of the distribution of vouchers verified.

All withdrawals and additions to the Revolving Fund were vouched, and customary tests were made of the Warrants as to correctness of amounts and proper authorization. Similar tests were made as to the arithmetical correctness of Vouchers entered.

We hereby certify that the balance as shown at November 30, 1923, by the books of the Oregon State Highway Commission as being in the State Highway Fund, agrees with the balance shown in that Account on the books of the Secretary of State of Oregon and that shown on the books of the State Treasurer of the State of Oregon, due consideration being given to Vouchers Approved but for which warrants had not been issued, and to Warrants Issued but not presented for payment; that all withdrawals and additions to the Oregon State Highway Commission Revolving Fund, for the period covered by this audit, have been properly entered upon the books of the Oregon State Highway Commission; and that all disbursements from both funds, during the period under investigation, were made under proper authority and are properly supported by adequate Vouchers.

(Signed) WHITCOMB, PIEPENBRINK & CO.,
Accountants and Tax Counselors.

WHITCOMB, PIEPENBRINK & CO.
ACCOUNTANTS AND TAX COUNSELORS
Portland, Oregon

December 27, 1924.

Oregon State Highway Commission, Salem Oregon.

Gentlemen: In accordance with our arrangements, we have made an audit of your records of Receipts and Disbursements covering the period from December 1, 1923, to November 15, 1924, and submit herewith our report.

The following statements and exhibits are attached hereto and make up this report:

Statement of Receipts.
Reconciliation of Fund Account with Books of Secretary of State.
Statement of Vouchers in Transit.
Reconciliation of Revolving Fund.
Statements of Outstanding Revolving Fund Checks.
Statement of Registered Warrants on Hand.

The scope of this audit conformed with that outlined in our proposal dated December 6, 1924, and consisted of an audit of Receipts and Disbursements only, no investigation being made into the status of any contracts in progress, the relations of the Commission with the Federal Government or Counties and other municipalities within the State, nor was any check made of the Cost Records and other subsidiary records kept in your office, nor was the correctness of the distribution of vouchers verified.

All withdrawals and additions to the Revolving Fund were vouched and customary tests were made of the Warrants as to correctness of amounts and proper authorization. Similar tests were made as to the arithmetical correctness of Vouchers entered.

Due to the fact that the Commission's books were closed this year on November 15, we found it impossible to make a reconciliation of the State

Highway Fund with the State Treasurer, whose books are closed regularly on the last day of each month. However, we made a reconciliation as of September 30, 1924, and found the Commission's records in agreement with the balance held in the State Highway Fund by the State Treasurer.

We hereby certify that the balance as shown at November 15, 1924, by the books of the Oregon State Highway Commission as being in the State Highway Fund agrees with the balance shown in that Account on the books of the Secretary of State of Oregon, due consideration being given to Vouchers approved, but for which no warrant had been issued; that all withdrawals and additions to the Oregon State Highway Commission Revolving Fund, for the period covered by this audit, have been properly entered upon the books of the Oregon State Highway Commission; and that, to the best of our knowledge and belief, all disbursements from both funds, during the period under investigation, were made under proper authority and are properly supported by adequate vouchers.

Yours very truly,
WHITCOMB, PIEPENBRINK & CO.,
Accountants and Tax Counselors.

STATEMENT OF RECEIPTS AND DISBURSEMENTS BY MONTHS, STATE HIGHWAY FUND

December 1, 1922, to November 30, 1924

The receipts and disbursements here given are the receipts and disbursements through the State Highway Fund, only. They should not be mistaken for the receipts and expenditures incidental to state highway operations as a whole.

	Receipts	*Disbursements*
Balance on hand, December 1, 1922	*$2,331,459.43	
December, 1922	1,011,879.37	$ 1,571,309.02
January, 1923	362,893.01	773,963.46
February, 1923	632,655.08	386,907.90
March, 1923	1,594,002.71	1,220,989.13
April, 1923	1,247,199.87	491,007.35
May, 1923	523,809.83	528,100.74
June, 1923	306,708.51	632,767.20
July, 1923	507,924.66	907,009.31
August, 1923	1,397,696.78	1,092,632.92
September, 1923	1,051,416.07	1,750,081.32
October, 1923	1,100,860.86	929,181.62
November, 1923	1,773,435.83	641,001.16
December, 1923	421,908.70	1,094,698.86
January, 1924	450,524.34	507,997.09
February, 1924	245,660.16	338,791.62
March, 1924	2,225,816.51	1,256,363.62
April, 1924	1,398,753.97	369,061.17
May, 1924	514,124.87	911,275.99
June, 1924	402,265.08	701,630.97
July, 1924	360,273.13	899,145.08
August, 1924	642,837.47	666,182.57
September, 1924	1,056,216.26	1,950,321.94
October, 1924	919,882.04	764,465.98
November, 1924	391,315.27	358,403.95
Grand totals	$22,871,519.81	$20,743,289.97
Less disbursements	20,743,289.97	
Cash balance on hand Nov. 30, 1924	*$2,128,229.84	
Uncashed county warrants on hand	159,299.75	
Total balance on hand Nov. 30, 1924	*$2,287,529.59	

* Includes $75,000 in Revolving Fund.

RECEIPTS BY SECRETARY OF STATE FROM MOTOR VEHICLE AND MOTOR VEHICLE OPERATOR LICENSE FEES

For the period from September 16, 1922, to September 15, 1924

COUNTY	Net receipts Sept. 16, 1922, to Sept. 15, 1923	Net receipts Sept. 16, 1923 to Sept. 15, 1924	Total Net receipts Sept. 16, 1922, to Sept. 15, 1924	25% Turned over to Counties	75% Turned over to State Highway Fund	Percentage from each County
Baker	$ 62,210.60	$ 71,470.33	$ 133,680.93	$ 33,420.23	$ 100,260.70	1.59
Benton	71,278.70	84,918.19	156,196.89	39,049.22	117,147.67	1.85
Clackamas	168,434.41	198,270.07	366,704.48	91,676.12	275,028.36	4.35
Clatsop	88,690.20	108,180.00	196,870.20	49,217.55	147,652.65	2.34
Columbia	56,633.90	76,153.16	132,787.06	33,196.76	99,590.30	1.58
Coos	99,530.59	142,260.37	241,790.96	60,447.74	181,343.22	2.87
Crook	14,896.67	14,649.81	29,546.48	7,386.63	22,159.85	0.35
Curry	12,753.19	17,580.13	30,333.32	7,583.33	22,749.99	0.36
Deschutes	65,479.04	79,347.16	144,826.20	36,206.56	108,619.64	1.72
Douglas	98,531.82	111,151.37	209,683.19	52,420.79	157,262.40	2.49
Gilliam	20,237.80	20,556.34	40,794.14	10,198.53	30,595.61	0.48
Grant	15,083.50	18,544.26	33,627.76	8,406.94	25,220.82	0.40
Harney	12,452.10	14,073.96	26,526.06	6,631.52	19,894.54	0.31
Hood River	54,696.01	55,612.89	110,308.90	27,577.23	82,731.67	1.31
Jackson	136,960.38	162,369.66	299,330.04	74,832.51	224,497.53	3.55
Jefferson	9,854.17	10,762.67	20,616.84	5,154.21	15,462.63	0.24
Josephine	46,971.63	54,327.79	101,299.42	25,324.84	75,974.58	1.20
Klamath	72,581.79	101,232.00	173,813.79	43,453.46	130,360.33	2.06
Lake	16,496.54	18,502.32	34,998.86	8,749.71	26,249.15	0.41
Lane	185,257.84	234,559.60	419,817.44	104,954.36	314,863.08	4.98
Lincoln	12,614.14	26,728.59	39,342.73	9,835.68	29,507.05	0.47
Linn	110,431.03	122,793.70	233,224.73	58,306.18	174,918.55	2.77
Malheur	27,123.95	31,047.74	58,171.69	14,542.92	43,628.77	0.69
Marion	248,056.59	284,769.90	532,826.49	133,206.62	399,619.87	6.32
Morrow	22,441.30	25,948.35	48,389.65	12,097.42	36,292.23	0.57
Multnomah	1,475,284.44	1,723,657.13	3,198,941.57	799,735.40	2,399,206.17	37.95
Polk	64,492.40	75,863.44	140,355.84	35,088.97	105,266.87	1.67
Sherman	23,065.40	24,062.06	47,127.46	11,781.86	35,345.60	0.56
Tillamook	51,948.49	65,259.30	117,207.79	29,301.96	87,905.83	1.39
Umatilla	133,226.97	137,349.76	270,576.73	67,644.18	202,932.55	3.21
Union	68,721.92	78,898.77	147,620.69	36,905.16	110,715.53	1.75
Wallowa	24,669.66	31,033.34	55,703.00	13,925.76	41,777.24	0.66
Wasco	66,935.26	76,540.07	143,475.33	35,868.83	107,606.50	1.70
Washington	126,750.92	142,452.01	269,202.93	67,300.73	201,902.20	3.19
Wheeler	9,114.13	9,429.07	18,543.20	4,635.80	13,907.40	0.22
Yamhill	96,061.27	109,389.42	205,450.69	51,362.66	154,088.03	2.44
Totals	$3,869,968.75	$4,559,744.73	$8,429,713.48	$2,107,428.37	$6,322,285.11	100.00

SUMMARY

PERIOD	Distributed to State and Counties as Above	Fees Refunded	Secretary of State's Administrati Cost	Total of Gross Amounts Collected
Sept. 16, 1922, to Sept. 15, 1923	$3,869,968.75	$3,879.60	$176,119.55	$4,049,967.90
Sept. 16, 1923, to Sept. 15, 1924	4,559,744.73	4,843.00	209,423.36	4,774,011.09
Totals for two-year period	$8,429,713.48	$8,722.60	$385,542.91	$8,823,978.99

ANTICIPATED INCOME AND OBLIGATED EXPENDITURES 1925-26 BIENNIUM

The following statement is an estimate of the anticipated receipts for the biennium 1925 and 1926 based on current income under present legislation and not contemplating any bond sales. The market road tax is not added to the income statement, neither is it shown in the disbursements. The amount of federal aid for future years is wholly dependent on Congressional appropriation. The amount of county cooperation is wholly an estimate, the point having been reached where many of the counties have reached their legal bonded indebtedness limit.

The estimated disbursements show the definite obligations which, deducted from the available income, give the balance available for new construction. Government forest funds are not included in the above statement for the reason that they are expended direct by the Government and do not pass through the State Highway fund.

ANTICIPATED INCOME FOR 1925-26 BIENNIUM

STATE FUNDS:		
Cash on hand, December 1, 1924, excluding market road funds		$ 1,831,833.69
One-quarter Mill Tax		529,440.36
Motor Vehicle License Fees		7,000,000.00
Gasoline Tax		5,280,000.00
Miscellaneous Receipts		135,000.00
		$14,776,274.05
COUNTY COOPERATIVE FUNDS:		
Present agreements	$1,000,000.00	
Anticipated additional cooperation	1,000,000.00	
		2,000,000.00
FEDERAL COOPERATIVE FUNDS:		
Balance of present apportionment	$1,129,437.86	
Estimated collections from 1925 and 1926 appropriation	1,200,000.00	
		2,329,437.86
RAILROAD COOPERATION:		
Present agreements	$ 60,000.00	
Anticipated additional cooperation	40,000.00	
		100,000.00

Total anticipated revenue for 1925-26 biennium, all sources, $19,205,711.91

OBLIGATED EXPENDITURES FOR 1925-26 BIENNIUM

Interest on bonds	$3,526,590.00	
Principal payments on bonds	2,094,000.00	
Construction contract obligations	1,899,482.19	
Maintenance, additions and betterments	4,600,000.00	
Administration and general supervision	330,000.00	
Enforcement of traffic laws	60,000.00	
Surveys	100,000.00	
Forest road cooperative agreement obligations	454,835.42	
Miscellaneous	100,000.00	
Reserve for forest road cooperation	900,000.00	
Reserve for revolving fund	75,000.00	
Reserve for contingencies	500,000.00	
Total obligations for 1925-26 biennium		$14,639,907.61
Balance available for new work for biennium		*$ 4,565,804.30

* Approximately $4,000,000 of this available amount must be devoted to federal aid projects upon the federal aid highways if the full amount of the anticipated federal aid apportionments is to be taken up.

Sig. 2.

STATEMENT OF NET INCOME TO STATE HIGHWAY FUND

Compared With Interest and Principal Requirements for Present Outstanding Bonded Indebtedness ($38,700,000); Also Maintenance and Betterment Costs and Surpluses December 1, 1924.

Year	Number of Motor Vehicle Registrations	Net Income to State Highway Fund from Motor Vehicle License Fees	Net Income to State Highway Fund from Gasoline Tax	Total Net Income to State Highway Fund	Interest and Principal Requirements	Requirements for Maintenance, Additions and Betterments	Total Obligation	Surplus for New Construction
1917	48,632	$ 150,000.00	$	$ 150,000.00	$ 5,000.00	$	$ 5,000.00	$ 145,000.00
1918	63,325	425,000.00	.....	425,000.00	72,900.00	.....	72,900.00	352,100.00
1919	83,332	532,418.83	290,795.49	823,214.32	157,100.00	15,523.31	172,623.31	650,591.01
1920	103,790	1,481,122.75	404,050.16	1,885,172.91	503,725.00	98,813.17	602,538.17	1,282,634.74
1921	118,615	1,624,983.02	948,509.66	2,573,492.68	974,870.83	534,522.20	1,509,393.03	1,064,099.65
1922	134,566	2,358,987.02	1,127,147.73	3,486,134.75	1,646,266.67	714,821.24	2,361,087.91	1,125,046.84
1923	166,412	2,902,476.56	1,975,174.23	4,877,650.79	1,921,900.00	1,863,841.17	3,785,741.17	1,091,909.62
1924	193,000*	3,419,808.55	2,358,277.17	5,778,085.72	2,158,740.00	1,971,160.06	4,129,900.06	1,648,185.66
Estimated:								
1925	200,000	3,500,000.00	2,640,000.00	6,140,000.00	2,597,516.25	2,250,000.00	4,847,516.25	1,292,483.75
1926	200,000	3,500,000.00	2,640,000.00	6,140,000.00	3,023,073.75	2,350,000.00	5,373,073.75	766,926.25
1927	200,000	3,500,000.00	2,640,000.00	6,140,000.00	3,410,886.88	2,450,000.00	5,860,886.88	279,113.12
1928	200,000	3,500,000.00	2,640,000.00	6,140,000.00	3,476,998.12	2,550,000.00	6,026,998.12	113,001.88
etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.

* Approximate.

STATEMENT OF STATE HIGHWAY BOND SALES

June, 1917, to November 30, 1924

Date of Sale	Date of Bonds	PURCHASER	Par Value	Amount Bid	Per cent of Par	Coupon Interest Rate	Net Interest Rate	Accrued Interest	Total
		State Cooperative Federal Aid Bonds— (Chap. 175, Laws 1917), Chap. VII (a), Title XXX							
Aug. 18. 1917	Sept. 1. 1917	E. H. Rollins & Sons and Associates	$ *400.000.00	$ 387.640.00	96.91	4.00	4 50	$ 2.844.44	$ 390.484.44
July 15. 1919	Aug. 1. 1919	Henry Teal	†800.000.00	762.320.00	95.29	4.00	4.58	1.511.11	763.831.11
		Totals	$ 1.200.000.00	$1.149.960.00	95.83	.....	4.55	$ 4.355.55	$ 1.154.315.55
		State Cooperative Federal Aid Bonds— (Chap. 31, Laws 1920), Chap. VII (b), Title XXX, amended Chap. 347, Laws 1921							
May 11. 1920	April 1. 1920	Lumbermen's Trust Co., and Associates	$ 1.000.000.00	$ 890.900.00	89.09	4.50	5.60	$ 7.000.00	$ 897.900.00
June 15. 1920	April 1. 1920	Henry Teal	1.500.000.00	1.314.300.00	87.62	4.50	5.80	18.375.00	1.332.675.00
April 9. 1921	April 1. 1921	Ralph Schneeloch Co., and Associates	‡1.000.000.00	978.850.00	97.89	5.50	6.10	3.666.67	982.516.67
Mar. 17. 1922	April 1. 1922	Carstens & Earle and Associates	500.000.00	523.900.00	104.78	5.00	4.55	1.111.11	525.011.11
July 31. 1923	Aug. 1. 1923	Ralph Schneeloch & Co.	1.000.000.00	986.600.00	98.66	4.50	4.63	1.750.00	988.350.00
		Totals	$ 5.000.000.00	$4.694.550.00	93.89	.....	5.46	$ 31.902.78	$ 4.726.452.78
		Six Million Dollar Bonds— (Chap. 423, Laws 1917), Chap. IV, Title XXX, amended Chap. 384, Laws 1921							
Aug. 7. 1917	Aug. 1. 1917	Lumbermen's Trust Co.	$ 500.000.00	$ 471.300.00	94.26	4.00	4.53	$ 2.333.33	$ 473.633.33
Sept. 12. 1917	Sept. 1. 1917	E. H. Rollins & Sons and Associates	500.000.00	472.130.00	94.43	4.00	4.52	1.833.33	473.963.33
Mar. 15. 1918	April 1, 1918	Henry Teal	500.000.00	455.850.00	91.17	4.00	4.83	222.22	456.072.22
July 9. 1918	July 1. 1918	E. H. Rollins & Sons and Associates	690.000.00	643.770.00	93.30	4.00	4.62	2.606.54	646.376.54
Dec. 10. 1918	Dec. 1. 1918	Wm. Salomon & Co.	250.000.00	239.292.50	95.72	4.00	4.39	750.00	240.042.50
May 6. 1919	May 1. 1919	Loomis & Goss and Associates	500.000.00	467.900.00	93.58	4.00	4.59	2.722.22	470.622.22
June 10. 1919	June 1. 1919	Carstens & Earle and Associates	1.000.000.00	942.600.00	94.26	4.00	4.53	4.333.33	946.933.33
Oct. 25. 1921	Nov. 1. 1921	Ralph Schneeloch Co., and Associates	1.500.000.00	1.549.650.00	103.31	5.50	5.17	5.041.67	1.554.691.67
Dec. 15. 1921	Dec. 1. 1921	First and Old Detroit National Bank	560.000.00	615.496.00	109.91	5.50	4.55	3.507.76	619.003.76
		Totals	$ 6.000.000.00	$5.857.988.50	97.63	.....	4.73	$ 23.350.40	$ 5.881.338.90
		First Ten Million Dollar Bonds— (Chap. 173, Laws 1919), Chap. V, Title XXX							
Aug. 5. 1919	Aug. 1. 1919	Carstens & Earle and Associates	$ 1.000.000.00	$ 991.500.00	99.15	4.50	4.58	$ 3.875.00	$ 995.375.00
Sept. 20. 1919	Oct. 1, 1919	Carstens & Earle and Associates	2.000.000.00	1,965.600.00	98 28	4.50	4.66	.....	1.965.600.00
Nov. 4. 1919	Nov. 1. 1919	Freeman, Smith & Camp and Associates	1.000.000.00	988.230.00	98.82	4.50	4.62	2.875.00	991.105.00
Dec. 20. 1919	Dec. 1. 1919	Ralph Schneeloch Co., and Associates	1.000.000.00	986.170.00	98.62	4.50	4.65	3.875.00	990.045.00
July 20, 1920	July 1. 1920	Henry Teal	1.500.000.00	1.340.100 00	89.34	4.50	5.58	6.000.00	1.346.100.00
Sept. 28. 1920	Oct. 1. 1920	Ralph Schneeloch Co., and Associates	2.000.000.00	1.822.202.00	91.11	4.50	5.41	1.250.00	1.823.452.00
Aug. 24. 1920	Aug. 1. 1920	Lumbermen's Trust Co., and Associates	1.500.000.00	1.351.200.00	90.08	4.50	5.50	6.750.00	1.357.950.00
		Totals	$10.000.000.00	$9.445.002.00	94.45	.....	5.06	$ 24.625.00	$ 9.469.627.00

				Second Ten Million Dollar Bonds— (Chap. 43, Laws 1920) Chap. VI, Title XXX, amended Chaps. 245 and 348, Laws 1921							
Nov.	6, 1920	Nov.	1, 1920	Henry Teal	$ 1,500,000.00	$1,418,700.00	94.58	4.50	5.03	$ 3,375.00	$ 1,422,075.00
Jan.	4, 1921	Jan.	1, 1921	Carstens & Earle and Associates	500,000.00	453,550.00	90.71	4.50	5.43	1,000.00	454,550.00
Feb.	1, 1921	Jan.	1, 1921	Carstens & Earle and Associates	1,000,000.00	920,500.00	92.05	4.50	5.31	6,910.19	927,410.19
May	27, 1921	June	1, 1921	John E. Price & Co. and Associates	§1,000,000.00	1,000,300.00	100.03	6.00	5.99	3,500.00	1,003,800.00
June	28, 1921	July	1, 1921	A. M. Wright	1,500,000.00	1,506,100.00	100.41	5.75	5.71	7,187.50	1,513,287.50
July	28, 1921	Aug.	1, 1921	John E. Price & Co. and Associates	2,000,000.00	2,002,940.00	100.15	5.50	5.47	4,888.00	2,007,828.00
Aug.	30, 1921	Sept.	1, 1921	Security Sav. & Tr. Co. and Associates	1,500,000.00	1,501,050.00	100.07	5.50	5.49	5,958.30	1,507,008.30
Sept.	20, 1921	Oct.	1, 1921	Ralph Schneeloch Co. and Associates	§1,000,000.00	1,005,100.00	100.51	6.00	5.85	1,167.00	1,006,267.00
				Totals	$10,000,000.00	$9,808,240.00	98.08	.....	5.52	$33,985.99	$ 9,842,225.99
				Seven Million Dollar Bonds— Chap. 383, Laws 1921							
Jan.	10, 1922	Jan.	1, 1922	Ralph Schneeloch Co. and Associates	$ 1,000,000.00	$1,033,900.00	103.39	5.00	4.68	$ 8,541.65	$ 1,042,441.65
July	25, 1922	Aug.	1, 1922	Ralph Schneeloch Co.	1,000,000.00	1,012,900.00	101.29	4.50	4.382	1,875.00	1,014,775.00
Aug.	29, 1922	Sept.	1, 1922	Baillargeon, Winslow & Co. and Assoc.	1,500,000.00	1,534,650.00	102.31	4.50	4.286	5,250.00	1,539,900.00
Oct.	21, 1922	Oct.	1, 1922	Security Sav. & Tr. Co. and Associates	1,500,000.00	1,516,350.00	101.09	4.50	4.40	8,062.50	1,524,412.50
Jan.	19, 1923	Feb.	1, 1923	Cyrus Pierce & Co. and Associates	500,000.00	505,655.00	101.13	4.50	4.41	1,125.00	506,780.00
Oct.	22, 1923	Oct.	1, 1923	Dillon Read & Company	1,000,000.00	990,120.00	99.012	4.50	4.60	4,625.00	994,745.00
				Totals	$ 6,500,000.00	$6,593,575.00	101.13	.....	4.44	$29,479.15	$ 6,623,054.15

SUMMARY

	Par Value	Amount Bid	Discount	Per cent of Par	Net Interest	Accrued Interest	Total
State Cooperative Bonds, Chapter 175, Laws 1917	$ 1,200,000.00	$ 1,149,960.00	$ 50,040.00	95.83	4.55	$ 4,355.55	$ 1,154,315.55
State Cooperative Bonds, Chapter 31, Laws 1920	5,000,000.00	4,694,550.00	305,450.00	93.89	5.46	31,902.78	4,726,452.78
Six Million Dollar Bonds, Chapter 473, Laws 1917	6,000,000.00	5,857,888.50	142,011 50	97.63	4.73	23,350.40	5,881,338.90
First Ten Million Dollar Bonds, Chapter 173, Laws 1919	10,000,000.00	9,445,002.00	554,998.00	94.45	5.06	24,625.00	9,469,627.00
Second Ten Million Dollar Bonds, Chapter 43, Laws 1920	10,000,000.00	9,808,240.00	191,760.00	98.08	5.52	33,985.99	9,842,225.99
Seven Million Dollar Bonds, Chapter 383, Laws 1921	6,500,000.00	6,593,575.00	‖ 93,575.00	101.13	4.44	29,479.15	6,623,054.15
Totals	¶ $38,700,000.00	$37,549,315.50	$1,150,684.50	97.03	5.06	$147,698.87	$37,697,014.37

* Maturities $100,000.00 annually, 1922-1925 inclusive.
† Maturities $100,000.00 annually, 1926-1933 inclusive.
‡ Maturity April 1, 1925.
§ Maturity October 1, 1925. All other bonds mature one twentieth each year beginning with the sixth year after issuance.
‖ Premium
¶ Total of $639,250.00 of these bonds have matured and have been paid.

JOBS ADVERTISED AND CONTRACTS AWARDED

December 1, 1922, to November 30, 1924

Date of Receiving Bids	Contract Number	Project	Highway	Length in Miles	Kind of Improvement	Number of Bidders	Contract Awarded to
Dec. 13, 1922	613	Sandy-Cherryville	Mt. Hood Loop	7.4	Surfacing	8	A. D. Kern
Dec. 13, 1922	614	Rainier City Section	Columbia River	0.91	Concrete Paving	6	A. D. Kern
Dec. 13, 1922	615	Goshen-Lowell	Willamette	8.73	Grading and Surfacing	5	Warren Construction Co.
Dec. 13, 1922	616	Goldson-Cheshire	Willamette Valley-Florence	4.12	Grading and Surfacing	7	A. C. Matthews
Dec. 13, 1922	617	Tangent-Shedd	Pacific	1.96	Bituminous Paving	4	A. D. Kern
Dec. 13, 1922	618	Murder Creek Section	Pacific	0.62	Concrete Paving	7	Soleim & Gustafson
Dec. 13, 1922	619	Lost Creek Bridge	Willamette	.....	105′ Wood Span and Approaches	6	E. D. Olds
Dec. 21, 1922	620	*Coal Bank Slough Bridge at Marshfield	Roosevelt Coast	.....	50′ Steel Bascule and Approaches	5	M. W. Payne
Feb. 6, 1923	622	Unit 2, Crooked R.-Deschutes Co. L	Prineville-Lakeview	8.67	Grading	4	Crook County
Feb. 6, 1923	623	Heppner-Jones Hill	Oregon-Washington	11.48	Surfacing	13	General Construction Co.
Feb. 6, 1923	624	Basket Slough Bridge near Rickreall	West Side Pacific	.....	2-20′ Concrete Spans	4	Oregon Contract Co.
Feb. 6, 1923	628	Port Orford-Sixes River	Roosevelt Coast	6.06	Grading 3.30 miles; Surfacing 6.06 miles	5	John Hakanson
Feb. 6, 1923	629	Keno-Klamath Falls	Ashland-Klamath Falls	10 98	Grading and Surfacing	3	Dunn & Baker
Feb. 6, 1923	630	Tygh Grade Section	The Dalles-California	6.0	Grading	13	Elliott, Scoggin & Paquet
Feb. 6, 1923	662	**Coquille-Fat Elk Creek	Roosevelt Coast	2.07	Embankment Construction	2	McLeod Brothers
Feb. 7, 1923	625	Bear Creek Section	Oregon Caves	3.0	Grading	7	C. F. Rhodes Construction Co.
Feb. 7, 1923	626	Rhinehart Overcrossing Approaches	La Grande-Enterprise	0.24	Grading	4	A. D. Kern
Feb. 7, 1923	527	Jackson County Line-Hayden Creek	Ashland-Klamath Falls	9.83	Surfacing	4	Harness & Colby
Feb. 7, 1923	.....	Unit 1, Allen Ranch-Klamath County Line	The Dalles-California	8.0	Grading	7	Project Cancelled
Feb. 7, 1923	632	Tygh Valley Section	The Dalles-California	6.0	Grading	8	Elliott-Scoggin & Paquet
Feb. 7, 1923	.....	Unit 1, Nimrod-Elk Creek	McKenzie	1.38	Grading	....	Bids returned unopened.
Mar. 1, 1923	633	Hay Creek Bridge near Gateway	The Dalles-California	.....	2-36′ Concrete Spans	6	Kuckenburg & Wittman
Mar. 1, 1923	669	Willow Creek Bridge near Madras	The Dalles-California	.....	40′ Concrete Span	6	Kuckenburg & Wittman
Mar. 1, 1923	667	Unit 1, Coles Bridge-Cummings Creek	John Day	3.26	Grading and Surfacing	5	Bauers & Bauers
Mar. 1, 1923	668	Unit 2, Coles Bridge-Cummings Creek	John Day	10.82	Grading and Surfacing	5	Bauers & Bauers
Mar. 1, 1923	635	Cascade Gorge-McLeod	Medford-Crater Lake	8.61	Grading	5	John Hampshire
Mar. 1, 1923	636	Klamath Falls-Barclay Springs	The Dalles-California	.....	Furnishing Broken Stone	1	W. D. Miller
Mar. 1, 1923	637	Cottage Grove-North	Pacific	0.64	Grading	5	Manerud & Vitus
Mar. 1, 1923	638	Grass Valley-Kent	Sherman	12.0	Grading and Surfacing	9	Bauers & Bauers
Mar. 1, 1923	639	Kent-Wasco County Line	Sherman	7.91	Grading and Surfacing	6	Bauers & Bauers
Mar. 1, 1923	640	Echo-Pendleton	Columbia River	.....	Furnishing Broken Stone	7	J. K. Shotwell

Mar. 26, 1923	657	**Hunt Cut-Off in Yamhill County	West Side Pacific	0.19	Grading	3	Namitz & Knapp
Mar. 27, 1923	641	Willow Creek-Messner	Columbia River	.....	Furnishing Crushed Gravel	10	J. K. Shotwell
Mar. 27, 1923	642	Redmond-Cline Falls	McKenzie	4.78	Grading and Surfacing	7	G. K. March
Mar. 27, 1923	643	Winchester Bridge Approaches	Pacific	0.54	Grading	4	Joplin & Eldon
Mar. 27, 1923	644	Emigrant Creek Bridge near Ashland	Ashland-Klamath Falls	.....	3-19' Spans Wood Trestle	3	E. R. Metzger
Mar. 27, 1923	645	Jump-off-Joe Creek Bridge near Grants Pass	Pacific	.....	50' Concrete Span	4	Ryan & Catching
Mar. 27, 1923	646	Bear Creek Bridge near Svenson	Columbia River	.....	2-30' Concrete Spans	5	W. H. Lee
Mar. 27, 1923	647	Lamprey Creek-Fat Elk Creek	Roosevelt Coast	7.75	Grading	6	John Hampshire
Mar. 27, 1923	648	Tumalo-Deschutes River	Bend-Sisters	1.37	Grading and Surfacing	6	G. K. March
Mar. 27, 1923	649	Eugene-Goshen	Pacific	4.93	0.43 miles Bituminous Paving; 4.50 miles Pavement Widening and Resurfacing	6	Force & Currigan
Mar. 27, 1923	650	Creswell Section	Pacific	0.63	Concrete Pavement	7	Soleim & Gustafson
Mar. 27, 1923	651	Otter Rock-Agate Beach	Roosevelt Coast	5.75	Grading	4	Hetrick, Cline & Gardner
Mar. 27, 1923	652	Pudding River Bridge at Aurora	Pacific	.....	120' Steel Span; 580' Concrete Viaduct	11	Tobin & Pierce
Mar. 27, 1923	653	Spencer Bridge over Klamath River	Ashland-Klamath Falls	.....	8-50' Concrete Spans	3	Union Bridge Co.
April 16, 1923	663	**Backfilling Durkee Undercrossing	Old Oregon Trail	.....	Grading	2	Waarich & Engle
April 17, 1923	654	Unit 2, Oregon City-Bolton	Pacific	0.34	Grading and Concrete Paving	3	Oregon Contract Co.
April 17, 1923	655	Cow Canyon Section	The Dalles-California	7.72	Surfacing	9	Montague-O'Reilly Co.
April 17, 1923	656	Dairy Creek Fill near Hillsboro	Tualatin Valley	0.24	Embankment Construction	11	Brose & Heisler
April 17, 1923	658	Dairy Creek Bridge near Hillsboro	Tualatin Valley	.....	6-50' Concrete Spans	6	William D. Hoffman
April 17, 1923	659	McKay Creek Bridge near Pendleton	Oregon-Washington	.....	4-50' Concrete Spans	10	Union Bridge Co.
April 17, 1923	660	Bridge over Powell Butte Canal near Bend	The Dalles-California	.....	40' Concrete Span	3	Warren Construction Co.
April 17, 1923	661	Lewis & Clark River Bridge near Astoria	Roosevelt Coast	.....	100' Steel Bascule Span; 703' Trestle	4	Pacific Bridge Co.
April 17, 1923	.....	Tillamook City-South	Roosevelt Coast	0.14	Concrete Paving	1	Rejected
May 23, 1923	664	*Unit 2, Lower Bridge Market Road	Tumalo-Cline Falls	8.45	Grading	5	R. H. Bayley
May 28, 1923	665	Chewaucan Narrows-Paisley	Prineville Lakeview	9.94	Grading; 10.43 miles Surfacing	4	H. J. Hildeburn
May 28, 1923	666	Tillamook City Section	Roosevelt Coast	0.14	Concrete Paving	3	F. C. Feldshau
May 28, 1923	670	Buildings at Clatsop Crest	Columbia River	.....	Comfort Station and Caretaker's Quarters	4	Clifford Burgess
May 28, 1923	.....	Lewis & Clark Bridge Approaches	Roosevelt Coast	0.25	Embankment Construction	4	Rejected
May 28, 1923	671	Oro Dell Overcrossing	Old Oregon Trail	.....	240' Steel Span; 90' Concrete Viaduct	5	Illinois Steel Bridge Co.
May 28, 1923	.....	Sheridan-Bellevue	McMinnville-Tillamook	4	Roadbed Widening and Betterment	2	Rejected
June 9, 1923	.....	Units 1 and 2, Mt. Hood-Forest Broadway	Mt. Hood Loop	17.01	Surfacing	4	Rejected
June 25, 1923	672	Lewis & Clark Bridge Approaches	Roosevelt Coast	0.25	Embankment Construction	1	Pacific Bridge Co.
June 25, 1923	673	Hunters Creek-Hunters Head	Roosevelt Coast	6.30	2.02 Grading; 6.30 miles Surfacing	3	Schell & McKy

* County Contract.
** Special Agreement.

JOBS ADVERTISED AND CONTRACTS AWARDED—Continued

Date of Receiving Bids	Contract Number	Project	Highway	Length in Miles	Kind of Improvement	Number of Bidders	Contract Awarded to
June 25, 1923	674	Vale-Ontario	John Day	15.44	Grading and Surfacing	10	A. D. Kern
June 25, 1923	675	Unit 2, Enterprise-Forest Boundary	Flora-Enterprise	6.05	Grading and Surfacing	5	Wallowa County
June 25, 1923	676	Coles Bridge-Cummings Creek Bridges	John Day	.....	3-100′ Steel Spans and Approaches and Two Wood Trestles	6	Monson-Trierweiler Co.
June 25, 1923	677	Applegate River Bridge	Redwood	.....	180′ Steel Span ; 345′ Trestle Approaches	4	Union Bridge Co.
July 30, 1923	678	Albany-Corvallis	Albany-Corvallis	9.53	Gravel Surfacing	20	Metzger & Johnson
July 30, 1923	679	Astoria-Svenson	Columbia River	8.82	Roadbed Widening and Other Betterment	5	John Slotte & Co.
July 30, 1923	680	Hayden Creek-Keno	Ashland Klamath Falls	12.38	Crushed Gravel Surfacing	9	W. D. Miller
July 30, 1923	.....	Summer Lake Section	Prineville-Lakeview	1.66	Grading and Surfacing	2	Rejected
July 30, 1923	681	City of Lakeview Section	Prineville-Lakeview	0.37	Grading and Surfacing	1	F. C. Bentz
July 30, 1923	682	Cottage Grove-North	Pacific	0.64	Gravel Surfacing	2	H. W. Oliver
July 30, 1923	.....	South Prairie-Wilson River	Roosevelt Coast	4.5	Roadbed Widening and Betterment	2	Rejected
July 30, 1923	683	La Grande-Island City	La Grande Wallowa Lake	2.0	Pavement Resurfacing	1	Warren Construction Co.
July 30, 1923	.....	Bridge over Bear Creek near Svenson	Columbia River	.....	2-30′ Concrete Spans	2	Rejected
July 30, 1923	685	Bridge over Winchuck River near Brookings	Roosevelt Coast	.....	160′ Steel Truss and 380′ Trestle	3	A. B. Gidley
July 30, 1923	686	Bridge over Lost Creek near Prospect	Medford-Crater Lake	.....	2-30′ Concrete Spans	4	Lindstrom & Feigenson
July 30, 1923	.....	*Repair of Newberg Bridge	County Road	.....	One New Concrete Pier	1	County Forces
July 30, 1923	.....	2 Bridges between Hebo and Neskowin	Roosevelt Coast	.....	Reconstructing Approaches	3	Rejected
July 30, 1923	687	Overcrossing and Bridge at Perry	Old Oregon Trail	.....	135′ Concrete Arch and Approach	4	Union Bridge Co.
Aug. 27, 1923	.....	Drainage Tunnel East of Astoria	Columbia River	.....	300′ Drainage Tunnel	1	Rejected
Aug. 27, 1923	688	Messner-Umatilla	Columbia River	15.1	Crushed Gravel Resurfacing	5	J. K. Shotwell
Aug. 27, 1923	689	Nye-Lazinka Ranch	Pendleton-John Day	6.69	Grading and Surfacing	7	Carlson & Nyberg
Aug. 27, 1923	690	Seufert-Deschutes River	Columbia River	12.5	Broken Stone Resurfacing	5	Root & Joslin
Aug. 27, 1923	691	McMinnville-Bellevue	McMinnville-Tillamook	.....	Paving and Pavement Repair	2	J. C. Compton
Aug. 27, 1923	684	Bridge over Rickreall Creek near Rickreall	West Side Pacific	.....	80′ Steel Span and Concrete Approaches	6	Wm. D. Hoffman

Aug. 27, 1923	.....	*Bridge over Evans Creek at Rogue River	Jackson County Road	.....	90' Wood Span and 72' Pile Trestle	1	Rejected
Aug. 27, 1923	693	Bridge over Wallowa River at Minam	La Grande-Wallowa Lake	.....	160' Steel Span	5	J. J. Badraun
Sept. 6, 1923	694	Approaches to Jump-off-Joe Creek Bridge	Pacific	.....	Grading	1	U. G. Buck
Sept. 24, 1923	695	Drainage Tunnel East of Astoria	Columbia River	.....	275' drainage tunnel	9	Rejected
Sept. 24, 1923	696	Guard Fence in Hood River and Wasco Counties	Mt. Hood Loop and The Dalles-California	.....	14,800 lin. ft. Wood Guard Fence	7	Soleim & Gustafson
Sept. 24, 1923	697	Units 1 and 2 Deschutes River Crossing	The Dalles-California	13.68	Grading	7	Bauers & Bauers
Oct. 22, 1923	698	Stices Gulch Section	Baker-Unity	6.2	Grading	5	Iver J. Rosten Co.
Oct. 22, 1923	699	Unit 1, Paulina Prairie-Lava Butte	The Dalles-California	7.69	Grading	3	Jetley Bros.
Oct. 22, 1923	700	Bridge over Snake River near Ontario	Old Oregon Trail	.....	4-200' Steel Spans and 4-35' Concrete Spans	7	Portland Bridge Co.
Oct. 22, 1923	701	Patrolmen's house near Huntington	Old Oregon Trail	.....	1 dwelling	1	Van Petten Lumber Co.
Oct. 22, 1923	702	Service Building at Bradley Park	Columbia River	.....	Building for Power Plant and Garage	....	Russell & Nelson
Nov. 26, 1923	703	Overcrossing and Bridge at Blodgett	Corvallis-Newport	.....	60' Wood Span, 35' "I" Beam Span and 181' Trestle	4	Marshall & Barhan
Nov. 26, 1923	704	Tygh Grade-Dufur	The Dalles-California	9.87	Grading	7	Greenwood & Dann
Jan. 8, 1924	705	Coquille-Fat Elk Creek Bridges	Roosevelt Coast	.....	1,200' Timber Trestle	5	J. W. & J. R. Hillstrom
Jan. 8, 1924	706	Umatilla-Nolin	Columbia River	22.7	Broken Stone Resurfacing	12	Bauers & Bauers
Jan. 8, 1924	.....	Coquille Bandon	Roosevelt Coast	16.9	Broken Stone Surfacing	6	Rejected
Feb. 4, 1924	707	Coquille-Bandon	Roosevelt Coast	16.9	Broken Stone Surfacing	4	Johnson Contract Co.
Feb. 4, 1924	708	Lone Pine-Telocaset	Old Oregon Trail	15.6	Broken Stone Resurfacing	9	Ekstrom & Co.
Feb. 4, 1924	709	Criterion-Cow Canyon	The Dalles-California	14.1	Grading	4	Bauers & Bauers
Feb. 4, 1924	710	Bridge, Mary's Creek, East of Astoria	Columbia River	.....	20' Concrete Span	6	W. H. Luce
Feb. 4, 1924	711	Pendleton-Adams Bridges	Oregon-Washington	.....	1-30' Steel Span, 57' Trestle and 2 Concrete Culverts	5	O. N. Pierce & Co.
Feb. 5, 1924	712	Morrow County Line-Quinton	Columbia River	27.0	Crushed Gravel Resurfacing	7	Lyon & Price
Feb. 5, 1924	713	Sherman County Line-Cow Canyon	Sherman	19.96	Grading and Surfacing	5	Morrison-Knudsen Co.
Feb. 27, 1924	.....	Albany-Corvallis	Albany-Corvallis	9.5	Concrete Pavement	....	Bids returned unopened
Feb. 27, 1924	714	Glasgow-Hauser	Roosevelt Coast	6.2	Regrading and Surfacing	6	John Hakanson
Feb. 27, 1924	715	McLeod-Cascade Gorge	Medford-Crater Lake	10.24	Broken Stone Surfacing	6	Dunn & Baker
Feb. 27, 1924	716	Olene-Bonanza	Klamath Falls-Lakeview	13.74	Grading, Surfacing and Resurfacing	5	Klamath County Court

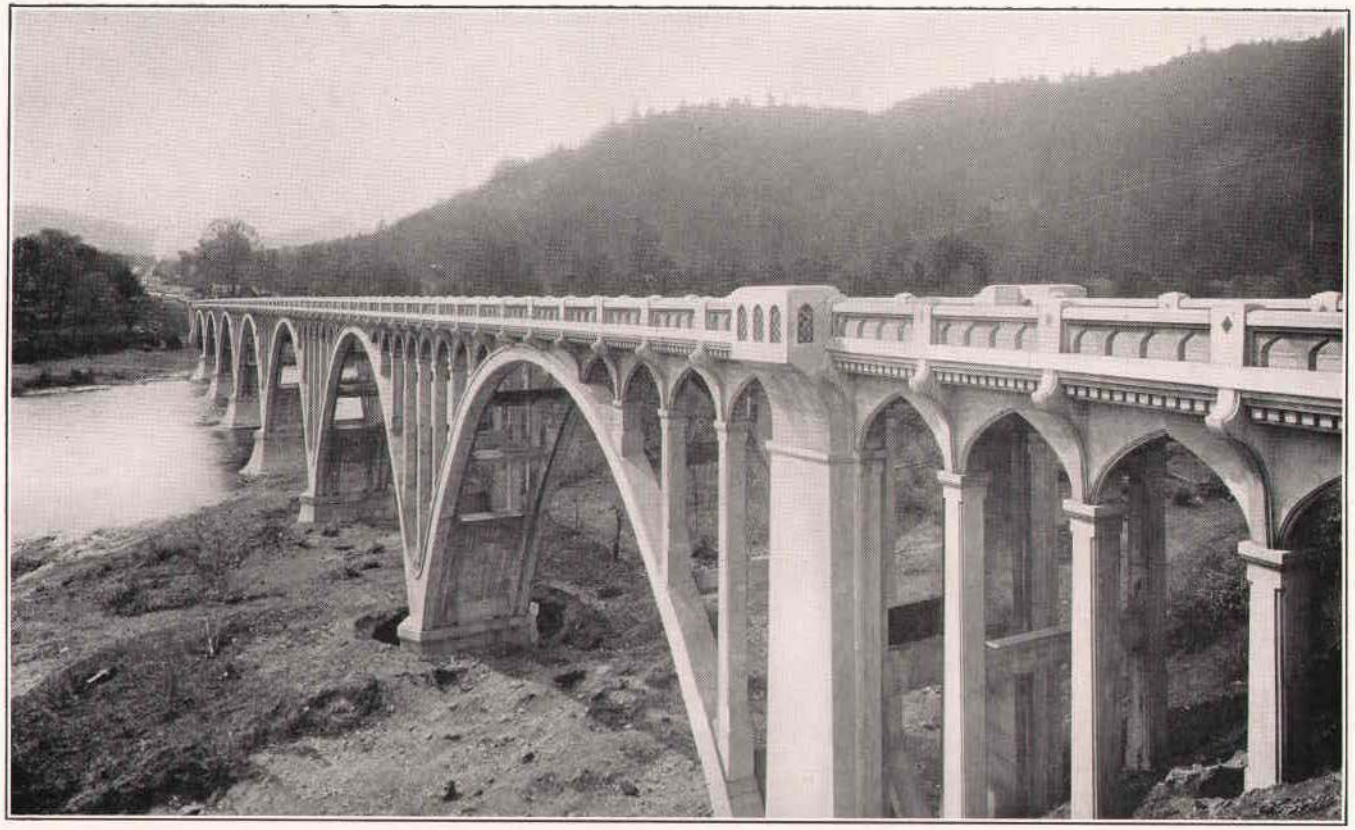
* County Contract.
** Special Agreement.

JOBS ADVERTISED AND CONTRACTS AWARDED—Continued

Date of Receiving Bids	Contract Number	Project	Highway	Length in Miles	Kind of Improvement	Number of Bidders	Contract Awarded to
Feb. 27, 1924	717	McKay Creek-Pendleton	Oregon-Washington	5.1	Grading, Surfacing and Resurfacing	6	James Crick
Feb. 27, 1924	718	St. Joseph Section	West Side Pacific	1.04	Grading	7	H. W. Oliver
Mar. 10, 1924	719	Albany-Corvallis	Albany-Corvallis	9.5	Concrete Paving	13	J. C. Compton
Mar. 27, 1924	720	Mill Gulch Section	Baker-Unity	6.04	Grading	6	A. D. Kern
Mar. 27, 1924	721	Myers Creek Section	Roosevelt Coast	2.33	Grading and Surfacing	5	Johnson Contract Co.
Mar. 27, 1924	722	California-Winchuck Section	Roosevelt Coast	0.63	Grading and Surfacing	3	John R. Hill
Mar. 27, 1924	.....	*Jacksonville-Medford	Jackson County Road	4.4	Paving	8	S. S. Schell
Mar. 27, 1924	.....	*Summit-Ruch	Jackson County Road	4 0	Paving	8	S. S. Schell
Mar. 27, 1924	723	Stanfield Section	Columbia River	0.9	Grading Line Revision	5	J. K. Shotwell
Mar. 27, 1924	724	Perry-Oro Dell-La Grande Sections	Old Oregon Trail	1.34	Grading and Surfacing	4	Morrison-Knudsen Co.
April 29, 1924	725	Seaside-Cannon Beach Junction	Roosevelt Coast	2.73	Grading and Surfacing	4	Peterson & Schott
April 29, 1924	726	Allen Ranch-Lapine	The Dalles-California	13.0	Broken Stone Surfacing	4	Rejected
April 29, 1924	727	Maintenance materials near Olalla	Coos Bay-Roseburg	.....	Furnishing Maintenance Materials	3	Metzger & Johnson
April 29, 1924	.....	Town of John Day Section	John Day	0.8	Grading and Surfacing	3	Rejected
April 29, 1924	728	Jones Hill-Lena	Oregon-Washington	2.9	Grading	4	H. W. Oliver
April 24, 1924	.....	Bridge over Myers Creek near Gold Beach	Roosevelt Coast	.....	136′ Concrete Viaduct	4	Rejected
April 29, 1924	.....	Bridge over Canyon Creek at John Day	John Day	.....	2-23′ Timber Spans	5	Rejected
May 28, 1924	.....	Alsea Mountain Section	Alsea	6.0	Surfacing	1	Rejected
May 28, 1924	729	Missouri Bend Section	Alsea	8.17	Grading	3	Greenwood & Dann
May 29, 1924	.....	Oregon City-Canemah	Pacific	0.83	Surfacing	2	Rejected
May 28, 1924	730	Units 1 and 2 Gwendolen-Base Line	John Day	15.94	Grading and Surfacing	7	Nyberg & Crick
May 28, 1924	731	John Day Town Section	John Day	0.8	Grading and Surfacing	2	H. W. Oliver
May 29, 1924	732	Jetty Creek-Brighton	Roosevelt Coast	1.0	Grading	4	United Contracting Co.
May 28, 1924	733	Maintenance Materials near Cloverdale	Roosevelt Coast	.....	Furnishing Maintenance Materials	3	Frazier & Samuel
May 28, 1924	734	Unit 1 Dufur-White River	The Dalles-California	7.56	Surfacing	9	R. W. Stevenson
May 28, 1924	735	Unit 2 Dufur-White River	The Dalles-California	11.25	Surfacing	7	Lyon & Price
May 29, 1924	736	Bridge over Myers Creek near Gold Beach	Roosevelt Coast	.....	1-26′ and 2-50′ Concrete Spans	3	C. J. Montag Co.
May 29, 1924	737	Bridge over Canyon Creek at John Day	John Day	.....	2-23′ Timber Spans	1	F. L. Conner
May 29, 1924	738	Willamette River Bridge at Harrisburg	Pacific	.....	3-180′ Steel Spans and 1672′ Trestle	11	Portland Bridge Co.

June 12, 1924	739	Alsea Mountain Section	Alsea	6.0	Surfacing	3	Harness & Colby
June 12, 1924	745	Willamette River Bridge at Albany	Albany-Corvallis	.....	1120′ Concrete and Steel Structure	7	Union Bridge Co.
June 16, 1924	740	Chalk Cliff-Hunter Hill	Prineville-Lakeview	8.64	Grading	2	John Hampshire
June 26, 1924	741	Nye Creek Section	Roosevelt Coast	0.36	Grading	6	Moore & Freres
June 26, 1924	.....	Weiser-Payette Spur Section	Old Oregon Trail	3.56	Grading and Surfacing	2	Rejected
June 28, 1924	742	Bridge over Digger Creek near Alsea	Alsea	.....	60′ Steel Span and Approaches	2	J. W. Sadler
June 28, 1924	743	Bridges, Rock Creek and Juniper Canyon	John Day		70′ Concrete Viaduct and 23′ Wood Span	2	Lindstrom & Feigenson
June 28, 1924	744	Bridge over Fifteen Mile Creek at Dufur	The Dalles-California	.....	2-24′ Concrete Spans	4	J. D. Tobin
June 28, 1924	.....	Patrolman's Quarters near Siskiyou	Pacific	.....	.....	2	Rejected
July 29, 1924	746	Unit 2 Paulina Prairie-Lava Butte	The Dalles-California	6.20	Grading	8	Bauers & Bauers
July 29, 1924	.....	Weiser and Payette Spur Sections	Old Oregon Trail	3.56	Grading and Surfacing	5	Rejected
July 29, 1924	747	Sucker Creek Section	Malheur County Road	8.50	Grading	7	Morrison-Knudsen Company
July 29, 1924	.....	Mayer Park Branch near Rowena	Columbia River	.....	Driveway, Curbs and Walls	3	Rejected
July 29, 1924	748	Bridge over Deschutes River at Lower Bridge	Deschutes County Road	.....	2-80′ Steel Spans	9	Illinois Steel Bridge Co.
July 29, 1924	749	Bridge, East Fork Illinois River	Redwood	.....	180′ Steel Span and Approaches	10	J. J. Badraun
July 29, 1924	750	Patrolman's Quarters near Siskiyou	Pacific	.....	Dwelling House and Warehouse	5	O. N. Pierce & Company
Aug. 15, 1924	751	Astoria Slide Section	Columbia River	0.32	Grading	4	John Slotte & Co.
Aug. 15, 1924	752	*Bridge, Tualatin River near Hillsboro	Washington County Road	.....	150′ Concrete Viaduct	7	O. N. Pierce & Company
Aug. 15, 1924	753	Mayer Park Branch near Rowena	Columbia River	.....	Driveway, Curbs and Walls	4	Greenwood & Dann
Aug. 29, 1924	754	Myrtle Point-North	Coos Bay-Roseburg	1.20	Grading	9	John Hampshire
Aug. 28, 1924	.....	Gardiner Section	Roosevelt Coast	0.93	Grading and Surfacing	3	Rejected
Aug. 28, 1924	755	Weiser and Payette Spur Sections	Old Oregon Trail	3.56	Grading and Surfacing	6	W. E. Storm
Sept. 6, 1924	756	Moving Buildings at Rickreall	West Side Pacific	.....	Moving Two Frame Buildings	2	G. S. Lockett
Sept. 25, 1924	757	Bridge over Umatilla River	Columbia River	.....	3-110′ Concrete Arches and Approaches	13	Lindstrom & Feigenson
Sept. 25, 1924	758	Denmark-Coos County Line	Roosevelt Coast	4.76	Grading	14	J. W. & J. R. Hillstrom
Sept. 25, 1924	759	Illinois River Crossing Section	Redwood Highway	0.90	Grading and Surfacing	5	Calvert, Calvert & Schroeder
Sept. 25, 1924	760	Cottage Grove-North	Pacific	0.57	Concrete Paving	6	K. L. Hall
Sept. 25, 1924	761	Nimrod-Blue River	McKenzie	6.20	Grading and Surfacing	13	Motor Investment Co.
Sept. 25, 1924	762	Otter Rock-Rocky Creek	Roosevelt Coast	3.07	Grading	13	John Hampshire
Oct. 28, 1924	763	Lewis & Clark River Bridge Approaches	Roosevelt Coast	0.25	Broken Stone Surfacing	1	John Slotte & Company
Oct. 28, 1924	764	White River-Cow Canyon	The Dalles-California	30.00	Broken Stone Surfacing	20	Joslin & McAllister
Oct. 28, 1924	765	Equipment Warehouse at Rufus	Columbia River	.....	Construction of Warehouse	8	Peter Peterson

* County Contract.
** Special Agreement.



ROBERT A. BOOTH BRIDGE OVER THE NORTH UMPQUA RIVER AT WINCHESTER, ON THE PACIFIC HIGHWAY NORTH OF ROSEBURG

PART TWO

Report

of the

State Highway Engineer

to the

State Highway Commission

of the

State of Oregon

1923-1924

Roy A. Klein, State Highway Engineer

LETTER OF TRANSMITTAL

Salem, Oregon, December 1, 1924.

TO THE HONORABLE STATE HIGHWAY COMMISSION,

WM. DUBY, Chairman.

H. B. VAN DUZER, Commissioner.

W. H. MALONE, Commissioner.

Gentlemen:

I have the honor to submit to you, herewith, the report of the State Highway Engineer for the biennial period December 1, 1922, to November 30, 1924.

In the biennium, the state highway program has been rapidly advanced, which has been made possible by careful planning and prompt decisions in matters of policy on your part, as well as close cooperation on construction features by the department. The work accomplished is the result of the coordinated efforts of many faithful and loyal employes, with whom I feel it an honor to be associated.

Respectfully submitted,

ROY A. KLEIN,
State Highway Engineer

Report of the

State Highway Engineer

to the

State Highway Commission

Dec. 1, 1922, to Nov. 30, 1924

PROGRESS IN STATE HIGHWAY CONSTRUCTION

In harmony with the demand of the people for a curtailment of public expenditures, and in view of the fact that the state highway system has now reached a state of improvement which satisfies the most pressing of the demands for modern transportation facilities, there has been, during the biennial period just closed, a marked shackening or slowing down in state highway construction operations. This slackening or slowing down is reflected of course in the volume of new highway construction work accomplished, and while this volume is in no wise inconsiderable, it is only approximately two-thirds of that accomplished during the years 1921 and 1922. The falling off in pavement construction is particularly noticeable, only 36.7 miles of pavement having been constructed during 1923 and 1924, compared with 264.6 miles constructed during 1921 and 1922.

Altogether the new construction work performed on the state highway system, under the direct supervision of the State Highway Commission, during the 1923-24 biennium, consists of 36.7 miles of pavement, 580.5 miles of crushed rock and crushed gravel surfacing, 415.0 miles of roadbed grading, and the construction of 115 bridges of spans varying from twenty feet to two hundred and forty feet and of lengths varying from twenty feet to nine hundred feet. In addition to this new construction work, 15.6 miles of pavement have been widened and resurfaced, 166.0 miles of crushed rock and crushed gravel roads have been resurfaced, 33.5 miles of roadbed grade have been widened and straightened, and much minor improvement work such as guard fence construction and road signing has been performed.

In addition to the work performed under the direct supervision of the State Highway Commission, as described in the preceding paragraph, there has been constructed upon the state highway system during the two-year period, under the supervision of the U. S. Forest Service and the U. S. Bureau of Public Roads, 153.6 miles of crushed rock and crushed gravel surfacing and 145.0 miles of roadbed grade, this work having been done upon sections of state highway which are within or adjacent to national forests.

Adding the mileages of new construction accomplished during 1923 and 1924 to the mileages previously completed and to the mileages of completed work upon state highways within incorporated cities and towns and within Multnomah County, brings the state highway system to the following state of improvement: 878.7 miles paved; 1,944.0 miles surfaced with rock and gravel; 318.1 miles graded and ready for surfacing; and 1,318.1 miles unimproved, the term unimproved, as here used, meaning not yet graded to state highway standards of width, grade and alignment. Expressed on a percentage basis, the 4,458.9 miles of highways in the state highway system are now 19.7 per cent paved, 43.6 per cent surfaced with rock or gravel, 7.1 per cent graded and ready for surfacing, and 29.6 per cent unimproved.

A segregation of the mileages of work performed under the supervision of the State Highway Commission during the years 1923 and 1924, as between the mileages performed during each of the two years is as follows:

Class of Work	Miles of Work Performed		
	1923	1924	Total
Concrete Paving	15.6	15.9	31.5
Bituminous Paving	5.2	.....	5.2
Broken Stone and Gravel Surfacing	378.8	201.7	580.5
Grading	243.9	171.1	415.0
Pavement Resurfacing	15.6	.....	15.6
Broken Stone and Gravel Resurfacing	38.5	127.5	166.0
Grade Widening	12.7	20.8	33.5

The mileages of work performed under the supervision of the U. S. Forest Service and the U. S. Bureau of Public Roads, upon forest road sections of the state highway system are as follows:

Class of Work	Miles of Work Performed		
	1923	1924	Total
Broken Stone and Gravel Surfacing	79.3	74.3	153.6
Grading	58.0	84.1	142.1

WORK UNDER CONTRACT

Inclusive of uncompleted work under contracts let during the 1921-22 biennium, there were under contract for construction during 1923 and 1924 a total of 38.3 miles of paving, 680 miles of rock and gravel surfacing, 520 miles of grading, 15.6 miles of pavement resurfacing and widening, 162 miles of rock and gravel resurfacing, and 33.5 miles of grade widening. Of these mileages, there remain uncompleted on November 30, 1924, 0.6 miles of paving, 100 miles of rock and gravel surfacing, and 105 miles of grading.

The total estimated cost of the work referred to in the above paragraph as work under contract during 1923 and 1924 is approximately $15,150,000.00. For the part of this work which has been completed during the biennium, there has been expended approximately $13,250,000.00, leaving a total obligation under uncompleted contracts of approximately $1,900,000.00.

REVENUES AND EXPENDITURES

The expenditures made by the State Highway Commission during the years 1923 and 1924 have aggregated the sum of $21,117,597.30 of which sum the State of Oregon has contributed $14,269,970.83, the Federal Government has contributed $2,837,866.24, the various counties of the State have contributed $3,785,883.89, and railroad companies and other corporations have contributed $223,876.34.

The $14,269,970.83 contributed by the State was derived from the following sources and in the following amounts:

Source	1923	1924	Total
Motor Vehicle License Fees	$2,902,476.56	$3,419,808.55	$ 6,322,285.11
Gasoline and Distillate Tax	1,975,174.23	2,358,277.17	4,333,451.40
One-quarter Mill Property Tax	246,452.30	255,863.20	502,315.50
Interest on Bank Balances, Warrants, etc.	48,084.45	62,047.49	110,131.94
Fines for Traffic Law Violations	2,915.25	19,540.07	22,455.32
Transfer from Market Road Funds	31,622.70	33,488.45	65,111.15
Sale of Bonds	2,489,875.00	0.00	2,489,875.00
From Funds on Hand at Beginning of Biennium	.....	424,345.41	424,345.41
Totals	$7,696,600.49	$6,573,370.34	$14,269,970.83

The $2,837,866.24 contributed by the Federal Government is the amount of federal aid paid over to the State during the biennium in accordance with the terms of the Federal Aid Act. The $3,785,883.89 contributed by the various counties of the State is the amount of county cooperation paid in during the biennium in accordance with the terms of cooperative agreements. The $223,876.34 contributed by railroad companies and other corporations is the amount contributed by these companies and corporations toward the cost of grade crossing elimination work and other work from which they derived benefit.

Of the $21,117,597.30 expended during the two year period, $11,368,045.31 was expended during 1923 and $9,749,551.99 was expended during 1924.

It will be noted that the amount expended during 1923 and 1924 is only slightly in excess of two thirds of the amount expended during the preceding biennium for which biennium the expenditures totalled $30,905,255.49. The annual expenditures during the biennium are also very much below the maximum of yearly expenditures which was reached in 1921 when the total for the year amounted to $18,245,821.37.

The relative proportions of expenditures under the several main heads of expenditure classification are very clearly indicated in the charts which appear on pages 18 and 19, as are also the relative proportions of the main income items. For more detailed information as to the receipts and expenditures in connection with the work of the Department, reference should be made to Part Three and Part Four.

FUNDS AVAILABLE FOR EXPENDITURE DURING 1925 AND 1926

At the beginning of the year 1925, there is in the State Highway Fund (exclusive of Market Road money) a balance of $1,831,833.69. It is estimated that during the years 1925 and 1926, there will accrue to this fund $7,000,000 from the motor vehicle license fee revenues, $5,280,000 from the gasoline tax, $530,000 from the one-quarter mill property tax, and $135,000 from various other sources. Adding all of these amounts together, gives a total of approximately $14,775,000 as the amount of state money that will be available for expenditure by the State Highway Commission during the 1925-1926 biennium, without taking into consideration such amounts as are available under authorized bond issues.

In addition to this $14,775,000 of available state money, there will become available considerable federal, county and railroad money, the exact amount of which is difficult to estimate. Executed agreements call for $1,125,000 of federal money and $60,000 of funds to be contributed by railroad companies and other corporations. At least $1,000,000 of incurred county obligations will be collectible. Unless the federal government changes the policy which it has followed for the past several years, it will be possible for the State Highway Commission to secure additional federal aid money to an amount of at least $1,200,000. It is reasonable to expect, also, that additional county cooperation to the extent of at least $1,000,000 will be obtainable during the biennium, and that not less than $40,000 will be forthcoming from railroad companies.

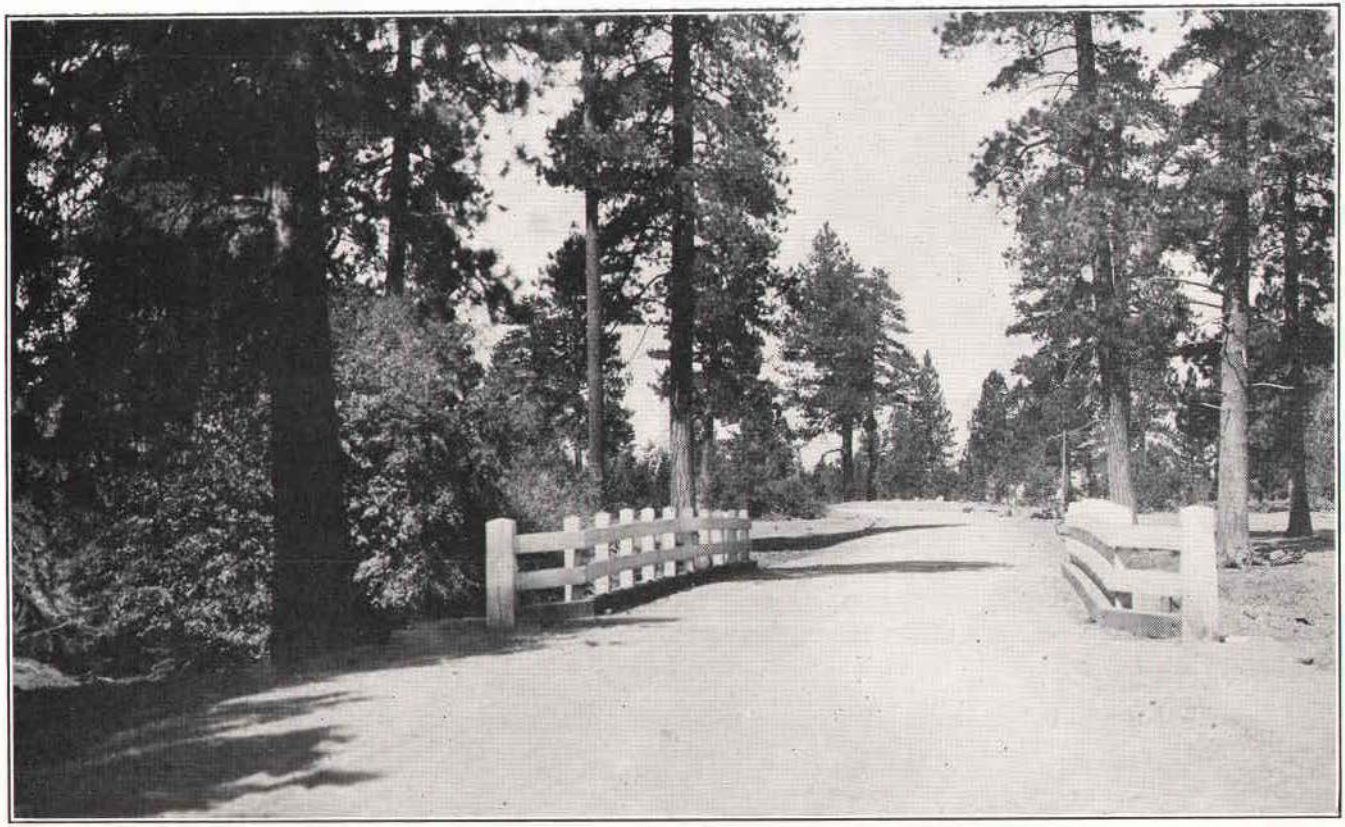
Summing up these prospective amounts of federal, county and railroad cooperation, and adding the sum to the $14,775,000 of available state money gives $19,200,000 as the probable total cash income for the biennium.

Of this probable cash income of $19,200,000, $1,900,000 will be required to complete contracts in effect at the beginning of the fiscal year 1925, $5,620,000 will be required to pay due interest and maturities on outstanding bonds. Approximately $1,350,000 must be reserved to complete present obligations and to match further federal appropriations for forest road work. Approximately $4,600,000 must be reserved for maintenance work and for necessary additions and betterments, and about $665,000 for such items as road signing, traffic law enforcement, surveys, administration and general supervision, revolving fund, et cetera. Not less than $500,000 must be held for contingencies, overruns of estimates, and unforseen expenses of all kinds. Subtracting these amounts from the probable cash income leaves a balance of $4,565,000, and this balance represents an estimate of the amount of money available for new construction work, that is, for new construction work in addition to that under contract on November 30, 1924.

Analyzing the situation further, it is found that in order to receive the federal aid funds which have been included in the $19,200,000 of available funds, it will be necessary that of the new work to be undertaken, work to the amount of approximately $4,000,000 be federal aid work and work, therefore, which is located upon the federal aid highway system and subject to approval by the Federal Bureau of Public Roads.

Summarizing all of the above, gives the following conclusions:

(a) That the probable income during the 1925-1926 biennium, exclusive of possible bond sales, will be approximately $19,200,000.



ON THE McKENZIE-BEND HIGHWAY SOUTH OF SISTERS

(b) That of this probable income, all but $4,565,000 is obligated in connection with contracts in force on November 30, 1924, and in connection with fixed expenses such as maintenance, payment of interest and maturities on bonds, operating expense, et cetera.

(c) That of the $4,565,000 unobligated, $4,000,000 must be used in work upon federal aid projects located upon the federal aid highway system, leaving a balance of only $565,000 available for new work upon highways which are not included in the federal aid system.

FEDERAL AID

With the regular revenues of the State tied up largely in the maintenance of constructed highways and in the payment of interest and maturities on bonds, the further improvement of the state highway system is dependent to a very considerable extent upon the aid which is received from the Federal Government.

During the two-year period just closed Oregon's share of the federal aid appropriations made by Congress, has been more than $2,200,000, and during that same period there has been received from the Federal Government a total of $2,837,866.24, this amount including receipts from balances of prior apportionments as well as receipts covering the major portion of the 1923 and 1924 apportionments.

Since the beginning of the extension of federal aid by the Government, a total of $8,506,159.00 has been apportioned to the State of Oregon, of this amount $7,376,721.14 has actually been paid over to the State, and all but $16,502.48 of the balance has been definitely assigned to particular projects and covered by executed project agreements.

Federal aid work completed to date or now under contract, comprises 650.3 miles of grading, 636.4 miles of rock surfacing, 140.5 miles of paving and 51 bridges.

All federal aid work is handled under the direct supervision of the State Highway Commission. It must be performed, however, in accordance with requirements laid down by the Federal Bureau of Public Roads, and all plans must be accepted and approved by that Bureau. The federal aid obtainable in connection with any project is limited to 61.137 per cent of the cost, and to $18,341.02 per mile. A project in order to be eligible for federal aid must be upon the federal aid system of highways as designated by the Federal Bureau of Public Roads, which system comprises the following highways and portions of highways within the State of Oregon:

PRIMARY HIGHWAYS

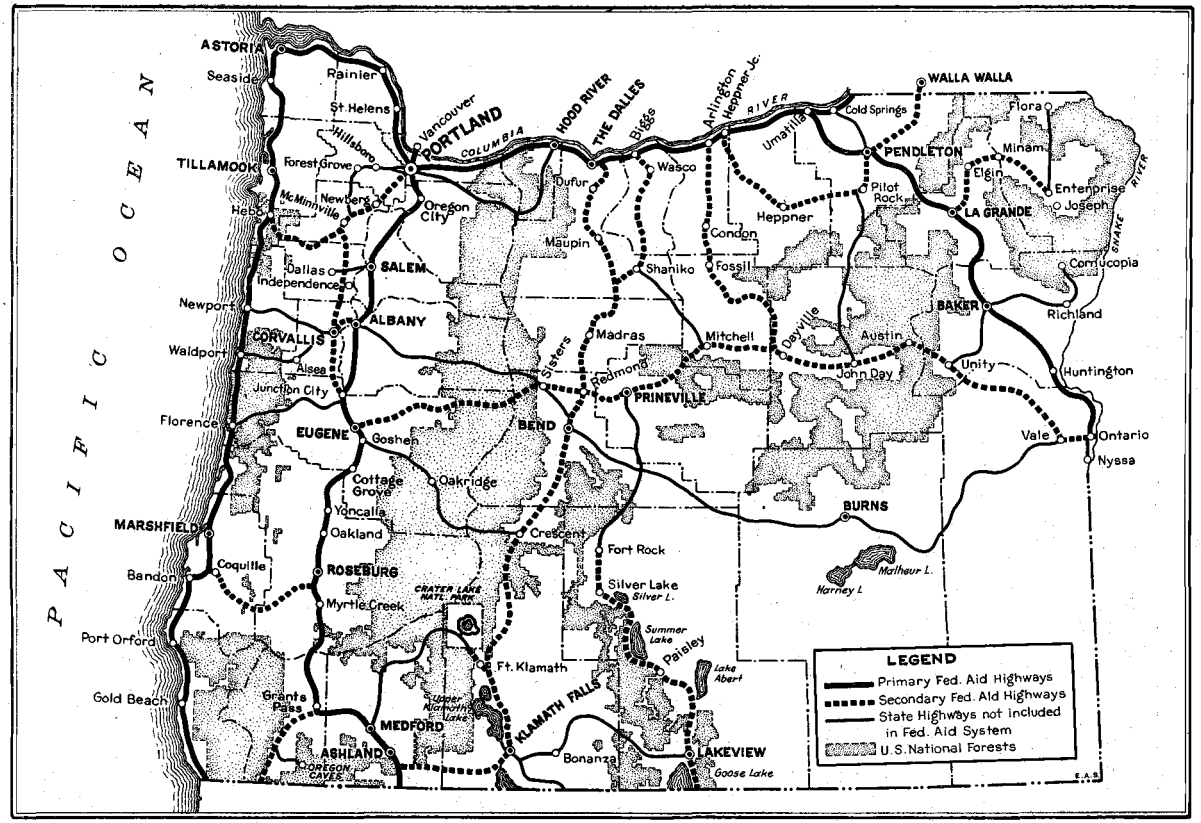
	Miles
Columbia River Highway—Astoria to Pendleton	312.7
Umatilla Cut-off—Umatilla to Washington State Line south of Wallula	19.8
Old Oregon Trail—Pendleton to Idaho State Line at Ontario	183.7
Pacific Highway—Washington State Line to California State Line	325.1
Roosevelt Coast Highway—Astoria to California State Line	393.8
Total Miles of Primary Highways	1,235.1

SECONDARY HIGHWAYS

West Side Pacific Highway—Portland to Junction City via McMinnville	101.4
Albany-Corvallis Highway—Albany to Corvallis	9.9
McMinnville-Tillamook Highway—Junction with West Side Pacific Highway near McMinnville to junction with Roosevelt Coast Highway at Hebo	48.7
Coos Bay-Roseburg Highway—Pacific Highway south of Roseburg to junction with Roosevelt Coast Highway west of Coquille	65.5
Redwood Highway—Junction with Pacific Highway south of Grants Pass to California Line	42.1
Ashland-Klamath Falls Highway—Junction with Pacific Highway south of Ashland to junction with The Dalles-California Highway at Klamath Falls	55.9
McKenzie Highway—Junction with Pacific Highway at Eugene to junction with The Dalles-California Highway at Redmond	113.0
The Dalles-California Highway—Seufert to Klamath Falls	286.0
Sherman Highway—Biggs to junction with The Dalles-California Highway near Shaniko	69.4
Prineville-Lakeview Highway—Fort Rock to California Line via Lakeview	129.0
Ochoco Highway—Redmond to the John Day Highway near Dayville	109.8
John Day Highway—Arlington to Ontario via Dayville and Vale	302.1
Oregon-Washington Highway—Heppner Junction to Washington State Line via Heppner and Pendleton	144.3
La Grande-Wallowa Lake Highway—La Grande to Enterprise	64.5
Crater Lake Highway—Junction with The Dalles-California Highway near Fort Klamath to Crater National Park Boundary	6.8
Total Miles of Secondary Highways	1,548.4

Under the provisions of the Federal Aid Act, the mileage of federal aid highways in Oregon is limited to 2,927.8 miles, of which not more than 1,254.8 miles may be in the "primary" class. The system as laid out and approved for Oregon comprises a total of 2,783.5 miles, and practically all of the balance of possible federal aid mileage is being held in reserve pending the selection of a location from Fort Rock north to a connection with a federal aid highway, which location is dependent in a measure upon future railroad development in that vicinity.

Federal cooperation has been working out very well in the State of Oregon, and every effort should be made to insure the continuance of the federal aid policy. The administration of the federal aid work by the Bureau of Public Roads is being very efficiently handled, and the officials of that bureau, particularly those in charge of the work in the northwest states, have in every way endeavored to cooperate with the Highway Commission, and to apply federal aid in the State of Oregon in the most practical way.



MAP SHQWING THE FEDERAL AID HIGHWAY SYSTEM FOR THE STATE OF OREGON AS APPROVED BY THE U. S. BUREAU OF PUBLIC ROADS

Federal cooperation in the construction of highways can be obtained only upon projects which are upon the federal aid system as shown in this map. Note that the highways represented by the lighter solid lines are not included in the federal aid system. The secondary federal aid highway from Lakeview to Fort Rock is to be extended north to a connection with the federal aid system, but as yet the route for this extension has not been determined upon.

FOREST ROAD WORK

During recent years the Federal Government has been expending very considerable amounts of money in the construction of roads within and adjacent to National Forests, which roads are referred to as "forest roads." Many millions of dollars have been appropriated by Congress for this work, and of these funds several millions have been allotted for expenditure in the State of Oregon.

Of the funds allotted to the State of Oregon, a certain part is designated for expenditure on a cooperative basis upon projects to be agreed upon between the United States Forest Service and the State Highway Commission, and to date the amount of the funds so designated has totaled approximately $3,970,000. Of this amount approximately $3,500,000 has been applied upon projects upon the state highway system, and in the way of cooperation in the construction of these projects, the State has agreed to contribute $3,080,000.00, and counties have agreed to contribute $1,030,000.00. The total amount available for the construction of these projects has been, therefore, approximately $7,600,000.00.

All of the projects agreed upon are now either completed or under way, and the amount of work done upon them thus far consists of 301.7 miles of grading and 236.9 miles of rock and gravel surfacing. The amounts expended to date aggregate $6,740,898.71 of which the Federal Government has contributed $3,218,650.58, the State $2,626,892.42, and the counties $895,355.71.

At the close of the 1923-1924 biennium, Oregon's share of the Federal funds so far authorized by Congress for forest road work, has been almost entirely assigned to particular projects, the unassigned balance amounting to only about $150,000. Bills calling for further authorizations and further appropriations for this class of work are now before Congress, however, and it is expected that some $850,000 or more will be made available for expenditure in Oregon during the coming two-year period.

To match this $850,000 and the $150,000 of unassigned funds under appropriations already made will require a million or more of state and county money, making the total of funds likely to be expended upon forest road work during 1925 and 1926, about, $2,000,000.

The forest road work comes under the control of the United States Forest Service, but the engineering and construction details are handled by the United States Bureau of Public Roads, The State Highway Commission has practically no authority in connection with forest road work other than to have a voice in the matter of the selection of projects. The state and county funds used in cooperation on forest road work are paid over to the Federal Government as they are required during the progress of the work.

For a complete list of the forest road projects so far agreed upon, together with the estimated costs, cooperative shares, amounts expended, etc., see the table for forest road projects included in Part Three of this report.

FEDERAL AID FUNDS AND FEDERAL FOREST ROAD FUNDS APPORTIONED TO OREGON

The following table shows the funds that have been apportioned to Oregon under the various Federal Aid Acts.

Period for which Funds are apportioned	Federal Aid Funds	Forest Road Funds	Total
Act of July 11, 1916			
July 11, 1916, to June 30, 1917	$ 78,687.37	$ 127,794.00	$ 206,481.37
July 1, 1917, to June 30, 1918	157,374.74	128,111.00	285,485.74
July 1, 1918, to June 30, 1919	236,332.74	132,796.00	369,128.74
July 1, 1919, to June 30, 1920	314,983.64	131,966.00	446,949.64
July 1, 1920, to June 30, 1921	394,038.01	130,071.00	524,109.01
July 1, 1921, to June 30, 1922	.....	128,661.00	128,661.00
July 1, 1922, to June 30, 1923	.....	122,967.00	122,967.00
July 1, 1923, to June 30, 1924	.....	136,587.00	136,587.00
July 1, 1924, to June 30, 1925	.....	136,686.00	136,686.00
July 1, 1925, to June 30, 1926	.....	* 135,000.00	* 135,000.00
Act of February 28, 1919			
February 28, 1919, to June 30, 1919	787,459.10	218,871.00	1,006,330.10
July 1, 1919, to June 30, 1920	1,181,188.64	218,871.00	1,400,059.64
July 1, 1920, to June 30, 1921	1,182,114.02	158,939.00	1,341,053.02
Act of November 9, 1921			
November 9, 1921, to June 30, 1922	1,182,663.90	310,749.00	1,493,412.90
July 1, 1922, to June 30, 1923	.....	846,360.00	846,360.00
Act of June 19, 1922			
July 1, 1922, to June 30, 1923	788,442.60	.....	788,442.60
July 1, 1923, to June 30, 1924	1,026,044.09	453,395.00	1,479,439.09
July 1, 1924, to June 30, 1925	1,176,830.15	453,093.00	1,629,923.15
Totals of Funds Appropriated	$8,506,159.00	$3,970,917.00	$12,477,076.00
Expended to date	$7,376,721.14	$3,218,650.58	$10,595,371.72
Obligated to Complete Existing Projects	1,112,935.38	275,623.58	1,388,558.96
Expended on projects not on State Highways	.....	313,350.79	313,350.79
Totals of Funds Expended and Obligated	$8,489,656.52	$3,807,624.95	$12,297,281.47
Net Balances Available	$ 16,502.48	$ 163,292.05	$ 179,794.53

* Approximate amounts. Definite apportionments not yet made.

COUNTY COOPERATION IN WORK ON STATE HIGHWAYS

Under cooperative agreements in effect at the beginning of the 1923-1924 biennium, and under cooperative agreements entered into during that biennium, a total of $5,362,659.48 of county money has been obligated for expenditure in cooperation with the State on construction work on state highways. Of this amount $3,785,883.89 was disbursed during the two-year period, of which amount $2,527,778.44 was paid out by counties upon vouchers drawn by the State Highway Department, and $1,258,105.45 was paid into the State Highway fund for disbursement by the State. Subtracting the amount of the disbursements from the amount of the obligations, leaves $1,576,775.59 as outstanding county obligation in connection with state highway work as of November 30, 1924. The details of amounts obligated and amounts expended by each county, showing the particular pieces of work involved, will be found in the Part Three of this report.

In addition to the amounts mentioned above, counties have obligated themselves to the extent of $862,443.91 in connection with the forest road

work. This work is all on state highways, but is handled under the supervision of the United States Bureau of Public Roads representing the United States Forest Service. County expenditures during 1923 and 1924 on this forest road work have amounted to $725,942.05, leaving an obligated balance payable by counties of $136,501.86.

STATE AID TO COUNTIES IN THE CONSTRUCTION OF MARKET ROADS

During the five-year period in which the "Market Road Act" has been in operation, a total of $5,103,988.49 has been raised by means of the State Market Road Tax for the purpose of aiding counties in the construction of their local roads. Of this amount, $5,061,340.74 had, to November 30, been turned into the State Market Road Fund, and $4,605,644.84 had been paid out of that fund in the form of state aid.

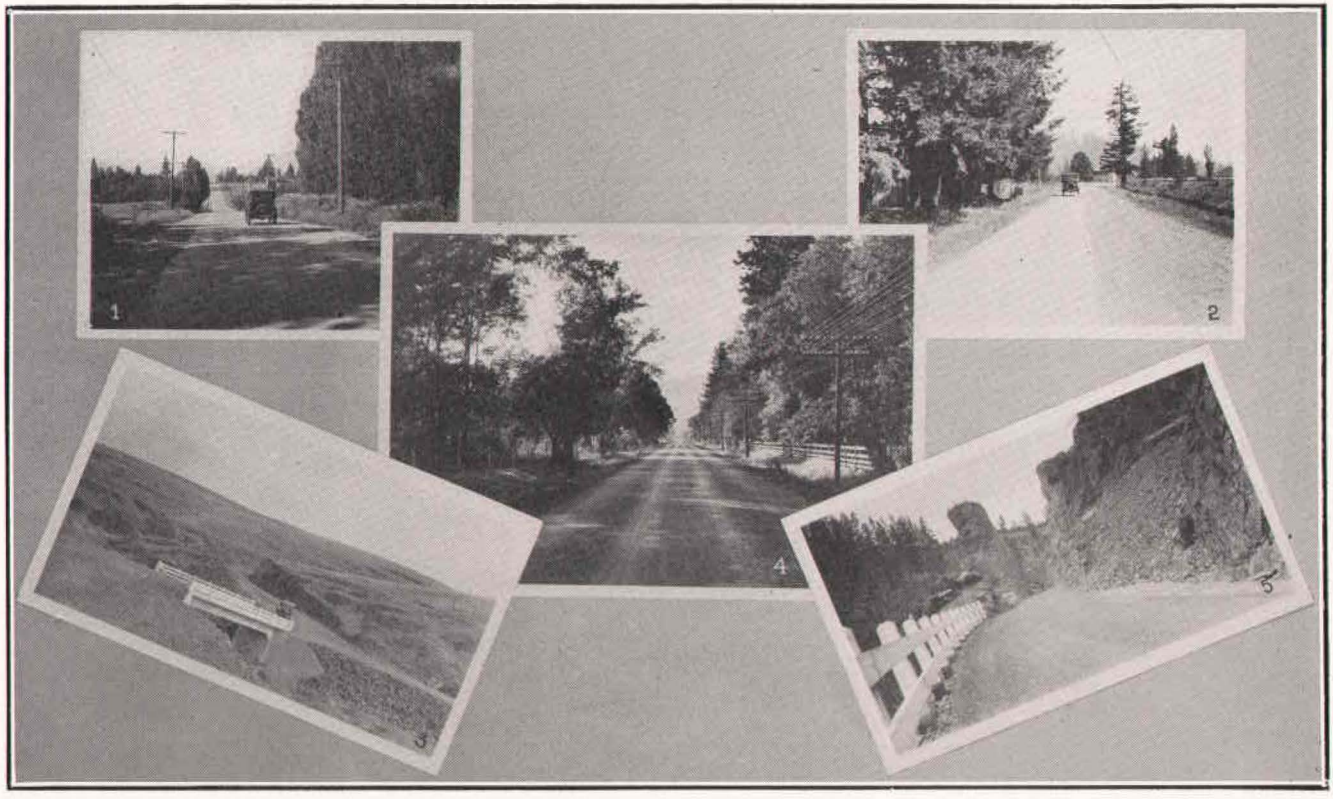
Reports from the county officials in control of market road expenditures indicate that during the five-year period a total of $10,461,875.14 has been expended on market road work, which amount is inclusive of both the state money turned over to the counties and the county money with which the state money was matched.

The work accomplished by this expenditure of $10,461,875.14 is reported by the county officials to consist of 1,398 miles of grading, 1,098 miles of rock and gravel surfacing and 201 miles of paving.

On November 30, 1924, there is a balance on hand in the State Market Road Fund of $455,695.90, and on or before January 1, 1925, the balance of the 1924 State Market Road Tax, which balance amounts to $42,647.75 will be paid into that fund, bringing the total of the fund to $498,343.65. Of this $498,343.65, $485,308.39 will at once be paid over to the counties. This will complete the 1924 apportionment, and there will be carried over for apportionment with the 1925 funds a balance of $13,035.26.

For the information of those who may not be familiar with the operation of the Market Road Act, it should be stated that the disbursement of market road money is entirely under the control of county officials. The State Highway Commission apportions the State's share of the market road money among the counties in accordance with the basis of apportionment outlined in the Market Road Act, but further than this the Highway Commission has very little authority. The Act requires that plans for market road work be submitted to the Highway Commission for approval, but it gives the Highway Commission no authority to require the counties to perform the work in accordance with the plans which they submit. On account of this lack of authority, the State Highway Commission can not and does not assume or accept any responsibility for the efficiency or inefficiency with which market road funds are expended.

On account of the inadequacy of the accounting systems in use by many of the counties, it is practically impossible to segregate expenditures for market road work from those made upon other road work, which fact, it is believed, has resulted in quite a considerable expenditure of market road money for the maintenace and improvement of roads which are not officially designated as market roads. On the other hand, it is a fact that much county road money other than market road money is used along with the market road money in the conduct of market road work. This condition results in making it practically impossible, in many counties, to secure an accurate accounting of market road expenditures.



MARKET ROAD CONSTRUCTION

1. In Hood River County 2. In Clackamas County 3. In Sherman County 4. In Hood River County 5. In Baker County

The Market Road Act is not as definite as it should be in regard to the basis to be used by the Highway Commission in the apportionment of funds and as to the basis upon which the State money is to be matched by the counties. It has been the policy of the Commission in making the apportionments, to require at least fifty-fifty cooperation by the counties, and to accept the gross amount of the county market road levy as the amount of the county cooperation, regardless of whether or not that gross amount was actually later collected and used in market road work.

In spite of those features which have been referred to above, which tend to interfere with the most satisfactory and successful operation of the Market Road Act, as it was intended by the Legislature, the market road work has gone ahead with dispatch, and, on the whole, has been efficiently handled. The Act has undoubtedly encouraged very materially the construction of more and better county roads, and it is thus serving the purpose for which it was enacted. Every county in the state has availed itself of the benefits of the act and has endeavored to secure its full share of state aid.

The amounts of state aid money which have been apportioned to each of the several counties during each of the five years since the Market Road Act went into effect, are given in a table which appears in Part Four of this report. In that part of the report there will also be found tables giving information as to market road tax levies, market road expenditures and mileages of market road construction, all of which information is classified by counties.

ROOSEVELT COAST HIGHWAY

During the biennium just closed, there has been devoted to the improvement of the Roosevelt Coast Highway, a larger proportion of the funds available for state highway construction within the State of Oregon than has been devoted to any other of the state highways. During that period three millions of dollars have been expended upon the Roosevelt Coast Highway, and an additional seven hundred thousand dollars has been obligated under contracts now in effect.

Of the three million dollars expended, the State has contributed $1,700,000, the Federal Government has contributed $700,000, and the counties have contributed $600,000. Of the seven hundred thousand dollars obligated in connection with going contracts, $240,000 will be contributed by the State, $240,000 by the Federal Government, and $220,000 by the counties. The amounts here given include expenditures and obligations in connection with forest road work as well as those in connection with work handled directly by the Highway Commission.

The construction work performed on the Roosevelt Coast Highway during the years 1923 and 1924, has consisted of 75 miles of grading, 72 miles of rock surfacing and the construction of a number of bridges, the largest of which is the new draw bridge over the Lewis and Clark River about three miles south of Astoria, built at a cost of $190,000.

The total length of the Roosevelt Coast Highway from its northern terminus at Astoria to the point where it enters the State of California, is 408 miles. Of this length 60 miles are, at the end of the year 1924, paved; 136 miles are graded and surfaced with crushed rock and gravel,

and 18 miles are graded ready for surfacing; 194 miles, somewhat less than one-half of the total length of the highway, remains to be improved before the highway may be said to be completed, although fairly good county roads are available for use over a considerable proportion of this 194 miles.

The expenditures made to date in connection with the improvement of the Roosevelt Coast Highway, have aggregated slightly more than six millions of dollars. Of this six millions of dollars, the State has contributed $4,000,000, the Federal Government has contributed $1,000,000, and the counties have contributed $1,000,000.

Reference to the state highway map which appears in Section Four of this report, will give a clear idea as to where the improvement work so far performed has been done, and as to what portions of the highways yet remain to be improved. Over those unimproved portions of the highway which are in Curry County, there is a narrow and crooked, but fairly good, county road which is travelable at nearly all seasons of the year. Over the unimproved portions between Hauser in Coos County and Taft in Lincoln County, existing roads paralleling the coast line are available only in disconnected sections and through travel is possible only when use is made of the ocean beaches over a considerable part of the distance.

From the map it will be noted that about the northern one-third of the highway, that portion which extends from Astoria to Neskowin and Taft, is now quite completely improved, and that another considerable stretch of improvement extends from a short distance north of Marshfield, south to a point not far north of Gold Beach.

PAVING

While the volume of paving work performed during 1923 and 1924 has not been as great as the volume of that class of work performed during any one of the three preceding biennial periods, the paving work done has filled in a number of gaps in Oregon's system of paved highways, and has brought to practical completion the road paving program upon which the efforts of the Highway Commission have been concentrated for several years past. There are, of course, other state highways and portions of state highways, which should be paved and which undoubtedly will be paved in the near future, but with the Pacific Highway paved over its entire length, the West Side Pacific Highway paved from Portland to Junction City, and the Columbia River Highway paved from Seaside to The Dalles, and with pavement completed upon such important sections of the state highways as those between Albany and Corvallis, Salem and Dallas, Coquille and Marshfield, Portland and Forest Grove, Forest Grove and McMinnville, and Pendleton and Walla Walla, most of the State's heavily travelled thoroughfares are provided for, and the further paving of state highways can be proceeded with at a more leisurely rate.

There are upon the paved highways above mentioned a few short gaps over which pavement has not yet been laid, but, with only one exception, these gaps are all less than one mile in length, and have been left unpaved pending the construction of overhead and undergrade crossings with railroads, or the construction of new bridges. The only gap more than one mile in length is between Junction City and Harrisburg. This section is four and one-half miles in length and has been left unpaved pending

the construction of a bridge over the Willamette River at Harrisburg. As this bridge is now under construction, the elimination next year of this unpaved four and one-half mile gap, is assured.

The pavement constructed during the 1923-1924 biennium has consisted of 5.2 miles of bituminous pavement and 31.5 miles of concrete pavement, a total of 36.7 miles. Much of this mileage is made up of short section of pavements laid to close gaps at bridge ends and to fill in short stretches that had been left unpaved for various reasons. Three jobs of considerable magnitude were performed, however, these being between Albany and Corvallis, between Rickreall and Holmes Gap, and between Monmouth and the Polk-Benton County line.

The pavement constructed on the section between Albany and Corvallis is the heaviest concrete pavement that has as yet been laid within the State. This pavement is ten inches thick at the edges, tapers to a thickness of seven inches at points two feet from the edges, and continues uniformly seven inches in thickness between those points. This thickened edge design of pavement is a development of the last two or three years, and has proven, under extensive tests made in the State of Illinois, to be the best proportioned practical design yet conceived.

The following table showing the number of miles of pavement constructed during each of the eight years since the State's paving program was undertaken, is interesting in that it shows how the rate of pavement construction has been tapering off since 1920, the year in which the greatest number of miles was constructed. This table also shows that the average age of the pavements constructed by the Highway Commission is now slightly over four years:

YEAR	Miles of Bituminous Pavement	Miles of Concrete Pavement	Total Miles of Pavement
1917 and 1918	45.2	4.8	50.0
1919	144.6	18.5	163.1
1920	167.7	16.4	184.1
1921	125.0	51.0	176.0
1922	55.2	33.4	88.6
1923	5.2	15.6	20.8
1924	.....	15.9	15.9
Totals	542.9	155.6	698.5

At the end of 1924, there are 878.7 miles of pavement on the state highway system, and there are 326.0 miles of pavement on county roads, making a total of 1,204.7 miles of paved roads within the State.

BROKEN STONE AND GRAVEL SURFACING

One of the most important problems with which the State Highway Department is confronted, is the construction and maintenance of surfacings upon those state highways which do not carry a sufficiently heavy traffic to make warranted the expenditure of twenty-five or thirty thousand dollars per mile for their surfacing with pavement. The most satisfactory type of surfacing that has yet been devised for that class of highways is the broken stone or crushed gravel surfacing, but under present day traffic conditions that type of surfacing is not all that could be desired. The methods now used by the Highway Department

in the construction of broken stone and crushed gravel surfacing, produces a most excellent riding surface and one which, under most conditions, will sustain the heaviest loads. However, during protracted dry spells such as are common in Oregon during the summer months, the very best of these surfacings will become corrugated and rough, and during continued wet weather, they soften and will not sustain the heavier of the heavy trucks. Also the broken stone type of surfacing is short lived, calling for a more or less continuous addition of new materials, and requiring complete resurfacing every five or six years.

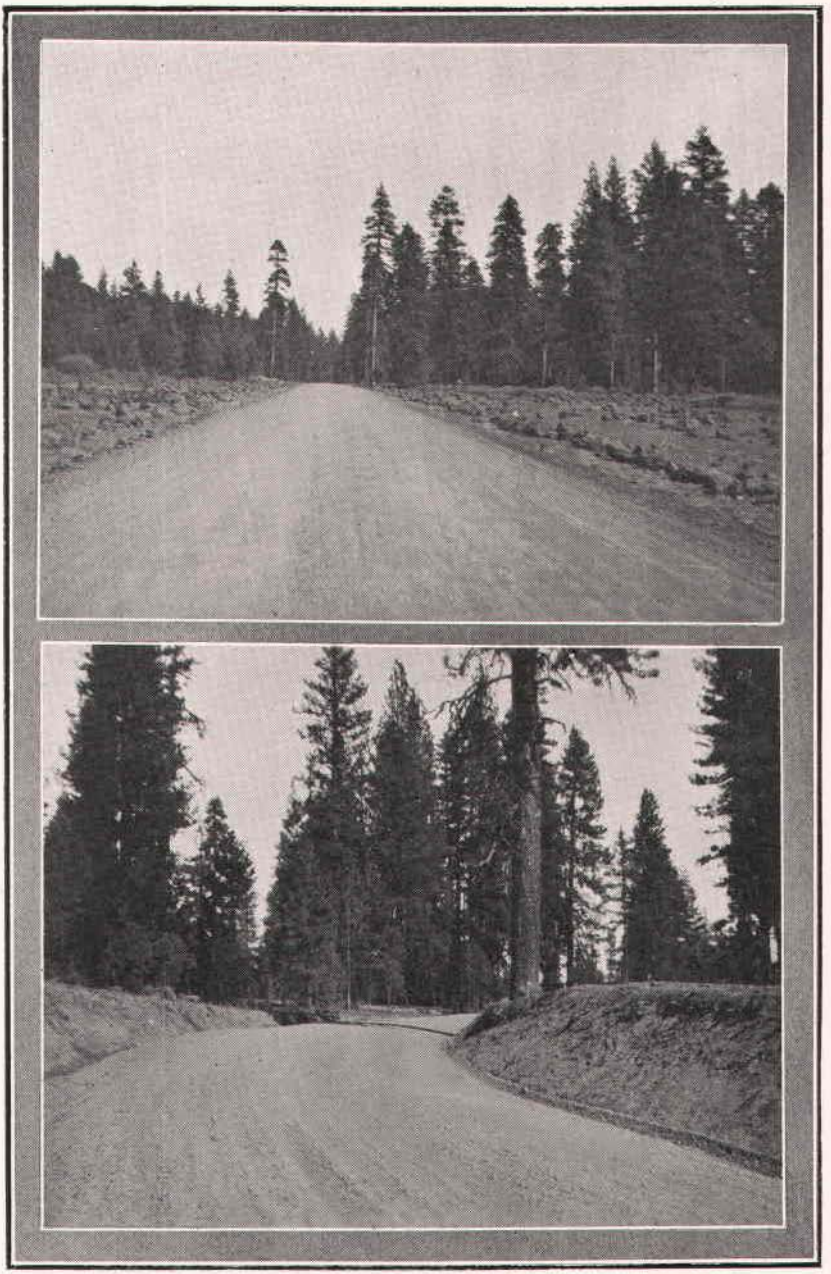
During the past two years the Highway Department has experimented considerably in methods of overcoming and relieving these objections, and it is believed that some headway has been made. The Department has found that certain kinds of clays and earth materials are much more effective and lasting than are others in binding together the rock fragments of rock and gravel surfacing, and that often times it is advisable to procure the better classes of these binder or filler materials, even at considerable extra cost, rather than to follow what has been the usual practice of utilizing inferior materials that are more easily and more cheaply obtainable. A very marked improvement has been made in the surfacings between The Dalles and Pendleton by bringing onto them, and incorporating with them, filler materials of suitable clay that had to be hauled as much as eight, ten and twelve miles.

Another means that has been tried, of prolonging the lives of rock and gravel surfacings and of making them more satisfactory in some other respects, is treatment with fuel oil. Some very satisfactory results have been obtained with this form of treatment in several different points in the State, and it is quite likely that the oiling of rock and gravel surfacings will be gone into more extensively in the future. However, there are a number of disadvantages involved in the use of oil which leave some doubt as to the advisability of its general application, and this form of treatment must, therefore, be considered to be still in the experimental stage.

The best results in broken stone and crushed gravel surfacing construction have been obtained by the use of very fine materials in the upper three or four inches of the surfacing. It is found that surfacing with this topping of fine material can be kept smooth much more easily than surfacing in which coarse materials are used in the top course. For this reason it is the regular practice of the Department to require that the top course of all broken stone and crushed gravel surfacing be of materials which will pass a screen having three-quarter inch circular openings.

During the biennium just closed there has been expended for rock and gravel surfacing approximately $3,600,000, which expenditure has resulted in 580.5 miles of new construction of this class being added to the improved mileage of state highways. For detail as to where this improvement work has been done, refer to that table in Part Four of this report which is headed "Summary of New Construction Work Performed."

The surfacing work done during 1923 and 1924 brings the mileage of rock and gravel surfacing on the state highway system to a total of 1,948.7 miles.



ON THE STATE HIGHWAY BETWEEN ASHLAND AND KLAMATH FALLS

GRADING

Grading operations upon the state highway system have gone ahead steadily during the 1923-1924 biennium, with the result that 415 miles of new roadbed has been constructed. This work has consisted of a large number of separate projects, and has been quite uniformily distributed over the State; however, The Dalles-California Highway and the Roosevelt Coast Highway have probably benefitted more from this class of work than have any others of the state highways. The grading on The Dalles-California Highway has aggregated 112 miles, and has brought that highway to the point where only 58 miles remain to be graded. On the Roosevelt Coast Highway, approximately 75 miles of roadbed has been graded, practically all of which has been in country through which road construction is exceedingly difficult and costly.

The expenditures made for grading work during the biennium have aggregated approximately $4,580,000. The 415 miles of new roadbed constructed with this expenditure brings the total of completed roadbed upon the state highway system to 3,145.5 miles, and leaves only 1,318.1 miles ungraded. Of the 3,145.5 miles of completed roadbed, all but 318.1 miles has been surfaced and is open to all year travel.

The width of roadbed used on state highway work varied from 16 feet on the lighter traveled roads in mountainous country to 40 and 50 feet on heavy traveled roads in level country. On the more important state highways through mountainous country the standard width is 22 feet between ditches in cut and 26 feet in embankment. The maximum gradient on the main highways is 5 per cent and the minimum curve radius is 200 feet. The same standards of grade and curvature apply on highways of lesser importance except that in extreme cases 6 per cent grades and 100-foot radius curves are used.

To insure the safety of motorists, substantial wood guard fences are constructed on the outsides of sharp curves and along the shoulders of high embankments. Also, at the time the roadbed is graded, all curves are banked or superelevated in anticipation of the superelevation of the surfacing when that is added.

BRIDGES

During the period covered by this report, designs have been prepared for bridge work aggregating in cost $1,843,696.90. Of the above total $1,776,636.70 is represented by designs for bridge structures of span length greater than 20 feet, while $67,060.20 is represented by designs for smaller bridges. During this period plans have been prepared for 109 bridge structures, of which number, 83 were for structures of span length greater than 20 feet. The average cost for each bridge constructed is in the neighborhood of $11,700.00.

It is interesting to observe that while the amount of bridge construction and design work handled by the Department during the current biennium is practically the same as the amount handled during the preceding biennium, the average cost of each individual bridge is 46 per cent greater than a like average for the preceding biennium, thus indicating

that the general work of bridge construction over the state highway system is well advanced, the remaining work consisting principally in the construction of the large bridge structures.

Among the more important bridges built during the current period may be mentioned the Robert A. Booth Bridge, spanning the North Umpqua River at Winchester, the Umatilla River crossing at Umatilla, the Interstate Bridge over the Snake River at Ontario, the Lewis & Clark River crossing at Astoria and two crossings of the Willamette River, one at Harrisburg and one at Albany.

The North Umpqua River crossing at Winchester is a reinforced concrete multiple span, open spandrel arch structure. This structure is of particular interest to the people of Oregon, in that it has been officially designated as the Robert A. Booth Bridge, and dedicated to Mr. Booth by the people of Oregon in honor and appreciation of his service to the State as a former member of the State Highway Commission.

The crossing of the Umatilla River is also a multiple span, reinforced concrete arch structure. An interesting feature in connection with this structure is the phenomenal construction progress made, the bridge being under construction for a period of only sixty days to date, during which time the foundations have been placed and the arch ribs practically completed.

The Interstate Bridge over the Snake River at Ontario consists of four 200-foot steel truss spans, flanked by 140 feet of reinforced concrete approach. This is one of the few larger structures to have been started and entirely completed during the present biennium. In connection with the construction of the new bridge, a rather marked and satisfactory grade revision has been accomplished, resulting in a much more efficient connection with the Idaho highway system.

The Lewis & Clark crossing consists of a single leaf, simple trunnion bascule span with 710 feet of approach structure. The movable span is of particular interest, owing to the rather complete system of electrification employed in connection with the operating mechanism, and to the construction of a separately operated traffic barrier at the outer end of the movable span. This barrier leaf consists essentially of a pivoted floor section, operated by means of hydraulic pumps which, in turn, are controlled by electrically operated solenoid valves, the entire mechanism being electrically interlocked with the mechanism of the main leaf. This arrangement constitutes a rather unique departure in movable bridge construction.

Two of the most important river crossings from the standpoint of cost and traffic density, are the Willamette River bridges at Albany and at Harrisburg. Construction work is well under way at both of these sites, but it is not expected that either will be completed much before the end of the year 1925. The structure at Harrisburg consists of three 180-foot steel truss spans, carrying a roadway of 24 feet and one 5-foot sidewalk, in connection with 1,672 feet of timber trestle approach. The structure at Albany consists of four 200-foot steel spans with 412 feet of concrete approach. In connection with the Albany crossing, there is a separation of grades between the highway and the railway tracks of the Oregon Electric Railway and the Southern Pacific Railway. Both Willamette River crossings are below the limits fixed by the Rivers & Harbors Engineers, as the head of navigation, for which reason provision has been

made in both cases for the future installation of a movable span. The designs under which construction is now being prosecuted, are so arranged as to permit one of the main channel spans to be converted into a vertical lift simply by the addition of suitable towers, counterweights and operating mechanism and without the necessity for any modification of the truss details themselves.

A feature of increasing importance in connection with the bridge work is that of maintenance and betterment. At the present time, the bridge maintenance for the entire system is handled through two field maintenance superintendents, one of whom has charge of the territory east of the Cascade Range, while the other handles Western Oregon. Under the supervision of the maintenance superintendents are the bridge maintenance crews, of which there are six operating at the present time. The work of these crews may be broadly divided into two major classifications—Maintenance proper and Betterment work. Falling under the first classification are those activities which are necessary to preserve the structure in its original condition, while under the second classification may be grouped such work as will result in the improvement of the structure either from the standpoint of strength or traffic service. Under this latter classification are such items as the widening of roadways, the addition of sidewalks, the revision and improvement of grades, the replacement of timber floors with floors of concrete, the remodeling of existing construction for greater traffic capacity, and other items of like nature. During the current biennium, expenditures for maintenance and betterment have amounted to $224,582.97.

During the current biennium an increasing number of requests for bridge engineering service have been received from the various counties of the State, requests for plans aggregate $217,398.00 in total estimated cost having been received during the period covered by this report.

The following tabulation is a summary of the activities of the Department, as regards the design and construction of bridges:

Number of designs prepared for bridges 20 feet or more in length	83
Estimated cost of the above	$1,776,636.70
Number of designs prepared for bridges less than 20 feet in length	26
Estimated cost of the above	$ 67,060.20
Number of designs prepared for structures other than bridges	5
Estimated cost of the above	$ 9,335.00
Number of designs prepared for bridges not on state highways	27
Estimated cost of the above structures	$ 217,398.00
Total estimated cost of all structures for which designs were prepared	$1,843,031.90
Number of structures on which construction work was done during the biennium	194
Total cost of construction completed during the biennium	$1,747,864.00
Cost of maintenance and betterment work completed during the biennium	$ 224,582.97
Total cost of construction, maintenance and betterment work completed during the biennium	$1,972,446.97
Number of designs on hand on which construction has not started	31
Estimated cost of the above structures	$ 389,195.00
Number of designs prepared during the biennium on which construction has not started	13
Estimated cost of the above structures	$ 155,308.00

ADDITIONS AND BETTERMENTS

Under the head of additions and betterments are classed all improvements that are made upon those portions of highways which have previously been constructed to what, at the time, were state highway standards of construction; improvements which cannot well be classed as original new construction. Included in this class of improvement are the widening and straightening of roadbeds, the widening and thickening of pavements the replacement of wooden structures with structures of concrete and steel, the erection of guard fences, the planting of trees along the highway, et cetera.

Because of differences in magnitude and differences in methods of handling the various addition and betterment projects, this class of work is subdivided under the heads, "Major Additions and Betterments," and "Minor Additions and Betterments." In the "Major" class come those projects which are sufficiently large to be handled on a contract basis or to require the organization of a special crew; projects, in other words, which are comparable with new construction projects and require similar organization. In the "Minor" class comes that addition and betterment work which is performed by small crews such as are used in maintenance work. Ordinarily the widening and thickening of pavement is a major addition and betterment; and ordinarily the erection of wood guard fence and the planting of trees are minor additions and betterments. The widening and straightening of roadbeds is a major or a minor betterment, depending upon the amount of work involved.

For major additions and betterments, there was expended during the 1923-1924 biennium a total of $750,549.55, which amount consisted of the following amounts for the various classes of addition and betterment work:

Paving Bridges and Bridge Approaches	$ 11,456.09
Widening and Thickening Pavement	500,210.83
Widening and Straightening Roadbeds	182,594.45
Betterment of Bridges	17,082.30
Control of Streams	18,802.79
Miscellaneous	20,403.09
Total	$ 750,549.55

For minor additions and betterments, there was expended during the biennium a total of $390,487.73, which amount comprised the following items:

Betterment of Pavements	$ 58,624.27
Betterment of Rock and Gravel Surfacing	40,077.59
Betterment of Roadbeds	79,450.52
Addition of Wood Guard Fences	62,435.02
Betterments of Culverts and Drains	30,109.24
Betterment of Bridges	87,232.08
Miscellaneous	32,559.01
Total	$ 390,487.73

The work accomplished under the head of major additions and betterments included the widening and resurfacing of 15.6 miles of pavement and the widening and straightening of 33.5 miles of roadbed. For further details pertaining to addition and betterment work, refer to the expenditure statements for "Major Additions and Betterments" and for "Minor Additions and Betterments," as given in Part Three hereof.

MAINTENANCE

As a matter of convenience in accounting, and owing to differences in the methods of handling different classes of maintenance work, the Department classifies its maintenance operations under two heads, viz: special maintenance and general maintenance.

The special maintenance includes maintenance work which is so extensive as to amount to replacement, renewal, or reconstruction; work which is of sufficient magnitude to be handled by contract or by special state force organization, and work which is otherwise comparable to new construction in methods of performance. The resurfacing of wornout broken stone and gravel surfacing, the reconstruction of broken stone and gravel surfacing by the incorporation of binder or filler materials, and the reconstruction or replacement of bridges are operations which come in the special maintenance class.

General maintenance includes such repair and upkeep work as is performed by patrolmen and by small maintenance crews. It includes the removal of slides, the cleaning of drains, the mowing of weeds, the blading and dragging of rock and gravel surfacing, the sanding of bituminous pavements, the filling of cracks in concrete pavement, the repair and painting of structures and the performance of all such other detailed operations as are necessary to keep the highways and their appurtenances in good condition, and as are necessary to retard and prevent depreciation.

The expenditures made during the biennium for special maintenance work have aggregated $898,830.59, and have comprised expenditures for different classes of work as follows:

	1923	1924
Special Repair of Bituminous Pavement	$ 65,588.67	Cr. $ 276.70
Resurfacing of Rock and Gravel Roads	167,633.36	513,004.19
Incorporation of Filler in Rock and Gravel Surfacing	39,867.76	51,736.14
Production of Maintenance Materials	.....	51,383.19
Special Bridge Repair	.....	9,893.98
Totals	$ 273,089.79	$ 625,740.80

The cost of the general maintenance work performed during the biennium has amounted to $1,795,133.36, and is chargeable to various classes of work as follows:

	1923	1924
Concrete Pavement	$ 6,402.87	$ 4,698.23
Bituminous Pavement	37,335.92	95,797.28
Rock Shoulders to Pavement	42,782.91	42,862.97
Rock and Gravel Surfacing	268,351.87	493,008.23
Roadbed, Right-of-Way, Drainage, Etc.	267,545.84	266,329.81
Bridges	99,856.32	37,503.78
Snow Removal	11,487.55	29,454.38
General Superintendence	28,337.50	40,753.20
Miscellaneous	10,792.30	11,826.40
Totals	$ 772,893.08	$1,022,240.28

Included in the work accomplished under the head of special maintenance is the resurfacing of 166 miles of broken stone and gravel surfaced roads.

The mileages of various types of roads maintained during each of the two years in the biennium were as follows:

	1923	1924
Concrete Pavements	145	160
Bituminous Pavements	540	545
Rock Shoulders to Pavement	685	705
Rock and Gravel Surfacing	1,200	1,550
Roadbed and Right-of-Way	2,250	2,550

For further detail as to the expenditures made in connection with maintenance work, see the expenditure statements for "Special Maintenance" and "General Maintenance," as they are given in Part Three.

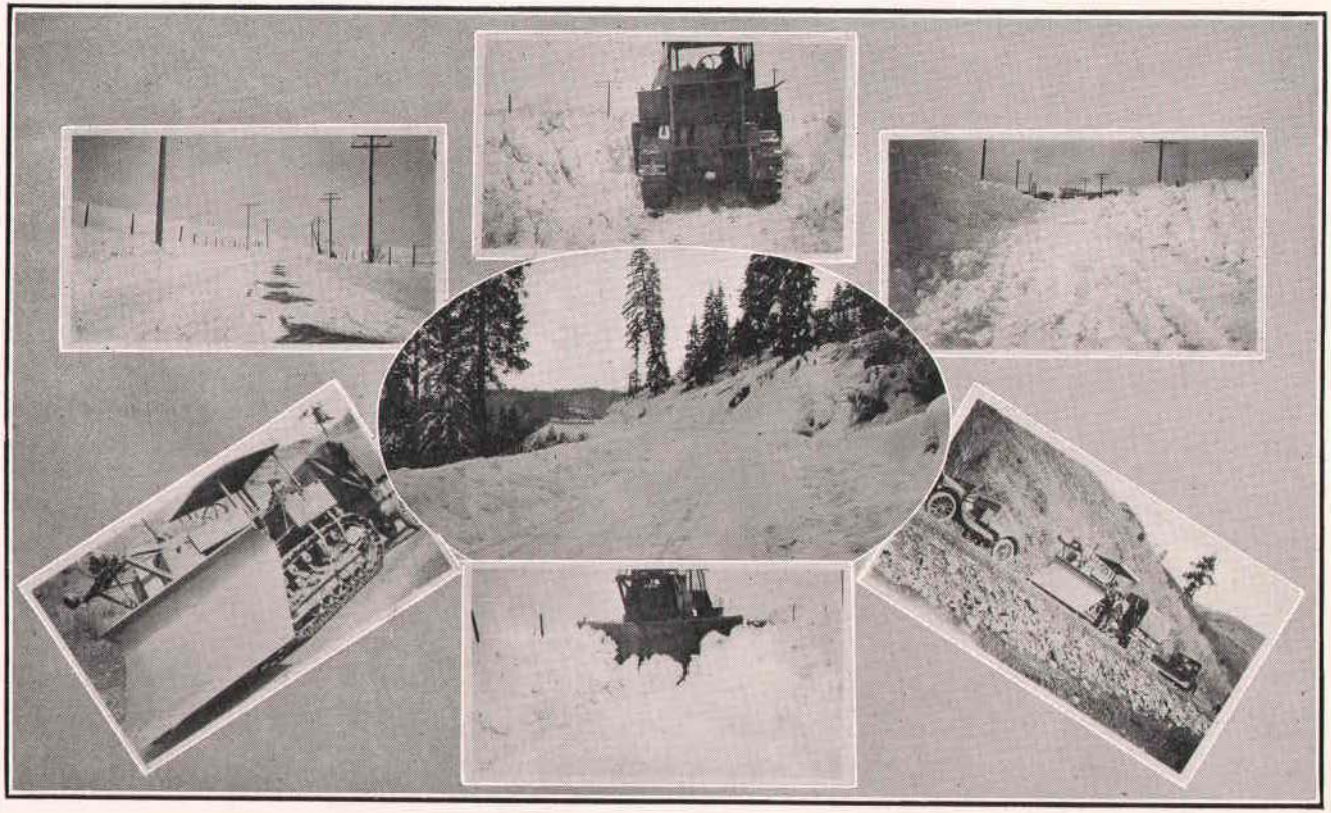
SNOW REMOVAL

It is only within very recent years that any consideration has been given to the removal of snow from highways, it seemingly having been taken for granted that when the snow upon the roads became too deep for travel, traffic must cease until such time as the condition was relieved by warm weather. The more careful attention which has of late been given to highway matters and to transportation costs and transportation values, has, however, brought out the fact that the keeping of the more important highways clear of snow is warranted even though the expense involved may run to many thousands of dollars. The investment in highways is too great, and highway transportation too essential to public welfare, for either to be tied up when it is physically possible to prevent it.

In Western Oregon, the only extensive snow removal operation is over about eleven miles of the Pacific Highway where that Highway is in the higher elevations of the Siskiyou Mountains. Over this section of highway, snow falls at frequent intervals from early in November until late in February, and if not removed, it would attain a depth of six feet or more. This section is kept clear of snow by a crew of two men operating ten-ton tractor equipped with a twelve-foot moldboard snow plow. The expense involved amounts to from three to four thousand dollars per season. If this one section were allowed to become blocked, it would affect traffic for several hundred miles in either direction, prohibiting automobile traffic between all points in the states of Oregon and Washington and points in the state of California.

In Eastern Oregon, the major snow removal operation is on the Old Oregon Trail where it traverses the higher elevations of the Blue Mountains over which snow falls to a depth of from three to ten feet. The equipment used in keeping that section clear consists of ten-ton tractors equipped with heavy V-shaped plows, and five-ton tractors equipped with moldboard plows. The heaviest of the work is between Deadman's Pass and Kamela a distance of fourteen miles. The cost of keeping this fourteen miles clear runs about $6,000.00 per season.

In Klamath County, the improved sections of state highways are being kept clear each winter and this is proving to be of particular benefit and value to the traffic between Klamath Falls and points on the Pacific Highway. The Sarvice Creek Summit on the John Day Highway in Wheeler County has been kept free of snow for three seasons, and the



SNOW REMOVAL SCENES ON STATE HIGHWAY IN EASTERN OREGON AND IN THE SISKIYOU MOUNTAINS

Ochoco Highway through the Ochoco National Forest has been kept open between Prineville and Mitchell for two seasons. With the completion of The Dalles-California Highway, the removing of snow from that highway will become an important consideration, especially in the higher altitudes in Deschutes and Klamath Counties where for many miles it is subject to very heavy snowfall.

Although the Columbia River Highway is subject to only occasional snow storms of sufficient severity to block travel, yet, because of its importance as a state thoroughfare between Eastern and Western Oregon, considerable equipment must be stationed along it between The Dalles and Cascade Locks to handle the snow in case the emergency arises. No attempt has yet been made to clear the snow in the higher of the mountain passes, such as occur on the Mt. Hood, the McKenzie and the Crater Lake Highways.

The removal of snow where the fall is considerable, as is the case in the mountain passes, involves many difficulties and must be given very careful attention. The snow must be moved while it is fresh and during the early part of the season must be moved far beyond the edge of the road. If it is allowed to thaw a little and then freeze, removal becomes practically impossible, and if the snow is not pushed far back at the beginning of the season, it is impossible to dispose of the snows which come later. In the spring when the snow begins to thaw, the handling of the runoff becomes an important consideration. The drainage ditches and culverts must be opened and kept open, and provision must be made to get the water off the road surface as quickly as possible. The snow banked along the edges of the roadbed tends to divert the water down the roadway, and unless the water is carried to the side and away, a great amount of damage will result to the road surfacing.

On those sections of highway which are subjected to only occasional light snow falls, the removal of the snow is accomplished with trucks equipped with moldboard plows, and with truck-drawn blade graders. Where the drifting of the snow becomes a serious consideration, snow fences are erected to assist in keeping the roads clear.

The total cost of snow removal operations during the winter of 1923-24 was $29,454.38. This cost is probably somewhat below what the average will be, due to the fact that the snow fall was comparatively light that winter. The cost of snow removal reduced to a unit basis seems to run about $3.50 per inch mile. There is, of course, a considerable variation in this unit cost due to the wide variety of conditions encountered.

An important element in snow removal cost and one which is constant whether there is little or much snow, is the rental and depreciation value on equipment which must be purchased or withdrawn from other service, and held at strategic points for use, if needed.

OPERATION OF STATE EQUIPMENT

By State Forces on Construction and Maintenance

Previous to 1923, the only work done with state equipment outside of patrol maintenance was the handling of materials on a few rock surfacing contracts, the state equipment part of the work being to take the material from the contractor's bunkers and deliver it to him at the point of deposit on the road, the contractor assuming all responsibility except for the transportation of these materials. Cost records on these jobs were so kept that they are comparable with a contractor's costs, and include a charge for rental of equipment which covers depreciation, general overhauling and the renewal of solid tires. Minor repairs made in the field and an overhead charge to cover general supervision are also included in these costs. With these cost records and an organization available, the Department was prepared to estimate and to perform such portions of new surfacing jobs as might be desirable; consequently, in the early part of 1923, it was decided that on any new contracts where it seemed desirable to use state equipment, alternate proposals for the surfacing should be requested; one alternate providing that the contractor furnish all materials and perform all hauling, placing and other work, and another providing that the contractor furnish the crushed rock or gravel f. o. b. state trucks at the bunkers, and the State do the hauling, placing and all other work, including the preparation of subgrade, the furnishing and hauling of filler materials, the mixing and incorporating of the filler with the crushed rock or gravel, and the shaping and finishing of the road. If the contractor's bid under the first alternate was lower than his bid under the second alternate plus the Department's estimate for the balance of the work, the contract was let under the first alternate, if not, it was let under the second alternate.

It naturally followed that the organization should be further expanded to handle reconstruction and betterment jobs for which it was impossible or very difficult to write and enforce specifications, it being more economical to handle such jobs in this manner than by force account or on a cost plus basis.

In 1923 plans were completed for a light portable bituminous pavement patching plant, and one such plant was purchased. This plant is known as plant No. 3 and was turned over to the State by the builders on July 24, 1923. A second plant, known as plant No. 4, was purchased the next year, being delivered to the State on August 18, 1924. A detailed description of these plants is given in the main report of the Equipment Department. Since being received by the State, these plants have been operated by the Construction Division of the Equipment Department.

On all work done by state forces, a charge of four per cent of the cost of the job is made to cover office and other overhead expense of the Equipment Department. An established rental rate sufficient to cover depreciation and natural wear and tear, including tires, and an annual overhaul is charged against each piece of equipment used. Also, repairs are charged against the job.

Detailed descriptions of the work performed appear in this report under appropriate headings in the respective counties in which the work was performed, and they are here summarized only for the sake of showing the magnitude of the operations divided into four classes.

Class A. Resurfacing jobs on which a contract was made for the furnishing of the materials and the handling of same on the road, together with such incidental work as was directly relative thereto, the State taking over the hauling only.

Class B. Resurfacing jobs on which the furnishing of the materials f. o. b. trucks was contracted for, and the hauling, placing and incidental operations pertaining thereto was done by state forces operating state equipment.

Class C. Such jobs as were, by their nature, experimental or indefinite, and for which definite specifications could not be written and enforced, and such jobs as were too small to be of interest to contractors, on which jobs the entire operation was performed by state forces operating state equipment.

Class D. Pavement maintenance jobs of patching and resurfacing, the construction of new pavement over small isolated gaps, and the paving of certain bridge decks.

Under the classification "A," the hauling of surfacing materials was done on twelve jobs scattered over Benton, Coos, Douglas, Jefferson, Lincoln and Tillamook Counties. On these jobs there were hauled during the 1923-1924 biennium, 167,102 cubic yards of crushed material, the haul aggregating 931,133 yard miles and costing $187,374.66. The average hauling cost was, therefore, $1.1213 per cubic yard, or $.2012 per yard mile. With one exception, all of the jobs in this class were hold-overs from the preceding biennium.

Under the classification "B," the hauling of surfacing materials and the street work was done on ten jobs scattered over Clackamas, Morrow, Sherman, Umatilla, and Tillamook Counties. The operations under this classification cost $226,973.66, and the unit costs are shown in the following tabulation:

Hauling crushed rock:	Total number of cubic yards hauled	98,835	
	Total number of yard miles hauled	449,268½	
	Hauling cost per cubic yard in place	$.8659	
	Hauling cost per yard mile	$.1905	
	Total cost of hauling crushed rock		$85,584.70
Furnishing and Hauling filler:	Total number of cubic yards hauled	25,709½	
	Total number of yard miles hauled	112,346	
	Hauling cost per cubic yard in place	$1.0226	
	Hauling cost per yard mile	$.2340	
	Cost per cubic yard stripping and loading	$.9175	
	Average cost per cubic yard of filler on road	$1.9401	
	Total cost of filler		$49,879.88
Street Work:	Cost of spreading and mixing crushed rock and filler per cubic yard of crushed rock	$.4100	
	Total cost of street work		$40,524.95
	Total cost of sprinkling, cleaning ditches, widening cuts, and maintaining under traffic, not included in unit costs		$50,984.14

Under the classification "C," work was done on nine jobs scattered over Clackamas, Crook, Deschutes, Umatilla and Wasco Counties, and consisted of the hauling and incorporation of filler in the existing surfacing. Incidental to such work there is always the cleaning of ditches, the addition of a little surfacing material at weak points, and other items that are necessary to put the road in first class condition. The total cost of all work under this classification was $91,788.04. The unit costs are shown in the following tabulation:

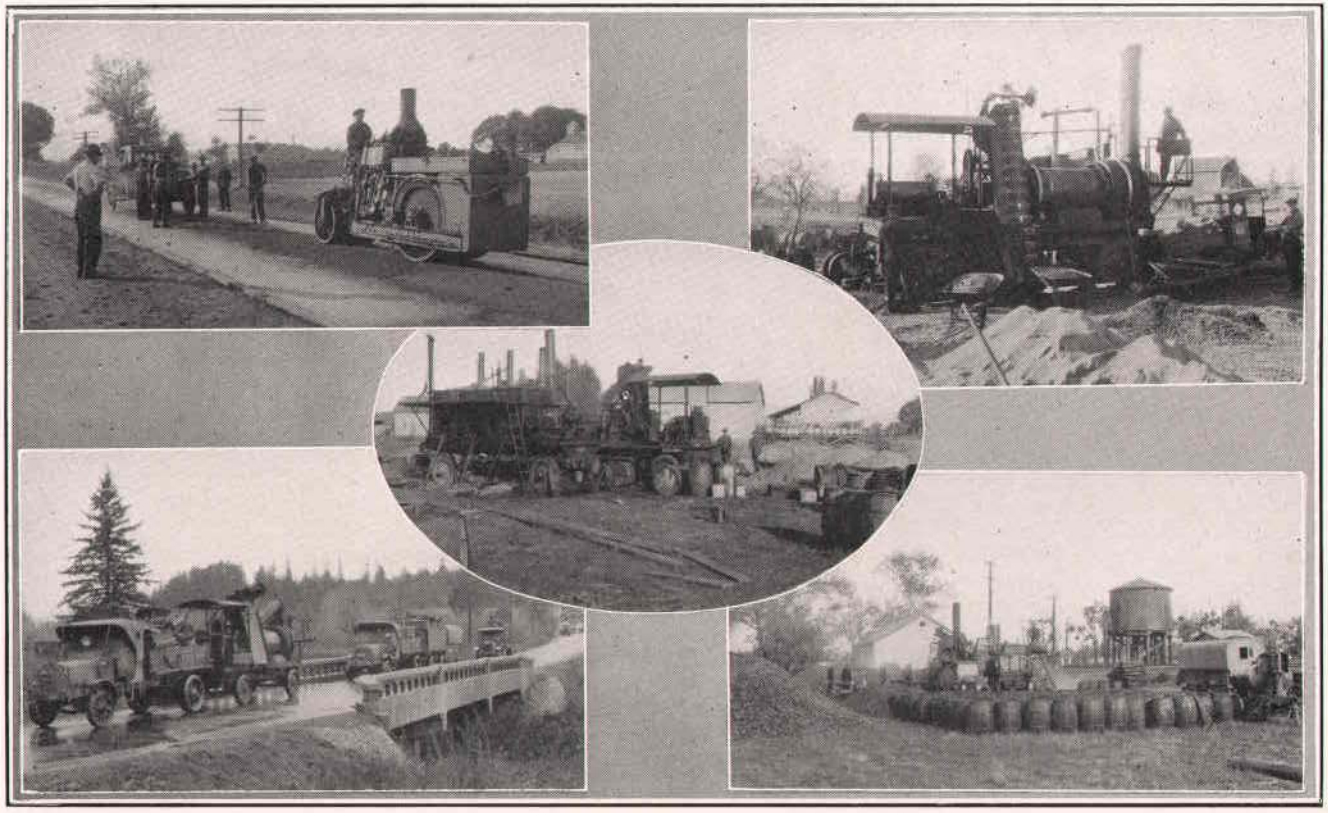
Total number of cubic yards of filler hauled	25,029½	
Total number of yard miles hauled	162,706	
Hauling cost per cubic yard of filler in place	$1.4872	
Hauling cost per yard mile	$.2288	
Cost per cubic yard of filler for spreading, mixing and finishing	$.5498	
Cost per cubic yard of filler for stripping and loading	$.4400	
Cost per cubic yard of filler for sprinkling	$.5909	
Total cost per cubic yard of filler in place on road	$3.0679	
Total cost of filler on all jobs in this classification		$76,788.04
Total cost additional gravel		$ 1,895.82
Miscellaneous items, cleaning ditches, maintaining under traffic, etc.		$13,104.18

Under classification "D," is included the repair of bituminous pavement, such as renewal of broken places, building up depressions, smoothing out corrugations, widening on the insides of curves, etc. Concrete pavements are also repaired by tapering off uneven joints caused by settlement, filling cracks, repairing corner breaks, etc. Several bridges have been paved and a few approaches where gaps have been left for settlement have been paved the entire width. There were two plants used in this work, No. 3 and No. 4.

Plant No. 3 was in operation in 1923 from August 6th to November 7th, and during that time, repaired the pavement on the Columbia River Highway between the Multnomah County Line and Hood River, and paved the south bridge approach at Aurora. In this work was used 4,327.75 batches (2,163.875 tons) of asphaltic concrete, which cost an average of $7.6305 per batch in place. Included in these figures is the bridge approach at Aurora which was 5" pavement and which cost $4.1229 per square yard in place including the fine grading. The total cost of the operation of this plant for the year was $34,018.00.

Plant No. 3 was in operation in 1924 from April 7 to November 30, and during that time covered the Pacific Highway from Myrtle Creek to Oswego and the West Side Pacific Highway from Junction City to Monmouth. On this work was used 9,593.5 batches (4,796.75 tons) of asphaltic concrete which cost an average of $6.5827 per batch in place. Included in these figures are 1,467.63 square yards of 2½" pavement on bridge decks that cost $2.09 per square yard in place and 6,249.28 square yards of 5" pavement on bridge approaches that cost $2.88 per square yard in place. The total cost of the operation of this plant for the year was $63,151.13.

Plant No. 4 was in operation in 1924 from August 17 to October 31, and during that time covered the lower Columbia River Highway from the Multnomah County Line to Rainier and the Tualatin Highway from Hillsboro to Yamhill. On this work was used 3,186 batches (1,593 tons) of asphaltic concrete which cost an average of $6.83 per batch in place. Included in these figures are 766.8 square yards of 5" pavement on 6" crushed rock base that cost, including the crushed rock for base and the grading, $3.65 per square yard. The total cost of the operation of this plant for the year was $21,768.46.



PORTABLE PLANT FOR THE MAINTENANCE OF BITUMINOUS PAVEMENTS AND CONSTRUCTION OF SHORT SECTIONS OF NEW PAVEMENT

To summarize, there was mixed and placed 17,107.25 batches (8,553.625 tons) of asphaltic concrete at a total cost of $118,947.59 and an average cost of $6.9530 per batch, including grading, setting of headers, etc. The total cost of all work handled by the Construction Division of the Equipment Department under the supervision of Lewis P. Campbell, Assistant Engineer, assisted by Watson Townsend, Engineer-Accountant, amounts to $625,083.95, and in the aggregate is less than the sum total of the preliminary estimates for the work performed.

REGULATION AND CONTROL OF TRAFFIC ON STATE HIGHWAYS

Prior to 1920, the enforcement of the motor vehicle laws was in the hands of the peace officers of the various municipalities and counties. As the number of motor vehicles increased, however, accidents and thefts increased in a greater ratio, and it became evident that it was necessary to check up, and to control by more stringent laws, the operation of a type of vehicle which was unquestionably a necessity, yet at the same time, a menace to life and property. It was admitted that the laws were inadequate, and one of the principal results of the special session of 1920 was the provision of a code for more strict regulation of the operation of motor vehicles, which gave the courts wider latitude in dealing with offenders, provided a means of identification of the motor vehicle operator, and provided the state with administrative officers whose duties would be confined to the enforcement of this one particular law, thus creating a state traffic force to cooperate with the constituted police powers in the several localities. Penalties were provided in the law in the form of fines or jail sentences, and each individual operator was required to be licensed, and the license record filed by the Secretary of State. As an added precautionary measure, the courts and the Secretary of State were empowered to suspend or revoke the license of the operator for cause. Under the provisions of the 1920 law, effective July 1, 1920, the Secretary of State was authorized to appoint three traffic officers, who entered upon their duties and became the nucleus of the present state traffic force. In June, 1921, under authority of the 1921 Legislature, regular session, this force was increased to seven, one of whom was to act as Chief Inspector.

At the special session held in December, 1921, further legislation was enacted for the protection of both the traveling public and the State's extensive highway system. Supervisory and regulatory powers were given to the Public Service Commission in the matter of stage lines and truck freight lines, and a schedule of fees in addition to the regular motor vehicle license fees was adopted. The same legislature also gave the State Highway Commission the authority to limit weights and speeds on any highway, and to close certain highways whenever, in the judgment of the Commission, it is necessary to do so for the protection of the highways. This has been done in a few instances during the winter season, particularly in the case of highways only partially completed. The 1921 law also provided that no logs or piling should be hauled over the state highways without a special permit from the Highway Commission. This was to prevent commercial logging over state highways where there were other means of transportation available, and also to give the Highway Commission closer control over this class of traffic, which had

previously done considerable damage. Fifty-two log hauling permits were issued by the Highway Commission during 1922, 104 in 1923, and 136 in 1924.

Authority was also given to the Commission to employ such traffic officers to enforce the motor vehicle laws as seemed necessary, and under this authority six men were commissioned and placed in the field soon after March 1, 1922. In order to avoid duplication and confusion, the traffic enforcement work of the Commission was placed in charge of the Chief Inspector of the Motor Vehicle Division of the Secretary of State's office, who had previously handled the law enforcement work, and who continued as head of the department, acting for both the Highway Commission and the Secretary of State, and reporting to each. All appointments of personnel were made by the Chief Inspector subject to approval of the Commission or Secretary of State for respective employes. This made a combined force of thirteen men and the state was divided into eleven patrol districts, the districts being determined on the basis of mileage of improved highways and motor vehicle registration. An officer was appointed to each district with one man operating at large and the Chief of the force to supervise the work.

The officers have been impressed with the fact that the policy of the State was: first, the safety of the public; second, the protection of the highways; and. third, to see to it that the license fees prescribed in the laws were paid. They were further instructed that the purpose for which the force was created was to secure an observance of the law and not merely make a large number of arrests. Constant attention to duty with courtesy to all but partiality to none, has been adopted as a working motto. The traffic officers have been properly equipped with motorcycles and automobiles and weighing devices for detecting overloaded trucks. A part of the traffic officer's equipment is a small supply of road maps, copies of the law, etc., for the information of tourists and others. He also carries a small first aid kit for use in case of accident.

The Biennial Report of the Chief Inspector, covering the period October 1, 1922, to September 30, 1924, gives the following information:

The miles patrolled by the officers from October 1, 1922, to October 1, 1924, total 596,760, which is in excess of an average of 1,000 miles per month per man, and the sum total of their activities aside from the mileage covered and aside from the cities and towns visited and days in the field was 73,341, a showing of 5,236 activities per man. These activities include matter pertaining to the enforcement of every section of law applicable to the operation of motor vehicles. Aside from the work of the men prescribed by law, they have made 19 arrests for transportation of liquor, 4 for possession of liquor, and 7 for being intoxicated upon a public highway, and some for larceny in a dwelling.

A total of 3,986 arrests by the officers are of record, making an average of 285 arrests per man. Warning slips for minor violations to the number of 25,271 were issued. This would mean that each officer issued 1,805 warning slips, or an average of 75 per month, in addition to the numerous verbal warnings of which no record is kept.

On matters affecting the licensing of the vehicle and/or the operator, 12,515 activities are credited. Attention has been given to 6,835 light violations, while inspection and weighing motor trucks total 5,804. Rules and regulations of the State Public Service Commission have been given attention, with 1,632 such cases handled. 1,094 reckless and careless

drivers have been arrested or warned, and 1,599 operators have been arrested or warned for parking or stopping cars on the pavement. Speeding cases observed and taken care of total 5,205.

The officers of the department have personally observed and investigated 715 wrecked vehicles. Assistance has been given motorists to the number of 417, and 5,492 car owners from other states have been advised where they could register and secure visitors' permits. Seventeen persons have been arrested charged with the theft of automobiles. Twenty-two jail sentences have been imposed by the courts on charges filed by our officers for violations of the motor vehicle act. Miscellaneous activities of the men have ranged from the inspection of aircraft and aircraft pilot's licenses and cases of impersonation of officers, failure to report accidents and larceny in dwellings, to the recovery of dogs and bedding for tourists.

A classification of arrests shows that 512 were arrested for reckless and careless driving; cars and trucks speeding 1,939; license matters 788; light violations 336; inadequate or improper equipment 92; intoxicated drivers and possession of liquor 117; miscellaneous arrests 200. In this miscellaneous arrest list there are 150 overloaded trucks, with failure to render assistance in case of accident, accessory thieves, failure to secure log-hauling permits to the number of 24, impersonating officer and other items, completing the list.

Of the 3,986 arrests made by the state traffic force, fines have been imposed by the courts in the amount of $69,366.85, or an average fine per case of $17.40. Maximum fine of $400.00 was imposed in one instance for a violation of the motor vehicle law. Fees collected total $93,610.81, while the resale value of stolen cars recovered amounted to $53,370.00.

The department kept no classification record of motor vehicle accidents during the year of 1922; however, during October, November and December of that year, the officers of this department observed and investigated 102 accidents.

During 1923 a classification record of the accidents observed and investigated by state traffic officers was prepared. Of the total of 365 such accidents, 190 were the result of carelessness or recklessness, 10 caused by improper lighting equipment, faulty mechanism 14, driving while intoxicated 12, parked on pavement 7, driver falling asleep 3, fog and fire 2, speeding 16, unknown causes 111.

During the year of 1924, accident reports have been gathered from all parts of the state and such reports centralized in the office of the Secretary of State. Up to October 1, these reports show a total of 15,535 motor accidents. In classifying these accidents in the effort to determine cause, it was found that 13,039 were caused by carelessness and recklessness, that 189 were the result of the drivers being intoxicated, and that 126 were caused by improper lights or failure to dim. Weather condition was the cause of 203, speeding came in for its usual share, with inexperience and jay-walking each contributing a percentage worthy of study. Defective equipment, brakes particularly, contributed 209. The stings of bees were the cause of two serious accidents, while a runaway team and stock loose on the highway were the cause of five others.

The traffic control and regulation problem has, of course, been greatly increased by the rapid increase in the number of motor vehicles owned by residents of the state, as well as by the unprecendented increase

in the tourist traffic. Between May 24, 1923, the effective date of the law requiring registration of non-residents, and September 30, 1924. 108,493 visitors' permits have been issued covering motor vehicles from every state in the Union, Alaska, Hawaii, Canal Zone, Canada, England, Mexico, Panama, etc., California, of course, tops the list with 54,133 registrations. Registration bureaus have been established for the administration of the law and accommodation of the tourist at convenient points near the state boundaries.

T. A. Raffety is Chief Inspector and maintains an office in the Capitol Building at Salem.

OFFICE ORGANIZATION

In the handling of the office detail in connection with the large volume of work which is being done under the supervision of the State Highway Commission, it has been found necessary and desirable to subdivide the office organization into departments, each handling a special class of work. In this way, it is possible to utilize specialized training and experience to the best advantage and to have the same features of the work always handled by the same persons, which, of course, tends to uniformity, fixed responsibility, and maximum efficiency.

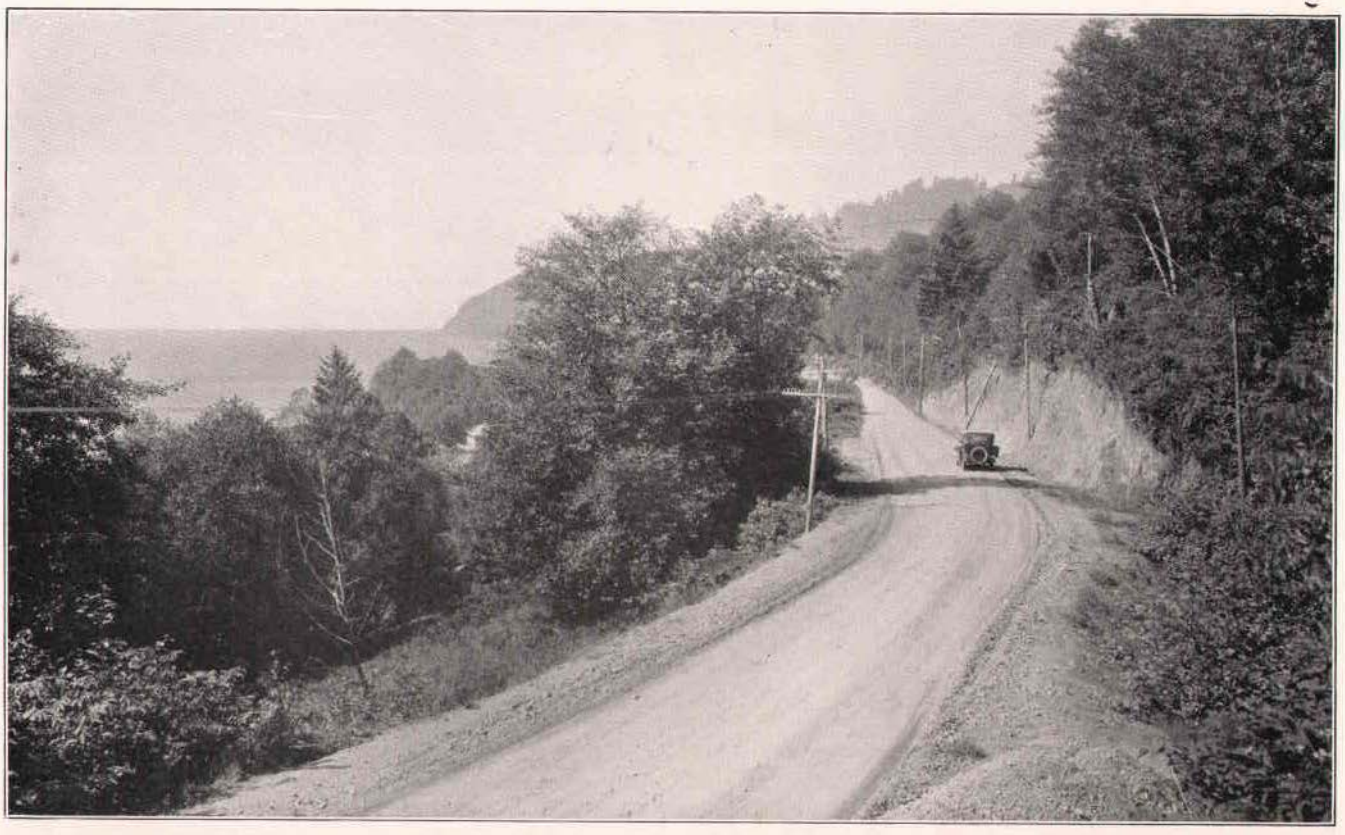
The work of the several departments is centralized under the General Office in such manner as to insure proper coordination and to avoid any duplication of effort. All dealings with the public are also handled through the General Office so that in effect the several departments operate as a single and centralized organization. The departments referred to comprise the Division Offices, the Auditing Department, the Legal Department, the Office Engineering Department and the Bridge Department. The work of each of these departments is outlined as follows:

General Office—All mail is received and distributed to the various departments through this office, as is also the collecting and combining of the outgoing mail, express, telegrams, etc. This office is under the supervision of a Chief Clerk who also handles general routine correspondence. Included in his duties, also, are the preparation of advertisements of construction projects and the issuance each week of a bulletin on road conditions which is distributed to the press for the general information of the public and also mailed to tourist bureaus and other similar agencies both within and outside of the state.

In the general office are filed the general correspondence, the original copies of construction contracts, bid proposals, cooperative agreements, minutes of the Commission meetings, etc. Permits for log hauling, permits for the construction of telegraph, telephone and power pole lines, permits for gas, water, sewer and other pipe lines on the state highways are also filed in the General Office.

H. B. Glaisyer is Chief Clerk. In addition to his other duties, he keeps the personnel records of engineering employes, interviews applicants for employment, and arranges to supply field parties with the necessary men.

Division Offices—The Division Offices handle correspondence with the Resident Engineers in their own districts, as well as local matters, and also check over and approve for payment Resident Engineers' monthly



ON THE ROOSEVELT COAST HIGHWAY IN NORTHERN TILLAMOOK COUNTY AT A POINT WHERE THE HIGHWAY FOLLOWS CLOSELY THE SHORE LINE OF THE PACIFIC OCEAN

estimates, invoices for local supplies, payrolls, expense accounts, etc., and forward them to the General Office. They also check over and approve requisitions for supplies, equipment inventories, etc. Two Division Headquarters are maintained at Salem at the General Offices. Other Division Offices are at La Grande, The Dalles, Klamath Falls and Marshfield.

Auditing Department—All bills against the Commission are checked by this department as to approval by the Resident and Division Engineers, as to correctness of prices, extensions and additions, and against possible duplication of paymant. In addition to this check, all bills containing charges against department equipment are sent to the Assistant Engineer in charge of equipment, for his approval and record. After checking, a voucher is drawn to cover the bill. In the case of concerns with which considerable business is done, a voucher is drawn once or twice a month covering several bills. The number of charges handled is, of course, far in excess of the number of vouchers drawn. The Auditing Department also computes vouchers to cover the monthly progress and final payments on contracts, expense accounts, industrial accident insurance, payroll of direct employes and principal and interest on State Highway Bonds.

Vouchers on the State Highway Fund are computed, checked, approved by the Auditor and then mailed to the payee for signature. The voucher includes an affidavit which must be signed by the payee certifying that the claim is just and covers services rendered or material furnished. Upon the return of the signed voucher, it is approved by the State Highway Engineer and the State Highway Commission, and is then forwarded to the Secretary of State who gives the charge a final audit and issues a state warrant to cover the amount of the voucher. This Department, in addition, issues vouchers drawn on the counties and cities for cooperative projects supervised by the State, and keeps detailed records of all cement and asphalt purchased by the State and furnished to the contractors.

In 1923 there were drawn five city vouchers amounting to $6,770.81, 464 county vouchers amounting to $1,511,360.65 and 9,501 State vouchers amounting to $10,924,951.13; a total for the year of 9,970 vouchers amounting to $12,443,082.59. In 1924 there were drawn four city vouchers amounting to $8,452.72, 258 county vouchers amounting to $974,436.09 and 8,518 state vouchers amounting to $9,818,328.85; a total for the year of 8,780 vouchers amounting to $10,801,217.66. This makes a total for the biennium of 18,750 vouchers amounting to $23,244,300.25.

It will be noted that the increase of maintenance work over that of the previous biennium has resulted in a like increase of small scattered bills. This accounts for the fact that more vouchers were drawn during the last two years than during 1921-1922, although there was a considerable decrease in the amount of funds disbursed.

Direct employes of the State Highway Commission are paid by means of bank checks drawn on the $75,000.00 revolving fund, and emergency items are also paid by checks drawn on this fund. The revolving fund is reimbursed by means of warrants drawn by the Secretary of State on the State Highway Fund to cover advances. During 1923, a total of 16,299 checks were drawn on the revolving fund amounting to $1,397,346.16, and in 1924, a total of 16,752 checks were drawn amounting to $1,377,669.92, making a total for the two years of 33,051 checks amounting to $2,775,016.08.

The bookkeeping accounts record all funds received by the Commission from the Federal Government, from counties, from bond sales and from all other sources. A record is also kept of all principal and interest payments due on outstanding bonds. The bookkeeper also keeps a register of all pay checks issued, and once each month checks up the revolving fund bank account. Mr. L. N. Myers has served as bookkeeper during the biennium.

In order to expedite payment to Department claims, a deputy auditor from the office of the Secretary of State has a desk in the Department office and his salary is equally divided between the two departments.

All freight charges are checked carefully for classification and rates by the Auditing Department; the Traffic Clerk also handling other auditing work when not engaged on traffic matters. He also checks all claims for freight reimbursement by contractors and commercial concerns. Except for the continued saving to the Department through reduced rates on road material secured in 1922, no questioning of rates has been necessary. The amount saved by careful checking of the current freight bills, however, has amounted to a considerable sum. The traffic work was handled by Mr. Walter S. Wright until April 5, 1924, and since that time by Mr. R. V. Hollenberg. Mr. Carl F. Smith has been at the head of this department as Auditor during the biennium.

The costs of the Auditing Department for the biennium follow:

	1923	1924	1923-1924
Salaries	$16,293.39	$14,328.91	$30,622.30
Equipment	482.81	182.12	664.93
Materials and supplies	779.23	1.33	780.56
Salary of auditor representing the secretary of state	1,050.00	1,050.00	2,100.00
Totals	$18,605.43	$15,562.36	$34,167.79

Legal Department—The duties of the Legal Department consist of the procurement of rights-of-way, gravel pits and rock quarries required for the construction of highways when counties fail to procure same; the preparation of special contracts and agreements; the settlement of disputes and claims for damages; the defense of the Highway Commission in cases of litigation; and other duties of like nature.

This department is headed by J. M. Devers, Assistant Attorney-General and Attorney for the State Highway Commission. The work of the Legal Department during the past biennium is fully covered in the "Report of the Legal Department" given in a subsequent article.

Office Engineering Department—In the Office Engineering Department are handled those office details of an engineering nature which pertain to surveys, grading, rock and gravel surfacing, and paving. The more important of the duties of this office are the working up of plans and specifications for projects to be contracted; the checking of monthly and final estimates upon which payments under contracts are based; the handling of details in connection with federal cooperation on Post Road projects; the filing of engineering records; the keeping of the cost and expenditure segregation records; and the compilation of reports, statistics and other data.

Working in conjunction with and as a part of the Office Engineering Department, is the drafting office, the blue-printing room and the cost-keeping office. In the drafting room the necessary maps, profiles and other drawings are prepared from data obtained by the field forces. In the blue-printing room are prepared the blue prints that are required in connection with the advertising for bids and for the direction of contractors and field employes. In the cost-keeping office is kept a complete and detailed segregation of all expenditures made under the supervision of the Highway Commission.

The work of the Office Engineering Department is in charge of S. H. Probert, Office Engineer, with J. W. DeSouza, L. E. Parsons, and J. W. Nash as Assistants, E. A. Skelley as Chief Draftsman, J. W. McCallister as Engineer in charge of final estimate checking, and C. T. Hoover as Cost Accountant.

Bridge Department—The Bridge Department handles all matters pertaining to bridges and similar structures. By this department the designs, plans and specifications are prepared; the construction work supervised; the monthly and final estimates checked; and all other work pertaining to bridges taken care of.

This department consists of a general bridge office, a drafting office, and a staff of field engineers and assistants. The work of the department during the past biennium is fully outlined in a preceding article devoted to "Bridges."

The Bridge Department is in charge of C. B. McCullough, Bridge Engineer, assisted by Merle Rosecrans, Assistant Bridge Engineer, and G. S. Paxson, Chief Field Assistant.

FIELD ORGANIZATION

In the performance of the field duties incidental to the supervision and direction of the construction, maintenance and operation of state highways, the State Highway Engineer is assisted by six Division Engineers, each of whom has charge of the work in one of the six districts or divisions into which the State has been divided for the purpose.

Each Division Engineer supervises and directs all engineering work, construction work and maintenance work upon the state highways within his division, and attends to all other matters having to do with highways in that territory. He acts as the local representative of the State Highway Department in dealings with contractors, with county officials and with the public in general. He collects information for and makes recommendations to the State Highway Engineer in those matters calling for field information and intimate knowledge of local conditions.

Two of the Division Engineers have headquarters at Salem and have office space in the general offices of the Department. The other four make their headquarters at points within their divisions, each maintaining a small office through which to handle correspondence and in which to keep such plans and records as are needed in connection with work under way. These outside division headquarters are located at The Dalles, La Grande, Klamath Falls and Marshfield.

In the supervision of construction and maintenance work the Division Engineer is assisted by Resident Engineers, each of whom has direct

supervision over one or more projects and/or the superintendence of the maintenance of the highways within certain territory. When highway location surveys are to be made in any division, a Locating Engineer is assigned to the division to perform that work under the supervision of the Division Engineer.

The duties of the Resident Engineer when in charge of construction work, are to work out the details of the construction plans, adjusting them in the interest of economy, and altering them to suit conditions encountered, to set stakes for the guidance of the workmen, to inspect workmanship and materials, to insure compliance with specifications, to measure the quantities of work for which the contractor is entitled to payment, and to otherwise look after and protect the interests of the State in all matters connected with work concerned.

The duties of Resident Engineers who are in charge of maintenance work, are to direct the maintenance patrolmen and maintenance crews in the performance of their work, to see that proper materials and equipment are supplied, to keep account of expense incurred, and to in all respects look after the upkeep of the highways within their respective territories.

Division No. 1, in charge of Division Engineer W. D. Clarke with headquarters at Salem, comprises the counties of Clatsop, Columbia, Clackamas, Washington, Yamhill, and Tillamook, and the northern parts of Polk and Marion Counties.

Division No. 2, in charge of Division Engineer J. S. Sawyer with headquarters at Salem, comprises the southern parts of Marion and Polk Counties, all of Linn, Benton, Lincoln and Lane Counties and the northern part of Douglas County.

Division No. 3, in charge of Division Engineer W. E. Chandler with headquarters at Marshfield, comprises the southern and western part of Douglas County and all of Coos and Curry Counties.

Division No. 4, in charge of Division Engineer C. C. Kelley with headquarters at Klamath Falls, comprises the counties of Josephine, Jackson, Klamath and Lake.

Division No. 5, in charge of Division Engineer C. W. Wanzer with headquarters at The Dalles, comprises the counties of Hood River, Wasco, Sherman, Gilliam, Jefferson, Deschutes, Crook, Wheeler and Grant.

Division No. 6, in charge of Division Engineer R. H. Baldock, with headquarters at La Grande, comprises the counties of Morrow, Umatilla, Union, Wallowa, Baker, Grant, Harney and Malheur.

MATERIALS TESTING DEPARTMENT

The work of the Materials Testing Department can be divided into two divisions: the sampling of materials and the inspection of construction in the field, and the testing of the various materials of construction in the laboratory.

From the laboratory tests, mixes for both hydraulic concrete and for bituminous concrete, are set. The Engineer of Materials has generally been present at the commencement of construction operations on all paving projects, and visits such projects thereafter as necessities arise.

Whenever the number of barrels of hydraulic cement to be used from one mill becomes sufficiently great, an inspector is stationed at the mill

whose duty it is to take hourly samples, and to keep a check on the cement stored and withdrawn from the bins allotted to the State. These samples are sent to the laboratory at Salem and tested. The results of these tests determine whether or not the material passes specifications and is acceptable to the State.

On all paving jobs, inspectors are stationed, one of their duties being to submit daily samples from the operating plants. These samples yield upon analysis, the degree to which the various contractors are living up to their contracts. They show, also, if any immediate change in mixes is desirable.

In the laboratory a variety of tests are made. All samples submitted by the engineers in the field, are given immediate attention, and the results mailed out with as little delay as possible. For it is a well established fact that to receive the full value from the laboratory, the results of tests must be in the hands of the men in the field just as quickly as is humanly possible. Some testing for counties and municipalities, while not solicited, is done upon request, for which reasonable charges are made.

Materials tested comprise paints, bituminous mixtures, cements, gravels, rocks, sands, the compression of concrete cylinders (two of which are cast daily from every concrete paving job, and three from every pouring of concrete used in bridge construction), and miscellaneous materials. It may be of interest to note that the average compressive strength of all concrete pavements laid under the supervision of the State Highway Commission, the past biennium, as shown by the 28 day breaks of daily specimens cast and cured in the field, was 3341 pounds per square inch. In the miscellaneous class may be mentioned some work on clay binders for macadam construction, comparative gasoline tests, and considerable work on lubricating oils for use in internal combustion engines.

The work of the Materials Testing Department was directed by Kenneth S. Hall up to October 1, 1923, at which time Mr. Hall resigned to enter business. At his resignation, N. M. Finkbiner was appointed Engineer of Materials, and the work of the department has since been carried on under his supervision. W. M. Smith is laboratory technician.

EQUIPMENT DEPARTMENT

The Equipment Department embraces the Service of Supply, the Motor Transport Division, and the Construction Division for such state force construction as may be assigned by the State Highway Engineer, all operating under the direct supervision of an Assistant Engineer assigned to the Department by the State Highway Engineer.

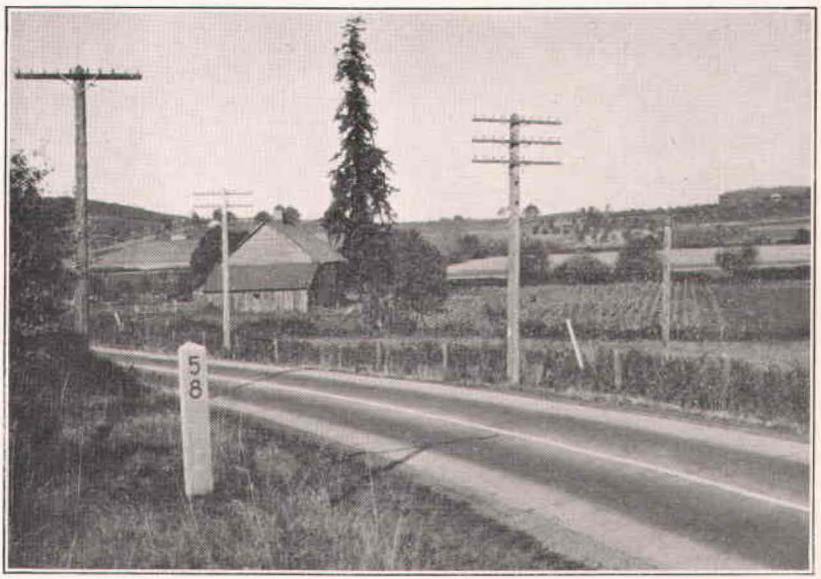
Headquarters and the main plant of this Department are located in Salem utilizing approximately five acres of the state property just east of the city limits. The plant consists of four main buildings for shop and storage purposes two storage sheds in parts of which are located auxiliary repair shops, two loading and unloading platforms, a general service building and an office building. The general service building is the only addition to the plant, except some remodeling of the other buildings, that has been made during the past biennium.

The general office for this Department is located at the plant in Salem, where all the final accounting and records are kept. It is necessary in the general administration of the Department to keep an individual record of each piece of equipment that the State acquires, either by purchase or by allotment from the United States Government from surplus war materials. Such a record necessitates an identifying description of each piece of machinery, how and when it was acquired, and the service record of its performance after its assignment for work, with the exception that no service record is kept for equipment allotted to governmental sub-divisions of the State, in which case the notation is made of the recipient, the date, and the conditions of the transaction. Individual records of small tools are not kept, but are handled on a merchandising basis; that is, they are received at the plant, catalogued, stored, and sold direct to various jobs as they are requisitioned.

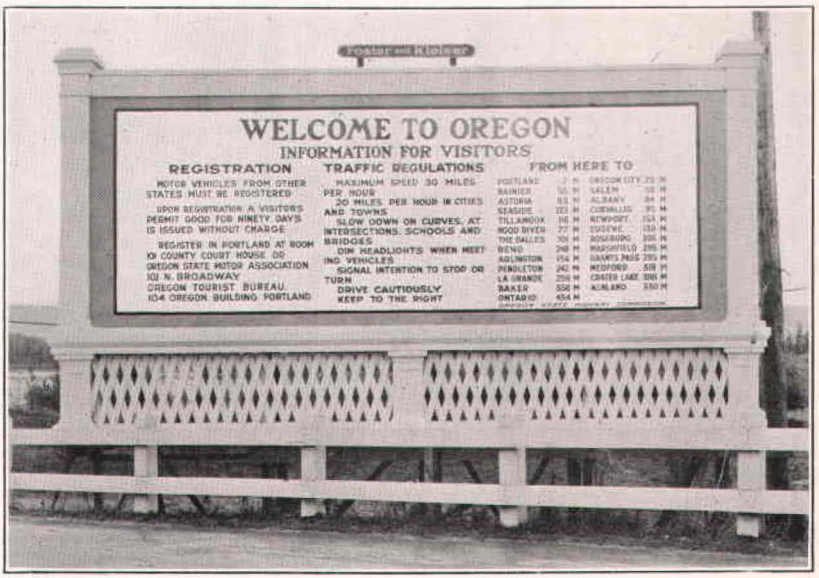
All trucks, cars, and other sizable automotive and construction equipment are assigned for work to various jobs and sub-divisions of the Highway Department, at a specified rental rate. This rental is billed out each month, and is presumed to cover the cost of general overhaul incidental to natural wear and tear, the renewal of solid tires on heavy trucks, and the depreciation based on an estimated length of life, which varies for the various types of equipment. The general accounting for the entire Department is combined in one set of books and handled by one accountant. In these books charges are made against the shops for the payrolls and invoices for materials and tools used in the shop, and credits are given for work performed as shown by job cards; charges are made against the storehouse from invoices for materials, parts and other supplies received, and credits are given for sales as shown on sales slips; charges against the equipment account are made from purchase invoices for new equipment, from sales slips from the storehouse for parts and from job cards from the shops for labor, and credits given for rentals charged out to jobs and for sales. These are relative accounts and dovetail so closely that they can be carried in one set of books, thereby avoiding duplication and confusion and promoting accuracy. In connection with such records as noted, there is the usual amount of correspondence and billing to be taken care of, and the condensed financial statement attached to this article will give, in dollars and cents, an idea of the amount of such detail involved. E. A. Hinz is Chief Clerk in charge of the office.

The service of supply, in charge of the Purchasing Agent, procures, stores and distributes the various supplies needed by the Highway Department. The principal items purchased, warehoused and distributed are materials, accessories and parts for the maintenance and upkeep of equipment. The next in order of magnitude, is small construction tools for road maintenance purposes. The main stock of these articles is kept in Salem, with a small supply, sufficient only for emergency needs, at each of the branch shops in La Grande and Klamath Falls.

There have been fewer individual purchases during the last biennium than during the preceding one, and the stock on hand is greater than at the end of the previous biennium, due to the fact that the Purchasing Agent has taken advantage of quantity prices. and also because a considerable quantity of valuable Government parts from surplus war equipment was



PACIFIC HIGHWAY FIVE MILES SOUTH OF SALEM; SHOWING CONCRETE MILE POST AND PAINTED CENTER-LINE TRAFFIC STRIP



SIGN ON PACIFIC HIGHWAY NEAR INTERSTATE BRIDGE; SIMILAR SIGNS ARE LOCATED AT OTHER IMPORTANT POINTS OF ENTRY TO THE STATE

received in 1923. These supplies made necessary the remodeling of the storehouse to take advantage of all available space, and the installation of the latest approved methods of handling and accounting for a stock of this character. Materials and supplies are purchased by an especially designed system of requisitions, and may be either sent to the main plant or to one of its branches for storage and distribution, or direct to the field. Invoices for these purchases are sent to the Highway Department at Salem, only.

The receipt of goods is certified to by the person receiving them on a copy of the purchase requisition, and this acknowledgment is returned to the Purchasing Agent, who by this time has received the invoice and checked the prices, and who then approves it for payment and passes it to the Auditor. No invoices for purchases of materials and supplies are paid without first being checked by the Purchasing Agent, and approved by the Assistant Engineer in charge of the Department. A set of price books are kept by the Purchasing Agent, from which the prices on invoices are checked as noted above, and from which, also, all sales slips are priced. The compilation of these price books requires constant observation of market conditions, an elaborate catalog file, and frequent requests for quotations from manufacturers and jobbers.

In order to purchase intelligently, the Purchasing Agent must be familiar with the stock requirements and methods of the storehouse, so, in the interests of economy and efficiency, the Purchasing Agent is also Storekeeper. In the storehouse office are kept records of the perpetual inventory type on forms designed by this Department, which show the stock on hand at all times and which for any period of time will give the turnover of any or all items of materials, parts, or accessories. A reference to the condensed financial statement attached to this article will show that the Purchasing Agent has purchased materials, supplies, and repair parts to the amount of $685,236.23. This does not include emergency purchases that the employes in the field are allowed to make, nor the purchase of automotive and maintenance equipment. Materials and supplies are handled through the storehouse on a small margin, and this, with the savings made by purchasing in large quantities, makes it possible for the Department to furnish materials and supplies to the shops, construction jobs and maintenance division at low costs. The prices set by the Purchasing Agent, are f. o. b. point of delivery, thereby putting a job in a remote part of the State on a par with the job more fortunately situated. This has a tendency to stabilize the cost of construction and maintenance. Samuel B. Gillette is Purchasing Agent.

The Motor Transport Division of this Department embraces the assignment, care and upkeep of all of the Highway Department's automotive equipment. As noted above, the records of this equipment and the billing of rental is handled in the general office from records compiled from a system of monthly equipment inventories sent in from the field. The authority for purchasing, assignment and disposal of automotive and heavy construction equipment is retained by the head of the Department, subject to instructions from the State Highway Engineer, and such part of that authority is delegated to the Master Mechanic and Shop Foreman as may be advisable from time to time. The overhaul of equipment is done in the repair shops either at the main plant or the branch shops. The Master Mechanic of the Division is located at the main plant

and supervises the entire operation of that plant, directly, with the exception of the warehouse. The main plant sub-divisions are the general repair shop, machine shop, blacksmith shop, top shop, paint shop, and carpenter shop. In the general repair shop, a machine that comes in for overhaul is first torn down, and any regrinding or machining of various parts is done in the machine shop, repairs to chassis, body and hoists are made in the blacksmith shop, and corresponding repairs in the balance of the plant as they may be needed. The various parts, when repaired are returned to the general repair shop, and the machine is re-assembled for service. Every job coming into the shop is given a job card and number, and an accurate cost of labor, materials and parts used on the job is kept on this card by the Master Mechanic. When the job is completed, this record is turned into the general office for audit, billing and accounting. The same general procedure of accounting as laid down for the main plant is carried out in the branch shops, but the manual operation of the branch shops is manifestly less refined on account of their comparatively small size. Jobs of re-grinding cylinder blocks and crank shafts and the manufacture of special appliances for equipment are sent into the main plant for completion, the branch shops operating for the most part in the same capacity as the general repair shop at the main plant. During the biennium, the combined shops have overhauled 317 trucks and 146 cars, exclusive of the ordinary maintenance on trucks and cars having assignments at or near any of the shops.

It has been found economical to buy certain tractor and truck parts in the rough and finish them at the Salem plant where there are facilities for such work. Special mention is made of track shoes for the 2½-ton government tractors. These shoes have been purchased in the rough and finished for approximately one-half of the cost of the finished product on the market. The Department also manufactures a heavy road planer for maintaining crushed rock surfaced roads. This planer was developed by various members of the Highway Department, and it is thought so well of by road builders that a number have been sold to counties, and seven to the Bureau of Public Roads for service in Alaska. Emil F. Halik is Master Mechanic, Roy A. Farnham is Shop Foreman at La Grande, and Hiram T. Smith is Shop Foreman at Klamath Falls.

During the past biennium, the allotment of trucks and cars from the Government has fallen off considerably, and without the enactment of special legislation by Congress, it is doubtful if the State will receive any more equipment from this source. The Department received, during 1923 and 1924, 96 trucks of all sizes, of which 45 were reallotted to governmental sub-divisions of the State. Offsetting this increase, 36 trucks of the first allotment made to the State in 1919 and 1920 have become unserviceable and have been dropped from the records.

Referring to the tabulation of the receipts and disbursements of equipment, which is given elsewhere in this report, it will be noted that the Highway Department's trucks have increased 39 in number and that the cars have decreased 17 in number. This is accounted for in a large measure by the retirement from service of unserviceable and obsolete equipment as noted above, and the conversion of light cars to light trucks. It will also be noted in the equipment tabulation referred to, that a number of 2½, 5 and 10-ton Government tractors have been received. The acqui-

sition of these tractors by the Department was very fortunate, because without them it would have been difficult to maintain the snow removal and maintenance program that is demanded. The tractors received in the past biennium have saved the State an expenditure for similar equipment, of approximately $35,000.00, which almost equals the total amount expended by the State for freight and handling charges on all equipment received from the Government during the biennium. The cost to the State for freight and handling charges to date averages approximately twenty-two per cent of the actual values of the surplus war materials received from the Government through the Bureau of Public Roads. The total cost of this equipment after reconditioning and remodeling to suit highway work averages from thirty to thirty-five per cent of what it could be duplicated for on the market.

The outstanding addition to the equipment, outside of perhaps the snow plows, is the two portable pavement patching plants. The first one was purchased in July, 1923, and the second one in August, 1924. These plants are in two units, each mounted on a truck trailer, one trailer carrying the drying drum, mixer, power unit and air compressor, and the other trailer carrying three five-barrel kettles and a circulating pump. Each plant has one of these units, and also the following auxiliary equipment: 2 Liberty trucks for motive power when moving from point to point and for hauling materials to the plant when it is in operation, 1 five-ton Tandem roller for street work, 4 one-ton Ford trucks with steel automatic dump bodies for hauling hot stuff, 1 three-quarter-ton service truck for handling fuel and other supplies, 1 four-wheel trailer for storage of supplies, tools and spare parts, 1 two-wheel gas service tank, 1 two-wheel water tank trailer for roller, 1 Ford car for the Foreman.

These plants are extremely portable; for example, to dismantle, move to new location four to six miles distant, and reset ready for operation requires but half a day. The output is governed by the character of work in hand, as the street crew can handle much more material on straight work than on skin patching. The approximate average per day is 160 batches (80 tons) on straight work, or 50 batches (25 tons) on skin patching. The first plant purchased (No. 3) was operated in 1923 from August 6 to November 7 and in 1924 from April 7 to November 30. The second plant purchased (No. 4) was operated in 1924 only, from August 17 to October 30. The specified capacity for which these plants were designed has been materially exceeded, the quality of material produced has been excellent and the upkeep has been remarkably low. These factors have operated not only to increase the quality and to reduce the cost of pavement patching and the laying of small isolated sections of pavement far below any cost ever obtained by the Highway Department before these plants were put into operation, but also to make possible the outlining of a comprehensive maintenance program for the paved portion of the highway system, which in turn effects an additional saving by enabling repairs to be made at the proper time. The original plant was designed by an Oregon man of long paving experience with two of the Highway Department engineers collaborating, and the second plant was built from plans and specifications prepared by the Highway Department. Certain features of these plants are covered by patents on which the builder agrees to protect the State.

The Construction Division is handled by the head of the Equipment Department assisted by an Engineer-Accountant in the general office and such Superintendents and Foremen as may be required from time to time, in the field. For the sake of defining the status of the forces operating out of this office, it may be said that the head of the Equipment Department occupies the same relative position to the field engineering force as a contractor would on similar work. The various foremen and superintendents out on jobs report direct to the head of the Equipment Department and are responsible to him for the proper conduct of their respective jobs, at all times complying with usual engineering instructions from the Resident Engineer in charge of the job.

A system of reports has been devised from which the Engineer-Accountant at headquarters keeps the cost records and payrolls for each job. It has been found best to have a superintendent or foreman on each job, who is capable of making these reports intelligently, doing away with a timekeeper and completing the detailed tabulation at Headquarters. The cost records so kept indicate that, as the organization developed, the unit costs decreased and the quality of the work improved, and some of the methods of construction and maintenance developed by these forces are now accepted as standard. The average cost per yard-mile of haul of material in the past biennium was approximately three cents per yard-mile less than during the preceding one, notwithstanding the fact that twenty-five per cent of the hauling done in the past biennium was done in the winter time in Eastern Oregon, whereas in the preceding one work was carried on only during the summer months in the valley and coast counties. While the pavement patching plants have been operated for only two seasons the lowering of unit costs as the work progressed was very pronounced. Elsewhere in this report will be found a complete summary of the work handled by this Division, and under appropriate county heading the details pertaining thereto. Suffice to say at this point that this division of the Equipment Department has handled approximately $625,083.95 worth of work in the 1923-1924 biennium. Watson Townsend is Engineer-Accountant.

The Equipment Department has operated under the supervision of Lewis P. Campbell, Assistant Engineer, since April 1, 1922.

CONDENSED FINANCIAL STATEMENT OF THE EQUIPMENT DEPARTMENT 1923-1924

CREDITS

Receipts from charges for materials, supplies and repair parts and from sales of same for cash	$595,216.41	
Receipts from sales of equipment originally purchased by the Department and of salvaged Government material and equipment	23,390.10	
Receipts from allotment of reconditioned Government equipment to Counties and State Institutions	38,162.80	
Receipts from charges to jobs for equipment rental	565,856.93	
Receipts from charges to jobs for labor performed	23,366.83	
Total Gross Credits		$1,245,993.07

CHARGES

Materials, supplies and repair parts purchased	$685,236.23	
Automotive and maintenance equipment purchased	76,161.41	
Freight and handling charges on equipment allotted to the Department by the Government	37,512.34	
Power, Light and Heat at all plants	12,614.24	
Labor employed at all shops in maintenance and handling of equipment and in handling materials, supplies and repair parts	271,067.42	
Insurance on stocks and equipment	10,140.03	
Maintenance and betterment to buildings and grounds	9,760.12	
Total Gross Charges		$1,102,491.79
Net Credit for the Biennium		$ 143,501.28

Note—Credit is not taken here for outstanding bills against counties and others to the amount of $6,575.60.

Net cost of Equipment, Stock and Plant, November 30, 1922	$277,363.69	
Net Credit Balance, 1923-1924, as per above statement	143,501.28	
Net Cost of Equipment, Stock and Plant, November 29, 1924		$ 133,862.41*

* The inventory value of the equipment, stock and plant which stands the State this $133,862.41 is $970,267.20.

LEGAL DEPARTMENT

A report of the work of the legal department of the Highway Commission covering the last two years, can reflect only a small portion of the volume of work necessarily handled in connection with the activities of the State Highway Department. It is the purpose and business of an attorney who is regularly employed by a client to so counsel and direct the client's business that litigation will be avoided rather than provoked or invited. In keeping with this policy and principle, it has been the effort of this department to so advise and counsel the Highway Commission and its various employes that litigation wherever possible may be avoided. However, a program of highway construction, involving the volume of work encompassed by the Highway Commission's activities, cannot be carried through without some litigation.

During the past two years, there have been instituted by the Highway Commission, or by counties at the request of the Highway Commission, the suits or actions hereinafter mentioned, many of which have been tried or disposed of and some of which are still pending and will be tried or disposed of within the next few months:

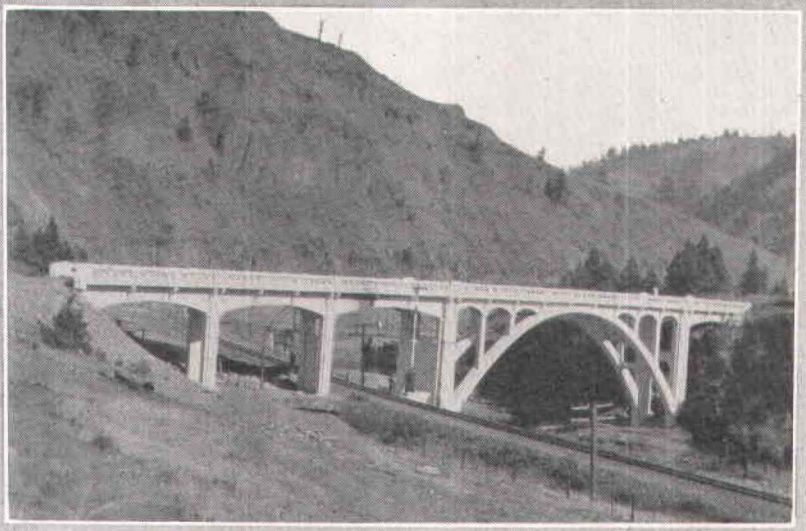
State vs. Glen P. White
State vs. Horace Alden and wife
State vs. Clara B. Scarborough
State vs. Myrtle McFarland et al.
State vs. L. W. Riggs
State vs. S. H. Jacobs
State vs. Joseph Demorest
State vs. Katherine McAdams
State vs. George Hathaway
State vs. Russ Investment Co.
State vs. Edythe Connick
State vs. Edward Dougherty et al.
Union County vs. Friswold et al.
Union County vs. Vandermeulen et al.
State vs. Southern Pacific Co. et al.

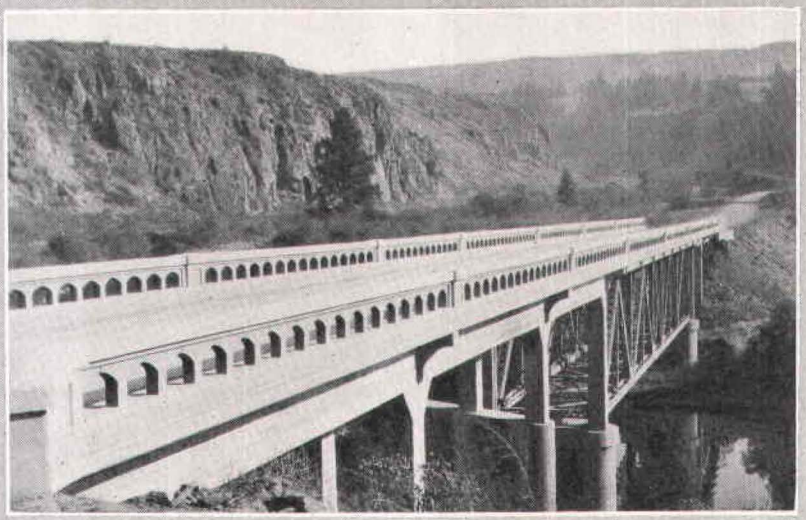
State vs. Eugene Spencer
State vs. Knightly et al.
State vs. McIntire
State vs. Glascock et al.
Curry County vs. Landreth
Klamath County vs. Merrill
Clackamas County vs. O. & C. Railway Co.
State vs. Huffman
State vs. Joe Ramos
State vs. Coe et al.
State vs. Dugas
State vs. Wisner
State vs. Attebury
State vs. Lund
Ira Tungate vs. Jackson County et al.
Hood River County vs. J. C. Williams
State vs. Quinn
State vs. Hot Lake Sanitarium Co.
State vs. Security Land & Savings Co.
Umatilla County vs. O. P. Bowman
State vs. George M. York
State vs. Radabaugh
State vs. Clinton
State vs. J. T. Sullivan
State vs. Rebecca Adams
State vs. C. H. Morris et al.
State vs. Jacob Larch
State vs. Henry Wilkens
State vs. W. E. Wilkens
State vs. Ed. Huber
State vs. John Weimar
State vs. A. K. Smythe et al.
State vs. C. E. Cross

In addition to the foregoing actions or suits, the State has been interested in the elimination of grade crossings, application for the elimination of which has been made to the Public Service Commission in the following instances:

Application for order eliminating five crossings in Tillamook County.
Application for a watchman at crossing in Creswell.
Application for grade crossing near Grass Valley.
Application for change in grade crossing near Dufur.
Application for warning signals at crossing in Coquille.
Application for grade separation at St. Joseph.
Application for grade crossing at Gwynne Siding.
Application for elimination of grade crossing near Myrtle Point.
Application for overhead crossing in Albany.
Application for overhead crossing near Lakeside.

In connection with highway construction during the past two years, there has arisen considerable litigation between contractors and creditors or property owners, whose property was claimed to be injured by reason of the conduct of the State's contractors, in many of which cases the State Highway Commission or the State of Oregon has been made a party, and it has therefore been necessary for the Highway Commission's attorney to appear and defend. The following is a list of cases in which the State of Oregon in one way or another has been interested:





ABOVE—COMBINED BRIDGE AND OVERCROSSING ON THE OLD OREGON TRAIL AT PERRY, NEAR LA GRANDE

BELOW—COMBINED BRIDGE AND OVERCROSSING ON THE LA GRANDE-WALLOWA LAKE HIGHWAY AT RHINEHART

W. B. Kidd vs. Umatilla County
Trippeer et al vs. Couch et al.
First National Bank of Baker vs. Roscoe Neal et al.
Clyde Equipment Co. vs. D. F. Murphy
State vs Nellie Dodson, Treasurer of Yamhill County
Charles Yokom vs. Grant County
North Pacific Construction Company vs. Wallowa County
M. D. Olds vs. Von der Hellen et al.
T. S. Brown vs. Judge Robinson et al.
Oxman & Harrington vs. Baker County
F. R. Wilson vs. Duby et al.
Kennedy vs. Hawks, County Assessor of Umatilla County
City of Pendleton vs. Umatilla County
State vs. C. L. Brown
Barrett vs. Union Bridge Company
W. R. Panter vs. Highway Commission
J. D. McVicar vs. John Hampshire et al.

Since the last report was filed, the case of Warren Brothers Company vs. Huber, a case involving an alleged violation of a patent for bitulithic pavement, and in connection with which Warren Brothers Company sought to recover royalty, has been argued before the United States Circuit Court of Appeals in San Francisco. The Court of Appeals has not yet passed upon the case, but a decision is anticipated within the next few months.

It may be interesting to note that, since the last report was filed, the Supreme Court of the State of Oregon has passed upon the law commonly known as the Market Road Law, and has held that funds procured under the provisions of the market road law are not applicable for use on state highways. In many counties the funds were used on state highways for the reason that in some of the counties there are many miles of state highways and few miles of other roads which might be termed market roads, and to deny the counties the right to use their market road moneys on state highways results in quite a hardship on counties so circumstanced. The decision of the Supreme Court has interested a number of the members of the Legislature in proposing a change of the market road law. In fact, there is quite a probability that the market road law will be re-written so as to make it more workable and more effective.

When highway legislation was first enacted in this state looking towards the construction of a system of state highways, the work was necessarily of a pioneering nature, and consequently many of the problems and difficulties which would from time to time confront the State Highway Commission were not and could not be foreseen during the enactment of early highway legislation. Since the initial legislative acts making possible the construction of state highways, each subsequent legislature has enacted supplemental legislation which had for its purpose the furtherance of highway construction by the removal of existing difficulties, but, as stated above, each year's experience reveals new problems.

During the past two years it has developed that additional legislation may be necessary, some of which may be minor in nature, but some of which if passed will reach more important problems. Among these more important features will be found the following suggestions: (1) public parks; (2) control over city streets where such streets form a link in state highways and the improvement of which is necessary in order to

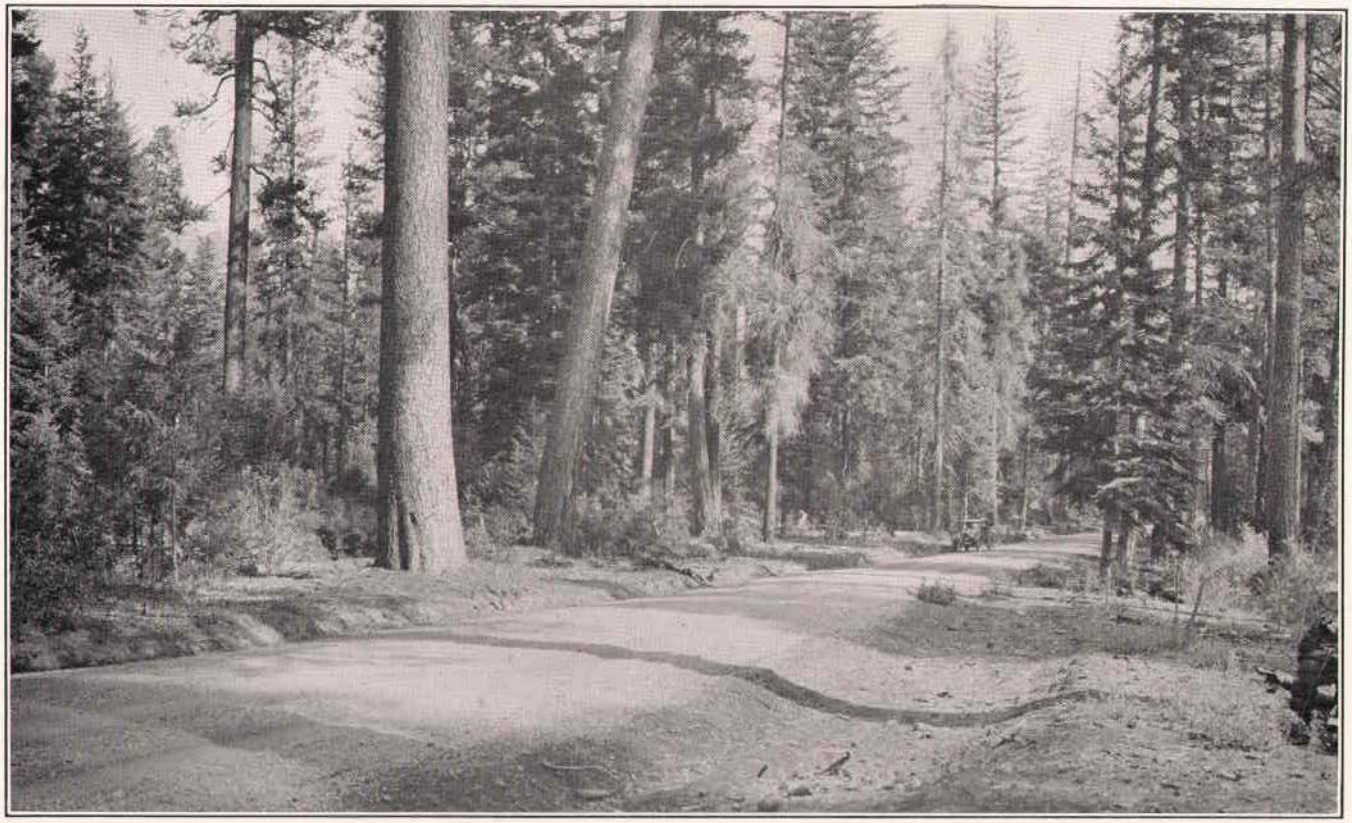
give a completed highway system; (3) along with the control of such streets, the unquestioned authority of the Highway Commission to procure additional rights of way where such are necessary.

With respect to the first subject, the Highway Commission has been embarrassed several times because of a lack of authority to condemn private property for park purposes in conjunction with the improvement and use of public highways. In many instances private parties have offered the funds with which to pay for the private property but have requested and required that the State Highway Commission procure the property by condemnation or by the exercise of the right of eminent domain. The Highway Commission has found itself without authority to exercise the right of eminent domain for such purposes, and therefore it would appear good policy for the legislature to confer that additional authority upon the Commission.

With respect to the right of the State Highway Commission to condemn for rights of way through towns of less than two thousand population, there seems to be some question in the minds of the judiciary of the state as to whether or not such authority exists. In some instances, trial judges have held that the Commission has such authority; in other instances, judges have held adversely to the Commission's right to condemn. This question is now pending before the Supreme Court, and if the Supreme Court should hold adversely to the Commission it will be necessary that additional legislation be enacted in order to clothe the Commission with sufficient authority to construct state highways through towns of less than two thousand population.

The Commission's authority to control streets of incorporated cities, where such streets are necessary in connection with the construction of a bridge over a stream which separates a state highway from the city, has been questioned. A patent example of this questioned authority has arisen in connection with the construction of the bridge across the Willamette River at Albany. This bridge is being constructed with funds furnished by the city of Albany, the county of Linn and the state of Oregon. In connection with the construction of the bridge, it was found necessary to occupy one of the streets of Albany for the approach to the bridge, and some property owners have challenged the right of the state, the county or the city to so employ the said street. This controversy is before the trial court now, and will no doubt be carried to the Supreme Court. It would appear that some supplemental legislation should be enacted which will prevent a similar question being raised elsewhere in the state.

This is but a mere outline or brief synopsis of the work covered by the legal department, and does not even suggest the volume of work handled. It will be noted that nothing has been said in this report concerning more than 250 agreements or contracts passed upon which involve the construction of the highways, nor is anything said here concerning the many thousands of letters written or the attention and service which is required to the numerous attachments or garnishments served upon the State Highway Commission in connection with cases growing out of claims against the state's contractors.



ON THE ASHLAND-KLAMATH FALLS HIGHWAY ABOUT TWO AND ONE-HALF MILES WEST OF THE JACKSON-KLAMATH COUNTY LINE

PART THREE

Financial Statements

Covering the Fiscal Period

December 1, 1922, to November 30, 1924

INDEX TO TABLES

Table I. Statement of Receipts and Disbursements Through State Highway Fund.

Table II. Grand Summary of Net Incomes, Net Expenditures, and Net Balances on Hand.

Table III. Detailed Summary of Net Income from All Sources.

Table IV. Detailed Summary of Net Expenditures.

Table V. Expenditures of State Highway Commission Summarized by Counties.

Table VI. Detailed Statement of Expenditures for New Construction Work.

Table VII. Detailed Statement of Expenditures for Major Additions and Betterments.

Table VIII. Detailed Statement of Expenditures in Connection with Federal Forest Road Work.

Table IX. Detailed Statement of Expenditures for Special Maintenance Work.

Table X. Detailed Statement of Expenditures for Minor Additions and Betterments.

Table XI. Detailed Statement of Expenditures for General Maintenance Work.

Table XII. Detailed Statement of Expenditures for Surveys.

Table XIII. Detailed Statement of Expenditures for Construction Engineering on County Work.

Table XIV. Detailed Statement of Direct Expenditures on Market Road Work.

Table XV. Detailed Statement of Expenditures for General and Miscellaneous Purposes.

TABLE I

STATE HIGHWAY FUND

December 1, 1922, to November 30, 1924

The below statement of receipts and disbursements under the State Highway Fund is arranged with a view to setting out particularly the net receipts and the net disbursements of strictly state moneys as differentiated from federal government, county and railroad moneys disbursed through the State Highway Fund, and as differentiated from certain other moneys which are handled through the State Highway Fund as a matter of convenience but which do not affect the net income or net expenditure in connection with state highway work. The statement is intended chiefly as a reconciliation of the receipts and disbursements through the State Highway Fund with the receipts and disbursements in connection with state highway work as these are set out in tables which follow.

It should be noted that a part of, but not all, federal government, county, and railroad moneys expended upon state highway work is handled through the State Highway Fund. For a more representative and complete statement of receipts and expenditures for state highway work see Tables II, III and IV.

RECEIPTS

Net Income Items (state funds only):			
Balance on hand, Dec. 1, 1922, (cash)	$ 2,117,809.58		
Balance on hand, Dec. 1, 1922, (uncashed warrants)	138,369.52		
Bonds Sales	2,489,875.00		
Motor Vehicle License Fees	6,322,285.11		
Gasoline and Distillate Tax	4,333,451.40		
One-quarter Mill Property Tax	502,315.50		
Interest on Bank Balances, Warrants, Etc.	110,131.94		
Fines for Traffic Law Violations	22,455.32		
Transfer from Market Road Funds to Cover Disbursements on Market Road Work	65,111.15		
Total Net Income (state funds only)		$16,101,804.52	
Miscellaneous Receipts and Receipts of Cooperative Funds Handled Through the State Highway Fund:			
Balance on hand in Market Road Fund (Dec. 1, 1922)	$ 213,649.85		
Federal Aid Payments	2,837,866.24		
County Cooperative Payments (including $145,869.34 in uncashed warrants)	1,258,105.45		
Railway Cooperative Payments	209,722.49		
State Market Road Tax (except $65,111.15 included in net income items)	2,223,389.35		
Cash Receipts from Sale and Rental of Equipment and Supplies (including $13,430.41 in uncashed warrants)	186,281.66		
Total of miscellaneous receipts and receipts of cooperative funds handled through the State Highway Fund		$ 6,929,015.04	
Grand total of receipts in State Highway Fund			$23,030,819.56

TABLE I—Continued

DISBURSEMENTS

Net Disbursements (state funds only):			
New Construction	$ 5,014,120.47		
Major Additions and Betterment	502,189.36		
Minor Additions and Betterment	382,155.49		
Special Maintenance	898,717.90		
General Maintenance	1,788,422.69		
Cooperation on Forest Road Work	1,092,660.31		
Road Signing	19,306.81		
Remeasurement of Highways and Placing of Mile Posts	11,367.84		
Enforcement of Traffic Laws	46,823.49		
Purchase and Development of Parks	20,048.18		
Purchase and Development of Gravel Pits, R. of W. and Patrol Stations	7,796.43		
Operation and Maintenance of Draw Bridges	5,362.47		
Interest and Maturities on Bonds	4,083,099.64		
Equipment and Supplies *	143,501.28	(Credit)	
Administration and General Supervision	336,416.91		
Surveys	101,502.78		
Engineering County Construction	1,603.23		
State Expenditures on Market Roads	65,111.15		
Delayed Charges on Completed Work	2,323.91		
Miscellaneous General Expenses	34,443.05		
Total Net Disbursement (state funds only)		$14,269,970.83	
Miscellaneous Disbursements and Disbursements of Cooperative Funds Handled Through the State Highway Fund:			
Federal Aid on Cooperative Work	$ 2,837,866.24		
County Funds on Cooperative Work	1,258,105.45		
Railroad Funds on Cooperative Work	209,722.49		
Turnover of Market Road Funds to Counties (comprises $1,980,738.78 in cash and $604.52 in transferred credit from Polk County market road account)	1,981,343.30		
Disbursements for which corresponding credits accrue through sale and rental of equipment and supplies	186,281.66		
Total of miscellaneous disbursements and disbursements of cooperative funds handled through the State Highway Fund		$ 6,473,319.14	
Grand total of disbursements through the State Highway Fund			$20,743,289.97
Balance on hand Dec. 1, 1924			†$2,287,529.59

* This credit of $143,501.28 occurring among the disbursement items is occasioned by the fact that credits which have accrued to the equipment and supply accounts from rentals, repair of equipment, supplies furnished, etc., have been in excess of the total amounts disbursed under these accounts during the corresponding period.

† Includes $159,299.75 in uncashed warrants, $455,695.90 of Market Road Funds and $75,000 in the Revolving Fund.

TABLE II

GRAND SUMMARY OF NET INCOMES, NET EXPENDITURES AND NET BALANCES ON HAND

December 1, 1922, to November 30, 1924

This table shows the grand totals of net incomes and net expenditures in connection with state highway work handled under the direct control of the State Highway Commission. It includes all county cooperation upon work directed by the Highway Commission, and all federal government cooperation upon federal aid projects. It does not include market road moneys, nor moneys of the federal government and counties expended upon forest road projects.

It is to be noted that the amounts shown as "State Funds" correspond, not to the total receipts and disbursements in the State Highway Fund, but to the "Net Receipts" and "Net Disbursements" as separately set out in the State Highway Fund statement immediately preceding this table.

Funds	Net Income	Net Expenditure	Balance on Hand December 1, 1924
State Funds	$16,101,804.52	$14,269,970.83	*$1,831,833.69
County Funds	3,785,883.89	3,785,883.89	.....
Federal Government Funds	2,837,866.24	2,837,866.24	.....
Railroad Cooperative Funds	223,876.34	223,876.34	.....
Grand Totals	$22,949,430.99	$21,117,597.30	*$1,831,833.69

For detailed statement of receipts see Table III.

For detailed statement of expenditures see Table IV.

* Differs from balance on hand in State Highway Fund by $455,695.90 which is the amount of Market Road Funds on hand in that fund.

TABLE III

DETAILED SUMMARY OF NET INCOME FROM ALL SOURCES

December 1, 1922, to November 30, 1924

STATE FUNDS:		
Balance on hand, December 1, 1922	$ 2,256,179.10	
Sale of Bonds, 1923	2,489,875.00	
Sale of Bonds, 1924	0.00	
Motor Vehicle License Fees, 1923	2,902,476.56	
Motor Vehicle License Fees, 1924	3,419,808.55	
Gasoline and Distillate Tax, 1923	1,975,174.23	
Gasoline and Distillate Tax, 1924	2,358,277.17	
One-quarter Mill Property Tax, 1923	246,452.30	
One-quarter Mill Property Tax, 1924	255,863.20	
Interest on Bank Balances, Warrants, Etc., 1923	48,084.45	
Interest on Bank Balances, Warrants, Etc., 1924	62,047.49	
Fines for Traffic Law Violations, 1923	2,915.25	
Fines for Traffic Law Violations, 1294	19,540.07	
Transfer from Market Road Fund, 1923	31,622.70	
Transfer from Market Road Fund, 1924	33,488.45	
Total Income of State Funds		$16,101,804.52
COUNTY FUNDS:		
Cash remitted to the State in payment of agreed cooperation, 1923	$ 662,080.18	
Cash remitted to the State in payment of agreed cooperation, 1924	596,025.27	
Cooperative construction paid for directly by counties, 1923	1,537,627.22	
Cooperative construction paid for directly by counties, 1924	990,151.22	
Total Income of County Funds		3,785,883.89
FEDERAL GOVERNMENT FUNDS:		
Cash remitted to the State in payment of agreed cooperation, 1923	$ 1,719,088.71	
Cash remitted to the State in payment of agreed cooperation, 1924	1,118,777.53	
Total Income of Federal Government Funds		2,837,866.24
RAILROAD FUNDS:		
Cash remitted to the State in payment of agreed cooperation, 1923	$ 126,089.74	
Cash remitted to the State in payment of agreed cooperation, 1924	83,632.75	
Cooperative construction paid for directly by railroad companies, 1923	3,544.99	
Cooperative construction paid for directly by railroad companies, 1924	10,608.86	
Total Income of Railroad Funds		223,876.34
Grand Total Net Income from All Sources		$22,949,430.99

TABLE IV

SUMMARY OF EXPENDITURES

December 1, 1922, to November 30, 1924

Classification	Table to be Referred to for Details	EXPENDITURES					Engineering and Administration (Included in Preceding Columns)
		Total	State Funds	County Funds	Federal Funds	Railroad Funds	
New Construction (Paving, Rock Surfacing, Grading and Bridges)	VI	$11,589,925.66	$ 5,014,120.47	$3,757,239.91	$2,604,442.09	$214,123.19	$ 582,218.52
Major Additions and Betterment (Including Pavement Resurfacing and Widening	VII	750,549.55	502,189.36	12,971.33	225,748.40	9,640.46	29,516.29
Special Maintenance (Including Resurfacing of Rock Roads)	IX	898,830.59	898,717.90	.....	.....	112.69	32,360.51
Cooperation on Forest Road Work	VIII	1,092,660.31	1,092,660.31	.....	.....	.....	.....
Minor Additions and Betterment	X	390,487,73	382,155.49	4,332.24	4,000.00	.....	.....
General Maintenance	XI	1,795,133.36	1,788,422.69	3,034.92	3,675.75	.....	.....
Gravel Pits, R. of W., Patrol Stations, Etc.	XV	7,796.43	7,796.43	.....	.....	.....	.....
Operation and Maintenance of Draw Bridges	XV	11,887,66	5,362.47	6,525.19	.....	.....	.....
Parks	XV	20,048.18	20,048.18	.....	.....	.....	.....
Road Signing	XV	19,306.81	19,306.81	.....	.....	.....	.....
Remeasurement of Highways and Placing Mile Posts	XV	11,367.84	11,367.84	.....	.....	.....	.....
Enforcement of Traffic Laws	XV	46,823.49	46,823.49	.....	.....	.....	.....
Equipment and Supplies	XV	Cr. 143,501.28	Cr. 143,501.28	.....	.....	.....	.....
Retirement of Bonds	XV	514,250.00	514,250.00	.....	.....	.....	.....
Interest and Other Bond Expense	XV	3,568,849.64	3,568,849.64	.....	.....	.....	.....
Administration and General Supervision	XV	336,416.91	336,416.91	.....	.....	.....	336,416.91
Surveys	XII	101,502.78	101,502.78	.....	.....	.....	101,502.78
Engineering County Work	XIII	3,383.53	1,603.23	1,780.30	.....	.....	3,383.53
State Expenditures on Market Roads	XIV	65,111.15	65,111.15	.....	.....	.....	65,111.15
Delayed Charges on Completed Projects	XV	2,323.91	2,323.91	.....	.....	.....	.....
Miscellaneous General Expense	XV	34,443.05	34,443.05	.....	.....	.....	.....
Totals		$21,117,597.30	$14,269,970.83	$3,785,883.89	$2,837,866.24	$223,876.34	$1,150,509.69

TABLE V

EXPENDITURES OF THE STATE HIGHWAY COMMISSION SUMMARIZED BY COUNTIES

December 1, 1922, to November 30, 1924

The amounts given in this table include only those expenditures which are directly chargeable to work within particular counties. They do not include expenditures for general purposes such as interest and maturities on bonds and administration and general supervision. In addition to expenditures made upon work handled under the direct supervision of the State Highway Commission, they include contributions made by the State as cooperation in forest road work.

County	State Funds	County Funds	Government Funds	Railroad Funds	Totals
Baker	$ 371,759.74	$ 194,213.34	$ 84,982.74	$ 28,516.86	$ 679,472.68
Benton	512,399.75	91,372.79	152,060.99	.....	755,833.53
Clackamas	255,670.89	* 262,300.00	28,436.43	67,020.85	613,428.17
Clatsop	416,711.43	120,419.07	.....	112.69	537,243.19
Columbia	75,575.06	2,296.81	.....	.....	77,871.87
Coos	623,299.03	107,687.41	154,989.80	.....	885,976.24
Crook	132,927.65	63,138.40	.....	.....	196,066.05
Curry	385,325.72	75,282.22	87,477.99	.....	548,085.93
Deschutes	167,895.28	40,701.91	25,081.93	.....	233,679.12
Douglas	305,261.61	146,270.49	238,696.27	15,000.00	705,228.37
Gilliam	307,262.87	47,709.48	41,639.08	.....	396,611.43
Grant	265,575.00	95,885.72	108,591.99	.....	470,052.71
Harney	24,672.45	5,723.75	.....	.....	30,396.20
Hood River	401,123.41	157,536.79	.....	.....	558,660.20
Jackson	439,003.40	73,576.85	43,996.55	.....	556,576.80
Jefferson	93,516.03	13,000.00	72,701.24	.....	179,217.27
Josephine	342,514.93	.....	.....	.....	342,514.93
Klamath	130,137.84	369,863.25	414,734.72	7,559.63	922,295.44
Lake	145,391.81	79,513.17	26,307.00	.....	251,211.98
Lane	466,909.75	234,202.17	.....	23,225.58	724,337.50
Lincoln	516,012.47	80,275.42	83,520.21	.....	679,808.10
Linn	240,161.28	36,586.37	.....	16,415.49	293,163.14
Malheur	279,518.17	60,118.39	18,281.65	.....	357,918.21
Marion	52,045.79	26,827.33	19,842.79	.....	98,715.91
Morrow	324,380.22	14,517.88	.....	.....	338,898.10
Multnomah	Cr. 697,05	1,780.30	.....	.....	1,083.25
Polk	250,057.94	32,369.00	244,590.84	.....	527,017.78
Sherman	147,481.28	176,344.33	119,546.18	1,747.79	445,119.58
Tillamook	368,357.41	83,751.12	.....	.....	452,108.53
Umatilla	532,949.63	133,743.37	63,383.04	.....	730,076.04
Union	304,516.45	135,940.08	67,457.26	63,500.11	571,413.90
Wallowa	110,180.62	110,667.61	74,317.58	.....	295,165.81
Wasco	317,741.86	570,948.85	358,828.15	.....	1,247,518.86
Washington	128,875.21	64,641.16	175,580.99	.....	369,097.36
Wheeler	219,126.27	36,290.64	78,200.31	.....	333,617.22
Yamhill	160,551.65	17,789.12	54,620.51	777.34	233,738.62
Totals	$ 9,814,192.85	$3,763,284.59	$2,837,866.24	$223,876.34	$16,639,220.02
Totals of expenditures for general purposes	4,390,666.83	.....	.....	.....	4,390,666.83
Direct expenditures in connection with Market Road work	65,111.15	22,599.30	.....	.....	87,710.45
Grand Totals	$14,269,970.83	$3,785.883.89	$2,837,866.24	$223,876.34	$21,117,597.30

* This amount includes $170,000.00 cooperation by Multnomah County on the Mt. Hood Loop Highway.

TABLE VI

EXPENDITURES FOR NEW CONSTRUCTION WORK—DECEMBER 1, 1922, TO NOVEMBER 30, 1924

In this table are listed the expenditures upon all construction jobs except those which come in the classes of Major Additions and Betterments, Special Maintenance, and Forest Road Projects. For expenditures upon those classes of work see Tables VII, VIII, and IX.

PROJECT	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	State Cooperation			County Cooperation			Government Cooperation			Construction Engineering (Included in Preceding Columns)	
					State Share of Estimated Cost	Expended by State During 1923 and 1924	Total Expended by State to Date	County Share of Estimated Cost	Expended by County During 1923 and 1924	Total Expended by County to Date	Government Share of Estimated Cost	Expended by Government During 1923 and 1924	Total Expended by Government to Date	Cost During 1923-1924	Total Cost to Date
BAKER COUNTY															
Grading and surfacing, Baker-Nelson	26.95	$ 275,587.12	$ 113,612.91	$ 273,587.12	$ 122,994.14	$ 44,620.50	$ 120,994.14	$	$	$	$ 152,592.98	$ 68,992.41	$ 152,592.98	$ 5,610.58	$ 13,263.70
Grading and surfacing, Nelson-Malheur County Line	24.09	126,812.62	25,431.46	126,812.62	100,009.29	23,556.00	119,081.86	26,803.33	1,875.46	7,730.76				1,371.08	8,825.65
Surfacing, Canyon Section	4.42	35,420.61		35,420.61	1,465.94		15,866.18	17,710.30		3,310.06	16,244.37		16,244.37		2,588.66
Surfacing, Baker-Middle Bridge	8.70	41,550.96		41,550.96	26,261.62		37,484.59	11,222.97			4,066.37		4,066.37		2,236.76
Grading, Nelson-Huntington (O. W. R. & N. Co. cooperates $1,791.59. All paid prior to 1923.)	19.04	261,488.04	1,680.47	261,488.04	174,696.45	1,680.47	174,696.45	85,000.00		85,000.00				Cr. 464.50	17,052.21
Grading, Love Bridge-Black Bridge	13.22	157,000.00	85,413.15	152,055.60	12,500.00	4,946.18	12,033.30	144,500.00	80,466.97	140,022.30				4,946.18	12,033.30
Grading, Stices Gulch Section	6.20	112,682.70	112,682.70	112,682.70	53,806.77	61,250.02	61,250.02	53,875.93	51,432.68	51,432.68				4,931.64	4,931.64
Grading, Mill Gulch Section	6.04	150,000.00	126,213.13	126,213.13	79,000.00	65,774.90	65,774.90	71,000.00	60,438.23	60,438.23				5,336.67	5,336.67
Four Bridges on Baker-Nelson Section		20,145.93	6,843.04	20,145.93	10,059.21	Cr. 3,243.68	10,059.21				10,086.72	10,086.72	10,086.72	317.60	1,177.79
Huntington Overcrossing (O. W. R. & N. Co. cooperates $12,407.89. All paid 1923-24.)		52,239.47	10,254.23	52,239.47	33,727.59	Cr. 2,153.66	39,831.58	6,103.99						464.50	3,140.44
Durkee Undercrossing (O. W. R. & N. Co. cooperates $11,573.57. All paid 1923-24.)		29,176.31	24,406.17	29,176.31	11,767.48	12,832.60	17,602.74	5,835.26						992.44	1,493.88
Unity Overcrossing (O. W. R. & N. Co. cooperates $4,535.40. All paid 1923-24.)		11,338.50	645.99	11,338.50	Cr. 1,368.21	Cr. 9,793.02	899.49	2,267.70			5,903.61	5,903.61	5,903.61	33.85	983.52
BENTON COUNTY															
Paving, Monroe-North	9.15	257,514.74		257,514.74	243,568.01	Cr. 1,986.05	243,568.01	13,946.73	1,986.05	13,946.73					11,917.33
Paving, Corvallis-South	7.58	240,029.42		240,029.42	121,530.32	Cr. 14,920.40	121,530.32				118,499.10	14,920.40	118,499.10		8,395.27
Paving, Gaps on Corvallis-South Section	0.38	10,867.82	209.63	10,867.82	6,021.57	Cr. 4,636.62	6,021.57				4,846.25	4,846.25	4,846.25	29.00	479.41
Paving, Albany-Corvallis	9.50	245,000.00	232,623.87	232,623.87	88,475.67	99,571.92	99,571.92	757.61	757.61	757.61	155,766.72	132,294.34	132,294.34	6,519.57	6,519.57
Surfacing, Albany-Corvallis	9.53	20,177.73	20,177.73	20,177.73	20,177.73	20,177.73	20,177.73							937.10	937.10
Surfacing, Alsea Mountain Section	6.00	50,000.00	30,787.36	30,787.36	26,000.00	30,787.36	30,787.36	24,000.00						815.82	815.82
Grading and surfacing, Keyes Hill and Noon Sections	2.50	23,615.81	23,615.81	23,615.81	23,615.81	23,615.81	23,615.81							682.75	682.75
Grading, Alsea Mountain Section	6.00	202,000.00	194,628.25	194,746.60	106,500.00	105,999.12	106,117.47	95,500.00	88,629.13	88,629.13				10,535.28	10,653.63
Bridge over Digger Creek near Alsea		16,000.00	9,836.74	9,836.74	11,000.00	9,836.74	9,836.74	5,000.00						812.26	812.26
Blodgett Overcrossing (S. P. Co. cooperates $2,359.46. No payments to date.)		13,504.56	13,504.56	13,504.56	6,960.79	13,504.56	13,504.56	4,184.31						951.62	951.62
BENTON AND LINCOLN COUNTIES															
Grading, Missouri Bend Section	8.17	140,000.00	102,137.10	102,137.10	97,000.00	102,137.10	102,137.10	43,000.00						3,482.55	3,482.55
BENTON AND LINN COUNTIES															
Bridge over Willamette River at Albany (S. P. Co. cooperates $2,084.28. No payments to date.)		270,000.00	28,064.41	28,064.41	Cr. 44,553.55	14,396.70	14,396.70	147,500.00	13,667.71	13,667.71	164,969.27			5,334.13	5,334.13
CLACKAMAS COUNTY															
Paving, Canby-Aurora	3.75	119,321.09		119,321.09	86,022.95		88,368.15	3,956.30		1,611.10	29,341.84		29,341.84		4,942.33
Paving, Unit 1, Oregon City-Bolton	0.30	13,561.19	10,010.21	13,561.19	13,561.19	10,010.21	13,561.19							971.38	1,663.36
Paving, Unit 2, Oregon City-Bolton	0.34	13,217.19	13,217.19	13,217.19	13,217.19	13,217.19	13,217.19							1,288.54	1,288.54
Grading and surfacing, Canby-Molalla River	1.20	10,407.26		10,407.26	9,669.61	Cr. 600.00	9,807.26	737.65	600.00	600.00					1,564.41
Surfacing, Multnomah County Line-Sandy	6.20	38,744.77	37,768.97	38,744.77	1,744.77	768.97	1,744.77	37,000.00	37,000.00	37,000.00				1,595.12	2,041.85
Surfacing, Sandy-Cherryville (E. A. Palmer)	6.70	39,001.69	10,826.17	39,001.69	27,001.69	Cr. 1,173.83	27,001.69	12,000.00	12,000.00	12,000.00				Cr. 341.67	1,786.49
Surfacing, Sandy-Cherryville (A. D. Kern)	7.40	29,594.56	29,594.56	29,594.56	17,094.56	17,094.56	17,094.56	12,500.00	12,500.00	12,500.00				602.09	602.09
Surfacing, Cherryville-Forest Boundary	12.35	54,030.41	52,277.49	54,030.41	30,530.41	28,777.49	30,530.41	23,500.00	23,500.00	23,500.00				2,797.95	2,975.70
Surfacing, Oregon City-Canemah (Industries cooperate $2,331.88. No payments to date.)	0.94	8,083.23	8,083.23	8,083.23	5,751.35	8,083.23	8,083.23							71.81	71.81
Grading, Unit 1, Mult. Co. Line-Forest Bdy.	11.86	52,426.54		52,426.54	23,426.54	Cr. 4,000.00	23,426.54	29,000.00	4,000.00	29,000.00					5,622.63
Grading, Units 2 and 3, Multnomah County Line-Forest Boundary	12.35	187,612.93	24,412.00	187,612.93	98,877.31	Cr. 26,588.00	98,877.31	88,735.62	51,000.00	88,735.62				108.14	8,125.44
Grading, Oregon City-Canemah (S. P. Co. cooperates $9,205.40. All paid during 1923-24.) (Industries cooperate approximately $73,000.00. Paid $57,615.45 during 1923-1924.)	0.94	116,059.65	116,059.65	116,059.65	33,854.25	49,038.80	49,038.80							6,167.20	6,167.20
Bridge over Willamette River at Oregon City		324,658.01	70,730.58	324,658.01	124,658.01	18,230.58	152,158.01	200,000.00	52,500.00	172,500.00				2,106.91	18,385.61
Bridges, Unit 1, Multnomah County Line-Forest Boundary		15,332.58		15,332.58	7,832.58	Cr. 7,500.00	7,832.58	7,500.00	7,500.00	7,500.00					581.10
Bridges, Unit 2, Multnomah County Line-Forest Boundary		44,611.59	Cr. 417.22	44,611.59	22,111.59	Cr. 22,917.22	22,111.59	22,500.00	22,500.00	22,500.00				Cr. 417.22	1,738.62

TABLE VI—Continued

PROJECT	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	State Cooperation: State Share of Estimated Cost	State Cooperation: Expended by State During 1923 and 1924	State Cooperation: Total Expended by State to Date	County Cooperation: County Share of Estimated Cost	County Cooperation: Expended by County During 1923 and 1924	County Cooperation: Total Expended by County to Date	Government Cooperation: Government Share of Estimated Cost	Government Cooperation: Expended by Government During 1923 and 1924	Government Cooperation: Total Expended by Government to Date	Construction Engineering (Included in Preceding Columns): Cost During 1923-1924	Construction Engineering (Included in Preceding Columns): to Date Total Cost
CLACKAMAS AND MARION COUNTIES															
Bridge over Pudding River at Aurora	.....	81,441.21	81,441.21	81,441.21	Cr. 28,531.30	Cr. 28,531.30	Cr. 28,531.30	61,693.29	61,693.29	61,693.29	48,279.22	48,279.22	48,279.22	4,279.67	4,279.67
CLATSOP COUNTY															
Paving, Unit 2, Youngs Bay-Skipanon	4.20	105,214.77	12,134.94	105,214.77	34,526.37	Cr. 18,851.16	34,526.37	70,688.40	30,986.10	70,688.40	.....	.....	.....	188.60	3,233.56
Grading and surfacing, Seaside-Cannon Beach Jct.	2.73	79,000.00	50,742.58	50,742.58	49,000.00	20,742.58	20,742.58	30,000.00	30,000.00	30,000.00	.....	.....	.....	2,816.66	2,816.66
Surfacing, Hamlet-Tillamook County Line	7.00	54,982.19	7,052.54	54,982.19	54,982.19	7,052.54	54,982.19	.....	.....	.....	.....	.....	.....	77.04	357.68
Surfacing, Lewis & Clark Bridge Approaches	0.25	4,500.00	.....	.....	4,500.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grading, Lewis & Clark Bridge Approaches	0.25	33,000.00	26,937.00	26,937.00	13,000.00	16,937.00	16,937.00	20,000.00	10,000.00	10,000.00	.....	.....	.....	1,378.97	1,378.97
Bridge over Bear Creek near Svenson	.....	8,224.66	8,224.66	8,224.66	8,224.66	8,224.66	8,224.66	.....	.....	.....	.....	.....	.....	848.18	848.18
Bridge over Lewis & Clark River at Astoria	.....	190,000.00	154,376.80	154,376.80	170,000.00	134,376.80	134,376.80	20,000.00	20,000.00	20,000.00	.....	.....	.....	10,617.86	10,617.86
Bridge over Youngs Bay at Astoria	.....	362,146.86	2,000.00	362,146.86	69,547.61	Cr. 22,681.25	69,547.61	122,857.92	24,681.25	122,857.92	169,741.33	.....	169,741.33	.....	7,839.17
Bridge over Mary's Creek East of Astoria	.....	5,507.23	5,507.23	5,507.23	5,507.23	5,507.23	5,507.23	.....	.....	.....	.....	.....	.....	327.18	327.18
COLUMBIA COUNTY															
Paving, Rainier City Section	0.90	29,375.31	29,375.31	29,375.31	29,375.31	29,375.31	29,375.31	.....	.....	.....	.....	.....	.....	1,300.30	1,300.30
Grading and surfacing, Rainier City Section	0.90	29,173.27	6,037.09	29,173.27	25,973.27	6,037.09	25,973.27	3,200.00	.....	3,200.00	.....	.....	.....	260.49	2,272.64
Grading, Scappoose-Deer Island	10.85	63,539.16	.....	63,539.16	61,242.35	Cr. 2,296.81	61,242.35	2,296.81	2,296.81	2,296.81	.....	.....	.....	.....	4,272.43
COOS COUNTY															
Paving, Coquille City Section	0.50	9,381.88	.....	9,381.88	8,232.84	Cr. 1,149.04	8,232.84	1,149.04	1,149.04	1,149.04	.....	.....	.....	.....	226.42
Grading and surfacing, Myrtle Point-Coquille	7.00	80,325.00	31,479.12	80,325.00	41,905.20	15,266.87	41,905.20	38,419.80	16,212.25	38,419.80	.....	.....	.....	45.49	3,485.39
Grading and surfacing, Glasgow-Hauser	6.20	82,000.00	65,480.19	65,480.19	82,000.00	65,480.19	65,480.19	.....	.....	.....	.....	.....	.....	4,279.88	4,279.88
Surfacing, Myrtle Point-Bridge	11.80	85,340.90	31,276.63	85,340.90	43,599.22	17,647.25	49,748.04	41,741.68	13,629.38	35,592.86	.....	.....	.....	588.68	1,898.78
Surfacing, Bridge-Douglas County Line	12.20	114,070.00	48,438.67	114,070.00	58,865.54	37,491.24	75,627.18	55,204.46	10,947.43	38,442.82	.....	.....	.....	1,019.75	3,702.33
Surfacing, Coquille-Bandon	16.90	190,000.00	140,035.22	140,035.22	58,853.13	140,035.22	140,035.22	52,500.00	.....	.....	78,646.87	.....	.....	4,004.51	4,004.51
Grading, Bridge-Remote	8.00	157,262.15	.....	157,262.15	81,500.06	Cr. 4,430.44	81,500.06	75,762.09	4,430.44	75,762.09	.....	.....	.....	.....	5,737.96
Grading, Myrtle Point-Bridge	10.00	166,709.63	12,568.81	166,709.63	87,605.07	6,499.78	87,605.07	79,104.56	6,069.03	79,104.56	.....	.....	.....	462.28	8,500.51
Grading, Parkersburg Section	4.75	79,399.80	79,215.42	79,399.80	Cr. 3,645.20	25,470.38	25,654.76	37,000.00	13,658.76	13,658.76	46,045.00	40,086.28	40,086.28	4,720.44	4,904.82
Grading, Lamprey Creek-Fat Elk Creek	8.13	251,974.72	251,974.72	251,974.72	126,020.49	174,315.58	174,315.58	.....	.....	.....	125,954.23	77,659.14	77,659.14	8,972.56	8,972.56
Grading, Myrtle Point-North (S. P. Co. cooperates $13,600.00. No payments to date.)	1.20	40,000.00	7,865.58	7,865.58	Cr. 15,514.24	7,865.58	7,865.58	18,000.00	.....	.....	23,914.24	.....	.....	585.08	585.08
Embankment construction, Dike Section	2.00	49,000.00	43,616.81	43,616.81	8,026.64	13,616.81	13,616.81	21,000.00	.....	.....	19,973.36	30,000.00	30,000.00	3,372.16	3,372.16
Bridge over Coquille River at Coquille	.....	95,689.77	11,993.65	95,689.77	5,060.82	203.50	5,060.82	90,628.95	.....	90,628.95	.....	.....	.....	217.50	5,060.82
Bridge over Coal Bank Slough at Marshfield	.....	27,000.00	26,528.33	26,528.33	2,400.00	2,690.96	2,690.96	24,600.00	23,837.37	23,837.37	.....	.....	.....	2,373.49	2,373.49
Bridges on Dike Section	.....	26,257.09	26,257.09	26,257.09	Cr. 209.49	19,012.71	19,012.71	11,500.00	.....	.....	14,966.58	7,244.38	7,244.38	1,729.19	1,729.19
CROOK COUNTY															
Surfacing, Prineville-Jones Mill	17.30	52,012.50	51,857.30	52,012.50	52,012.50	51,857.30	52,012.50	.....	.....	.....	.....	.....	.....	2,285.17	2,440.37
Grading, Prineville-Ochoco Forest Boundary	17.05	138,015.99	.....	138,015.99	80,533.49	Cr. 33,138.40	80,533.49	57,482.50	33,138.40	57,482.50	.....	.....	.....	.....	5,487.23
Grading, Unit 2, Crooked River-Deschutes County Line	8.67	96,426.96	96,426.96	96,426.96	66,426.96	66,426.96	66,426.96	30,000.00	30,000.00	30,000.00	.....	.....	.....	6,222.02	6,222.02
Bridge over Mill Race in City of Prineville	.....	5,671.65	436.05	5,671.65	3,127.44	436.05	3,127.44	.....	.....	.....	2,544.21	.....	2,544.21	.....	581.38
CURRY COUNTY															
Grading and surfacing, Hunters Creek-Hunters Head	6.30	95,683.95	95,683.95	95,683.95	63,183.95	63,183.95	63,183.95	32,500.00	32,500.00	32,500.00	.....	.....	.....	3,514.71	3,514.71
Grading and surfacing, Port Orford-Sixes	3.30	40,001.22	40,001.22	40,001.22	13,667.94	13,667.94	13,667.94	3,000.00	3,000.00	3,000.00	23,333.28	23,333.28	23,333.28	2,890.17	2,890.17
Grading and surfacing, Myers Creek Section	2.33	81,331.20	81,331.20	81,331.20	81,331.20	81,331.20	81,331.20	.....	.....	.....	.....	.....	.....	2,973.72	2,973.72
Grading and surfacing, California-Winchuck	0.63	10,000.00	8,025.32	8,025.32	600.00	8,025.32	8,025.32	9,400.00	.....	.....	.....	.....	.....	449.74	449.74
Surfacing, Elk River-Sixes River	2.76	12,402.81	12,402.81	12,402.81	5,416.95	5,416.95	5,416.95	.....	.....	.....	6,985.86	6,985.86	6,985.86	783.91	783.91
Grading, Elk River-Sixes River	2.76	53,788.85	22,004.02	53,788.85	10,643.14	Cr. 21,141.69	10,643.14	11,500.00	11,500.00	11,500.00	31,645.71	31,645.71	31,645.71	1,253.10	2,912.44
Grading, Hunters Head Section	4.28	178,745.94	117,383.70	178,745.94	128,745.94	117,383.70	128,745.94	50,000.00	.....	50,000.00	.....	.....	.....	4,321.65	7,929.58
Grading, Denmark-Coos County Line	4.76	50,000.00	442.34	442.34	19,303.56	442.34	442.34	.....	.....	.....	30,696.44	.....	.....	442.34	442.34
3 Bridges, Elk River-Sixes River Section	.....	61,663.16	50,687.96	61,663.16	25,900.24	27,683.02	38,658.22	.....	.....	.....	35,762.92	23,004.94	23,004.94	3,927.70	5,623.28
Bridge over Winchuck River near Brookings	.....	30,735.11	30,735.11	30,735.11	2,452.89	2,452.89	2,452.89	28,282.22	28,282.22	28,282.22	.....	.....	.....	2,438.89	2,438.89
Bridge over Myers Creek	.....	16,000.00	12,979.65	12,979.65	16,000.00	12,979.65	12,979.65	.....	.....	.....	.....	.....	.....	911.75	911.75
DESCHUTES COUNTY															
Grading and surfacing, Redmond-Cline Falls	4.78	51,930.89	51,930.89	51,930.89	32,430.89	33,516.14	33,516.14	19,500.00	18,414.75	18,414.75	.....	.....	.....	3,052.02	3,052.02
Grading and surfacing, Tumalo-Deschutes River	1.37	10,034.70	10,034.70	10,034.70	10,034.70	10,034.70	10,034.70	.....	.....	.....	.....	.....	.....	695.91	695.91
Surfacing, Cline Falls-Sisters	10.81	27,794.65	13,970.91	27,794.65	26,663.50	12,839.76	26,663.50	1,131.15	1,131.15	1,131.15	.....	.....	.....	829.98	1,964.69
Surfacing, Tumalo-Sisters	14.96	36,336.10	92.88	36,336.10	36,336.10	92.88	36,336.10	.....	.....	.....	.....	.....	.....	92.88	1,815.69
Grading, Unit 2, Allen Ranch-Klamath County Line	9.30	15,025.57	1,950.43	15,025.57	8,186.80	1,015.80	8,186.80	6,838.77	934.63	6,838.77	.....	.....	.....	81.16	1,348.01
Grading, Unit 1, Paulina Prairie-Lava Butte	7.69	44,000.00	42,182.48	42,182.48	Cr. 581.93	Cr. 1,349.49	Cr. 1,349.49	19,500.00	18,450.04	18,450.04	25,081.93	25,081.93	25,081.93	5,021.55	5,021.55
Grading, Unit 2, Paulina Prairie-Lava Butte	6.20	50,000.00	8,330.11	8,330.11	Cr. 4,345.00	8,330.11	8,330.11	23,000.00	.....	.....	31,345.00	.....	.....	1,649.08	1,649.08
2 Bridges and 2 Culverts near Sisters	.....	5,108.81	1,048.74	5,108.81	5,108.81	1,048.74	5,108.81	.....	.....	.....	.....	.....	.....	12.99	545.11
Bridge over Powell Butte Canal at Bend	.....	4,185.85	4,185.85	4,185.85	2,414.51	2,414.51	2,414.51	1,771.34	1,771.34	1,771.34	.....	.....	.....	643.17	643.17
DOUGLAS COUNTY															
Grading and paving, Oakland-Wilbur	7.00	348,545.03	.....	348,545.03	338,545.03	.....	348,545.03	10,000.00	.....	.....	.....	.....	.....	.....	15,878.14
Paving, Oakland City Section	0.50	15,107.32	.....	15,107.32	8,874.48	.....	11,990.90	6,232.84	.....	3,116.42	.....	.....	.....	.....	575.28
Paving, Roseburg-Wilbur	5.32	159,593.05	24,751.73	159,593.05	159,593.05	24,751.73	159,593.05	.....	.....	.....	.....	.....	.....	1,075.03	6,427.73
Paving, Drain-Yoncalla	8.60	229,849.18	7,468.13	229,849.18	229,849.18	7,468.13	229,849.18	.....	.....	.....	.....	.....	.....	279.28	5,456.66
Paving, Myrtle Creek-Canyonville	10.50	232,015.93	11,117.80	232,015.93	230,517.23	9,619.10	230,517.23	1,498.70	1,498.70	1,498.70	.....	.....	.....	326.18	7,389.38

TABLE VI—Continued

PROJECT	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	State Cooperation: State Share of Estimated Cost	State Cooperation: Expended by State During 1923 and 1924	State Cooperation: Total Expended by State to Date	County Cooperation: County Share of Estimated Cost	County Cooperation: Expended by County During 1923 and 1924	County Cooperation: Total Expended by County to Date	Government Cooperation: Government Share of Estimated Cost	Government Cooperation: Expended by Government During 1923 and 1924	Government Cooperation: Total Expended by Government to Date	Construction Engineering (Included in Preceding Columns): Cost During 1923-1924	Construction Engineering (Included in Preceding Columns): Total Cost to Date
DOUGLAS COUNTY—Continued															
Paving, Canyonville-Galesville	11.10	343,957.17	107,005.42	343,957.17	136,187.37	Cr. 53,580.44	136,187.37	.....	.....	.....	207,769.80	160,585.86	207,769.80	3,757.71	11,586.16
Surfacing, Unit 3, Myrtle Point-Camas Valley	10.76	81,059.27	41,864.25	81,059.27	41,937.42	22,891.85	46,390.32	39,121.85	18,972.40	34,668.95	.....	.....	.....	1,308.50	2,815.57
Top Course, Unit 3, Myrtle Point-Camas Valley	10.76	18,352.69	18,352.69	18,352.69	9,340.86	13,709.86	13,709.86	9,011.83	4,642.83	4,642.83	.....	.....	.....	329.02	329.02
Surfacing, Winston-Camas Mountain	10.60	38,763.43	24,567.98	38,763.43	20,235.18	12,000.80	20,136.35	18,528.25	12,567.18	18,627.08	.....	.....	.....	965.87	1,706.93
Surfacing, Camas Mountain	7.00	49,183.42	38,730.71	49,183.42	25,298.75	25,787.57	33,488.41	23,884.67	12,943.14	15,695.01	.....	.....	.....	1,121.49	1,414.09
Grading, Winston-Camas Mountain	11.50	75,336.23	16,388.66	75,336.23	40,681.81	8,908.88	40,681.81	34,654.42	7,479.78	34,654.42	.....	.....	.....	1,429.11	6,027.38
Grading, Camas Valley	8.47	108,037.45	51,008.56	108,037.45	57,470.66	27,309.12	57,470.66	50,566.79	23,699.44	50,566.79	.....	.....	.....	3,609.71	6,903.88
Grading, Winchester Bridge Approaches	0.54	24,339.29	24,339.29	24,339.29	15,199.36	15,199.36	15,199.36	9,139.93	9,139.93	9,139.93	.....	.....	.....	979.36	979.36
Grading, Elk River Bridge Approaches	.....	2,422.14	2,422.14	2,422.14	2,422.14	2,422.14	2,422.14	.....	.....	.....	.....	.....	.....	87.46	87.46
Bridges, Winston-Camas Mountain Section	.....	31,262.48	4,367.98	31,262.48	17,027.06	3,884.90	17,027.06	14,235.42	483.08	14,235.42	.....	.....	.....	Cr. 89.33	2,791.63
Bridges, Camas Valley Section	.....	11,571.45	3,729.42	11,571.45	6,230.24	1,867.72	6,230.24	5,341.21	1,861.70	5,341.21	.....	.....	.....	99.77	889.02
Bridge over Elk River at Drain	.....	16,330.56	2,592.48	16,330.56	8,779.19	1,155.33	8,779.19	7,551.37	1,437.15	7,551.37	.....	.....	.....	77.28	1,236.56
Culvert over Mill Race at Myrtle Creek	.....	1,304.24	1,181.72	1,304.24	72.11	Cr. 50.41	72.11	1,232.13	1,232.13	1,232.13	.....	.....	.....	50.34	72.11
Bridge over Umpqua River at Winchester	.....	132,320.82	102,560.20	132,320.82	Cr. 7,499.14	Cr. 25,863.24	Cr. 7,446.93	61,709.55	50,313.03	61,657.34	78,110.41	78,110.41	78,110.41	4,744.76	8,901.71
Bridge and overcrossing at Myrtle Creek (S. P. Co. cooperates $15,000.00. All paid during 1923-24)	.....	77,799.09	166.38	77,799.09	28,172.63	Cr. 14,833.62	28,255.82	34,626.46	.....	34,543.27	.....	.....	.....	.....	4,574.15
GILLIAM COUNTY															
Grading and surfacing, Condon-North	6.00	78,228.51	1,132.77	78,228.51	28,228.51	Cr. 8,867.23	28,228.51	50,000.00	10,000.00	50,000.00	.....	.....	.....	Cr. 891.42	4,462.20
Grading and surfacing, Base Line-Shutler	7.94	61,027.38	4,291.02	61,027.38	43,527.38	4,291.02	43,527.38	17,500.00	.....	17,500.00	.....	.....	.....	568.25	4,063.88
Grading and surfacing, Arlington-Shutler	7.10	61,411.83	41,259.26	61,411.83	43,911.83	41,259.26	43,911.83	17,500.00	.....	17,500.00	.....	.....	.....	2,008.53	3,912.13
Grading and surfacing, Heppner Jct.-Morrow County Line	9.60	108,890.22	92,526.75	108,890.22	108,680.74	92,317.27	108,680.74	209.48	209.48	209.48	.....	.....	.....	4,828.33	7,318.28
Grading and surfacing, Gwendolen-Base Line	15.94	200,000.00	95,680.23	95,680.23	31,628.04	16,541.15	16,541.15	63,000.00	37,500.00	37,500.00	105,371.96	41,639.08	41,639.08	5,419.95	5,419.95
Two Bridges over Willow Creek near Heppner Junction	.....	13,996.72	12,783.15	13,996.72	13,996.72	12,783.15	13,996.72	.....	.....	.....	.....	.....	.....	1,283.27	1,583.09
Bridge over Rock Creek on County Road	.....	7,936.65	7,936.65	7,936.65	.....	.....	.....	7,936.65	7,936.65	7,936.65	.....	.....	.....	.....	.....
Bridges over Rock Creek and Juniper Canyon	.....	10,000.00	7,297.93	7,297.83	730.92	7,297.93	7,297.93	3,000.00	.....	.....	6,269.08	.....	.....	903.26	903.26
Heppner Junction Overcrossing	.....	18,634.37	.....	18,634.37	12,756.48	.....	18,634.37	5,877.89	.....	.....	.....	.....	.....	.....	1,725.19
GRANT COUNTY															
Grading and surfacing, Unit 1, Coles Br.-Cummings Creek	3.26	30,476.09	30,476.09	30,476.09	Cr. 14,444.81	Cr. 14,148.01	Cr. 14,148.01	28,689.21	28,392.41	28,392.41	16,231.69	16,231.69	16,231.69	1,912.36	1,912.36
Grading and surfacing, Unit 2, Coles Br.-Cummings Creek	10.82	133,691.63	133,691.63	133,691.63	53,462.23	53,462.23	53,462.23	.....	.....	.....	80,229.40	80,229.40	80,229.40	8,221.46	8,221.46
Grading and surfacing, John Day Town Sec.	0.80	10,000.00	5,409.57	5,409.57	5,200.00	3,050.37	3,050.37	4,800.00	2,359.20	2,359.20	.....	.....	.....	691.17	691.17
Surfacing, Wheeler County Line-East	11.40	31,925.12	.....	31,925.12	31,546.30	Cr. 378.82	31,546.30	378.82	378.82	378.82	.....	.....	.....	.....	2,545.60
Surfacing, Cummings Creek-Valades Ranch	14.70	50,350.20	50,332.23	50,350.20	26,471.72	26,453.75	26,471.72	23,878.48	23,878.48	23,878.48	.....	.....	.....	2,575.27	2,593.24
Grading, Unit 4, Sarvice Creek-Valades Ranch	10.92	197,431.96	11,475.22	197,431.96	105,356.81	11,475.22	105,356.81	17,500.00	.....	17,500.00	74,575.15	.....	74,575.15	218.50	20,162.85
Grading, Cummings Creek-Valades Ranch	14.70	104,825.13	52,340.17	104,825.13	55,067.49	27,009.54	55,067.49	49,757.64	25,330.63	49,757.64	.....	.....	.....	3,640.96	7,271.85
Bridges, Unit 3, Sarvice Creek-Valades Ranch	.....	60,749.74	100.00	60,749.74	32,549.77	100.00	32,549.77	.....	.....	.....	28,199.97	.....	28,199.97	.....	2,172.98
2 Bridges over John Day River near Dayville	.....	33,686.50	25,880.40	33,686.50	17,878.13	13,304.54	17,878.13	15,808.37	12,575.86	15,808.37	.....	.....	.....	978.68	2,319.76
Bridges, Cummings Creek-Valades Ranch Section	.....	3,558.85	3,558.85	3,558.85	3,558.85	3,558.85	3,558.85	.....	.....	.....	.....	.....	.....	170.55	170.55
Bridges, Coles Bridge-Cummings Creek Section	.....	56,865.69	56,865.69	56,865.69	10,807.67	44,734.79	44,734.79	11,887.91	.....	.....	34,170.11	12,130.90	12,130.90	3,435.09	3,435.09
Bridges over Canyon Creek at John Day	.....	6,088.91	6,088.91	6,088.91	3,118.59	3,118.59	3,118.59	2,970.32	2,970.32	2,970.32	.....	.....	.....	148.26	148.26
HARNEY COUNTY															
Grading and surfacing, Burns Section	4.20	23,058.83	21,955.17	23,058.83	17,335.08	16,231.42	17,335.08	5,723.75	5,723.75	5,723.75	.....	.....	.....	1,645.64	2,297.64
Grading, Summit Springs Market Road	8.14	23,196.60	8,406.23	23,196.60	.....	.....	.....	23,196.60	8,406.23	23,196.60	.....	.....	.....	.....	.....
HOOD RIVER COUNTY															
Surfacing, Units 1 and 2, Forest Boundary-Hood River	17.04	115,115.17	113,748.12	115,115.17	60,358.42	59,606.12	60,358.42	54,756.75	54,142.00	54,756.75	.....	.....	.....	5,489.94	5,601.67
Surfacing, Unit 3, Forest Boundary-Hood River	6.08	40,968.99	40,968.99	40,968.99	21,421.38	21,421.38	21,421.38	19,547.61	19,547.61	19,547.61	.....	.....	.....	1,873.76	1,873.76
Grading, Booth Hill Section	5.00	89,320.82	29,241.97	89,320.82	48,184.08	15,540.23	48,184.08	41,136.74	13,701.74	41,136.74	.....	.....	.....	1,838.52	7,047.34
Grading, Hood River-Booth Hill	6.08	178,782.95	67,677.62	178,782.95	92,922.46	34,461.02	92,922.46	85,860.49	33,216.60	85,860.49	.....	.....	.....	4,326.39	10,143.89
Grading, Booth Hill-Forest Boundary	12.04	116,515.92	60,094.18	116,515.92	60,965.49	31,426.24	60,965.49	55,550.43	28,667.94	55,550.43	.....	.....	.....	2,758.32	5,415.05
Bridges, Hood River-Booth Hill Section	.....	22,242.36	3,726.18	22,242.36	11,956.14	1,922.50	11,956.14	10,286.22	1,803.68	10,286.22	.....	.....	.....	132.84	1,669.92
JACKSON COUNTY															
Grading and surfacing, Medford-Agate	8.50	73,446.00	2,545.60	73,446.00	19,446.00	2,545.60	19,446.00	54,000.00	.....	54,000.00	.....	.....	.....	316.63	6,983.90
Surfacing, Green Springs Mountain Section	7.80	63,690.87	.....	63,690.87	32,458.87	Cr. 55.53	32,458.87	31,232.00	55.53	31,232.00	.....	.....	.....	.....	1,226.86
Surfacing, Keene Creek-Klamath County Line	12.34	76,257.84	76,252.41	76,257.84	Cr. 4,992.00	17,410.27	17,415.70	37,253.29	14,845.59	14,845.59	43,996.55	43,996.55	43,996.55	1,745.83	1,751.26
Surfacing, Cascade Gorge-McLeod	10.24	70,000.00	67,230.73	67,230.73	70,000.00	67,230.73	67,230.73	.....	.....	.....	.....	.....	.....	2,646.19	2,646.19
Grading, Green Springs Mtn.-Pacific Highway	10.09	220,163.01	.....	220,163.01	117,801.53	Cr. 34,734.68	117,801.53	102,361.48	34,734.68	102,361.48	.....	.....	.....	.....	15,852.94
Grading, Green Springs Mtn.-Jenny Creek	8.71	118,427.15	.....	118,427.15	62,742.73	36.15	62,742.73	55,684.42	Cr. 36.15	55,684.42	.....	.....	.....	.....	7,130.61
Grading, Jenny Creek-Klamath County Line	4.46	37,330.30	121.72	37,330.30	19,716.76	Cr. 17,491.82	19,716.76	17,613.54	17,613.54	17,613.54	.....	.....	.....	21.72	2,103.21
Grading, Cascade Gorge-McLeod	8.61	174,157.17	168,920.12	168,920.12	174,157.17	168,920.12	168,920.12	.....	.....	.....	.....	.....	.....	11,852.10	11,852.10
Bridge over Rogue River at Rock Point	.....	48,393.91	.....	48,393.91	24,928.85	Cr. 465.06	24,928.85	23,465.06	465.06	23,465.06	.....	.....	.....	.....	1,463.78
Bridge over Emigrant Creek near Ashland	.....	1,705.38	1,705.38	1,705.38	897.39	897.39	897.39	807.99	807.99	807.99	.....	.....	.....	89.40	89.40
Bridge over Lost Creek near Prospect	.....	8,600.00	8,409.43	8,409.43	8,600.00	8,409.43	8,409.43	.....	.....	.....	.....	.....	.....	426.47	426.47

TABLE VI—Continued

PROJECT	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	State Cooperation: State Share of Estimated Cost	State Cooperation: Expended by State During 1923 and 1924	State Cooperation: Total Expended by State to Date	County Cooperation: County Share of Estimated Cost	County Cooperation: Expended by County During 1923 and 1924	County Cooperation: Total Expended by County to Date	Government Cooperation: Government Share of Estimated Cost	Government Cooperation: Expended by Government During 1923 and 1924	Government Cooperation: Total Expended by Government to Date	Construction Engineering (Included in Preceding Columns): Cost During 1923-1924	Construction Engineering (Included in Preceding Columns): Total Cost to Date
JEFFERSON COUNTY															
Grading and surfacing, Madras-Wasco County Line	15.64	123,304.77	123,053.04	123,304.77	55,896.13	55,644.40	55,896.13				67,408.64	67,408.64	67,408.64	6,896.74	7,148.47
Grading and surfacing, Unit 6, Madras-North	5.54	45,370.25	13,827.71	45,370.25	20,370.25	8,827.71	20,370.25	25,000.00	5,000.00	25,000.00				666.91	3,529.55
Grading, Units 2 and 4, Madras-North	6.27	34,880.56	2,001.34	34,880.56	9,880.56	Cr. 2,998.66	9,880.56	25,000.00	5,000.00	25,000.00				126.30	2,873.04
Bridge over Trout Creek, Madras-North Sec.		8,863.72	13.70	8,659.27	8,863.72	13.70	8,659.27							14.29	519.03
Bridge over Willow Creek, Madras-North Sec.		6,098.92	6,098.92	6,098.92	3,098.92	3,098.92	3,098.92	3,000.00	3,000.00	3,000.00				307.91	307.91
Bridge over Hay Creek, Madras-North Section		8,611.39	8,611.39	8,611.39	3,318.79	3,318.79	3,318.79				5,292.60	5,292.60	5,292.60	857.39	857.39
JOSEPHINE COUNTY															
Paving, Grants Pass-Sexton Mountain	9.80	239,739.68	69,687.73	239,739.68	239,739.68	69,687.73	239,739.68							2,878.87	9,481.76
Paving, Sexton Mountain Section	7.50	196,430.09	55,693.84	196,430.09	196,430.09	55,693.84	196,430.09							1,463.73	8,095.48
Grading and surfacing, Illinois River Crossing	0.90	15,000.00	1,303.81	1,303.81	15,000.00	1,303.81	1,303.81							215.81	215.81
Grading, Bear Creek Section	3.00	37,140.83	37,140.83	37,140.83	37,140.83	37,140.83	37,140.83							2,259.51	2,259.51
Bridge over Deer Creek near Selma		19,056.25		15,075.04	10,548.43		6,567.22	8,507.82		8,507.82					2,040.62
Bridge over Jump-off Joe Creek near Grants Pass		12,192.73	12,192.73	12,192.73	12,192.73	12,192.73	12,192.73							523.58	523.58
Bridge over Applegate River, Redwood Highway		36,633.22	36,633.22	36,633.22	36,633.22	36,633.22	36,633.22							2,717.53	2,717.53
Bridge over Illinois River near Kirby		27,000.00	12,297.33	12,297.33	27,000.00	12,297.33	12,297.33							1,238.21	1,238.21
KLAMATH COUNTY															
Grading and surfacing, Klamath Falls-Dairy	13.91	187,542.70		187,542.70	63,111.16	Cr. 289.03	63,111.16	44,127.06	289.03	44,127.06	80,304.48		80,304.48		11,034.46
Grading and surfacing, Klamath Falls-Merrill	14.68	166,800.66		166,800.66	47,244.18	Cr. 887.77	47,244.18	39,362.55	887.77	39,362.55	80,193.93		80,193.93		9,350.44
Grading and surfacing, Merrill-California Line	12.80	139,037.02	3,808.58	139,037.02	42,775.01	2,662.42	42,775.01	32,692.52	1,146.16	32,692.52	63,569.49		63,569.49		8,266.95
Grading and surfacing, Merrill Section	2.60	38,596.10	4,585.13	38,596.10	20,151.85	447.64	20,151.85	18,444.25	4,137.49	18,444.25				72.38	1,707.59
Grading and surfacing, Unit 1, Lamms Mill-Ft. Klamath	9.60	78,956.50	78,448.12	78,956.50	Cr. 12,206.57	Cr. 9,211.83	Cr. 8,703.45	36,864.92	33,361.80	33,361.80	54,298.15	54,298.15	54,298.15	4,742.28	5,226.66
Grading and surfacing, Unit 2, Lamms Mill-Ft. Klamath	9.47	111,020.89	110,505.79	111,020.89	Cr. 29,371.18	Cr. 26,071.09	Cr. 25,555.99	53,079.53	49,264.34	49,264.34	87,312.54	87,312.54	87,312.54	4,346.72	4,861.82
Grading and surfacing, Keno-Klamath Falls	10.98	177,961.71	177,961.71	177,961.71	Cr. 700.77	1,194.57	1,194.57	84,748.07	82,852.73	82,852.73	93,914.41	93,914.41	93,914.41	8,465.56	8,465.56
Grading and surfacing, Dairy-Bonanza	7.74	80,000.00	41,091.24	41,091.24	42,000.00	23,946.65	23,946.65	38,000.00	17,144.59	17,144.59				5,078.38	5,078.38
Surfacing, Jackson County Line-Hayden Creek	9.83	70,035.51	70,009.35	70,035.51	Cr. 1,923.65	Cr. 422.74	Cr. 396.58	33,533.97	32,006.90	32,006.90	38,425.19	38,425.19	38,425.19	2,941.41	2,967.57
Surfacing, Hayden Creek-Keno	11.70	67,654.36	67,654.36	67,654.36	2,488.93	5,606.58	5,606.58	32,493.41	29,375.76	29,375.76	32,672.02	32,672.02	32,672.02	2,667.54	2,667.54
Grading, Jackson County Line-Hayden Creek	9.83	96,455.37	14,123.63	96,455.37	51,038.90	Cr. 17,670.26	51,778.70	45,416.47	31,793.89	44,676.67				141.14	5,622.42
Grading, Hayden Creek-Keno	11.70	149,775.36	149,551.69	149,775.36	Cr. 2,126.67	Cr. 2,125.23	Cr. 1,901.56	70,450.89	70,225.78	70,225.78	81,451.14	81,451.14	81,451.14	8,649.91	8,873.58
Bridge, Klamath River near Spencers (California Oregon Power Co. cooperates $6,859.63. All paid during 1923-24.)		43,916.82	43,916.82	43,916.82	Cr. 5,813.54	Cr. 5,813.54	Cr. 5,813.54	17,377.01	17,377.01	17,377.01	25,493.72	25,493.72	25,493.72	2,303.16	2,303.16
Dairy Overcrossing (O. C. & E. Ry. cooperates $1,322.41. Paid $700.00 during 1923-24.)		3,323.49		3,323.49	1,178.67	Cr. 700.00	1,801.08	822.41		822.41					236.47
LAKE COUNTY															
Grading and surfacing, Crooked-River-Chandler's Sta.	6.50	71,636.86	2,050.87	71,636.86	44,920.16	1,235.32	44,920.16	26,716.70	815.55	26,716.70				12.00	4,845.10
Grading and surfacing, Drews Valley Section	8.80	118,000.00	89,608.59	91,305.36	74,000.00	57,297.04	58,560.31	44,000.00	32,311.55	32,745.05				6,746.22	7,216.44
Grading and surfacing, Chawaucan Narrows-Paisley	10.43	65,000.00	62,856.04	62,856.04	11,800.15	18,336.87	18,336.87	19,000.00	18,212.17	18,212.17	34,199.85	26,307.00	26,307.00	6,128.47	6,128.47
Grading and surfacing, City of Lakeview Section	0.37	3,252.98	3,252.98	3,252.98	1,201.62	1,201.62	1,201.62	2,051.36	2,051.36	2,051.36				166.49	166.49
Surfacing, Chandler's Station-Valley Falls	4.00	10,681.82		10,681.82	6,580.12	Cr. 37.50	6,580.12	4,101.70	37.50	4,101.70					427.57
Surfacing, Valley Falls-Chewaucan Narrows	12.30	40,665.39	40,472.54	40,665.39	25,510.59	25,317.74	25,510.59	15,154.80	15,154.80	15,154.80				2,641.47	2,778.40
Grading, Chandler's Station-Chewaucan Narrows	16.80	57,951.73	7,910.91	57,951.73	37,149.74	4,830.97	37,149.74	20,801.99	3,079.94	20,801.99				867.66	5,946.76
Grading, Chalk Cliff-Hunters Hill	8.64	44,000.00	25,521.45	25,521.45	3,819.75	17,853.65	17,853.65	13,500.00	7,667.80	7,667.80	26,680.25			2,518.05	2,518.05
Bridge over Chewaucan River near Paisley		16,085.53		16,085.53	10,189.68	Cr. 182.50	10,189.68	5,895.85	182.50	5,895.85					1,522.57
LANE COUNTY															
Paving, Goshen-Walker	9.80	338,404.15		338,404.15	337,689.74	Cr. 591.36	337,812.79	714.41	591.36	591.36					6,663.11
Paving, Walker-Divide	6.30	227,291.27	Cr. 3,961.15	227,291.27	227,291.27	Cr. 3,961.15	227,291.27								6,432.03
Paving, Cottage Grove Section	1.60	59,353.30	6,021.55	59,353.30	31,243.64	1,206.01	31,243.64	28,109.66	4,815.54	28,109.66				270.09	2,861.62
Paving, Creswell Section	0.63	20,511.35	20,511.35	20,511.35	18,628.40	19,110.48	19,110.48	1,882.95	1,400.87	1,400.87				1,038.31	1,038.31
Paving, Cottage Grove-North	0.57	17,000.00	5,537.72	5,537.72	17,000.00	5,537.72	5,537.72							332.91	332.91
Grading and surfacing, Thurston-Walterville	4.50	43,806.72	3,195.36	43,806.72	23,983.31	1,630.65	23,983.31	19,823.41	1,564.71	19,823.41				65.92	4,159.85
Grading and surfacing, Power Plant-Shell Rock	2.10	42,242.08	24,176.25	42,242.08	22,576.97	12,419.41	22,576.97	19,665.11	11,756.84	19,665.11				1,080.42	2,890.78
Grading and surfacing, Harrisburg-Junction City	3.46	47,759.55	13,675.77	47,759.55	15,865.18	5,958.91	15,865.18	31,894.37	7,716.86	31,894.37				758.89	3,598.85
Grading and surfacing, Walterville-Deerhorn-Doyle Hill	2.98	26,093.69	8,797.59	26,093.69	14,362.67	3,988.07	14,362.67	11,731.02	4,809.52	11,731.02				596.83	2,481.98
Grading and surfacing, Goshen-Lowell	8.70	77,967.85	77,967.85	77,967.85	5,496.57	5,496.57	5,496.57	72,471.28	72,471.28	72,471.28				5,496.57	5,496.57
Grading and surfacing, Goldson-Cheshire	4.12	47,552.68	47,552.68	47,552.68	4,358.26	4,358.26	4,358.26	43,194.42	43,194.42	43,194.42				4,358.26	4,358.26
Grading and surfacing, Nimrod-Blue River	6.20	45,000.00	1,417.09	1,417.09	24,000.00	1,417.09	1,417.09	21,000.00						1,417.09	1,417.09
Surfacing, Goldson-Blachly	13.60	107,825.34	79,361.70	105,057.67	56,659.83	41,420.43	57,832.63	51,165.51	37,941.27	47,225.04				3,569.22	5,494.31

TABLE VI—Continued

PROJECT	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	State Cooperation: State Share of Estimated Cost	State Cooperation: Expended by State During 1923 and 1924	State Cooperation: Total Expended by State to Date	County Cooperation: County Share of Estimated Cost	County Cooperation: Expended by County During 1923 and 1924	County Cooperation: Total Expended by County to Date	Government Cooperation: Government Share of Estimated Cost	Government Cooperation: Expended by Government During 1923 and 1924	Government Cooperation: Total Expended by Government to Date	Construction Engineering (Included in Preceding Columns): Cost During 1923-1924	Construction Engineering (Included in Preceding Columns): Total Cost to Date
LANE COUNTY—Continued															
Surfacing, McVeigh Overcrossing Approaches	0.40	3,305.50	.29	3,305.50	3,305.50	.29	3,305.50								195.84
Surfacing, Cottage Grove-North	0.64	3,851.15	3,851.15	3,851.15	3,851.15	3,851.15	3,851.15							576.59	576.59
Grading, Cottage Grove-North	0.64	2,709.66	2,709.66	2,709.66	308.70	308.70	308.70	2,400.96	2,400.96	2,400.96				308.70	308.70
Grading, McVeigh Overcrossing Approaches.. (S. P. Co. cooperates $10,000.00. All paid during 1923-24.)	0.40	37,277.32	8,682.50	37,277.32	21,277.32	Cr. 7,317.50	21,277.32	6,000.00	6,000.00	6,000.00				66.18	1,726.45
Superstructure, Latham Bridge		13,612.33		13,612.33	1,347.75	Cr. 14.00	1,347.75	12,264.58	14.00	12,264.58					1,347.75
Bridge, Willamette River at Cottage Grove..		14,334.84	14,292.98	14,334.84	967.93	926.07	967.93	13,366.91	13,366.91	13,366.91				926.07	967.93
Bridges on Goldson Section		12,983.17		12,983.17	6,917.82	Cr. 5,069.95	6,917.82	6,065.35	5,069.95	6,065.35					1,289.60
Bridge, Lost Creek, Goshen-Lowell Section....		10,474.25	10,474.25	10,474.25	964.23	964.23	964.23	9,510.02	9,510.02	9,510.02				950.23	950.23
Divide Overcrossing (S. P. Co. cooperates $11,439.44. Paid $8,124.93 prior to 1923. No payments during 1923-24.)		28,593.39		28,593.39	17,153.95		20,468.46								1,551.85
McVeigh Overcrossing (S. P. Co. cooperates $13,225.58. All paid during 1923-24.)		38,794.87		38,794.87	19,569.29	Cr. 19,225.58	19,569.29	6,000.00	6,000.00	6,000.00					2,027.12
LANE AND BENTON COUNTIES															
Paving, Monroe-Junction City	8.60	278,501.37		278,501.37	276,804.71	Cr. 1,168.29	276,804.71	1,696.66	1,168.29	1,696.66					4,392.64
LANE AND LINN COUNTIES															
Bridge, Willamette River at Harrisburg		200,000.00	18,787.87	18,787.87	Cr. 49,202.73	14,378.50	14,378.50	126,000.00	4,409.37	4,409.37	123,202.73			4,683.32	4,683.32
LINCOLN COUNTY															
Grading and surfacing, Eddyville-Toledo	17.20	181,709.28	143,743.70	181,709.28	122,095.23	105,836.89	142,935.37	59,614.05	37,906.81	38,773.91				2,705.10	3,795.26
Surfacing, Blodgett-Eddyville	17.20	144,829.98	77,735.18	144,829.98	123,246.87	56,621.76	123,716.56	21,583.11	21,113.42	21,113.42				2,045.40	3,822.52
Surfacing, Toledo-Newport	7.26	103,991.59	12,306.88	103,991.59	103,991.59	12,306.88	103,991.59							157.46	1,426.03
Prospecting for quarry sites		1,441.16		1,441.16	942.43	Cr. 498.73	942.43	498.73	498.73	498.73					194.34
Grading, Tum Tum-Chitwood	9.70	87,006.77	12,385.01	87,006.77	55,158.43	7,718.35	55,158.43	31,848.34	4,666.66	31,848.34				655.49	6,879.41
Grading, Chitwood-Toledo	10.60	105,155.49	19,680.38	105,155.49	67,355.32	11,677.45	67,355.32	37,800.17	8,002.93	37,800.17				883.11	10,705.07
Grading, Yaquina River Bridge Approaches..		429.13	429.13	429.13	257.48	257.48	257.48	171.65	171.65	171.65				1.66	1.66
Grading, Otter Rock-Agate Beach	5.75	200,000.00	165,748.53	165,748.53	94,979.32	82,228.32	82,228.32				105,020.68	83,520.21	83,520.21	9,620.23	9,620.23
Grading, Otter Rock-Rocky Creek	3.07	150,000.00	525.27	525.27	93,656.39	525.27	525.27				56,343.61			525.27	525.27
Grading, Nye Creek Section	0.36	6,502.22	6,502.22	6,502.22	4,002.22	4,002.22	4,002.22	2,500.00	2,500.00	2,500.00				103.95	103.95
Bridges, Benton County Line-Toledo		13,595.10	7,530.22	13,595.10	8,549.24	4,558.85	8,549.24	5,045.86	2,971.37	5,045.86				101.81	980.46
Bridge, Yaquina River at Eddyville		11,225.42	6,305.66	11,225.42	6,973.59	3,861.81	6,973.59	4,251.83	2,443.85	4,251.83				196.20	596.02
LINN COUNTY															
Paving, Albany-Tangent	7.30	155,466.30	16,203.08	155,466.30	155,466.30	16,203.08	155,466.30							13.65	2,636.29
Paving, Tangent-Shedd	1.96	57,343.98	57,343.98	57,343.98	57,343.98	57,343.98	57,343.98							1,569.77	1,569.77
Paving, Shedd-Halsey	7.80	244,373.73	23,150.51	244,373.73	241,772.78	20,549.56	241,772.78	2,600.95	2,600.95	2,600.95				680.12	5,359.95
Paving, Halsey-Harrisburg	7.94	176,510.46	90,856.30	176,510.46	175,846.37	90,192.21	175,846.37	664.09	664.09	664.09				2,800.49	6,025.98
Paving, Murder Creek Section	0.62	16,793.40	16,793.40	16,793.40	16,793.40	16,793.40	16,793.40							843.20	843.20
Grading, surfacing and bridge, Murder Creek Undercrossing (S. P. Co. cooperates $6,775.03. All paid during 1923-24.)	0.60	22,707.32	10,487.96	22,707.32	8,718.04	Cr. 3,501.32	8,718.04	7,214.25	7,214.25	7,214.25					1,032.99
Bridges over Lake and Oak Creeks near Tangent		13,273.57	2,223.69	13,273.57	834.20	Cr. 10,215.68	834.20	12,439.37	12,439.37	12,439.37				42.07	834.20
MALHEUR COUNTY															
Grading and surfacing, Ontario-Weiser	14.36	143,051.87		143,051.87	68,051.87	Cr. 11,980.24	69,701.87	75,000.00	11,980.24	73,350.00					8,310.20
Grading and surfacing, Vale-Ontario	15.44	119,532.50	119,532.50	119,532.50	62,594.07	77,072.74	77,072.74	56,938.43	42,459.76	42,459.76				5,655.63	5,655.63
Grading and surfacing, Weiser and Payette Spur	3.56	33,000.00	5,681.62	5,681.62	33,000.00	5,681.62	5,681.62							1,199.40	1,199.40
Surfacing, Baker County Line-Weiser	15.54	76,078.08	18,282.29	76,078.08	34,571.60	.64	34,571.60				41,506.48	18,281.65	41,506.48	918.68	4,748.23
Grading, Baker County Line-Weiser	15.27	107,294.21	5,455.39	107,294.21	106,646.60	7,517.16	106,646.60	647.61	Cr. 2,061.77	647.61				67.69	8,140.98
Grading, Sucker Creek Market Road	8.50	90,000.00	6,256.42	6,256.42				90,000.00	6,256.42	6,256.42					
Bridge over Malheur River at Juntura		7,740.16	7,740.16	7,740.16				7,740.16	7,740.16	7,740.16				323.32	323.32
Bridge over Snake River at Ontario (Estimate includes $30,000.00 of Idaho Federal Government Funds.)		148,000.00	124,286.39	124,286.39	65,617.93	124,286.39	124,286.39				82,382.07			7,850.15	7,850.15
MARION COUNTY															
Grading and paving, Jefferson City Section..	0.90	28,563.46	6,486.57	28,563.46	25,719.01	5,654.57	27,731.46	2,844.45	832.00	832.00				399.08	1,405.91
Relief opening and approach, Pudding River		14,418.22	5,036.13	14,418.22	2,808.98	1,734.09	2,808.98	11,609.24	3,302.04	11,609.24				171.50	921.73
MORROW COUNTY															
Surfacing, Lexington-Heppner	10.27	65,789.34	23,977.54	65,789.34	64,029.51	22,217.71	64,029.51	1,759.83	1,759.83	1,759.83				584.50	3,903.46
Surfacing, Heppner-Jones Hill	11.48	61,516.02	61,516.02	61,516.02	32,569.43	55,705.92	55,705.92	28,946.59	5,810.10	5,810.10				3,574.84	3,574.84
Grading, Lexington-Heppner	9.50	55,942.02		55,942.02	55,123.76	Cr. 585.00	55,123.76	818.26	585.00	818.26					3,928.74
Grading, Heppner-Jones Hill	9.00	59,869.99		59,869.99	19,570.53	Cr. 71.46	19,570.53	40,299.46	71.46	40,299.46					3,126.19
Grading, Messner Overcrossing Approaches..		1,084.05		1,084.05	813.04	Cr. 271.01	813.04	271.01	271.01	271.01					98.20
Grading, Jones Hill-Lena	2.90	21,000.00	13,768.66	13,768.66	21,000.00	13,768.66	13,768.66							1,506.20	1,506.20
Bridge over Black Horse Creek at Lexington		5,764.60		5,764.60	5,231.25	Cr. 533.35	5,231.25	533.35	533.35	533.35					431.10
Messner Overcrossing		19,318.73		19,318.73	13,831.60	Cr. 5,487.13	13,831.60	5,487.13	5,487.13	5,487.13					1,665.98

TABLE VI—Continued

PROJECT	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	State Cooperation: State Share of Estimated Cost	State Cooperation: Expended by State During 1923 and 1924	State Cooperation: Total Expended by State to Date	County Cooperation: County Share of Estimated Cost	County Cooperation: Expended by County During 1923 and 1924	County Cooperation: Total Expended by County to Date	Government Cooperation: Government Share of Estimated Cost	Government Cooperation: Expended by Government During 1923 and 1924	Government Cooperation: Total Expended by Government to Date	Construction Engineering (Included in Preceding Columns): Cost During 1923-1924	Construction Engineering (Included in Preceding Columns): Total Cost to Date
POLK COUNTY															
Paving, Rickreall-Monmouth-Independence	7.80	258,067.50		258,067.50	235,718.54		258,067.50	22,348.96							13,298.44
Paving, Salem-Brunks Corner	5.51	171,966.60		171,966.60	78,498.65	Cr. 16,476.34	78,498.65	20,863.08	10,000.00	20,863.08	72,604.87	6,476.34	72,604.87		13,037.68
Paving, Brunks Corner-Dallas	7.50	254,290.28	21,635.91	254,290.28	244,164.86	18,627.88	244,164.86	10,125.42	3,008.03	10,125.42				176.77	8,379.21
Paving, Dallas City Section	1.00	24,855.60	764.34	24,855.60	493.23	7.89	493.23	24,362.37	756.45	24,362.37				7.89	493.23
Paving, Monmouth-Benton County Line	9.70	275,000.00	261,913.08	262,055.29	92,107.63	116,095.36	116,237.57	15,327.91	500.00	500.00	167,564.46	145,317.72	145,317.72	12,593.69	12,735.90
Paving, Rickreall-Holmes Gap	5.67	145,446.79	145,387.05	145,446.79	55,724.51	55,664.77	55,724.51				89,722.28	89,722.28	89,722.28	5,899.47	5,959.21
Grading and surfacing, Benton County Line-North	1.64	19,309.61	743.17	19,309.61	5,859.89	743.17	5,859.89	13,449.72		13,449.72					1,960.42
Grading and surfacing, Yamhill County Line-Butler's Store	7.60	135,162.60	4,855.12	135,162.60	135,162.60	4,855.12	135,162.60							Cr. 158.04	14,166.92
Surfacing, Rickreall-Holmes Gap		12,408.74	4,625.59	12,408.74	12,408.74	4,625.59	12,408.74							1.04	46.59
Grading, Monmouth-Luckiamute River	5.10	51,134.12	3,929.62	51,134.12	4,941.46	3,325.10	11,062.12	46,192.66	604.52	40,072.00				97.40	4,941.46
Grading, Luckiamute River-Suver	2.30	10,956.52	3,038.87	10,956.52	2,138.62	3,038.87	10,956.52	8,817.90						460.71	2,138.62
Grading, Rickreall-Holmes Gap	5.30	17,051.89	707.94	17,051.89	1,898.56	707.94	17,051.89	15,153.33						Cr. 51.15	1,898.56
Grading, Approaches to Rickreall Bridge		2,127.14	2,127.14	2,127.14	2,127.14	2,127.14	2,127.14							52.56	52.56
Bridge, Yamhill River West of Willamina		16,550.99	7,114.19	16,550.99	16,550.99	7,114.19	16,550.99							300.44	965.41
Bridge over Basket Slough near Rickreall		5,434.05	5,434.05	5,434.05	Cr. 2,778.60	2,359.55	2,359.55	5,138.15			3,074.50	3,074.50	3,074.50	295.90	295.90
Bridge over Rickreall Creek at Rickreall		21,973.65	21,973.65	21,973.65	4,473.65	4,473.65	4,473.65	17,500.00	17,500.00	17,500.00				1,636.55	1,636.55
POLK AND YAMHILL COUNTIES															
Paving, Amity-Holmes Gap	8.30	288,675.65	3,510.39	288,675.65	254,519.37	3,510.39	279,818.13	34,156.28		8,857.52					17,372.44
Bridges, Amity-Holmes Gap Section		22,795.60		22,795.60	1,132.23		10,589.59	21,663.37		12,206.01					721.48
SHERMAN COUNTY															
Grading and surfacing, Wasco-Moro	7.50	69,097.12	47.20	69,097.12	36,501.37	23.60	36,501.37	32,595.75	23.60	32,595.75					3,905.57
Grading and surfacing, Moro-Grass Valley	8.58	68,750.25	19,711.54	68,750.25	36,871.36	10,126.39	36,871.36	31,878.89	9,585.15	31,878.89				867.60	4,992.46
Grading and surfacing, Grass Valley-Kent	12.58	122,073.62	122,073.62	122,073.62	Cr. 5,524.18	Cr. 4,709.29	Cr. 4,709.29	56,487.23	55,672.34	55,672.34	71,110.57	71,110.57	71,110.57	9,099.15	9,099.15
Grading and surfacing, Kent-Wasco County Line	7.89	81,865.32	81,865.32	81,865.32	Cr. 4,794.05	Cr. 4,145.22	Cr. 4,145.22	38,223.76	37,574.93	37,574.93	48,435.61	48,435.61	48,435.61	5,417.79	5,417.79
Grading and surfacing, Wasco-Biggs	9.45	164,907.90	150,193.42	164,907.90	86,048.78	78,970.17	87,017.34	78,859.12	71,223.25	77,890.56				7,972.86	11,216.42
Surfacing, City of Wasco Section		2,500.00	2,500.00	2,500.00	1,250.00	1,250.00	1,250.00	1,250.00	1,250.00	1,250.00					
Culvert at Moro Undercrossing		2,943.42	2,943.42	2,943.42	1,473.71	1,928.36	1,928.36	1,469.71	1,015.06	1,015.06				4.00	4.00
Moro Undercrossing		4,369.49	4,369.49	4,369.49	1,747.80	2,621.70	2,621.70	873.90						81.30	81.30
(O. W. R. & N. Co. cooperates $1,747.79. All paid during 1923-24.)															
TILLAMOOK COUNTY															
Paving, Tillamook City-South	0.14	7,772.27	7,772.27	7,772.27	7,772.27	7,772.27	7,772.27							398.02	398.02
Grading and surfacing, Unit "A," Clatsop County Line-Mohler	4.70	57,519.83	23,698.27	57,519.83	31,368.30	13,037.90	31,368.30	26,151.53	10,660.37	26,151.53				2,377.54	5,216.77
Grading and surfacing, Unit "B," Clatsop County Line-Mohler	2.63	36,930.86	36,930.86	36,930.86	19,217.96	19,217.96	19,217.96	17,712.90	17,712.90	17,712.90				1,505.05	1,505.05
Grading and surfacing, Neskowin-Hebo	13.00	166,855.27	119,914.22	166,855.27	89,079.56	66,873.30	89,079.56	77,775.71	53,040.92	77,775.71				6,723.39	11,303.83
Surfacing, Moore Cut-off	3.00	49,858.49	8,598.55	49,858.49	49,858.49	8,598.55	49,858.49							5.59	3,032.83
Surfacing, Beaver-Hebo	4.70	49,023.40	7,211.28	49,023.40	49,023.40	7,211.28	49,023.40							Cr. 52.06	3,956.06
Surfacing, Rockaway-North	3.30	15,182.10	5,684.94	15,182.10	15,182.10	5,684.94	15,182.10							Cr. 91.31	535.35
Grading, Jetty Creek-Brighton	1.00	90,000.00	49,909.59	49,909.59	65,000.00	49,132.26	49,132.26	25,000.00	777.33	777.33				1,925.56	1,925.56
Bridges on Three Rivers Section East of Hebo		3,119.19	3,119.19	3,119.19	1,559.59	1,559.59	1,559.59	1,559.60	1,559.60	1,559.60					
UMATILLA COUNTY															
Grading and surfacing, Holdman-Harps Ranch	3.00	44,440.84	44,421.72	44,440.84	2,026.76	2,007.64	2,026.76	42,414.08	42,414.08	42,414.08				2,007.64	2,026.76
Grading and surfacing, Deadmans Pass-Kamela	13.54	150,363.75	94,948.42	150,363.75	Cr. 5,456.39	7,774.23	42,125.90	71,373.44	23,791.15	23,791.15	84,446.70	63,383.04	84,446.70	4,153.25	6,747.79
Grading and surfacing, Nye-Lazinka Ranch	6.69	63,444.66	63,444.66	63,444.66	3,129.65	3,238.10	3,238.10	60,315.01	60,206.56	60,206.56				3,129.65	3,129.65
Grading and surfacing, McKay Creek-Pendleton	5.10	40,633.62	40,633.62	40,633.62	40,633.62	40,633.62	40,633.62							2,697.93	2,697.93
Surfacing, Pilot Rock-Vinson	10.70	45,131.41	11,309.86	45,131.41	45,131.41	11,309.86	45,131.41							216.23	2,732.28
Surfacing, Vinson Section	4.00	19,022.44	18,995.44	19,022.44	19,022.44	18,995.44	19,022.44							812.50	839.50
Grading, Pilot Rock-Vinson	14.70	92,126.79	2,326.66	92,126.79	58,404.64	Cr. 3,478.02	58,404.64	33,722.15	5,804.68	33,722.15				152.30	7,290.49
Bridges, Athena-Milton Section		12,533.31		12,533.31	1,009.99	Cr. 500.29	1,009.99	11,523.32	500.29	11,523.32					1,009.99
Bridge, Birch Creek in Pilot Rock		11,745.29	1,990.02	11,745.29	11,492.86	1,737.59	11,492.86	252.43	252.43	252.43				54.44	983.79
Bridge, U. S. R. S. Canal near Echo		5,912.71	5,897.08	5,912.71	5,912.71	5,897.08	5,912.71							380.29	396.52
Bridge, McKay Creek, near Pendleton		29,954.41	29,954.41	29,954.41	29,954.41	29,954.41	29,954.41							2,007.07	2,007.07
Bridges, between Pendleton and Adams		18,500.00	15,037.66	15,037.66	18,500.00	15,037.66	15,037.66							1,095.21	1,095.21
Bridge, Umatilla River at Umatilla		52,000.00	9,890.07	9,890.07	987.13	9,890.07	9,890.07	19,000.00			32,012.87			1,343.53	1,343.53
Cooperative maintenance prior to April 1, 1921		35,960.97		35,960.97	18,029.93		30,088.68	17,931.04		5,872.29					
UNION COUNTY															
Paving, City of Union	1.31	78,647.38	Cr. 506.13	78,647.38	18,170.33	Cr. 585.94	32,822.39	60,477.05	79.81	45,824.99				59.06	3,427.58
Grading and surfacing, Hot Lake-Union	5.03	76,612.99		76,612.99	35,578.06		76,612.99	41,034.93							5,533.33
Grading and surfacing, Perry, Oro Dell- La Grande	1.34	36,000.00	34,660.70	34,660.70	19,841.45	29,451.59	29,451.59	14,358.55	5,209.11	5,209.11				1,260.84	1,260.84
(O. W. R. & N. Co. cooperates approximately $1,800.00. No payments to date.)															
Surfacing, Unit 1, Island City-Elgin	6.57	41,134.45	19,725.67	41,134.45	Cr. 21,399.93	Cr. 22,645.35	Cr. 21,399.93	39,653.74	19,490.38	39,653.74	22,880.64	22,880.64	22,880.64	235.29	1,480.71

TABLE VI—Continued

PROJECT	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	State Cooperation: State Share of Estimated Cost	State Cooperation: Expended by State During 1923 and 1924	State Cooperation: Total Expended by State to Date	County Cooperation: County Share of Estimated Cost	County Cooperation: Expended by County During 1923 and 1924	County Cooperation: Total Expended by County to Date	Government Cooperation: Government Share of Estimated Cost	Government Cooperation: Expended by Government During 1923 and 1924	Government Cooperation: Total Expended by Government to Date	Construction Engineering (Included in Preceding Columns): Cost During 1923-1924	Construction Engineering (Included in Preceding Columns): Total Cost to Date
UNION COUNTY—Continued															
Surfacing, Unit 2, Island City-Elgin	11.49	78,000.00	73,410.98	73,431.15	Cr. 39,576.62	Cr. 39,863.67	Cr. 39,843.50	73,000.00	68,698.03	68,698.03	44,576.62	44,576.62	44,576.62	4,712.95	4,733.12
Surfacing, Kamela-Oro Dell	18.77	105,315.52	7,047.29	105,315.52	105,315.52	7,047.29	105,315.52	.....	.....	.....	.....	.....	.....	1,118.09	3,450.65
Grading, Union-Telocaset	6.02	76,690.77	.....	76,690.77	4,286.33	Cr. 12,339.50	49,351.27	57,404.44	12,339.50	12,339.50	15,000.00	.....	15,000.00	.....	4,286.33
Grading, Kamela-Hilgard	12.75	176,678.16	Cr. 4,079.33	176,678.16	7,039.42	38.62	7,039.42	169,638.74	Cr. 4,117.95	169,638.74	.....	.....	.....	Cr. 255.76	7,039.42
Grading, Hilgard-La Grande	6.30	113,065.95	Cr. 5,674.20	113,065.95	3,905.68	Cr. 2,022.89	3,905.68	109,160.27	Cr. 3,651.31	109,160.27	.....	.....	.....	Cr. 270.20	3,905.68
Grading, North Powder-Telocaset	9.06	43,995.88	Cr. 4,798.75	43,995.88	5,529.65	Cr. 228.51	5,529.65	38,466.23	Cr. 4,570.24	38,466.23	.....	.....	.....	Cr. 228.51	5,529.65
Grading, Island City-Elgin	18.10	78,094.34	16,004.15	78,094.34	78,094.34	16,004.15	78,094.34	.....	.....	.....	.....	.....	.....	186.55	5,586.01
Grading, Rhinehart Overcrossing Approaches	0.24	10,385.42	10,385.42	10,385.42	10,385.42	10,385.42	10,385.42	.....	.....	.....	.....	.....	.....	573.73	573.73
Bridges over Wolf and Jimmy Creeks near North Powder	.....	8,191.90	.....	8,191.90	639.78	.....	8,191.90	7,552.12	.....	.....	.....	.....	.....	.....	639.78
Bridges over Catherine Creek near Union	.....	17,073.29	.....	17,073.29	1,319.45	.....	17,073.29	15,753.84	.....	.....	.....	.....	.....	.....	1,319.45
Bridge over Grande Ronde River near Perry	.....	24,914.01	.....	24,914.01	1,488.93	.....	24,914.01	23,425.08	.....	.....	.....	.....	.....	.....	1,488.93
Bridges between Kamela and La Grande	.....	24,105.14	.....	24,105.14	1,639.70	.....	24,105.14	22,465.44	.....	.....	.....	.....	.....	.....	1,639.70
Bridge over Grande Ronde River and Dry Creek	.....	32,371.97	3,725.62	32,371.97	32,371.97	3,725.62	32,371.97	.....	.....	.....	.....	.....	.....	429.49	2,224.77
Perry Undercrossing	.....	6,424.07	6,424.07	6,424.07	6,424.07	6,424.07	6,424.07	.....	.....	.....	.....	.....	.....	5.40	5.40
Hilgard Overcrossing (O. W. R. & N. Co. cooperates $10,681.98. All paid during 1923 and 1924.)	.....	55,504.32	6,009.92	55,504.32	40,244.35	Cr. 4,672.06	44,822.34	4,577.99	.....	.....	.....	.....	.....	291.37	3,442.88
North Powder Overcrossing (O. W. R. & N. Co. cooperates $15,978.61. Paid $16,026.16 prior to 1923 and credit $47.55 during 1923-24.)	.....	40,052.23	Cr. 118.87	40,052.23	16,084.32	Cr. 71.32	24,073.62	7,989.30	.....	.....	.....	.....	.....	.....	2,789.11
Glover Overcrossing (O. W. R. & N. Co cooperates $8,845.94. All paid during 1923-24.)	.....	26,500.06	5,394.98	26,500.06	14,259.15	Cr. 3,450.96	17,654.12	3,394.97	.....	.....	.....	.....	.....	265.38	1,907.26
Telocaset Overcrossing (O. W. R. & N. Co. cooperates $10,981.49. All paid during 1923-24.)	.....	31,375.69	4,824.80	31,375.69	15,687.85	Cr. 6,156.69	20,394.20	4,706.35	.....	.....	.....	.....	.....	Cr. 502.69	2,000.38
Hot Lake Overcrossing (O. W. R. & N. Co. cooperates $15,727.64. All paid during 1923-24.)	.....	45,735.04	77.59	45,735.04	23,147.14	Cr. 15,650.05	30,007.40	6,860.26	.....	.....	.....	.....	.....	4.12	3,018.57
Rhinehart Bridge and Overcrossing (O. W. R. & N. Co. cooperates $5,080.00. All paid during 1923-24.)	.....	38,865.54	26,502.67	38,865.54	23,625.54	11,262.67	23,625.54	10,160.00	10,160.00	10,160.00	.....	.....	.....	1,556.86	3,188.82
Oro Dell Overcrossing (O. W. R. & N. Co. cooperates $15,477.00. No payments to date.)	.....	50,163.92	50,163.92	50,163.92	34,686.92	50,163.92	50,163.92	.....	.....	.....	.....	.....	.....	3,204.76	3,204.76
Perry Bridge and Overcrossing (O. W. R. & N. Co. cooperates $12,230.61. All paid during 1923-24.)	.....	53,814.43	53,814.43	53,814.43	35,479.83	41,583.82	41,583.82	6,103.99	.....	.....	.....	.....	.....	2,950.62	2,950.62
UNION AND WALLOWA COUNTIES															
Surfacing, Wallowa Hill Section	5.40	37,466.98	31,760.06	37,466.98	3,172.36	Cr. 2,534.56	3,172.36	34,294.62	34,294.62	34,294.62	.....	.....	.....	522.98	1,180.48
Grading, Wallowa Hill Section	5.40	134,847.64	3,136.43	134,847.64	129,961.23	Cr. 1,749.98	129,961.23	4,886.41	4,886.41	4,886.41	.....	.....	.....	Cr. 945.33	7,308.68
WALLOWA COUNTY															
Grading and surfacing, Wallowa Canyon-Lostine	12.00	236,688.04	.....	236,688.04	123,032.45	Cr. 43,744.61	123,032.45	113,655.59	43,744.61	113,655.59	.....	.....	.....	.....	10,815.00
Grading and surfacing, Lostine-Enterprise	7.89	116,000.00	109,830.10	112,130.89	Cr. 2,610.58	14,384.97	15,688.71	54,700.00	31,534.55	32,531.60	63,910.58	63,910.58	63,910.58	5,340.92	6,644.66
Grading and surfacing, Unit 2, Enterprise-Forest Boundary	6.05	85,000.00	79,773.59	79,773.59	45,000.00	54,084.09	54,084.09	40,000.00	25,689.50	25,689.50	.....	.....	.....	5,155.09	5,155.09
Grading, Wallowa Canyon Section	8.38	149,340.42	16,680.38	149,340.42	26,365.49	15,737.38	26,365.49	61,190.08	943.00	61,190.08	61,784.85	.....	61,784.85	139.48	15,407.19
Bridges, Lostine-Enterprise Section	.....	21,477.50	15,482.56	21,477.50	1,307.53	3,197.89	6,570.86	9,762.97	1,877.67	4,499.64	10,407.00	10,407.00	10,407.00	1,200.58	1,951.56
Bridges, Wallowa River at Minam	.....	24,526.71	24,526.71	24,526.71	24,526.71	24,526.71	24,526.71	.....	.....	.....	.....	.....	.....	1,347.65	1,347.65
WASCO COUNTY															
Grading and surfacing, The Dalles-Dufur	15.20	215,302.52	146,897.79	215,302.52	108,192.94	71,088.88	108,192.94	107,109.58	75,808.91	107,109.58	.....	.....	.....	5,321.37	10,072.46
Grading and surfacing, Sherman County Line-Cow Canyon	21.65	250,000.00	240,631.77	240,631.77	Cr. 12,948.12	35,438.37	35,438.37	120,000.00	114,400.84	114,400.84	142,948.12	90,792.56	90,792.56	10,273.57	10,273.57
Surfacing, Cow Canyon Section	7.72	42,066.89	42,055.01	42,066.89	Cr. 1,867.21	Cr. 1,879.09	Cr. 1,867.21	20,198.80	20,198.80	20,198.80	23,735.30	23,735.30	23,735.30	1,657.40	1,669.28
Surfacing, Unit 1, Dufur-White River	7.57	42,000.00	13,301.43	13,301.43	Cr. 4,622.83	7,396.41	7,396.41	20,000.00	5,905.02	5,905.02	26,622.83	.....	.....	1,491.40	1,491.40
Surfacing, Unit 2, Dufur-White River	11.26	71,000.00	59,993.60	59,993.60	18,502.20	31,172.47	31,172.47	34,000.00	28,821.13	28,821.13	18,497.80	.....	.....	2,051.33	2,051.33
Surfacing, White River-Cow Canyon	30.00	152,000.00	4.32	4.32	Cr. 6,656.18	4.32	4.32	73,000.00	.....	.....	85,656.18	.....	.....	4.32	4.32
Grading, Cow Canyon Section	7.83	86,370.40	5,865.40	86,370.40	45,523.68	2,129.83	45,523.68	40,846.72	3,735.57	40,846.72	.....	.....	.....	161.48	4,676.96
Grading, Tygh Valley Section	6.00	88,000.00	85,049.86	85,049.86	1,197.66	8,845.79	8,845.79	41,500.00	39,665.23	39,665.23	45,302.34	36,538.84	36,538.84	4,629.40	4,629.40
Grading, Tygh Grade Section	6.00	195,000.00	188,887.04	188,887.04	Cr. 7,046.12	13,575.03	13,575.03	92,000.00	87,905.28	87,905.28	110,046.12	87,406.73	87,406.73	10,070.81	10,070.81
Grading, Unit 1, Deschutes River Crossing	7.00	52,000.00	46,709.67	46,709.67	1,000.00	16,994.02	16,994.02	24,000.00	21,729.95	21,729.95	27,000.00	7,985.70	7,985.70	2,650.77	2,650.77
Grading, Unit 2, Deschutes River Crossing	6.68	68,000.00	60,628.99	60,628.99	Cr. 3,342.87	Cr. 5,343.54	Cr. 5,343.54	32,000.00	30,082.01	30,082.01	39,342.87	35,890.52	35,890.52	3,455.20	3,455.20
Grading, Tygh Grade-Dufur	9.87	109,000.00	105,705.87	105,705.87	Cr. 35,675.96	Cr. 29,579.49	Cr. 29,579.49	86,500.00	85,077.07	85,077.07	58,175.96	50,208.29	50,208.29	5,544.79	5,544.79
Grading, Criterion-Cow Canyon	14.10	70,000.00	62,563.57	62,563.57	Cr. 7,381.70	6,780.45	6,780.45	33,000.00	29,512.91	29,512.91	44,381.70	26,270.21	26,270.21	3,500.77	3,500.77
Bridges, The Dalles-Dufur section	.....	21,160.26	13,020.88	21,160.26	11,686.10	7,126.92	11,686.10	9,474.16	5,893.96	9,474.16	.....	.....	.....	1,218.96	2,197.94
Bridge, White River near Tygh	.....	21,085.36	20,684.19	21,085.36	11,277.84	10,876.67	11,277.84	9,807.52	9,807.52	9,807.52	.....	.....	.....	1,069.15	1,470.32
Bridge, Deschutes River at Shearers	.....	5,461.43	5,461.43	5,461.43	.....	.....	.....	5,461.43	5,461.43	5,461.43	.....	.....	.....	198.55	198.55
Bridge, Fifteen Mile Creek at Dufur	.....	7,500.00	3,215.48	3,215.48	4,000.00	1,817.70	1,817.70	3,500.00	1,397.78	1,397.78	.....	.....	.....	389.60	389.60

TABLE VI—Continued

PROJECT	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	State Cooperation: State Share of Estimated Cost	State Cooperation: Expended by State During 1923 and 1924	State Cooperation: Total Expended by State to Date	County Cooperation: County Share of Estimated Cost	County Cooperation: Expended by County During 1923 and 1924	County Cooperation: Total Expended by County to Date	Government Cooperation: Government Share of Estimated Cost	Government Cooperation: Expended by Government During 1923 and 1924	Government Cooperation: Total Expended by Government to Date	Construction Engineering (Included in Preceding Columns): Cost During 1923-1924	Construction Engineering (Included in Preceding Columns): Total Cost to Date
WASHINGTON COUNTY															
Paving, Hillsboro-Multnomah County Line	11.20	232,345.10	4,234.73	232,345.10	232,345.10	4,234.73	232,345.10								5,206.94
Paving, Forest Grove-Gaston	6.73	233,580.63	625.21	233,580.63	230,380.03	Cr. 618.20	230,380.03	3,200.60	1,243.41	3,200.60					6,560.01
Grading, Dairy Creek Bridge Approaches	0.25	20,919.82	20,919.82	20,919.82	422.95	422.95	422.95	20,496.87	20,496.87	20,496.87				422.95	422.95
Bridge, Scoggins Creek near Gaston		6,657.29	Cr. 49.14	6,657.29	898.09	Cr. 49.14	898.09	5,759.20		5,759.20					898.09
Bridge, Tualatin River at Gaston		10,899.63	2,016.80	10,899.63	788.82	49.84	788.82	10,110.81	1,966.96	10,110.81				63.84	788.82
Bridge, Dairy Creek at Hillsboro		42,806.67	42,806.67	42,806.67	2,261.33	2,261.33	2,261.33	40,545.34	40,545.34	40,545.34				2,247.33	2,247.33
Bridge, Tualatin River near Hillsboro		18,000.00			1,000.00			17,000.00							
Votaw Undercrossing		15,000.00			8,000.00										
(S. P. Co. cooperates approx. $7,000.00. Nothing paid to date.)															
WHEELER COUNTY															
Grading and surfacing, Sarvice Creek Section	9.70	162,540.63	91,203.79	162,540.63	26,750.14	30,408.39	26,750.14	47,718.14	10,000.00	47,718.14	88,072.35	50,795.40	88,072.35	3,370.79	7,531.61
Grading and surfacing, Unit 1, Ochoco-Mitchell	1.99	23,854.33		23,854.33	12,622.20	Cr. 3,319.60	12,622.20	11,232.13	3,319.60	11,232.13					1,390.07
Grading and surfacing, Unit 2, Ochoco-Mitchell	12.00	153,540.18	123,719.23	153,540.18	110,749.41	105,928.46	110,749.41	42,790.77	17,790.77	42,790.77				4,970.13	7,592.91
Grading and surfacing, City of Fossil Section	0.59	5,348.22	5,295.51	5,348.22	2,934.07	2,881.36	2,934.07	2,414.15	2,414.15	2,414.15				467.21	519.92
Surfacing, Butte Creek Section	9.35	77,100.57	2,707.88	77,100.57	42,661.07	2,707.88	42,661.07				34,439.50		34,439.50		3,950.43
Surfacing, Unit 2, Sarvice Creek-Valades Ranch	12.10	48,061.34	48,061.34	48,061.34	24,656.43	24,656.43	24,656.43				23,404.91	23,404.91	23,404.91	2,095.07	2,095.07
Bridges in City of Fossil		5,696.08	5,696.08	5,696.08	2,929.96	2,929.96	2,929.96	2,766.12	2,766.12	2,766.12				163.84	163.84
YAMHILL COUNTY															
Grading and paving, McMinnville-Yamhill	9.80	256,341.09	13,097.41	256,341.09	211,859.52	13,097.41	211,859.52	44,481.57		44,481.57					11,688.27
Grading and paving, McMinnville-Sheridan	8.48	232,267.48		232,267.48	209,699.64	1,600.00	209,699.64	22,567.84	Cr. 1,600.00	22,567.84					10,677.46
Paving, McMinnville-Amity	5.00	121,220.97		121,220.97	48,820.95	Cr. 4,453.10	48,820.95				72,400.02	4,453.10	72,400.02		3,544.45
Paving, West Dayton-St. Joseph	4.20	131,694.26	10,479.42	131,694.26	129,689.64	10,479.42	129,689.64	2,004.62		2,004.62				Cr. 44.67	4,619.76
Grading and surfacing, Bee Ranch Section	3.97	83,160.78		83,160.78	78,160.78	Cr. 2,022.28	78,160.78	5,000.00	2,022.28	5,000.00					6,458.47
Surfacing, Sheridan-Polk County Line	4.50	71,197.70	65.69	71,197.70	71,197.70	65.69	71,197.70							Cr. 35.10	5,385.35
Surfacing, Yamhill River Fill at St. Joseph		665.98	665.98	665.98	665.98	665.98	665.98							13.48	13.48
Grading, St. Joseph Section	1.06	13,000.00	12,352.72	12,352.72	3,700.00	12,352.72	12,352.72	5,700.00						596.65	596.65
(S. P. Co. cooperates approx. $3,600.00. No payments to date.)															
Bridge, Deer Creek at Bellevue		10,736.04	3,062.02	10,736.04	1,232.93	417.13	1,232.93	9,503.11	2,644.89	9,503.11				53.35	869.15
Bridge, Ash Swale at Amity		30,776.81	6,661.32	30,776.81	2,020.53	238.79	2,020.53	28,756.28	6,422.53	28,756.28				238.79	2,006.53
Bridge, Willamina River at Willamina		12,069.22	10,662.03	12,069.22	945.79	637.99	945.79	11,123.43	10,024.04	11,123.43				623.99	931.79
Whiteson Undercrossing		1,956.91	1,956.91	1,956.91	596.56	596.56	596.56	583.01	583.01	583.01					
(S. P. R. R. Co. cooperates $777.34. All paid during 1923-24.)															
Grand Totals		$28,458,953.15	$11,589,925.66	$26,638,015.94	$14,882,207.19	$ 5,014,120.47	$15,850,355.04	$8,409,918.94	$3,757,239.91	$6,833,143.35	*$4,859,387.06	$2,604,442.09	$3,714,451.68	$ 582,218.52	$1,397,911.91

SUMMARY

COOPERATING PARTIES	Estimated Cooperative Shares	Expended Prior to Dec. 1, 1922	Expended Dec. 1, 1922, to Nov. 30, 1924	Total Expended to Date	Cost to Complete
State	$14,882,207.19	$10,836,234.57	$ 5,014,120.47	$15,850,355.04	$Cr.968,147.85
Counties	8,409,918.94	3,075,903.44	3,757,239.91	6,833,143.35	1,576,775.59
Federal Government	* 4,859,387.06	1,110,009.59	2,604,442.09	3,714,451.68	* 1,144,935.38
Railway Companies	307,439.96	25,942.68	214,123.19	240,065.87	67,374.09
Totals	$28,458,953.15	$15,048,090.28	$11,589,925.66	$26,638,015.94	$ 1,820,937.21

* Includes $30,000.00 of Idaho Federal Government Funds contributed by the State of Idaho as cooperation in the construction of the Snake River Bridge at Ontario.

TABLE VII

EXPENDITURES FOR MAJOR ADDITIONS AND MAJOR BETTERMENT WORK—DECEMBER 1, 1922, TO NOVEMBER 30, 1924

In this table are listed the expenditures made upon those construction jobs which have to do with the improvement and betterment of sections of highway which have previously been constructed under the supervision of the State Highway Commission

PROJECT	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	State Cooperation			County Cooperation			Government Cooperation			Construction Engineering (Included in Preceding Columns)	
					State Share of Estimated Cost	Expended by State During 1923 and 1924	Total Expended by State to Date	County Share of Estimated Cost	Expended by County During 1923 and 1924	Total Expended by County	Government Share of Estimated Cost	Expended by Government During 1923 and 1924	Total Expended by Government to Date	Cost During 1923-1924	Total Cost to Date
CLATSOP COUNTY															
Widening roadbed Astoria-Svenson	8.82	$133,000.00	$113,030.37	$113,030.37	$133,000.00	$113,030.37	$113,030.37	$	$	$	$	$	$	$ 6,662.78	$ 6,662.78
Grading, Astoria Slide Section	0.32	36,000.00	16,604.23	16,604.23	36,000.00	16,604.23	16,604.23	.....	.....	.....	.....	.....	.....	495.42	495.42
DOUGLAS COUNTY															
Pavement resurfacing, Rice Hill Section	2.80	42,520.95	30,645.43	42,520.95	42,520.95	30,645.43	42,520.95	.....	.....	.....	.....	.....	.....	444.54	756.45
HOOD RIVER COUNTY															
Guard fence on Mt. Hood Loop	.....	8,627.23	8,627.23	8,627.23	4,372.90	4,372.90	4,372.90	4,254.33	4,254.33	4,254.33	.....	.....	.....	110.57	110.57
JACKSON COUNTY															
Widening, Keene Creek-Klamath County Line	.....	11,425.52	11,425.52	11,425.52	6,334.91	6,334.91	6,334.91	5,090.61	5,090.61	5,090.61	.....	.....	.....	1,244.30	1,244.30
Patrolman's quarters at Siskiyou Station	.....	5,500.00	4,098.95	4,098.95	5,500.00	4,098.95	4,098.95	.....	.....	.....	.....	.....	.....	211.92	211.92
LANE COUNTY															
Pavement resurfacing, Eugene-Goshen	4.93	110,329.09	110,329.09	110,329.09	110,329.09	110,329.09	110,329.09	.....	.....	.....	.....	.....	.....	3,385.10	3,385.10
LINN COUNTY															
Santiam River bank protection (S. P. Co. cooperates approx. $10,000.00. Paid $9,640.46 during 1923-24.)	.....	20,000.00	18,802.79	18,802.79	10,000.00	9,162.33	9,162.33	.....	.....	.....	.....	.....	.....	29.45	29.45
MARION COUNTY															
Paving, Aurora relief opening	.....	2,585.05	2,585.05	2,585.05	2,585.05	2,585.05	2,585.05	.....	.....	.....	.....	.....	.....	3.00	3.00
SHERMAN COUNTY															
Equipment warehouse at Rufus	.....	1,200.00	.....	.....	1,200.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SHERMAN AND GILLIAM COUNTIES															
Reconstructing bridge over John Day River	.....	19,110.68	9,761.78	19,110.68	19,110.68	9,761.78	19,110.68	.....	.....	.....	.....	.....	.....	397.31	1,511.56
TILLAMOOK COUNTY															
Widening, South Prairie-Wilson River	4.50	12,177.27	12,177.27	12,177.27	12,177.27	12,177.27	12,177.27	.....	.....	.....	.....	.....	.....	233.63	233.63
UMATILLA COUNTY															
Grading, Stanfield Line Revision	0.90	6,485.38	6,485.38	6,485.38	6,485.38	6,485.38	6,485.38	.....	.....	.....	.....	.....	.....	590.75	590.75
UNION COUNTY															
Pavement resurfacing, La Grande-Island City	2.00	45,289.87	45,289.87	45,289.87	45,289.87	45,289.87	45,289.87	.....	.....	.....	.....	.....	.....	2,096.27	2,096.27
Widening, Lone Pine-Telocaset	.....	6,278.41	6,278.41	6,278.41	6,278.41	6,278.41	6,278.41	.....	.....	.....	.....	.....	.....	83.38	83.38
WASCO COUNTY															
Grading, Mayer Park Branch	.....	16,000.00	3,584.07	3,584.07	16,000.00	3,584.07	3,584.07	.....	.....	.....	.....	.....	.....	899.10	899.10
Guard Fence, The Dalles-Dufur Section	.....	4,092.84	4,092.84	4,092.84	2,135.89	2,135.89	2,135.89	1,956.95	1,956.95	1,956.95	.....	.....	.....	178.94	178.94
Repairs to bridge at Maupin	.....	7,320.52	7,320.52	7,320.52	3,732.03	3,732.03	3,732.03	3,588.49	3,588.49	3,588.49	.....	.....	.....	143.54	143.54
WASHINGTON COUNTY															
Paving, Approaches to Tualatin River Bridge at Gaston	.....	8,871.04	8,871.04	8,871.04	8,482.46	8,482.46	8,482.46	388.58	388.58	388.58	.....	.....	.....	1,222.94	1,222.94
WASHINGTON AND YAMHILL COUNTIES															
Bit. pavement resurf., Newberg-Multnomah County Line	12.04	262,282.59	208,290.74	262,282.59	106,585.49	52,593.64	106,585.49	.....	.....	.....	155,697.10	155,697.10	155,697.10	4,624.37	6,927.90
Conc. pavement resurf., Newberg-Multnomah County Line	3.64	111,162.65	105,655.70	111,162.65	43,737.25	38,230.30	43,737.25	.....	.....	.....	67,425.40	67,425.40	67,425.40	5,975.36	6,459.31
YAMHILL COUNTY															
Grading, Hunt Cut-off	0.19	3,221.29	3,221.29	3,221.29	595.39	595.39	595.39	.....	.....	.....	2,625.90	2,625.90	2,625.90	27.20	27.20
Widening, Sheridan-Bellevue	4.00	13,371.98	13,371.98	13,371.98	13,371.98	13,371.98	13,371.98	.....	.....	.....	.....	.....	.....	456.42	456.42
Revisions to Yamhill River Bridge at Whiteson	.....	21,513.89	.....	21,513.89	1,913.75	2,307.63	1,913.75	19,600.14	Cr. 2,307.63	19,600.14	.....	.....	.....	.....	1,913.75
Totals	.....	$908,366.25	$750,549.55	$852,786.66	$637,738.75	$502,189.36	$582,518.70	$ 34,879.10	$ 12,971.33	$ 34,879.10	$225,748.40	$225,748.40	$225,748.40	$ 29,516.29	$ 35,643.68

SUMMARY

Cooperating Parties	Estimated Cooperative Shares	Expended Prior to Dec. 1. 1922	Expended Dec. 1, 1922, to Nov. 30, 1924	Total Expended to Date	Cost to Complete
State	$637,738.75	$ 80,329.34	$502,189.36	$582,518.70	$ 55,220.05
County	34,879.10	21,907.77	12,971.33	34,879.10	.....
Federal Government	225,748.40	.....	225,748.40	225,748.40	.....
Railway Companies	10,000.00	.....	9,640.46	9,640.46	359.54
Totals	$908,366.25	$102,237.11	$750,549.55	$852,786.66	$ 55,579.59

TABLE VIII—EXPENDITURES ON FOREST ROAD PROJECTS—DECEMBER 1, 1922, TO NOVEMBER 30, 1924

The expenditures of state funds as shown in the following table are the actual disbursements as shown by the books of the Highway Department. The expenditures of county funds and of federal government funds are as reported to the Highway Department by the U. S. Bureau of Public Roads, which bureau supervises all forest road work. It is to be noted that in those tables given in other parts of this report, which set out the total expenditures of the State Highway Department, only those expenditures upon forest road work which are made by the State are included.

All forest road projects upon the state highway system, that have been undertaken since the beginning of cooperative forest road construction in 1917, are included in this table.

PROJECT	Length in Miles	Total		State Funds				County Funds		Federal Funds	
		Estimated Cost of Project	Expended to Date	State Share of Estimated Cost	Expended Prior to 1923	Expended During 1923-1924	Expended from State Funds to Date	County Share of Estimated Cost	Expended from County Funds to Date	Government Share of Estimated Cost	Expended from Government Funds to Date
BAKER AND GRANT COUNTIES											
Prairie City-Unity, Survey	41.90	$ 7,000.00	$ 7,000.00	$ 2,500.00	$ 2,500.00	$	$ 2,500.00	$ 2,000.00	$ 2,000.00	$ 2,500.00	$ 2,500.00
Prairie City-Unity, Grading and surfacing	41.90	550,000.00	480,820.58	125,000.00	.....	100,000.00	100,000.00	150,000.00	150,000.00	275,000.00	230,820.58
CLACKAMAS AND HOOD RIVER COUNTIES											
Mt. Hood Loop, Grading and surfacing	37.58	1,010,000.00	971,574.32	505,000.00	256,748.12	224,073.93	480,822.05	.....	.....	505,000.00	490,752.27
CLACKAMAS AND WASCO COUNTIES											
Mt. Hood-Clear Lake, Grading	7.50	141,000.00	90,681.41	70,500.00	.....	20,000.00	20,000.00	.....	.....	70,500.00	70,681.41
Mt. Hood-Clear Lake, Maintenance	.....	1,063.05	1,063.05	500.00	.....	500.00	500.00	.....	.....	563.05	563.05
Mt. Hood-Wapinitia, Survey	36.00	10,000.00	9,100.65	5,000.00	2,500.00	2,500.00	5,000.00	.....	.....	5,000.00	4,100.65
COOS COUNTY											
Hauser-Douglas County Line, Grading and surfacing	10.00	190,000.00	8,201.50	12,000.00	.....	.....	.....	83,000.00	.....	95,000.00	8,201.50
Lakeside-Lake Saunders, Grading	3.30	68,674.06	68,674.06	.....	.....	.....	.....	.....	.....	68,674.06	68,674.06
CROOK COUNTY											
Ochoco Canyon, Grading and surfacing	9.70	111,143.34	111,143.34	39,634.17	39,634.17	.....	39,634.17	26,875.00	26,875.00	44,634.17	44,634.17
CURRY COUNTY											
Brush Creek-Mussell Creek, Grading and surfacing	6.10	150,492.95	150,492.95	45,000.00	25,000.00	20,000.00	45,000.00	30,000.00	30,000.00	75,492.95	75,492.95
Mussell Creek-Euchre Creek, Grading	.....	146,000.00	69,148.48	88,000.00	.....	25,000.00	25,000.00	.....	.....	58,000.00	44,148.48
Mussell Creek-Gold Beach, Survey	.....	7,000.00	7,000.00	.....	.....	.....	.....	.....	.....	7,000.00	7,000.00
DESCHUTES COUNTY											
Sisters Section, Surfacing	14.30	85,000.00	81,404.87	42,500.00	30,000.00	12,500.00	42,500.00	.....	.....	42,500.00	38,904.87
DESCHUTES AND LANE COUNTIES											
Sisters-Blue River, Grading and surfacing	50.10	730,781.10	730,781.10	302,500.00	223,332.07	79,167.93	302,500.00	20,000.00	14,502.42	408,281.10	413,778.68
DOUGLAS COUNTY											
Tiller Trail, Grading	3.94	100,000.00	100,000.00	33,333.33	33,333.33	.....	33,333.33	33,333.33	33,333.33	33,333.34	33,333.34
Unit 1, Canyonville-Galesville, Grading	9.90	211,000.00	211,000.00	94,000.00	94,000.00	.....	94,000.00	23,000.00	23,000.00	94,000.00	94,000.00
Unit 2, Canyonville-Galesville, Grading	1.10	98,776.86	98,776.86	88,776.86	88,776.86	.....	88,776.86	.....	.....	10,000.00	10,000.00
JACKSON COUNTY											
Crater Lake-Prospect, Grading	21.71	245,628.61	245,628.61	121,095.20	121,250.00	.....	121,250.00	3,438.21	3,438.21	121,095.20	120,940.40
Trail-Prospect, Grading and surfacing	13.60	300,210.38	300,210.38	150,000.00	50,000.00	100,000.00	150,000.00	.....	.....	150,210.38	150,210.38
JOSEPHINE COUNTY											
Hayes Hill, Grading and surfacing	2.39	76,272.70	76,272.70	38,233.39	38,233.39	.....	38,233.39	9,522.99	9,522.99	28,516.32	28,516.32
Oregon Caves, Grading	11.68	204,624.55	204,624.55	102,312.27	102,500.00	.....	102,500.00	.....	.....	102,312.28	102,124.55
Waldo-California Line, Grading	5.40	90,000.00	80,000.00	80,000.00	.....	80,000.00	80,000.00	.....	.....	10,000.00	.....
KLAMATH COUNTY											
Unit 1, Anna Creek Section, Grading and surfacing	3.50	14,207.13	14,207.13	7,103.56	7,103.56	.....	7,103.56	.....	.....	7,103.57	7,103.57
Unit 2, Anna Creek Section, Grading and surfacing	6.70	63,962.16	63,962.16	21,453.00	.....	21,453.00	21,453.00	21,453.00	21,453.00	21,056.16	21,056.16
Ft. Klamath-Sand Creek, Grading and surfacing	16.30	282,000.00	261,950.20	.....	.....	.....	.....	141,000.00	129,495.72	141,000.00	132,454.48
Sand Creek-Crescent, Grading and surfacing	25.00	240,000.00	20,710.02	120,000.00	.....	.....	.....	.....	.....	120,000.00	20,710.02
KLAMATH AND LAKE COUNTIES											
Lakeview-Lapine, Survey	18.20	1,758.74	1,758.74	879.37	879.37	.....	879.37	.....	.....	879.37	879.37
KLAMATH AND LANE COUNTIES											
Lowell-Crescent, Survey	100.00	27,000.00	24,503.60	13,500.00	.....	13,500.00	13,500.00	.....	.....	13,500.00	11,003.60
LANE COUNTY											
Blachly-Rainrock, Grading and surfacing	15.50	525,000.00	481,986.71	132,500.00	.....	77,500.00	77,500.00	150,000.00	150,000.00	242,500.00	254,486.71
Belknap Springs-East, Surfacing	15.90	95,000.00	51,802.61	47,500.00	.....	22,500.00	22,500.00	.....	.....	47,500.00	29,302.61
Eugene-Florence, Survey	24.00	7,732.82	7,732.82	3,866.41	3,732.82	133.59	3,866.41	.....	.....	3,866.41	3,866.41
LINCOLN COUNTY											
Alsea River, Grading and surfacing	28.70	471,000.00	443,396.26	173,000.00	78,889.39	94,110.61	173,000.00	125,000.00	93,000.00	173,000.00	177,396.26
LINCOLN AND TILLAMOOK COUNTIES											
Neskowin-Siletz, Grading and surfacing	17.00	695,000.00	620,066.38	305,500.00	25,000.00	200,000.00	225,000.00	120,000.00	120,000.00	269,500.00	275,066.38
LINN COUNTY											
Cascadia-Shea's Hill, Grading and surfacing	3.80	85,000.00	79,691.55	.....	.....	.....	.....	42,500.00	38,000.00	42,500.00	41,691.55
TILLAMOOK COUNTY											
Three Rivers Section, Grading and surfacing	8.70	209,900.37	209,900.37	149,528.51	149,528.51	.....	149,528.51	18,624.69	18,624.69	41,747.17	41,747.17
WALLOWA COUNTY											
Flora-Enterprise, Grading and surfacing	12.90	136,620.63	136,620.63	55,951.65	55,940.52	11.13	55,951.65	27,210.35	27,210.35	53,458.63	53,458.63
WHEELER COUNTY											
Ochoco Canyon, Grading and surfacing	9.73	219,010.12	219,010.12	105,060.12	105,350.00	Cr. 289.88	105,060.12	4,900.00	4,900.00	109,050.00	109,050.00
Grand Totals	.....	$7,607,859.57	$6,740,898.71	$3,081,727.84	$1,534,232.11	$1,092,660.31	$2,626,892.42	$1,031,857.57	$895,355.71	$3,494,274.16	$3,218,650.58

SUMMARY

Cooperating Parties	Estimated Cooperative Shares	Expended Prior to Dec. 1, 1922	Expended Dec. 1, 1922, to Nov. 30, 1924	Total Expended to Date	Estimated Cost to Complete
State	$3,081,727.84	$1,534,232.11	$1,092,660.31	$2,626,892.42	$454,835.42
Counties	1,031,857.57	169,413.66	725,942.05	895,355.71	136,501.86
Federal government	3,494,274.16	1,493,473.82	1,725,176.76	3,218,650.58	275,623.58
Totals	$7,607,859.57	$3,197,119.59	$3,543,779.12	$6,740,898.71	$866,960.86

TABLE IX

EXPENDITURES FOR SPECIAL MAINTENANCE WORK—DECEMBER 1, 1922, TO NOVEMBER 30, 1924

In this table are listed the expenditures made upon those construction jobs which have to do with the repair and upkeep of sections of highway which have previously been constructed under the supervision of the State Highway Commission.

Project	Length in Miles	Estimated Total Cost	Expended During 1923 and 1924	Total Expended to Date	Construction Engineering (Included in Preceding Columns)	
					Cost during 1923-1924	Total Cost to Date
BAKER COUNTY						
Regrading and resurfacing, Baker-Haines	.....	$ 30,224.11	$ 14,402,59	$ 30,224.11	$ 686.73	$ 2,907.40
BENTON COUNTY						
Resurfacing, Wren-Blodgett	.....	17,538.62	17,538.62	17,538.62	412.99	412.99
CLATSOP AND COLUMBIA COUNTIES						
Pavement resurfacing, Astoria-Goble	.....	*112,270.43	*53,506.44	*112,270.43	2,323.90	4,044.59
CROOK COUNTY						
Addition of filler, Prineville-Deschutes County Line	.....	15,000.00	9,666.52	9,666.52	.....	.....
DESCHUTES COUNTY						
Addition of filler, Jefferson County Line-Bend	24.20	40,000.00	37,867.97	37,867.97	1.30	1.30
Addition of filler, Redmond-Crook County Line	3.60	4,000.00	2,946.77	2,946.77	.....	.....
DOUGLAS COUNTY						
Furnishing maintenance materials at Olalla	.....	34,791.43	34,791.43	34,791.43	688.05	688.05
GILLIAM COUNTY						
Resurfacing, Morrow County Line-Quinton	27.00	84,762.63	84,762.63	84,762.63	3,296.56	3,296.56
Addition of filler, Sherman County Line-Quinton	.....	4,000.00	961.59	961.59	.....	.....
KLAMATH COUNTY						
Resurfacing, Klamath Falls-Barclay Springs	.....	10,614.89	10,614.89	10,614.89	.....	.....
Resurfacing, The Dalles-California Highway to Olene	.....	11,898.76	11,898.76	11,898.76	83.75	83.75
Resurfacing, Olene-Dairy	.....	17,496.11	17,496.11	17,496.11	456.69	456.69
LINCOLN COUNTY						
Resurfacing, Toledo-Newport	.....	15,117.10	15,117.10	15,117.10	40.10	40.10
MALHEUR COUNTY						
Resurfacing, Cairo-Nyssa	.....	12,560.00	12,560.00	12,560.00	505.95	505.95
MARION AND POLK COUNTIES						
Repairs to Salem Bridge	.....	9,893.98	9,893.98	9,893.98	.....	.....
MORROW COUNTY						
Resurfacing, Willow Creek-Mile Post 177.4	17.40	89,201.53	89,201.53	89,201.53	3,149.55	3,149.55
Resurfacing, Messner-Umatilla	15.10	67,068.39	67,068.39	67,068.39	2,788.26	2,788.26
Addition of filler, Mile Post 170 to Umatilla County Line	19.30	11,313.50	11,313.50	11,313.50	202.07	202.07
SHERMAN COUNTY						
Resurfacing, Deschutes River-Biggs	.....	9,800.87	9,800.87	9,800.87	437.28	437.28
TILLAMOOK COUNTY						
Furnishing maintenance materials at Cloverdale	.....	28,000.00	16,591.76	16,591.76	422.54	422.54
UMATILLA COUNTY						
Resurfacing, Echo-Pendleton	.....	74,430.56	74,430.56	74,430.56	2,504.92	2,504.92
Resurfacing, Umatilla-Nolin	22.70	109,091.19	109,091.19	109,091.19	6,511.28	6,511.28
Resurfacing, Pendleton-East	3.00	19,650.09	19,650.09	19,650.09	938.32	938.32
Addition of filler, Morrow County Line-Umatilla River	.....	6,011.30	6,011.30	6,011.30	185.18	185.18
Addition of filler, Umatilla River-Echo	.....	9,395.23	9,395.23	9,395.23	226.26	226.26
UNION COUNTY						
Resurfacing, Lone Pine-Telocaset	15.60	58,995.80	58,995.80	58,995.80	3,068.38	3,068.38
WASCO COUNTY						
Resurfacing, Seufert-Deschutes River	.....	49,918.40	49,918.40	49,918.40	2,139.70	2,139.70
Addition of filler, Seufert-Deschutes River	.....	13,441.02	13,441.02	13,441.02	6.25	6.25
YAMHILL COUNTY						
Pavement resurfacing, McMinnville-Bellevue	.....	11,805.53	11,805.53	11,805.53	536.23	536.23
Resurfacing, Grand Ronde-Alder Creek	6.80	157,631.63	18,090.02	157,631.63	748.27	7,916.38
Totals		*$1,135,923.10	*$898,830.59	*$1,112,957.71	$32,360.51	$43,469.98

* Included in this amount is a cooperative expenditure of $112.69 by the Larkin & Green Logging Company.

SUMMARY

Cooperating Parties	Estimated Cooperative Shares	Expended Prior to Dec. 1, 1922	Expended Dec. 1, 1922, to Nov. 30, 1924	Total Expended to Date	Cost to Complete
State	$1,135,810.41	$214,127.12	$898,717.90	$1,112,845.02	$22,965.39
Logging Company	112.69	.....	112.69	112.69	.....
Totals	$1,135,923.10	$214,127.12	$898,830.59	$1,112,957.71	$22,965.39

TABLE X

EXPENDITURES FOR MINOR ADDITIONS AND BETTERMENTS

December 1, 1922, to November 30, 1924

COUNTY	Expended Dec. 1, 1922, to Nov. 30, 1923	Expended Dec. 1, 1923, to Nov. 30, 1924	Total Expenditures 1923-1924 Biennium
Baker	$ 7,508.21	$ 2,794.47	$ 10,302.68
Benton	2.25	1,916.23	1,918.48
Clackamas	13.54	9,836.50	9,850.04
Clatsop	2,260.01	9,082.50	11,342.51
Columbia	419.77	3,827.44	4,247.21
Coos (State Funds)	2,862.99	7,901.15	10,764.14
(County Funds)	.....	1,355.17	1,355.17
Crook	1,765.70	14,261.43	16,027.13
Curry	879.88	1,664.97	2,544.85
Deschutes	7,063.12	3,399.44	10,462.56
Douglas	9,506.56	32,698.44	42,205.00
Gilliam	610.26	54.67	664.93
Grant	900.68	1,087.29	1,987.97
Harney	.....	.....	.....
Hood River (State Funds)	66,292.19	Cr. 344.87	65,947.32
(County Funds)	.....	2,202.89	2,202.89
Jackson	4,681.05	4,473.45	9,154.50
Jefferson	449.42	428.15	877.57
Josephine	3,477.69	6,430.99	9,908.68
Klamath	5,971.77	2,461.44	8,433.21
Lake	.....	134.66	134.66
Lane	2,810.03	6,817.81	9,627.84
Lincoln	2.01	2,077.38	2,079.39
Linn	1,376.08	2,145.87	3,521.95
Malheur	2,762.01	2,977.79	5,739.80
Marion (State Funds)	92.67	6,285.48	6,378.15
(County Funds)	3,769.48	Cr. 3,769.48	.....
Morrow	11,210.07	3,141.89	14,351.96
Polk	8,274.13	1,223.31	9,497.44
Sherman	.....	2,045.99	2,045.99
Tillamook	11,364.09	Cr. 176.44	11,187.65
Umatilla (State Funds)	5,411.89	18,201.01	23,612.90
(County Funds)	774.18	.....	774.18
Union	23,038.73	11,115.59	34,154.32
Wallowa	3,887.01	6,543.06	10,430.07
Wasco	4,186.73	6,631.27	10,818.00
Washington	1,737.21	3,142.49	4,879.70
Wheeler (State Funds)	8,228.13	3,363.79	11,591.92
(Government Funds)	.....	4,000.00	4,000.00
Yamhill	4,131.57	1,333.40	5,464.97
Totals	$207,721.11	$182,766.62	$390,487.73

SUMMARY

	1923	1924	Total
State Expenditures	$ 203,177.45	$ 178,978.04	$ 382,155.49
County Expenditures	4,543.66	Cr. 211.42	4,332.24
Government Expenditures	.....	4,000.00	4,000.00
Totals	$207,721.11	$182,766.62	$390,487.73

TABLE XI

EXPENDITURES FOR GENERAL MAINTENANCE WORK

December 1, 1922, to November 30, 1924

COUNTY	Expended Dec. 1, 1922, to Nov. 30, 1923	Expended Dec. 1, 1923, to Nov. 30. 1924	Total Expenditures 1923-1924
Baker	$ 37,004.91	$ 62,749.02	$ 99,753.93
Benton	12,153.81	29,358.86	41,512.67
Clackamas (State Funds)	14,726.18	42,751.20	57,477.38
(County Funds)	200.00	.....	200.00
Clatsop	16,615.43	27,344.92	43,960.35
Columbia	14,022.63	24,159.04	38,181.67
Coos (State Funds)	52,609.59	35,986.11	88,595.70
(County Funds)	2,834.92	.....	2,834.92
Crook	10,300.50	11,791.49	22,091.99
Curry (State Funds)	6,462.55	8,091.82	14,554.37
(Government Funds)	.....	2,508.20	2,508.20
Deschutes	19,052.97	13,394.81	32,447.78
Douglas	40,866.53	73,610.85	114,477.38
Gilliam	17,975.42	30,478.03	48,453.45
Grant	12,901.38	16,232.60	29,133.98
Harney	4,200.12	3,995.17	8,195.29
Hood River	19,657.99	31,650.09	51,308.08
Jackson	61,959.39	44,215.69	106,175.08
Jefferson	7,229.63	16,767.47	23,997.10
Josephine	13,713.68	13,379.86	27,093.54
Klamath (State Funds)	28,637.96	53,502.67	82,140.63
(Government Funds)	.....	1,167.55	1,167.55
Lake	5,515.24	9,872.82	15,388.06
Lane	31,911.93	34,216.63	66,128.56
Lincoln	8,202.75	14,202.17	22,404.92
Linn	26,843.47	10,737.20	37,580.67
Malheur	20,635.35	29,252.66	49,888.01
Marion	19,401.29	20,301.82	39,703.11
Morrow	21,506.22	32,806.70	54,312.92
Polk	10,788.02	15,075.32	25,863.34
Sherman	9,939.95	33,375.29	43,315.24
Tillamook	34,152.81	35,147.42	69,300.23
Umatilla	63,638.42	73,949.60	137,588.02
Union	40,859.66	52,253.80	93,113.46
Wallowa	11,042.22	19,431.22	30,473.44
Wasco	14,812.66	27,639.10	42,451.76
Washington	16,705.07	22,964.36	39,669.43
Wheeler	16,653.01	23,155.20	39,808.21
Yamhill	26,707.39	24,358.28	51,065.67
All state	452.03	365.24	817.27
Totals	$ 772,893.08	$1,022,240.28	$1,795,133.36

SUMMARY

	1923	1924	Total
State Expenditures	$ 769,858.16	$1,018,564.53	$1,788,422.69
County Expenditures	3,034.92	.....	3,034.92
Government Expenditures	.....	3,675.75	3,675.75
Totals	$ 772,893.08	$1,022,240.28	$1,795,133.36

TABLE XII

EXPENDITURES FOR SURVEYS

December 1, 1922, to November 30, 1924

In this table are listed the expenditures in connection with surveys made upon the state highway system under the supervision of the State Highway Commission. Surveys for market roads and surveys for forest roads are not included.

COUNTY AND JOB	Amount Expended
BAKER COUNTY	
Baker-Unity	$ 5,395.14
Unity-Malheur County Line	2,314.74
Middle Bridge-Richland	1,386.06
Timber Canyon Section	1,446.29
BENTON COUNTY	
Albany-Corvallis	1,808.97
Corvallis-Wren	1,895.65
CLACKAMAS COUNTY	
Oregon City-Canemah	132 73
For betterment work, Canemah-Canby	1,699.36
CLATSOP COUNTY	
East entrance to Astoria	250.90
Seaside-Hamlet Junction	3,620.94
COOS COUNTY	
Coquille-Bandon	520.70
City of Bandon	321.47
Myrtle Point-North	768.30
Glasgow-Hauser	1,094.94
CROOK COUNTY	
Bear Creek Connection between Crooked River and Central Oregon Highways	Cr. 119.15
Shorty Davis Ranch-Paulina	Cr. 2,128.25
CURRY COUNTY	
Port Orford-Coos County Line	724.76
Euchre Creek-Gold Beach	695.35
Gold Beach-Brookings	7,452.43
Brookings-California Line	934.89
Winchuck River Bridge Site	114.79
Hunters Head-Myers Creek	824.82
Myers Creek-Pistol River	1,054.19
DESCHUTES COUNTY	
Millican-Harney County Line	227.02
Relocation around Benham Reservoir Site	2,785.29
Lava Butte-Bend	714.74
DOUGLAS COUNTY	
Roosevelt Coast Highway across County	72.46
Shady Point Overcrossing	249.52
Oakland Overcrossing	156.46
GILLIAM COUNTY	
Condon-Arlington	273.34
Condon-Thirty Mile Creek	1,493.49
HARNEY COUNTY	
Prospecting for surfacing materials, Burns-Sage Hen Hill	245.74
JEFFERSON COUNTY	
Crooked River High Line Location	736.50
JOSEPHINE COUNTY	
Redwood Highway	276.34

TABLE XII—Continued

COUNTY AND JOB	Amount Expended
KLAMATH COUNTY	
Klamath Falls-Lake County Line	2,788.54
Prospecting for surfacing materials, Sand Creek-North	1,289.05
Deschutes County Line-Crescent	322.73
KLAMATH AND LAKE COUNTIES	
Reconnaissance, Crescent-Silver Lake	263.15
LAKE COUNTY	
Lakeview-Deschutes County Line	3,915.88
LANE COUNTY	
Douglas County Line-Florence	22.01
China Creek-Lincoln County Line	1,713.56
Goshen-Lowell	1,658.21
Walterville-Blue River	19.79
Blachly-Triangle Lake	523.61
LANE AND LINN COUNTIES	
Willamette River Bridge at Harrisburg	2,321.69
LINCOLN COUNTY	
Lane County Line-North to Devils Lake	11,450.46
Yaquina River Bridge Site at Toledo	193.52
Otter Crest-Siletz Bay	6,483.62
LINN COUNTY	
Coxes Bridge Site between Jefferson and Albany	423.92
LINN AND BENTON COUNTIES	
Willamette River Bridge at Albany	430.24
MALHEUR COUNTY	
Ontario-Vale	1,690.10
Snake River Bridge Site at Ontario	1,254.18
Baker County Line-Cow Valley	3,544.10
MORROW COUNTY	
Jones Hill-Umatilla County Line	3,387.58
SHERMAN COUNTY	
Biggs-South to Wasco County Line	278.07
Columbia River Bridge Site at Biggs	1,094.51
TILLAMOOK COUNTY	
Hobsonville-Mohler	3,449.86
UMATILLA COUNTY	
Pendleton-Morrow County Line, via Pilot Rock	1,941.12
Nye-Ukiah	1,426.45
UNION COUNTY	
Relocation, Wolf Creek-Jimmy Creek	451.73
WALLOWA COUNTY	
Enterprise-North to Forest Boundary	2,880.22
WASCO COUNTY	
Maupin-Jefferson County Line	161.55
Sherman County Line to The Dalles-California Highway	3,207.79
WHEELER COUNTY	
Mitchell to mouth of Rock Creek	1,823.14
YAMHILL COUNTY	
St. Joseph Section	781.79
McMinnville City Cut-off	7.50
For Betterment Work, Bee Ranch-Dolph	8.67
MISCELLANEOUS	
Special Investigation on Roosevelt Coast Highway	853.52
Total of Expenditures for Surveys (All State Funds)	$101,502.78

TABLE XIII

EXPENDITURES FOR CONSTRUCTION ENGINEERING ON COUNTY WORK

December 1, 1922, to November 30, 1924

The expenditures included in this table are for engineering work in connection with work performed by county forces or under county contracts. This engineering service is, in general, furnished by the State without charge to the counties. As the construction costs are paid direct by the counties, no record is available of the amounts expended for the construction work in connection with which these engineering expenditures were incurred.

COUNTY AND JOB	Amount Expended
BENTON COUNTY	
County Bridges	$ 367.07
DOUGLAS COUNTY	
County Bridges	15.15
JOSEPHINE COUNTY	
Grants Pass-Applegate Bridge, Grading	271.52
Grants Pass City, Paving	15.36
LINN COUNTY	
Tangent-Harrisburg, Grading	322.08
County Bridges	44.64
MARION COUNTY	
County Bridges	57.57
MULTNOMAH COUNTY	
Repairs to Portland Bridges (State Funds) Cr.	697.05
(County Funds)	1,780.30
TILLAMOOK COUNTY	
Roosevelt-Coast Highway, Grading	246.02
County Bridges	416.57
WASHINGTON COUNTY	
County Bridges	544.30
Total Expenditures for Engineering on County Construction Work	$ 3,383.53

Paid by State	$1,603.23
Paid by Multnomah County	1,780.30
Total	$3,383.53

TABLE XIV

EXPENDITURES ON MARKET ROADS

December 1, 1922, to November 30, 1924

In this table are listed all of the expenditures made by the Highway Commission in connection with work performed under the State Market Road Act. In general the expenditures are for surveys and other engineering service furnished to the respective counties, but in some instances they represent rental and repair charges on state equipment used in Market Road construction. The amounts of expenditures in each county as shown in this table have been deducted from the apportionments of the State Market Road Funds to the respective counties.

County and Road	Amount	Total for Each County
BAKER COUNTY		
Lockhart up North Powder River	$ 94.71	
Salisbury-Lockhart	73.21	
Baker-James School House	14.71	
Haines-Rock Creek	6.48	
Medical Springs-Baker	18.86	
Total for Baker County		$ 207.97
BENTON COUNTY		
Granger-Albany	.90	
Alsea-Lincoln County Line	1.68	
Philomath-South	4.00	
Kings Valley	359.22	
North Albany-Wells	1.02	
Total for Benton County		366.82
CLACKAMAS COUNTY		
Oregon City-Silverton	.45	
Oswego-Wilsonville	6.00	
New Era-Molalla-Wilhoit	4.75	
Total for Clackamas County		11.20
CLATSOP COUNTY		
Miles Crossing-Olney	11.42	
Cannon Beach-Elk Creek	1.58	
Svenson-South	296.51	
Total for Clatsop County		309.51
COLUMBIA COUNTY		
Rainier-Apiary	2.94	
Mist-Clatskanie	13.32	
Total for Columbia County		16.26
COOS COUNTY		
North Bend-Empire	4.16	
Coquille-Fat Elk-Fish Trap	2.51	
Norway-McKinley	1.86	
Myrtle Point-Lampa	1.80	
Fairview Road Number Nine	11.40	
Coos River Road	2.58	
Total for Coos County		24.31
CROOK COUNTY		
Prineville-North to McKay Creek	59.85	
Prineville-West to Williams Ranch	.35	
Post-Paulina	5,250.19	
Total for Crook County		5,310.39
CURRY COUNTY		
Elk River Road	1,044.19	
Sixes River Road	1.50	
Winchuck River Road	1,573.44	
Total for Curry County		2,619.13
DESCHUTES COUNTY		
Terrebonne-Lower Bridge	331.98	
Unit 2, Lower Bridge	17.55	
Alfalfa Road	815.75	
O'Neil Road	29.94	
Bridge over Deschutes River at Lower Bridge	434.76	
Total for Deschutes County		1,629.98

TABLE XIV—Continued

County and Road	Amount	Total for Each County
DOUGLAS COUNTY		
Dixonville-Glide	551.35	
Edenbower-Millwood	14.34	
Drain-Elkton	.45	
Elkton-Reedsport	206.90	
Total for Douglas County		773.04
GILLIAM COUNTY		
Cayuse Canyon Road	362.59	
Ramsey Creek Road	231.21	
Blalock Canyon Road	11.88	
Highway up Thirty Mile Creek	1,390.35	
Total for Gilliam County		1,996.03
GRANT COUNTY		
Monument west of John Day	1.74	
Ritter Hill Section	4.32	
Beach Creek Hill Road	.72	
Brierly-Canyon	1.56	
Capon Hill-Monument	1.50	
Fox Valley Road	.72	
Forks-Fry	.72	
Total for Grant County		11.28
HARNEY COUNTY		
Well Hill Road	804.40	
Burns-Otis Creek	2,944.82	
Malheur County Line-Otis Creek	1,292.88	
Drewsey-Pine Creek	4.41	
Total for Harney County		5,046.51
HOOD RIVER COUNTY		
Odell Road	4.00	
Pine Grove Road	8.00	
Tucker (Rockford) Road	1.72	
Total for Hood River County		13.72
JACKSON COUNTY		
Jacksonville-Ruch	1,913.35	
Reese Creek School-Butte Falls	4,218.51	
Dead Indian Road	933.25	
Myer Creek-Pacific Highway	21.00	
Lake Creek Road	115.73	
Sardine Creek Road	22.81	
Big Applegate Road	202.17	
Medford-Jacksonville, paving	581.26	
Ruch-Summit, paving	432.58	
Sams Valley Road	277.41	
Meadows Road	113.22	
Total for Jackson County		8,831.29
JEFFERSON COUNTY		
Grizzly-Madras	71.94	
Madras-Ashwood	169.99	
Madras-Mecca	202.69	
Gateway-Lyle Gap	77.16	
Culver-Lamonta	400.92	
Total for Jefferson County		922.70
JOSEPHINE COUNTY		
Grants Pass-Oregon Caves	733.10	
Grants Pass Down Rogue River	597.53	
Grants Pass-Williams Corner	11.16	
Grants Pass-Eisoms Ranch	951.05	
Pacific Highway-Merlin-Alameda	568.69	
Total for Josephine County		2,861.53
KLAMATH COUNTY		
Klamath Falls-Midland	371.94	
Poe Valley Road	3,721.07	
Langell Valley Road	977.58	
Yonna Valley Road	11.99	
Total for Klamath County		5,082.58

TABLE XIV—Continued

County and Road	Amount	Total for Each County
LAKE COUNTY		
Lakeview-Adel	2,494.08	
Total for Lake County		2,494.08
LANE COUNTY		
Gimpl Hill Road	.45	
North Fork Road	164.30	
Hayden Bridge-Millican	102.40	
Total for Lane County		267.15
LINCOLN COUNTY		
Siletz Road	2.94	
Salmon River Road	8.04	
Total for Lincoln County		10.98
LINN COUNTY		
Oakville-Verdure	2.88	
Arnold School-Schindler Bridge	2.76	
Road No. 17-A	1.44	
Road No. 21	3.06	
Road No. 26	2.64	
Road No. 30	1.62	
Road No. 31	1.32	
Road No. 34	2.16	
Road No. 35	1.62	
Road No. 36	2.28	
Road No. 37	1.20	
Total for Linn County		22.98
MALHEUR COUNTY		
Jordan Valley Road	3,440.68	
Chimney Creek-Harney County Line	890.55	
Sucker Creek Road	800.62	
Total for Malheur County		5,131.85
MARION COUNTY		
Salem-Geer Road	4.17	
Total for Marion County		4.17
MORROW COUNTY		
Lexington-Jarmon Road ....Cr.	604.99	
Cason Canyon Road	218.76	
Ione-Goose Road	416.66	
Total for Morrow County		30.43
POLK COUNTY		
Wallace Bridge-Salt Creek	127.96	
Independence-Brunks Corner	12.00	
Kings Valley Road	92.19	
Total for Polk County		232.15
SHERMAN COUNTY		
Fulton Canyon Road	4.25	
Hay Canyon Road	157.98	
Grass Valley-Rutledge	6.15	
Total for Sherman County		168.38
UMATILLA COUNTY		
Butler Crest Road	10.90	
Total for Umatilla County		10.90
UNION COUNTY		
Union-Cove	383.81	
Indian Road	1,318.20	
North Powder-West	444.71	
Medical Springs-Telocaset	252.79	
Union-Medical Springs	.45	
Total for Union County		2,399.96
WALLOWA COUNTY		
Wallowa-Powwatka	18.00	
Lostine Road	19.42	
Enterprise-Imnaha	3.00	
Joseph-Armon	125.55	
Total for Wallowa County		165.97

TABLE XIV—Continued

County and Road	Amount	Total for Each County
WASHINGTON COUNTY		
One Mile North of Beaverton to Buxton	203.59	
Bertha-Beaverton Road-Hills Place	435.68	
Hillsboro-Scholls-Sherwood	3.63	
Forest Grove up Gales Creek	32.86	
Laurelwood-Gaston-Cherry Grove	54.38	
Burkhalter Corner-Beaverton	9.40	
Forest Grove-Banks	112.85	
Hillsboro-North Plains	166.32	
Cornell Road-Walker	21.27	
Mountaindale-South to District Line	59.00	
North Plains-Scotch Church	7.26	
Scholls-Sherwood	93.63	
Finley Road	156.21	
Hazeldale-Hennesy Avenue	75.64	
Greenburg-Tigard	92.67	
Boones Ferry Road	104.83	
Lincoln Station-Shady Brook	55.69	
George Biersdorf to Lutheran Church	17.99	
West Union Baptist Church-Helvetia	92.74	
Kinton-Valentine Road	55.20	
Spring Hill Farm Road	29.05	
Canyon Road Highway to Bertha-Beaverton Highway	28.10	
Schmetyzer-County Line	14.07	
Bethany-Northeast	58.50	
Banks-East	25.00	
Tualatin River Bridge, Jackson Bottom	398.01	
Laurel Road-West	44.30	
Jackson Bottom Fill	84.13	
Bethany-East to Fred Bergers	44.22	
Cornell Road West of Cedar Mills	51.74	
Walker Road to Cornell Road	28.70	
Frank Imbrie Place-West	33.16	
Scotch Church-East	24.46	
Hillsboro-North Plains	52.50	
Mountaindale Road from Dairy Creek-North	4.50	
Dairy Creek on Hill North of Denny	8.00	
Gales Creek Road	16.00	
Bailey Road from Bledsoe's-North	7.64	
R. R. Crossing West of Garden Home	8.84	
Scholls Road (Caldwell Hill Section)	3.42	
Scholls-Sherwood	1.05	
Hillsboro-Laurel	7.00	
Buxton-South	4.42	
Campbell Road	6.00	
Bethany-Northwest	24.00	
Cummings Hill Section, Forest Grove-Banks	12.86	
Chalmers Bridge Section, Cornelius-Sheflin Road	1.89	
Churchley Road	3.42	
Spring Hill Road	12.50	
Boones Ferry Road	2.90	
Cornell Pass, Columbia County Line Survey	40.31	
Total for Washington County		2,931.53
WHEELER COUNTY		
Mitchell-Sarvice Creek	1,785.43	
Cottonwood Creek Road	951.34	
Total for Wheeler County		2,736.77
YAMHILL COUNTY		
Chehalem-Wapato	.45	
Newberg-Butteville River Road	29.99	
Moore Valley Road	1.50	
Yamhill-Cherry Grove	3.00	
Rock Creek Road	89.48	
Baker Creek Road	10.00	
Willamina-Coast Creek	15.32	
Total for Yamhill County		149.74
GENERAL SUPERVISION EXPENSE		12,319.86
Grand total of Direct Expenditures on Market Roads, December 1, 1922, to November 30, 1924		$65,111.15

TABLE XV

EXPENDITURES FOR GENERAL AND MISCELLANEOUS PURPOSES

December 1, 1922, to November 30, 1924

In this table are listed all expenditures that are not covered in the tables preceding. The expenditures included in it are those which cannot be charged out to projects, but which must be carried as general expense. They consist of expenditures in the payment of interest and maturities on bonds, expenditures for the general administration and general supervision of the State Highway work, expenditures for the operation of equipment shops and warehouses, and expenditures for road signing, purchase and development of parks, enforcement of traffic laws, etc.

ADMINISTRATION AND GENERAL SUPERVISION	
General Administration	$ 40,499.52
State Highway Commission	17,523.30
Attorney's Department	15,307.46
Auditing Department	34,167.79
Office Engineering Department	60,305.69
Bridge Engineering Department	21,995.48
Materials Testing Department	12,683.83
State Highway Engineer and Assistants	20,631.54
Division office No. 1, Salem	13,718.74
Division office No. 2, Salem	13,266.15
Division office No. 3, Marshfield	18,553.62
Division office No. 4, Klamath Falls	17,068.50
Division office No. 5, The Dalles	24,528.05
Division office No. 6, La Grande	26,167.24
Total	$ 336,416.91

EQUIPMENT, SHOPS AND WAREHOUSES		
Purchase of equipment	$ 76,161.41	
Freight and handling charges on equipment received from U. S. War Department	37,512.34	
Purchase of repair parts, supplies and materials	685,236.23	
Labor employed in the upkeep of equipment and in the handling of equipment and supplies	271,067.42	
Improvement and upkeep of buildings and grounds	9,760.12	
Insurance on equipment and supplies	10,140.03	
Power, light and heat	12,614.24	
Total of gross charges		$1,102,491.79
Credits for rentals on equipment rented to contractors and on equipment used by the State in highway construction and maintenance	$565,856.93	
Credits for repair parts, materials and supplies sold or furnished for use in connection with highway and maintenance work	595,216.41	
Credits for labor used in performance of work chargeable to contractors or to construction activities of the State	23,366.83	
Credits for reconditioned government equipment turned over to counties and state departments	38,162.80	
Credits for equipment sold	23,390.10	
Total of gross credits		$1,245,993.07
Total Net Credit	Cr.	$ 143,501.28

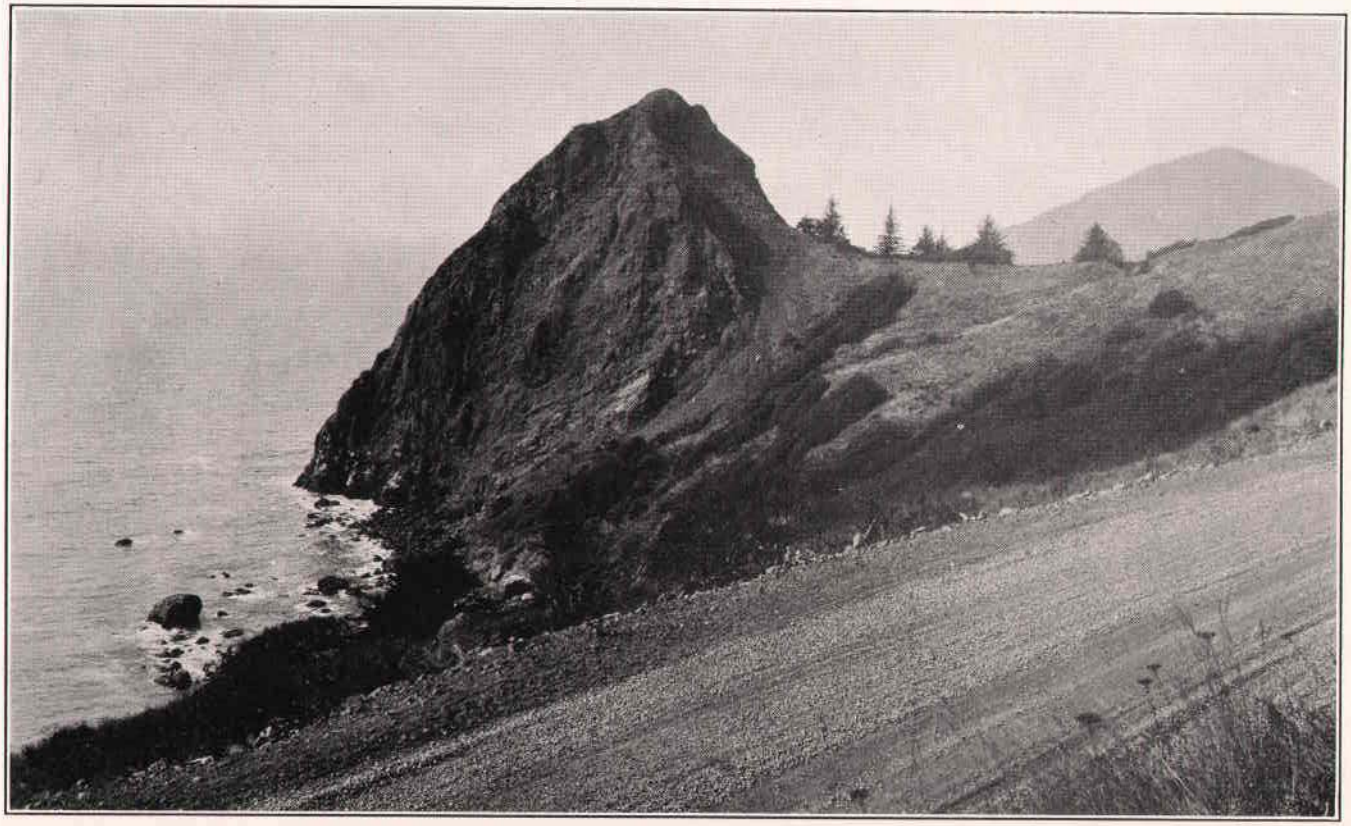
TABLE XV—Continued

INTEREST AND MATURITIES ON BONDS	
Interest on bonds	$3,566,390.00
Maturities on bonds	514,250.00
Expense engraving and issuing bonds	2,459.64
Total	$4,083,099.64
ROAD SIGNING	
Total for this item	$ 19,306.81
REMEASURING HIGHWAYS AND PLACING MILE POSTS	
Total for this item	$ 11,367.84
ENFORCEMENT OF TRAFFIC LAWS	
Total for this item	$ 46,823.49
PURCHASE AND DEVELOPMENT OF PARKS	
Bradley Park at Clatsop Crest	$ 17,770.37
Little Jack Falls Park, Columbia County	30.59
Parksite near Cascade Locks	1,080.65
Holman Park at Eola, Polk County	57.59
Sarah Helmick Park, near Monmouth	442.37
Mayer Park at Rowena Loops, Wasco County	346.61
Emigrant Hill Park, Umatilla County	320.00
Total	$ 20,048.18
PURCHASE AND DEVELOPMENT OF GRAVEL PITS, RIGHTS-OF-WAY AND PATROL STATIONS	
Manseau Gravel Pit near Prineville	$ 1,507.50
Humfeld Gravel Pit near Jones Mill, Crook County	300.00
Gravelly Ford Gravel Pit north of Lakeview	100.00
Rock quarry near Hot Lake	316.50
Right-of-Way across Morton Property near Ruthton	2,000.00
Right-of-Way across White Property in Gilliam County	150.00
Right-of-Way in Town of Jefferson	50.00
Patrol Station at Siskiyou	525.00
Patrol Station at Green Spgs. Station, Jackson County	12.36
Patrol Station at Long Prairie, Klamath County	71.40
Patrol Station near Huntington	2,263.67
Patrol Station at Meacham	500.00
Total	$ 7,796.43
OPERATION AND MAINTENANCE OF DRAW BRIDGES	
Young's Bay Bridge near Astoria:	
State funds	$ 4,145.28
County funds	4,751.72
Coquille River Bridge at Coquille:	
State Funds	1,217.19
County Funds	1,773.47
Total (Including $6,525.19 of County Funds)	$ 11,887.66
MISCELLANEOUS GENERAL EXPENSE	
Traffic counts	$ 6,191.01
Publication of road maps	756.29
Publication of Biennial Report (1921-22)	3,958.91
Special litigation not chargeable to particular jobs	15,137.74
Deduction from payrolls, account of industrial insurance for which turnover to Industrial Accident Commission was not completed during the biennium	Cr 447.92
Adjustment of freight charges on 1920 asphalt shipments	Cr 1,590.57
Patrolmen's badge account	64.00
Adjustment of payroll account	Cr 37.48
Reimbursement of contractors in connection with guaranteed war tax deductions	7,701.48
Expense in connection with securing water permits	16.00
Depreciation charges on trucks loaned to the City of Astoria to clean up debris after fire	1,284.33
Investigation of various concrete waterproofing compounds	1,409.26
Total	$ 34,443.05

TABLE XV—Continued

DELAYED CHARGES ON COMPLETED PROJECTS

Nelson-Malheur County Line, Grading	Cr $	122.26
Bridge-Remote, Grading	Cr	57.20
Bridge No. 540 over Crooked River in Crook County		389.21
Bend-Jefferson County Line, Surfacing		143.65
Grants Pass-Pleasant Valley, Surfacing		225.03
Klamath Falls-North, Surfacing		1,222.73
Adams-Athena, Paving		16.94
Echo-Pendleton, Surfacing		211.51
Bridge over Stage Gulch at Stanfield	Cr	5.70
Unit 3, Hood River-Mosier, Grading		300.00
Total	$	2,323.91



ON THE ROOSEVELT COAST HIGHWAY ABO UT FIFTEEN MILES NORTH OF GOLD BEACH

PART FOUR

Statistical Information

Pertaining to

State Highways and County Roads

in the

State of Oregon

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TABLE No. 1

RECORD OF MILEAGES OF VARIOUS CLASSES OF HIGHWAY IMPROVEMENT AND MAINTENANCE WORK PERFORMED UNDER THE SUPERVISION OF THE STATE HIGHWAY COMMISSION

The mileages given in these tables include all state and county cooperative work, all federal aid work, and such county work on state highways as has been paid for on vouchers drawn by the State Highway Department. Forest road work and work performed by county forces or under county contracts is not included.

NEW CONSTRUCTION

Year	Bituminous Pavement (Miles)	Concrete Pavement (Miles)	Rock and Gravel Surfacing (Miles)	Grading (Miles)
1913-16	7.3	14.3	19.8	160.2
1917-18	45.2	4.8	111.8	134.5
1919	144.6	18.5	87.0	277.3
1920	167.7	16.4	264.0	402.8
1921	125.0	51.0	433.9	449.7
1922	55.2	33.4	364.4	334.6
1923	5.2	15.6	378.8	243.9
1924	.....	15.9	201.7	171.1
Totals	550.5	169.9	1,861.4	2,174.1

RESURFACING AND WIDENING

Year	Pavement Resurfacing and Widening (Miles)	Rock and Gravel Resurfacing (Miles)	Grade Widening (Miles)
1921	5.0	.....	.....
1922	9.3	24.2	49.6
1923	15.6	38.5	12.7
1924	.....	127.5	20.8
Totals	29.9	190.2	83.1

MAINTENANCE

Year	Bituminous Pavements (Miles)	Concrete Pavements (Miles)	Rock and Gravel Surfacing (Miles)	Earth Roads (Miles)	Total (Miles)
1919	55	20	130	95	300
1920	195	40	200	315	750
1921	365	55	450	430	1,300
1922	485	105	850	410	1,850
1923	540	145	1,200	365	2,250
1924	545	160	1,550	295	2,550

TABLE No. 2

YEARLY EXPENDITURES UPON WORK HANDLED UNDER THE SUPERVISION OF THE STATE HIGHWAY COMMISSION, 1913 TO 1924

Year	State Funds	County Funds	Government Funds	Railroad Funds	Totals
1913-14 ..	$ 200,686.09	*$1,000,000.00	$	$.....	$ 1,200,686.09
1915	216,331.51	358,645.94	.....	.....	574,977.45
1916	199,556.96	96,471.90	.....	.....	296,028.86
1917	674,249.61	270,162.37	.....	.....	944,411.98
1918	2,214,007.87	439,562.42	.....	.....	2,653,570.29
1919	6,248,304.16	368,550.01	224,851.60	.....	6,841,705.77
1920	11,410,242.74	868,539.59	1,096,027.33	17,661.62	13,392,471.28
1921	15,031,655.14	985,831.42	2,181,956.65	46,378.16	18,245,821.37
1922	7,767,995.43	3,814,402.13	1,043,695.07	33,341.49	12,659,434.12
1923	7,319,614.47	2,199,707.40	1,719,088.71	129,634.73	11,368,045.31
1924	6,950,356.36	1,586,176.49	1,118,777.53	94,241.61	9,749,551.99
Totals..	$58,233,000.34	$11,988,049.67	$7,384,396.89	$321,257.61	$77,926,704.51

*Expenditure of county funds during 1913 and 1914 is approximate only.

TABLE No. 3

STATE FUNDS RECEIVED AND EXPENDED BY THE STATE HIGHWAY COMMISSION, 1913 TO 1924

Year	Net Receipts (State Funds Only)	Net Expenditures (State Funds Only)
1913-14	$ 248,570.60	$ 200,686.09
1915	228,798.34	216,331.51
1916	233,623.76	199,556.96
1917	1,707,772.08	674,249.61
1918	1,759,600.15	2,214,007.87
1919	7,458,614.05	6,248,304.16
1920	11,348,989.82	11,410,242.74
1921	13,580,830.05	15,031,655.14
1922	9,652,409.76	7,767,995.43
1923	7,696,600.49	7,319,614.47
1924	6,149,024.93	6,950,356.36
Totals	$60,064,834.03	$58,233,000.34
Balance on hand December 1, 1924		1,831,833.69
Total		$60,064,834.03

TABLE No. 4

SCHEDULE OF YEARLY INCOMES FROM DIFFERENT SOURCES—1917 TO 1924, INCLUSIVE

Sources of Income	1917-1920 Inclusive	1921	1922	1923	1924	Totals for Period 1917 to 1924
Balance on hand, December 1, 1916	$ 94,418.14	$	$	$	$	$ 94,418.14
Bond sales (including accrued interest)	17,984,236.02	10,957,359.33	6,265,544.02	2,489,875.00	.....	37,697,014.37
Motor vehicle license fees	2,588,541.58	1,624,983.02	2,358,987.02	2,902,476.56	3,419,808.55	12,894,796.73
Gasoline and distillate tax	694,845.65	948,509.66	944,310.46	1,975,174.23	2,358,277.17	6,921,117.17
One-quarter mill property tax	946,334.71	.....	.....	246,452.30	255,863.20	1,448,650.21
Interest on bank balances	32,382.37	19,284.39	40,124.95	48,084.45	62,047.49	201,923.65
Fines for traffic violations	.....	.....	.....	2,915.25	19,540.07	22,455.32
Miscellaneous	28,635.77	30,693.65	43,443.31	31,622.70	33,488.45	167,883.88
Sub-totals (all state funds)	$22,369,394.24	$13,580,830.05	$ 9,652,409.76	$ 7,696,600.49	$ 6,149,024.93	$59,448,259.47
County cooperation	1,946,814.39	985,831.42	3,814,402.13	2,199,707.40	1,586,176.49	10,532,931.83
Federal government cooperation	1,320,878.93	2,181,956.65	1,043,695.07	1,719,088.71	1,118,777.53	7,384,396.89
Railroad cooperation	17,661.62	46,378.16	33,341.49	129,634.73	94,241.61	321,257.61
Total incomes	$25,654,749.18	$16,794,996.28	$14,543,848.45	$11,745,031.33	$ 8,948,220.56	$77,686,845.80

TABLE No. 5

SCHEDULE OF YEARLY EXPENDITURES—1917 TO 1924, INCLUSIVE

The expenditures in this table include all expenditures in connection with work handled under the direct supervision of the State Highway Department. They do not include federal government and county expenditures on Forest Road Work, and they do not include Market Road Funds turned over to the counties.

Classification of Expenditures	1917-1920 Inclusive	1921	1922	1923	1924	Totals for Period 1917 to 1924
New construction (paving, rock surfacing, grading and bridges)	$20,662,882.57	$15,961,313.37	$ 9,424,419.63	$ 6,683,530.97	$ 4,906,394.69	$57,638,541.23
Major additions and betterment (including pavement resurfacing and widening	.....	.....	80,723.22	610,137.19	140,412.36	831,272.77
Special maintenance (including resurfacing of rock roads)	.....	.....	74,585.51	273,089.79	625,740.80	973,416.10
Cooperation on forest road work	807,239.47	418,097.62	306,872.91	662,360.17	430,300.14	2,624,870.31
Minor additions and betterment	.....	.....	120,729.26	207,721.11	182,766.62	511,216.99
General maintenance	114,336.48	534,522.20	594,091.98	772,893.08	1,022,240.28	3,038,084.02
Gravel pits, rights-of-way, patrol stations, etc.		.....	13,862.29	10,979.65	Cr. 3,183.22	21,658.72
Operation and maintenance of draw bridges	.....	911.29	3,668.37	6,042.85	5,844.81	16,467.32
Parks	.....	———	1,211.58	5,894.32	14,153.86	21,259.76
Road signing	5,226.79	9,986.62	26,455.28	11,886.15	7,420.66	60,975.50
Remeasurement of highways and placing mile posts	.....	.....	.....	.....	11,367.84	11,367.84
Enforcement of traffic laws	.....	.....	14,791.16	18,975.16	27,848.33	61,614.65
Equipment and supplies	380,318.15	Cr. 73,002.52	Cr. 29,951.94	Cr. 88,733.70	Cr. 54,767.58	133,862.41
Retirement of bonds	.....	.....	125,000.00	179,750.00	334,500.00	639,250.00
Interest and other bond expense	735,504.78	981,676.98	1,526,956.39	1,744,509.64	1,824,340.00	6,812,987.79
Administration and general supervision	448,308.98	229,888.59	175,622.76	172,293.69	164,123.22	1,190,237.24
Surveys	555,184.88	123,432.29	124,607.32	46,880.27	54,622.51	904,727.27
Engineering county work	94,881.33	28,317.48	9,259.25	2,964.44	419.09	135,841.59
State expenditures on market roads	28,635.77	30,830.49	43,306.47	31,622.70	33,488.45	167,883.88
Delayed charges on completed projects	.....	.....	.....	1,934.70	389.21	2,323.91
Miscellaneous general expense	Cr. 359.88	Cr. 153.04	23,222.68	13,313.13	21,129.92	57,152.81
Totals	$23,832,159.32	$18,245,821.37	$12,659,434.12	$11,368,045.31	$ 9,749,551.99	$75,855,012.11

TABLE No. 6

STATE HIGHWAY EXPENDITURES CLASSIFIED BY COUNTIES

Period 1914 to 1924, Inclusive

The amounts shown in this table include all expenditures made in connection with work handled under the direct supervision of the State Highway Commission, except those expenditures which are of a general nature and can not, therefore, be classified by counties. They include, also, expenditures of state funds in connection with forest road projects, but they do not include expenditures made in connection with forest road projects by the Federal Government and by counties, as those expenditures are not handled by or through the State Highway Department and, therefore, do not enter into the records of the Highway Commission. They include expenditures for surveys and maintenance work as well as expenditures for construction work. They do not include expenditures for administration and general supervision, for road signing, for policing, for interest and maturities on bonds, and for other items of a similar general nature.

County	Total Amount Expended	Cooperation in Expenditure			
		By State	By Counties	By Federal Government	By Railroad Companies
Baker	$ 2,073,330.83	$ 1,277,879.37	$ 467,820.64	$ 297,322.37	$ 30,308.45
Benton	1,782,766.41	1,422,998.24	104,128.48	255,639.69	.....
Clackamas	2,326,297.81	1,533.936.25	*553,462.44	171,878.27	67,020.85
Clatsop	3,110,527.01	2,265,982.94	673,908.18	169,741.33	894.56
Columbia	2,649,452.45	2,102,991.94	393,762.86	152,697.65	.....
Coos	2,373,548.64	1,509.445.02	634,199.59	229,904.03	.....
Crook	1,086,366.27	758,306.46	242,482.50	85,577.31	.....
Curry	1,185,446.46	882,481.07	215,487.40	87,477.99	.....
Deschutes	792,607.88	660,679.80	106,846.15	25,081.93	.....
Douglas	6,622,712.01	5,639.788.13	556,619.93	402,825.07	23,478.88
Gilliam	1,929,337.74	1,362,594.07	230,136.26	336,607.41	.....
Grant	1,238,607.85	691,915.01	176,266.51	370,426.33	.....
Harney	530,801.89	261,810.96	88,024.64	180,966.29	.....
Hood River	2,669,146.27	2,252,846.18	356,595.46	59,704.63	.....
Jackson	4,100,462.33	2,860,491.23	953,709.40	253,339.52	32,922.18
Jefferson	443,564.22	184,241.63	103,000.00	156,322.59	.....
Josephine	1,925,237.97	1,893,518.60	31,719.37	.....	.....
Klamath	1,931,781.08	634,451.30	578,809.57	710,960.58	7,559.63
Lake	603,752.51	340,087.13	168,478.39	95,186.99	.....
Lane	2,882,432.54	2,366,683.01	465,373.02	.....	50,376.51
Lincoln	1,229,586.40	951,295.67	194,770.52	83,520.21	.....
Linn	1,075,569.59	975,067.28	84,086.82	.....	16,415.49
Malheur	1,190,287.52	846,617.49	202,065.86	141,604.17	.....
Marion	1,419,044.33	855,454.21	282,456.74	281,133.38	.....
Morrow	1,261,675.43	1,043,722.80	217,952.63	.....	.....
Multnomah	80,036.21	12,691.09	67,345.12	.....	.....
Polk	1,810,469.74	1,348,770.89	150,979.48	310,719.37	.....
Sherman	1,124,066.51	555,328.13	269,599.30	297,391.29	1,747.79
Tillamook	1,458,365.24	1,233,493.56	224,871.68	.....	.....
Umatilla	3,121,690.39	2,287,635.89	630,744.31	203,310.19	.....
Union	2,395,042.39	1,570,686.10	641,797.26	103,032.76	79,526.27
Wallowa	912,037.48	461,797.17	314,137.88	136,102.43	.....
Wasco	3,664,649.41	2,067,668.92	720,756.86	865,993.97	10,229.66
Washington	1,615,970.16	1,315,235.92	125,153.25	175,580.99	.....
Wheeler	1,312,042.43	773,876.08	180,772.21	357,394.14	.....
Yamhill	2,680,734.32	1,818,991.15	474,011.82	386,954.01	777.34
Totals	$68,609,447.72	$49,021,460.69	$11,882,332.53	$7,384,396.89	$321,257.61

*$170,000.00 paid by Multnomah county.

TABLE No. 7

CLASSIFICATION OF EXPENDITURES BY HIGHWAYS

Period December 1, 1916, to November 30, 1924

This table gives the totals of expenditures made directly upon each of the several state highways during the eight-year period ending November 30, 1924. It includes all expenditures made under the supervision of the State Highway Commission for bridge construction, grading, rocking and paving work, maintenance work, surveys and construction engineering. It includes state cooperation in forest road work. It does not include expenditures for administration and general supervision or expenditures for interest and maturities on bonds, which expenditures can not be charged out to the individual highways.

No.	Highway	Total Amount Expended	Cooperation in Expenditures			
			By State	By Counties	By Federal Government	By Railway Companies
1	Pacific	$14,566,268.06	$12,786,069.79	$ 851,092.50	$ 738,891.86	$190,213.91
2	Columbia River	10,731,521.09	9,184,548.92	381,298.80	1,154,549.15	11,124.22
3	West Side Pacific	4,037,992.91	2,895,048.30	391,160.00	751,007.27	777.34
4	The Dalles-California	3,000,158.17	1,206,513.55	961,778.79	831,165.83	700.00
5	John Day	3,219,617.18	1,775,569.89	547,832.95	896,214.34	.....
6	The Old Oregon Trail	4,029,232.18	2,802,575.34	709,695.62	412,206.50	104,754.72
7	Central Oregon	629,875.21	338,475.55	110,433.37	180,966.29	.....
8	Oregon-Washington	2,234,189.61	1,886,392.01	347,797.60	.....	.....
9	Roosevelt Coast	5,406,283.88	3,967,856.39	942,698.16	495,729.33	.....
10	La Grande-Wallowa Lake	1,553,225.87	787,556.38	536,454.30	224,135.19	5,080.00
11	Enterprise-Flora	140,306.22	114,616.72	25,689.50	.....	.....
12	Baker-Cornucopia	557,207.42	257,346.22	171,122.14	128,739.06	.....
13	Baker-Unity	259,964.54	148,093.63	111,870.91	.....	.....
14	Shaniko-Mitchell	166.55	166.55	.....	.....	.....
15	McKenzie	626,013.03	555,247.59	70,765.44	.....	.....
16	Santiam	4,596.34	4,596.34	.....	.....	.....
17	McKenzie-Bend	62,523.93	62,523.93	.....	.....	.....
18	Willamette	104,883.47	22,902.17	81,981.30	.....	.....
19	Prineville-Lakeview	900,861.44	571,440.13	234,234.32	95,186.99	.....
20	Klamath Falls-Lakeview	387,782.59	212,639.00	94,839.11	80,304.48	.....
21	Ashland-Klamath Falls	1,224,043.76	381,734.51	519,496.59	315,953.03	6,859.63
22	Crater Lake	1,103,411.04	705,725.40	188,000.00	209,685.64	.....
24	The Rim	.....	.....	.....	.....	.....
25	Redwood	191,694.73	183,186.91	8,507.82	.....	.....
26	Mount Hood Loop	1,598,505.14	1,092,174.06	506,331.08	.....	.....
27	Alsea	527,088.86	438,459.73	88,629.13	.....	.....
28	Pendleton-John Day	72,085.68	11,879.12	60,206.56	.....	.....
29	Tualatin Valley	1,532,652.30	1,173,245.14	205,887.16	153,520.00	.....
30	Salem-Dallas	725,499.67	357,369.73	295,525.07	72,604.87	.....
31	Albany-Corvallis	288,122.54	141,402.88	14,425.32	132,294.34	.....
32	McMinnville-Tillamook	1,218,883.93	1,107,157.51	92,258.84	19,467.58	.....
33	Corvallis-Newport	896,182.31	703,911.79	192,270.52	.....	.....
34	Willamette Valley-Florence	489,200.58	288,288.27	200,912.31	.....	.....
35	Coos Bay-Roseburg	1,722,896.82	949,839.93	581,197.80	191,859.09	.....
36	Pendleton-Cold Springs	216,327.84	25,088.40	191,239.44	.....	.....
37	Umatilla Cutoff	.....	.....	.....	.....	.....
38	Oregon Caves	143,898.73	143,898.73	.....	.....	.....
39	Deschutes	2,258.64	2,258.64	.....	.....	.....
40	Bertha-Beaverton	64,705.82	62,965.87	1,739.95	.....	.....
41	Ochoco	875,354.48	622,184.04	163,593.13	89,577.31	.....
42	Sherman	787,715.26	223,350.36	352,278.37	210,338.74	1,747.79
43	Monmouth-Independence	63,489.15	63,489.15	.....	.....	.....
44	Wapinitia	25,500.00	25,500.00	.....	.....	.....
	Miscellaneous	457,926.95	180,838.32	277,088.63	.....	.....
	Totals	$66,680,113.92	$48,464,126.89	$10,510,332.53	$7,384,396.89	$321,257.61

TABLE No. 8

STATISTICS PERTAINING TO FOREST ROAD WORK UPON STATE HIGHWAYS

The statistics here given apply to highway work in the State of Oregon performed under the supervision of the U. S. Bureau of Public Roads. All of the work included is upon state highways at points where these highways are in or adjacent to National Forests. The work is financed under cooperative agreements between the Federal Government, the State and the counties of the State, the federal funds being Oregon's proportionate share of funds annually appropriated by Congress for forest road work.

The amounts of county and federal government expenditures here given and the mileages of work performed are as reported by the U. S. Bureau of Public Roads. The amounts of state expenditures are as shown by the disbursement records of the State Highway Commission.

For further details as to expenditures made in connection with forest road work, see Table VIII in Part Three of this report.

EXPENDITURES ON FOREST ROAD WORK

Years	Expenditures			
	State Funds	County Funds	Government Funds	Total
1918-1919-1920	$ 807,239.47	$ 102,271.45	$ 656,708.64	$1,566,219.56
1921-1922	724,970.53	67,142.21	836,765.18	1,628,877.92
1923-1924	1,092,660.31	725,942.05	1,725,176.76	3,543,779.12
Totals	$2,624,870.31	$ 895,355.71	$3,218,650.58	$6,738,876.60

MILEAGES OF WORK COMPLETED ON FOREST ROAD PROJECTS

Year	Grading (Miles)	Rock Surfacing (Miles)	Surveys (Miles)
1918	4.30	.....	121.92
1919	62.90	.....	90.92
1920	56.10	22.59	41.38
1921	20.68	38.34	41.31
1922	15.69	22.37	137.18
1923	57.98	79.31	42.74
1924	84.06	74.32	28.00
Totals	301.71	236.93	503.45

TABLE No. 9

COUNTY DISBURSEMENTS FOR ROAD PURPOSES—1917 TO 1924, INCLUSIVE

This tabulation was compiled from information supplied by the officials of the respective counties, supplemented in a very few instances by information from other sources. They are not represented to be more than approximate figures, although for many counties they are probably exact. For expenditures during the years 1903 to 1913, inclusive, refer to the 1914 report of the State Highway Engineer, and for the expenditures during the years 1914 to 1916, inclusive, see page 93 of the State Highway Commission for the 1919-1920 biennium.

County	1917	1918	1919	1920	1921	1922	1923	1924 (Estimated)
Baker	$ 23,003.51	$ 53,244.98	$ 91,729.04	$ 121,268.82	$ 111,363.44	$ 303,819.25	$ 227,449.02	$ 220,404.95
Benton	61,824.18	111,121.38	158,719.43	153,684.02	148,585.25	39,860.03	130,096.14	134,900.96
Clackamas	365,151.90	405,298.79	449,637.68	509,862.88	796,167.62	915,000.00	741,396.00	*
Clatsop	206,070.00	342,704.00	368,652.52	420,000.00	548,140.00	310,292.76	331,068.20	487,850.00
Columbia	186,429.00	215,511.00	222,411.00	208,479.93	385,588.28	192,605.92	256,638.16	321,019.73
Coos	428,920.00	313,448.00	224,413.00	252,039.00	722,002.44	427,467.67	511,752.46	399,770.00
Crook	45,034.15	15,509.97	134,165.50	252,585.49	129,400.01	*	89,600.00	*
Curry	40,816.48	44,425.16	50,683.05	23,247.11	87,350.00	32,973.42	45,953.57	49,000.00
Deschutes	14,663.48	31,834.30	32,778.47	*	*	97,392.22	28,562.22	65,000.00
Douglas	*	103,607.75	205,437.22	270,054.96	532,160.28	980,000.00	505,855.44	246,131.80
Gilliam	66,402.51	70,500.00	74,535.94	64,206.49	80,933.28	164,422.64	187,307.98	113,822.25
Grant	32,470.45	44,025.29	48,599.32	33,434.37	26,000.00	62,831.99	70,268.64	55,444.42
Harney	*	*	*	127,282.55	90,994.12	54,850.77	49,314.73	24,540.47
Hood River	60,731.96	38,260.20	48,217.64	60,000.00	*	85,025.15	78,048.05	72,284.96
Jackson	83,319.47	103,419.36	187,692.85	219,976.85	467,115.32	549,466.96	304,190.68	325,000.00
Jefferson	25,000.00	25,000.00	25,000.00	31,764.24	*	31,581.50	39,541.80	34,650.00
Josephine	37,222.00	46,000.73	80,959.21	181,601.28	104,582.15	54,872.93	75,244.07	67,000.00
Klamath	51,252.14	96,474.99	85,301.74	80,000.00	832,661.37	313,539.82	655,182.52	329,727.42
Lake	25,000.00	27,784.00	30,000.00	31,000.00	77,317.00	100,000.00	93,207.00	100,600.00
Lane	282,556.45	280,913.55	349,591.78	279,516.41	453,753.99	734,517.49	782,177.50	695,885.25
Lincoln	12,632.00	33,788.00	125,044.00	197,210.57	131,641.39	215,523.59	300,424.12	250,000.00
Linn	184,335.26	166,807.04	289,835.09	565,324.60	589,882.39	388,011.77	332,643.22	350,000.00
Malheur	*	50,912.82	54,049.93	161,298.20	156,613.85	117,889.77	65,996.02	158,961.93
Marion	267,000.00	442,000.00	449,000.00	475,000.00	647,102.38	604,642.79	715,091.40	525,000.00
Morrow	58,897.95	57,864.95	91,605.75	186,949.51	201,641.94	120,177.59	120,370.11	113,921.25
Multnomah	586,338.51	479,764.92	493,995.86	563,959.92	478,993.82	302,197.66	537,624.20	529,775.00
Polk	62,201.73	118,902.18	69,663.28	92,987.04	185,460.24	74,407.05	147,017.58	142,957.84
Sherman	58,000.00	60,000.00	65,000.00	68,325.00	93,769.83	98,096.12	118,211.15	96,192.57
Tillamook	188,150.00	188,150.00	204,595.00	187,000.00	222,591.00	430,168.01	284,766.76	185,393.00
Umatilla	*	*	*	*	378,647.42	350,271.58	321,290.36	285,000.00
Union	*	*	*	193,113.82	344,620.51	667,185.50	318,670.87	284,137.78
Wallowa	53,986.96	37,733.58	71,070.17	123,853.99	166,348.74	205,135.77	143,105.02	155,923.09
Wasco	110,327.98	194,654.86	82,358.95	116,197.06	238,001.68	305,638.63	353,381.16	577,136.14
Washington	235,624.84	266,140.51	461,363.27	259,347.38	282,899.11	290,991.10	311,269.30	337,500.94
Wheeler	26,810.93	65,836.11	24,120.50	74,153.95	81,209.98	157,000.00	70,296.00	*
Yamhill	50,000.00	60,000.00	300,000.00	340,000.00	*	298,851.28	218,644.30	176,008.05
Totals	$3,930,173.84	$4,591,638.42	$5,650,227.19	$6,924,724.54	$9,793,538.83	$10,076,708.73	$9,561,655.75	$7,910,939.80

*Data not available.

TABLE No. 10

COUNTY BONDS FOR HIGHWAY PURPOSES, 1913-1924

This tabulation was compiled from reports from the various county treasurers as of November 1, 1924, to which have been added the amounts of bonds voted at the general election of November 4, 1924.

County	Date Voted	Amount	Amount Sold	Bonds Matured and Paid	Sinking Fund on Hand	Amount Sold Less Matured Bonds and Sinking Fund
Baker	June 3, 1919	$ 500,000.00	$ 500,000.00	$	$ 2,385.96	$ 497,614.04
Baker	Nov. 4, 1924	500,000.00				
Benton	June 3, 1919	220,000.00	220,000.00	20,000.00		200,000.00
Benton *	Oct. ..., 1923	40,000.00	40,000.00			40,000.00
Clackamas	Nov. 24, 1919	1,700,000.00	941,520.00			941,520.00
Clatsop	Nov. 4, 1913	400,000.00	400,000.00		154,742.94	245,257.06
Clatsop	Nov. 2, 1920	100,000.00	100,000.00			100,000.00
Columbia	Feb. ..., 1914	360,000.00	360,000.00	160,000.00	4,435.34	195,564.66
Coos	June ..., 1916	362,000.00	362,000.00	144,800.00		217,200.00
Coos	June 7, 1921	300,000.00	300,000.00	75,000.00		225,000.00
Coos †	Aug. ..., 1924	280,000.00				
Coos	Nov. 4, 1924	400,000.00				
Crook	May 17, 1918	95,000.00	95,000.00			95,000.00
Crook	Nov. 7, 1919	220,000.00	220,000.00			220,000.00
Curry	June 3, 1919	98,000.00	98,000.00		5,301.36	92,698.64
Curry	June 7, 1921	165,000.00	142,000.00			142,000.00
Deschutes	June 3, 1919	125,000.00	125,000.00	36,000.00		89,000.00
Deschutes	June 7, 1921	50,000.00	50,000.00			50,000.00
Deschutes	Mar. 1, 1924	65,000.00	65,000.00			65,000.00
Douglas	Oct. 1, 1917	555,500.00	555,500.00	165,000.00	80,000.00	310,500.00
Douglas	June 7, 1921	1,100,000.00	1,100,000.00			1,100,000.00
Gilliam	June 3, 1919	250,000.00	250,000.00			250,000.00
Gilliam	May 16, 1924	75,000.00	75,000.00			75,000.00
Grant	June 4, 1917	140,000.00	135,000.00	82,200.00		52,800.00
Grant	June 7, 1921	440,000.00	415,000.00			415,000.00
Harney	Nov. 4, 1924	65,000.00				
Hood River	July 15, 1914	75,000.00	75,000.00	30,000.00	6,000.00	39,000.00
Hood River	June 7, 1921	350,000.00	310,000.00			310,000.00
Jackson	Sept. 9, 1913	500,000.00	500,000.00	100,000.00	123,714.73	276,285.27
Jackson	May 21, 1920	500,000.00	500,000.00			500,000.00
Jefferson	June 3, 1919	100,000.00	100,000.00			100,000.00
Josephine ‡						

Klamath	June 3, 1919	347,704.00	347,704.00			347,704.00
Klamath	Feb. 21, 1922	800,000.00	633,000.00			633,000.00
Klamath	Nov. 4, 1924	125,000.00				
Lake	June 3, 1919	200,000.00	200,000.00	10,000.00	5,524.82	184,475.18
Lane	May 21, 1920	2,000,000.00	1,500,000.00			1,500,000.00
Lincoln	June 3, 1919	180,000.00	180,000.00	18,000.00	8,046.05	153,953.95
Lincoln	June 7, 1921	343,240.00	343,240.00			343,240.00
Lincoln	May 19, 1922	103,000.00	103,000.00			103,000.00
Linn	June 3, 1919	600,000.00	600,000.00	159,000.00	103,202.06	337,797.94
Linn	Nov. 6, 1923	180,000.00	53,100.00			53,100.00
Malheur	June 3, 1919	260,000.00	260,000.00	10,000.00	20,081.93	229,918.07
Marion	June 3, 1919	850,000.00	850,000.00	85,000.00		765,000.00
Morrow	June 3, 1919	290,000.00	290,000.00	6,500.00	63,562.08	219,937.92
Multnomah §	Mar. ---, 1915	1,250,000.00	1,250,000.00	625,000.00		625,000.00
Polk	June 3, 1919	265,000.00				
Sherman	April 5, 1919	300,000.00	300,000.00			300,000.00
Tillamook	June 3, 1919	430,000.00	430,000.00	26,000.00		404,000.00
Umatilla	Mar. 4, 1919	1,050,000.00	735,000.00	210,000.00		525,000.00
Union	Oct. 11, 1919	1,498,000.00	1,100,000.00		50,947.25	1,049,052.75
Wallowa	June 3, 1919	300,000.00	300,000.00	20,000.00	23,265.98	256,734.02
Wasco	Nov. 7, 1916	260,000.00	260,000.00	78,000.00		182,000.00
Wasco	Nov. 2, 1920	100,000.00				
Wasco	June 7, 1921	800,000.00	650,000.00			650,000.00
Washington						
Wheeler	Nov. 7, 1916	80,000.00	80,000.00	13,000.00		67,000.00
Wheeler	June 3, 1919	44,000.00	44,000.00		2,000.00	42,000.00
Wheeler	June 7, 1921	140,000.00	140,000.00			140,000.00
Yamhill	June 3, 1919	360,000.00	360,000.00	25,000.00		335,000.00
Yamhill	May 21, 1920	420,000.00	396,000.00	6,000.00		390,000.00
Totals		$23,706,444.00	$19,439,064.00	$ 2,104,500.00	$ 653,210.50	$16,681,353.50

* Of a total bond issue of $96,000.00 voted in Benton County in October, 1923, approximately $40,000.00 was for road building purposes.

† The validity of this issue of $280,000.00 is being tested in the Supreme Court.

‡ Josephine County has no bonded indebtedness for road building purposes, but it has an indebtedness for that purpose of $134,274.84 in time warrants.

§ In addition to this $1,250,000 of bonds, Multnomah County, in 1914, voted and sold bonds to the amount of $1,250,000 for the Interstate Bridge at Vancouver, of which bonds $350,000 have been retired. In 1923 bonds in the amount of $3,000,000 were voted for the Burnside St. Bridge, of which bonds $1,500,000 have been sold. In 1924, bonds in the amount of $1,600,000 were voted for the Ross Island Bridge, of which bonds $500,000 have been sold. On Nov. 4, 1924, bonds in the amount of $500,000 were voted to supplement previous authorizations for bridge building purposes.

TABLE No. 11

POPULATION, AREA, ASSESSED VALUATION AND BONDING LIMITS FOR ALL COUNTIES

County	Population by 1920 Census	Area in Acres	Assessed Valuation December, 1924	Road Bonding Limit Based on 6 per cent of Assessed Valuation	Road Bond Indebtedness on November 1, 1924, Inclusive of Authorized Bonds
Baker	17,929	1.958,400	$ 22,887,711.05	$ 1,373,262.66	$ 1,000,000.00
Benton	13,744	440,320	15,689,378.74	941,362.72	240,000.00
Clackamas	37,698	1,192,960	47,449,933.17	2,846,995.99	1,700,000.00
Clatsop	23,030	525,440	29,964,795.05	1,797,887.70	500,000.00
Columbia	13,960	423,680	17,220,991.45	1,033,259.49	200,000.00
Coos	22,257	1,041,920	24,940,068.15	1,496,404.09	1,122,200.00
Crook	3,424	1,916,160	5,907,427.18	354,445.63	315,000.00
Curry	3,025	958,720	4,311,676.89	258,700.61	263,000.00
Deschutes	9,622	1,928,080	12,149,642.02	728,978.52	204,000.00
Douglas	21,332	3,150,080	30,389,496.44	1,823,369.79	1,490,500.00
Gilliam	3,960	768,640	10,055,304.76	603,318.29	325,000.00
Grant	5,496	2,892,800	7,672,972.32	460,378.34	497,800.00
Harney	3,992	6,357,120	8,909,220.75	534,553.24	65,000.00
Hood River	8,315	347,520	10,197,143.53	611,828.61	395,000.00
Jackson	20,405	1,815,040	29,065,721.27	1,743,943.28	900,000.00
Jefferson	3,211	1,133,680	5,531,497.93	331,889.88	100,000.00
Josephine	7,655	1,120,640	7,941,813.35	475,508.80	.....
Klamath	11,413	3,839,360	21,178,629.81	1,271,717.79	1,272,704.00
Lake	3,991	5,068,800	10,659,991.98	639,599.52	190,000.00
Lane	36,166	2,951,680	43,484,539.64	2,609,072.38	2,000,000.00
Lincoln	6,084	645,120	8,949,323.62	536,959.42	608,240.00
Linn	24,550	1,435,520	34,101,100.10	2,046,066.01	621,000.00
Malheur	10,907	6,325,120	15,059,099.23	903,545.95	250,000.00
Marion	47,187	764,160	46,939,643.05	2,816,378.58	765,000.00
Morrow	5,617	1,296,000	11,028,593.96	661,715.64	283,500.00
Multnomah	275,898	288,640	366,547,943.61	21,992,876.62	625,000.00
Polk	14,181	453,760	19,230,662.29	1,153,839.74	265,000.00
Sherman	3,826	535,040	10,346,478.45	620,788.71	300,000.00
Tillamook	8,810	720,000	21,550,927.18	1,293,055.63	404,000.00
Umatilla	25,946	2,030,720	47,311,654.28	2,838,699.26	840,000.00
Union	16,636	1,335,680	19,272,921.49	1,156,375.29	1,498,000.00
Wallowa	9,778	2,012,800	12,278,790.66	736,727.44	280,000.00
Wasco	13,648	1,499,520	18,003,616.16	1,080,216.97	1,082,000.00
Washington	26,376	467,840	33,860,163.71	2,031,609.82	.....
Wheeler	2,791	1,090,560	4,837,326.92	290,239.61	251,000.00
Yamhill	20,529	456,960	23,954,536.42	1,437,272.18	749,000.00
Totals	783,389	61,188,480	$1,058,880,736.61	$63,532,844.20	$21,601,944.00

TABLE No. 12

STATISTICS PERTAINING TO MOTOR VEHICLE REGISTRATIONS AND TO REVENUES FROM MOTOR VEHICLE LICENSE FEES AND FROM THE TAX ON GASOLINE

In arriving at the number of persons per registered vehicle, it has been assumed that the population of the state has increased at a uniform annual rate equal to one-tenth of the total increase in population between 1910 and 1920.

YEAR	Number of Motorcycles	Number of Motor Vehicles other than Motorcycles							Number of Persons per Motor Vehicle	License Fee Revenues		Gasoline Tax Revenues	
		Passenger Cars	Ambulances and Hearses	Busses and Stages	Delivery Cars Less Than One-ton Capacity	Trucks	Trailers	Total of Motor Vehicles Except Motorcycles		Total Gross Revenue	Average per Motor Vehicle	Total Gross Revenue	Average per Motor Vehicle
1913*	2,100	.....	.....	.....	.....	.....	.....	11,857	59.54	$ 56,873.00	$ 4.80	$	$ .....
1914	2,898	.....	.....	.....	.....	.....	.....	16,347	43.86	77,592.00	4.75	.....	.....
1915	3,158	.....	.....	.....	.....	.....	.....	23,585	30.87	108,881.50	4.62	.....	.....
1916	3,368	.....	.....	.....	.....	.....	.....	33,917	21.79	146,232.00	4.31	.....	.....
1917	3,400	.....	.....	.....	.....	.....	.....	48,632	15.43	196,787.50	4.05	.....	.....
1918	3,501	.....	.....	.....	.....	.....	.....	63,324	12.02	461,422.00	7.29	.....	.....
1919	3,570	.....	.....	.....	.....	.....	.....	83,332	9.28	602,239.00	7.23	341,524.82	4.10
1920	3,518	.....	.....	.....	.....	.....	.....	103,790	7.55	2,085,168.50	20.09	463,773.12	4.47
1921	3,164	103,735	127	103	5,223	9,137	290	118,615	6.70	2,334,931.25	19.68	989,535.63	8.34
1922	3,206	118,035	104	592	4,763	10,735	337	134,566	5.99	3,340,519.58	24.82	1,159,175.69	8.61
1923	3,140	146,161	108	840	5,947	12,896	450	166,412	4.91	4,069,609.40	24.46	1,984,420.09	11.92
1924†	2,794	170,016	118	921	6,765	14,539	466	192,825	4.29	4,767,700.00	24.73	2,561,000.00	13.28

* Division between motor vehicles and motorcycles is estimated, as separate records are not available.

† The figures for the year 1924 are estimated. The estimates are based on actual registrations and receipts to September 15, 1924.

TABLE No. 13

MILEAGES OF STATE HIGHWAYS BY COUNTIES

The mileages given in this table are inclusive of mileages within cities and towns:

COUNTY	Total Mileage of State Highways	Classification as to Improvement				
		Paved with Bituminous Pavement	Paved with Concrete Pavement	Surfaced with Rock or Gravel	Graded to State Standards	Not Graded to State Standards
Baker	219.1	0.9	.....	94.4	47.1	76.7
Benton	94.9	25.8	17.7	20.6	8.1	22.7
Clackamas	66.6	8.0	10.1	45.7	2.8	.....
Clatsop	75.9	49.6	2.5	14.2	0.3	9.3
Columbia	55.4	54.5	0.9	.....	.....	.....
Coos	103.4	0.4	23.9	67.1	3.3	8.7
Crook	83.6	.....	.....	45.1	29.9	8.6
Curry	95.4	.....	.....	34.4	2.6	58.4
Deschutes	234.2	0.8	.....	103.1	21.6	108.7
Douglas	152.3	80.6	17.1	30.2	.....	24.4
Gilliam	97.1	.....	.....	88.0	9.1	.....
Grant	155.6	.....	.....	88.1	9.7	57.8
Harney	106.0	.....	.....	32.4	12.5	61.1
Hood River	69.3	27.1	.....	42.1	0.1	.....
Jackson	150.2	50.6	10.1	85.3	3.9	0.3
Jefferson	50.1	.....	.....	37.9	.....	12.2
Josephine	97.1	34.5	.....	6.1	19.5	37.0
Klamath	336.0	3.0	.....	157.1	57.9	118.0
Lake	202.4	.....	.....	57.1	9.4	135.9
Lane	313.3	34.3	13.5	102.8	10.4	152.3
Lincoln	132.1	.....	.....	58.3	22.9	50.9
Linn	115.6	27.2	8.6	3.8	.....	76.0
Malheur	202.3	0.6	1.0	86.9	9.3	104.5
Marion	43.4	33.4	10.0	.....	.....	.....
Morrow	94.8	.....	.....	80.5	.....	14.3
Multnomah	111.5	98.0	6.4	3.0	0.7	3.4
Polk	49.6	27.4	14.7	7.5	.....	.....
Sherman	64.3	.....	.....	64.3	.....	.....
Tillamook	86.2	10.3	4.8	55.2	1.0	14.9
Umatilla	241.6	41.9	.....	132.0	.....	67.7
Union	85.3	8.2	.....	77.1	.....	.....
Wallowa	73.9	.....	.....	57.9	.....	16.0
Wasco	151.8	23.3	.....	74.5	36.0	18.0
Washington	42.1	26.4	15.8	.....	.....	.....
Wheeler	137.5	.....	.....	77.2	.....	60.3
Yamhill	73.7	17.5	37.3	18.8	.....	.....
Totals	4,463.6	684.3	194.4	1,948.7	318.1	1,318.1

TABLE No. 14

MILEAGES OF COUNTY ROADS

Except for concrete and bituminous pavements, the mileages here given are not represented to be more than roughly approximate, as accurate information is available in only a very few of the counties. Mileages of state highways are not included in these figures.

COUNTY	Total Mileage of County Roads	Classification as to Improvement					
		Concrete Pavement	Bituminous Pavement	Rock and Gravel Surfacing	Plank Surfaced Roads	Improved Earth Roads	Unimproved Earth Roads
Baker	4,050	.....	.....	120	.....	765	3,165
Benton	450	.....	.....	230	5	70	145
Clackamas	2,533	37.0	55.0	366	10	515	1,550
Clatsop	219	25.0	16.0	134	11	.....	33
Columbia	740	.....	.....	220	10	210	300
Coos	445	.....	.....	133	18	62	232
Crook	1,020	.....	.....	20	.....	100	900
Curry	152	.....	.....	44	.....	3	105
Deschutes	1,700	.....	.....	4	.....	19	1,677
Douglas	955	2.5	0.5	602	17	30	303
Gilliam	1,345	.....	.....	15	.....	50	1,280
Grant	837	.....	.....	7	.....	44	786
Harney	2,270	.....	.....	20	.....	115	2,135
Hood River	250	4.0	.....	111	.....	50	85
Jackson	1,200	.....	9.0	200	.....	200	791
Jefferson	1,790	.....	.....	35	.....	75	1,680
Josephine	375	.....	.....	93	.....	126	156
Klamath	1,615	1.0	.....	34	.....	180	1,400
Lake	1,800	.....	.....	23	.....	92	1,685
Lane	1,400	.....	.....	735	.....	15	650
Lincoln	450	.....	.....	60	8	20	362
Linn	1,600	.....	.....	600	.....	200	800
Malheur	4,040	.....	.....	40	.....	500	3,500
Marion	1,243	.....	124.0	800	.....	200	119
Morrow	1,160	.....	.....	55	.....	15	1,090
Multnomah*	450	8.0	22.0	252	.....	108	60
Polk	1,102	.....	4.0	450	.....	414	234
Sherman	550	.....	.....	38	.....	210	302
Tillamook	275	3.0	.....	160	10	42	60
Umatilla	3,568	.....	.....	107	.....	500	2,961
Union	1,250	.....	.....	93	.....	320	837
Wallowa	442	.....	.....	20	.....	55	367
Wasco	1,308	.....	5.0	92	.....	711	500
Washington	991	.....	.....	516	41	384	50
Wheeler	506	.....	.....	8	.....	18	480
Yamhill	1,225	10.0	.....	400	.....	650	165
Totals	45,306	90.5	235.5	6,837	130	7,068	30,945

* In addition to the mileages here given, Multnomah county has constructed and maintains 6.3 miles of concrete pavement and 74.4 miles of bituminous pavement which are on state highway routes and which are included in the adjacent table giving the mileages of state highways.

TABLE No. 15

STATE HIGHWAYS

NAMES, NUMBERS, LENGTHS, AND MILEAGES OF DIFFERENT TYPES OF IMPROVEMENT

The mileages given in this table are inclusive of mileages within cities and towns.

No.	HIGHWAY	Total Length in Miles	Classification as to Improvement				
			Paved with Bituminous Pavement	Paved with Concrete Pavement	Surfaced with Rock or Gravel	Graded to State Standards	Not Graded to State Standards
1	Pacific	353.7	275.5	69.7	6.6		1.9
2	Columbia River	336.9	196.4	2.6	137.8	0.1	
3	West Side Pacific	112.2	64.1	46.4	1.7		
4	The Dalles-California	324.3	3.5		208.3	54.6	57.9
5	John Day	292.8			219.3	40.9	32.6
6	Old Oregon Trail	205.1	8.8	1.0	194.6		0.7
7	Central Oregon	281.0	0.3		52.0	12.5	216.2
8	Oregon-Washington	146.0	38.3		89.4		18.3
9	Roosevelt Coast	407.7	30.6	29.7	136.5	17.6	193.3
10	La Grande-Wallowa Lake	73.2	2.2		71.0		
11	Enterprise-Flora	35.0			19.0		16.0
12	Baker-Cornucopia	75.7			21.4	22.2	32.1
13	Baker-Unity	48.0			2.0	12.1	33.9
14	Shaniko-Mitchell	50.0					50.0
15	McKenzie	113.0	0.6		75.1	12.9	24.4
16	Santiam	100.0	0.6		3.8		95.6
17	McKenzie-Bend	16.9			16.1		0.8
18	Willamette	103.0			8.0		95.0
19	Prineville-Lakeview	216.6			49.1	38.5	129.0
20	Klamath Falls-Lakeview	99.0			27.4	2.0	69.6
21	Ashland-Klamath Falls	56.9			56.9		
22	Crater Lake	93.4	0.6		72.7	20.1	
24	The Rim	38.4				38.4	
25	Redwood	42.1			6.0	5.4	30.7
26	Mount Hood Loop	104.0	14.0		85.9	0.7	3.4
27	Alsea	59.7			18.2	20.6	20.9
28	Pendleton-John Day	98.0			7.2		90.8
29	Tualatin Valley	46.5	19.2	27.3			
30	Salem-Dallas	15.1	15.1				
31	Albany-Corvallis	11.0	1.1	9.5			0.4
32	McMinnville-Tillamook	48.7	7.5	5.3	35.9		
33	Corvallis-Newport	58.5	0.7		51.5		6.3
34	Willamette Valley-Florence	73.7			51.0		22.7
35	Coos Bay-Roseburg	62.1	0.4		59.7		2.0
36	Pendleton-Cold Springs	30.4			20.2		10.2
37	Umatilla Cutoff	19.8					19.8
38	Oregon Caves	20.4				14.1	6.3
39	Deschutes	0.5			0.5		
40	Bertha-Beaverton	5.4	2.5	2.9			
41	Ochoco	109.8			72.5		37.3
42	Sherman	69.4			69.4		
43	Monmouth-Independence	2.3	2.3				
44	Wapinitia	7.4			2.0	5.4	
	Totals	4,463.6	684.3	194.4	1,948.7	318.1	1,318.1

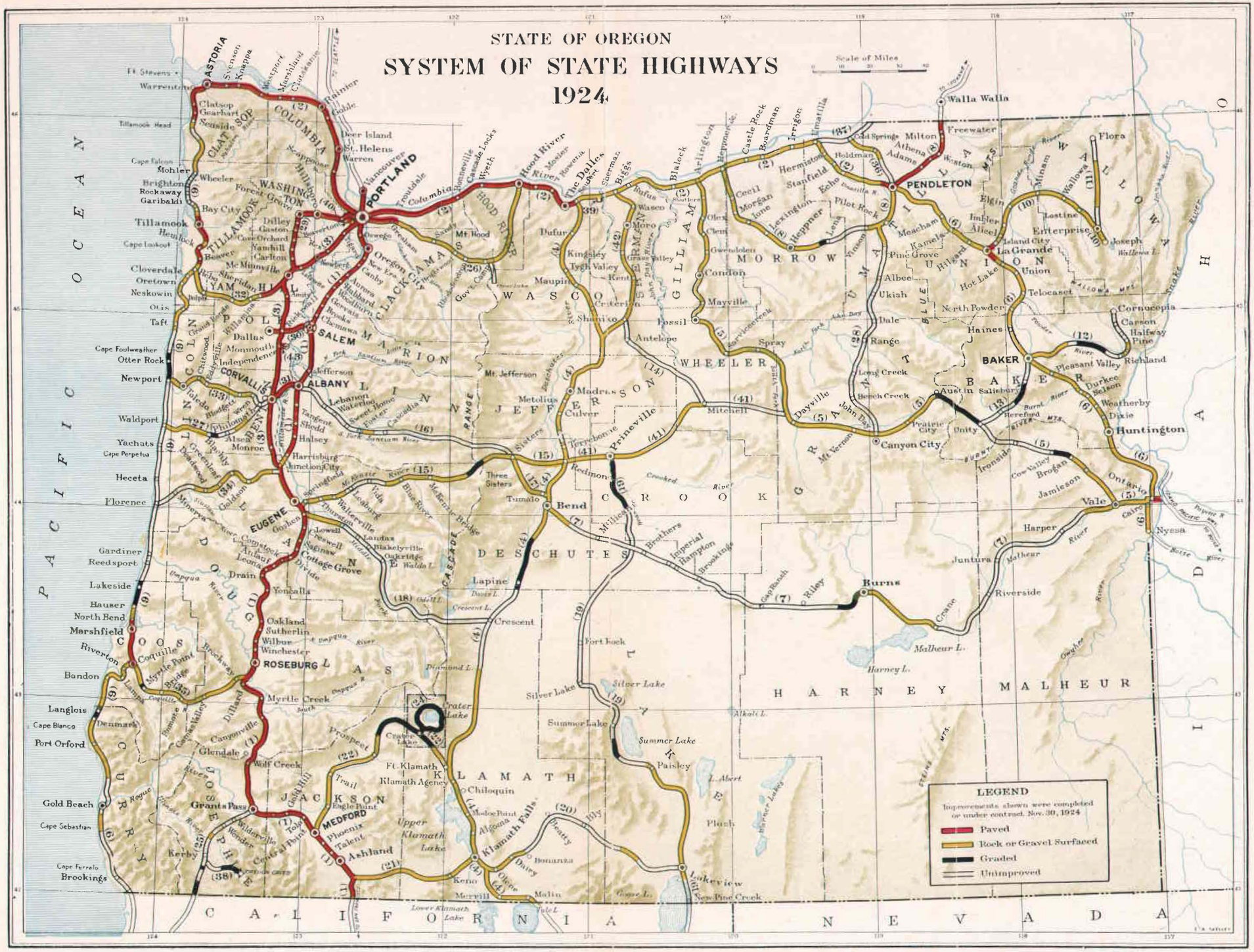
STATE OF OREGON
SYSTEM OF STATE HIGHWAYS
1924
Scale of Miles
PACIFIC OCEAN
ASTORIA
PORTLAND
SALEM
ALBANY
CORVALLIS
EUGENE
ROSEBURG
MEDFORD
Grants Pass
Ashland
PENDLETON
La Grande
BAKER
Burns
Prineville
Bend
Klamath Falls
Lakeview
Vale
Nyssa
Huntington
Baker
Canyon City
Condon
Mayville
Fossil
Madras
Redmond
Tumalo
Lapine
Crescent
Silver Lake
Summer Lake
Paisley
Chiloquin
Crater Lake
Ft. Klamath
Klamath Agency
Upper Klamath Lake
Lower Klamath Lake
Malheur L.
Harney L.
Alkali L.
L. Abert
Plush
Denmark
Port Orford
Gold Beach
Brookings
Cape Blanco
Cape Sebastian
Cape Ferrelo
Cape Foulweather
Otter Rock
Newport
Waldport
Yachats
Heceta
Florence
Gardiner
Reedsport
Lakeside
Hauser
North Bend
Marshfield
Coquille
Bandon
Langlois
Tillamook
Rockaway
Garibaldi
Cloverdale
Oretown
Neskowin
Otis
Taft
Mohler
Brighton
Cape Falcon
Tillamook Head
Cape Lookout
Warrenton
Ft. Stevens
Clatsop
Gearhart
Seaside
Deer Island
St. Helens
Vancouver
Troutdale
Cascade Locks
Hood River
The Dalles
Biggs
Wasco
Moro
Grass Valley
Dufur
Kingsley
Tygh Valley
Maupin
Sherman
Condon
Mayville
Fossil
Antelope
Shaniko
Madras
Redmond
Prineville
Bend
Tumalo
Lapine
Crescent
Silver Lake
Summer Lake
Paisley
Chiloquin
Klamath Falls
Lakeview
Burns
Riverside
Juntura
Harper
Jamieson
Brogan
Ontario
Vale
Nyssa
Huntington
Baker
Pleasant Valley
Richland
Cornucopia
Halfway
Pine
Joseph
Enterprise
Lostine
Elgin
Imbler
Alicel
Island City
La Grande
Union
Telocaset
Cove
Haines
North Powden
Hot Lake
Pilot Rock
Pendleton
Milton
Freewater
Walla Walla
Weston
Athena
Adams
Hermiston
Stanfield
Echo
Irrigon
Boardman
Heppner
Lexington
Ione
Morgan
Cecil
Condon
Ukiah
Dale
Range
Long Creek
Spray
Mitchell
Dayville
Prairie City
Unity
Canyon City
Austin
Sumpter
Bonanza
Malin
Merrill
Keno
Dairy
Olene
Beatty
Bly
Sprague River
Gearhart
Cannon Beach
Astoria
Clatskanie
Rainier
Scappoose
Hillsboro
Forest Grove
Banks
Gaston
Dilley
Cornelius
Hillsboro
Tillamook
Beaverton
Sherwood
Newberg
Dundee
Lafayette
McMinnville
Sheridan
Dallas
Monmouth
Independent
Corvallis
Albany
Lebanon
Sweet Home
Scio
Mill City
Gates
Mt. Hood
Mt. Jefferson
Mt. Thielsen
Mt. Bachelor
Three Sisters
Crater Lake
Diamond L.
Davis L.
Crescent L.
Malheur L.
Harney L.
Alkali L.
L. Abert
Silver Lake
Summer Lake
Upper Klamath Lake
Lower Klamath Lake
Tule L.
Columbia River
Willamette River
Deschutes River
Rogue River
Umpqua River
Coquille River
Klamath River
Malheur River
Owyhee River
Snake River
Grande Ronde River
Wallowa River
Powder River
Burnt River
Malheur River
Crane Creek
Silver Lake
Summer Lake
Paisley
Chiloquin
Klamath Falls
Lakeview
Burns
Riverside
Juntura
Harper
Jamieson
Brogan
Ontario
Vale
Nyssa
Huntington
Baker
Pleasant Valley
Richland
Cornucopia
Halfway

TABLE No. 16

MILEAGES OF NEW CONSTRUCTION WORK PERFORMED

December 1, 1922, to November 30, 1924

This table shows the mileages, by counties, of the different classes of new construction work performed upon the state highway system under the direct supervision of the State Highway Commission during the period December 1, 1922, to November 30, 1924. It does not include work performed upon the state highway system under the supervision of the Federal Government.

COUNTY	Mileages			
	Bituminous Pavement	Concrete Pavement	Gravel or Broken Stone Surfacing	Grading
Baker	.....	.....	8.95	18.11
Benton	.....	9.69	21.22	16.49
Clackamas	0.05	0.58	20.24	1.17
Clatsop	.....	.....	2.73	3.18
Columbia	.....	0.93	.....	.....
Coos	.....	.....	32.44	16.18
Crook	.....	.....	6.63	8.67
Curry	.....	.....	15.19	10.81
Deschutes	.....	.....	6.15	15.84
Douglas	.....	1.20	17.54	3.49
Gilliam	.....	.....	10.72	15.58
Grant	.....	.....	29.62	16.42
Harney	.....	.....	3.20	1.82
Hood River	.....	.....	22.59	2.54
Jackson	.....	.....	31.40	9.05
Jefferson	.....	.....	16.62	9.35
Josephine	2.40	.....	.....	3.40
Klamath	.....	.....	57.73	45.88
Lake	.....	.....	31.26	25.57
Lane	0.43	0.63	23.51	12.84
Lincoln	.....	.....	16.12	6.39
Linn	2.12	3.51	0.34	.....
Malheur	.....	.....	15.21	17.77
Marion	0.09	.....	.....	.....
Morrow	.....	.....	11.48	2.90
Polk	.....	14.80	.....	0.08
Sherman	.....	.....	29.96	24.96
Tillamook	.....	0.14	13.35	12.45
Umatilla	.....	.....	23.49	15.83
Union	.....	.....	16.62	2.48
Wallowa	.....	.....	14.60	11.44
Wasco	.....	.....	56.22	76.89
Washington	0.15	.....	.....	0.43
Wheeler	.....	.....	25.39	5.70
Yamhill	.....	.....	.....	1.24
Totals for entire state	5.24	31.48	580.52	414.95

TABLE No. 17

MILEAGES OF RESURFACING AND WIDENING WORK PERFORMED

December 1, 1922, to November 30, 1924

This table shows the mileages, by counties, of resurfacing and widening work performed upon the state highway system under the direct supervision of the State Highway Commission during the period December 1, 1922, to November 30, 1924.

County	Mileages of Resurfacing and Widening		
	Pavement Widening and Resurfacing	Broken Stone or Gravel Resurfacing	Grade Widening
Benton	.....	5.30	.....
Clatsop	.....	.....	8.82
Coos	.....	.....	6.20
Douglas	.....	5.67	.....
Gilliam	.....	27.52	.....
Lane	4.50	.....	.....
Lincoln	.....	7.50	.....
Malheur	.....	7.03	.....
Morrow	.....	31.46	.....
Sherman	.....	4.36	.....
Tillamook	.....	.....	4.50
Umatilla	.....	47.50	.....
Union	2.00	15.60	10.00
Wasco	.....	12.47	.....
Washington	8.39	.....	.....
Wheeler	.....	1.60	.....
Yamhill	0.79	.....	4.00
Totals for entire state	15.68	166.01	33.52

TABLE No. 18

SUMMARY OF NEW CONSTRUCTION WORK PERFORMED

December 1, 1922, to November 30, 1924

This table shows the mileages, by sections, of the different classes of new construction work performed upon the state highway system under the direct supervision of the State Highway Commission during the period December 1, 1922, to November 30, 1924. It does not include work performed upon the state highway system under the supervision of the Federal Government.

County and Section	Mileages			
	Bituminous Pavement	Concrete Pavement	Gravel or Broken Stone Surfacing	Grading
BAKER COUNTY				
Baker-Nelson	.....	.....	8.95	1.95
Stices Gulch	.....	.....	.....	6.20
Mill Gulch	.....	.....	.....	6.04
Love Bridge-Black Bridge	.....	.....	.....	3.92
Totals for Baker County	.....	.....	8.95	18.11
BENTON COUNTY				
At North County Line	.....	0.32	.....	.....
Albany-Corvallis	.....	9.37	9.53	.....
Alsea Mountain	.....	.....	6.00	6.00
Missouri Bend	.....	.....	.....	8.20
Blodgett-Lincoln County Line	.....	.....	3.40	.....
Keyes Hill and Noon	.....	.....	2.29	2.29
Totals for Benton County	.....	9.69	21.22	16.49
CLACKAMAS COUNTY				
Oregon City-Bolton	.....	0.58	.....	0.34
Oregon City-Canemah	.....	.....	0.84	0.83
Pudding River Gap	0.05	.....	.....	.....
Multnomah County Line-Sandy	.....	.....	4.80	.....
Sandy-Cherryville	.....	.....	4.20	.....
Cherryville-Forest Boundary	.....	.....	10.40	.....
Totals for Clackamas County	0.05	0.58	20.24	1.17
CLATSOP COUNTY				
Astoria Slide	.....	.....	.....	0.20
Lewis and Clark Bridge Approaches	.....	.....	.....	0.25
Seaside-Cannon Beach Junction	.....	.....	2.73	2.73
Totals for Clatsop County	.....	.....	2.73	3.18
COLUMBIA COUNTY				
Rainier City	.....	0.93	.....	.....
Totals for Columbia County	.....	0.93	.....	.....
COOS COUNTY				
Douglas County Line-Myrtle Point	.....	.....	7.31	.....
Myrtle Point-Coquille	.....	.....	2.03	.....
Glasgow-Hauser	.....	.....	6.20	0.24
Coquille-Bandon	.....	.....	16.90	15.94
Totals for Coos County	.....	.....	32.44	16.18
CROOK COUNTY				
Prineville-Ochoco Forest Boundary	.....	.....	6.63	.....
Unit 2, Crooked River-Deschutes County Line	.....	.....	.....	8.67
Totals for Crook County	.....	.....	6.63	8.67

TABLE No. 18—Continued

County and Section	Mileages			
	Bituminous Pavement	Concrete Pavement	Gravel or Broken Stone Surfacing	Grading
CURRY COUNTY				
Sixes River-Elk River	.....	.....	2.76	0.86
Elk River-Port Orford	.....	.....	3.30	3.30
Hunters Creek-Myers Creek	.....	.....	8.50	6.02
Winchuck River-California Line	.....	.....	0.63	0.63
Totals for Curry County	.....	.....	15.19	10.81
DESCHUTES COUNTY				
Lava Butte-Allens Ranch	.....	.....	.....	2.00
Allens Ranch-Paulina Prairie	.....	.....	.....	7.69
Cline Falls-Redmond	.....	.....	4.78	4.78
Tumalo Section	.....	.....	1.37	1.37
Totals for Deschutes County	.....	.....	6.15	15.84
DOUGLAS COUNTY				
Elk Creek Bridge Approaches	.....	.....	.....	0.14
Winchester Bridge Approaches	.....	.....	.....	0.54
Canyonville-Galesville	.....	1.20	.....	.....
Pacific Highway-Coos County Line	.....	.....	17.54	2.81
Totals for Douglas County	.....	1.20	17.54	3.49
GILLIAM COUNTY				
Arlington-Shutler	.....	.....	3.12	.....
Base Line-Gwendolen	.....	.....	5.60	13.00
Heppner Junction-Morrow County Line	.....	.....	2.00	2.58
Totals for Gilliam County	.....	.....	10.72	15.58
GRANT COUNTY				
Valades Ranch-Cummins Creek	.....	.....	14.74	1.54
Cummins Creek-Coles Bridge	.....	.....	14.08	14.08
Town of John Day	.....	.....	0.80	0.80
Totals for Grant County	.....	.....	29.62	16.42
HARNEY COUNTY				
City of Burns	.....	.....	3.20	1.82
Totals for Harney County	.....	.....	3.20	1.82
HOOD RIVER COUNTY				
Hood River-Forest Boundary	.....	.....	22.59	2.54
Totals for Hood River County	.....	.....	22.59	2.54
JACKSON COUNTY				
Medford-Agate	.....	.....	8.50	.....
Cascade Gorge-McLeod	.....	.....	10.24	8.61
Pacific Highway-Green Springs Mountain	.....	.....	0.32	.....
Green Springs Mountain-Jenny Creek	.....	.....	.....	.44
Keene Creek-Klamath County Line	.....	.....	12.34	.....
Totals for Jackson County	.....	.....	31.40	9.05

TABLE No. 18—Continued

County and Section	Mileages			
	Bituminous Pavement	Concrete Pavement	Gravel or Broken Stone Surfacing	Grading
JEFFERSON COUNTY				
Wasco County Line-Madras	.....	.....	16.62	9.35
Totals for Jefferson County	.....	.....	16.62	9.35
JOSEPHINE COUNTY				
Pleasant Valley-Grants Pass	2.40	.....	.....	.....
Bear Creek Section-Oregon Caves Highway	.....	.....	.....	3.40
Totals for Josephine County	2.40	.....	.....	3.40
KLAMATH COUNTY				
Fort Klamath-Lamms Mill	.....	.....	19.04	16.04
Jackson County Line-Hayden Creek	.....	.....	9.83	.....
Hayden Creek-Keno	.....	.....	12.38	12.12
Keno-Klamath Falls	.....	.....	10.98	10.98
Dairy-Bonanza	.....	.....	5.50	6.74
Totals for Klamath County	.....	.....	57.73	45.88
LAKE COUNTY				
Chalk Cliff-Hunters Hill	.....	.....	.....	8.64
Paisley-Chewaucan Narrows	.....	.....	10.43	9.94
Chewaucan Narrows-Crooked Creek	.....	.....	12.46	0.80
City of Lakeview	.....	.....	0.37	0.37
Drews Valley	.....	.....	8.00	5.82
Totals for Lake County	.....	.....	31.26	25.57
LANE COUNTY				
Eugene-Goshen	0.43	.....	.....	.....
City of Creswell	.....	0.63	.....	.....
Cottage Grove-North	.....	.....	0.64	0.64
Cheshire-Goldson	.....	.....	4.10	4.10
Goldson-Blachly	.....	.....	9.63	.....
Walterville-Deerhorn and Doyle Hill	.....	.....	0.48	.....
Power Plant and Shell Rock Grades	.....	.....	0.56	.....
Goshen-Lowell	.....	.....	8.10	8.10
Totals for Lane County	0.43	0.63	23.51	12.84
LINCOLN COUNTY				
Benton County Line-Eddyville	.....	.....	4.30	.....
Eddyville-Toledo	.....	.....	11.50	1.02
Yaquina River Bridge Approaches	.....	.....	.....	0.05
Nye Creek	.....	.....	0.32	0.32
Agate Beach-Otter Rock	.....	.....	.....	5.00
Totals for Lincoln County	.....	.....	16.12	6.39
LINN COUNTY				
Murder Creek	.....	0.62	.....	.....
Tangent-Shedd	2.12	.....	.....	.....
Shedd-Halsey	.....	2.89	0.34	.....
Totals for Linn County	2.12	3.51	0.34	.....

TABLE No. 18—Continued

County and Section	Mileages			
	Bituminous Pavement	Concrete Pavement	Gravel or Broken Stone Surfacing	Grading
MALHEUR COUNTY				
Vale-Ontario	.....	.....	14.21	14.21
Weiser and Payette Spurs	.....	.....	1.00	3.56
Totals for Malheur County	.....	.....	15.21	17.77
MARION COUNTY				
Aurora Relief Opening	0.09	.....	.....	.....
Totals for Marion County	0.09	.....	.....	.....
MORROW COUNTY				
Heppner-Jones Hill	.....	.....	11.48	.....
Jones Hill-Lena	.....	.....	.....	2.90
Totals for Morrow County	.....	.....	11.48	2.90
POLK COUNTY				
Holmes Gap-Rickreall	.....	5.64	.....	.....
Rickreall Bridge Approaches	.....	.....	.....	0.08
Monmouth-Benton County Line	.....	9.16	.....	.....
Totals for Polk County	.....	14.80	.....	0.08
SHERMAN COUNTY				
Biggs-Wasco	.....	.....	9.45	4.45
Grass Valley-Kent	.....	.....	12.60	12.60
Kent-Wasco County Line	.....	.....	7.91	7.91
Totals for Sherman County	.....	.....	29.96	24.96
TILLAMOOK COUNTY				
Clatsop County Line-Mohler	.....	.....	4.05	4.05
City of Wheeler	.....	.....	.....	0.10
Brighton-Jetty Creek	.....	.....	.....	0.30
Rockaway-North	.....	.....	0.10	.....
Tillamook City	.....	0.14	.....	.....
Hebo-Neskowin	.....	.....	9.20	8.00
Totals for Tillamook County	.....	0.14	13.35	12.45
UMATILLA COUNTY				
Deadmans Pass-Kamela	.....	.....	6.20	3.00
Pendleton-McKay Creek	.....	.....	3.10	2.64
Pilot Rock-Vinson	.....	.....	4.00	.....
Nye-Lazinka Ranch	.....	.....	7.19	7.19
Holdman-Harps Ranch	.....	.....	3.00	3.00
Totals for Umatilla County	.....	.....	23.49	15.83
UNION COUNTY				
Oro Dell-La Grande	.....	.....	1.34	1.34
Island City-Elgin	.....	.....	12.46	1.14
Minam-Wallowa County Line	.....	.....	2.82	.....
Totals for Union County	.....	.....	16.62	2.48
WALLOWA COUNTY				
Union County Line-Wallowa Canyon	.....	.....	.66	.....
Lostine-Enterprise	.....	.....	7.89	5.39
Unit 2, Enterprise Forest Boundary	.....	.....	6.05	6.05
Totals for Wallowa County	.....	.....	14.60	11.44

TABLE No. 18—Continued

County and Section	Mileages			
	Bituminous Pavement	Concrete Pavement	Gravel or Broken Stone Surfacing	Grading
WASCO COUNTY				
The Dalles-Dufur	.....	.....	12.28	7.28
Dufur-Tygh Valley	.....	.....	16.26	21.87
Tygh Valley-Maupin	.....	.....	.....	7.00
Maupin-Cow Canyon	.....	.....	.....	20.78
Cow Canyon Section	.....	.....	7.72	.....
Sherman County Line-Shaniko-Cow Canyon	.....	.....	19.96	19.96
Totals for Wasco County	.....	.....	56.22	76.89
WASHINGTON COUNTY				
Tualatin Bridge Gap	0.15	.....	.....	.....
Dairy Creek Bridge Fill	.....	.....	.....	0.24
Hunt Cutoff	.....	.....	.....	0.19
Totals for Washington County	0.15	.....	.....	0.43
WHEELER COUNTY				
City of Fossil	.....	.....	0.59	.....
Sarvice Creek Section	.....	.....	2.70	1.70
Spray-Grant County Line	.....	.....	12.10	.....
Ochoco Forest-Mitchell	.....	.....	10.00	4.00
Totals for Wheeler County	.....	.....	25.39	5.70
YAMHILL COUNTY				
St. Joseph Section	.....	.....	.....	1.04
Yamhill River Fill	.....	.....	.....	0.20
Totals for Yamhill County	.....	.....	.....	1.24
Totals for Entire State	5.24	31.48	580.52	414.95

TABLE No. 19

SUMMARY OF RESURFACING AND WIDENING WORK PERFORMED

December 1, 1922, to November 30, 1924

This table shows the mileages, by sections, of resurfacing and widening work performed upon the state highway system under the direct supervision of the State Highway Commission during the period December 1, 1922, to November 30, 1924.

County and Section	Mileages of Resurfacing and Widening		
	Pavement Widening and Resurfacing	Broken Stone or Gravel Resurfacing	Grade Widening
BENTON COUNTY			
Wren-Blodgett	.....	5.30	.....
Total for Benton County	.....	5.30	.....
CLATSOP COUNTY			
Astoria-Svensen	.....	.....	8.82
Total for Clatsop County	.....	.....	8.82
COOS COUNTY			
Glasgow-Hauser	.....	.....	6.20
Total for Coos County	.....	.....	6.20
DOUGLAS COUNTY			
Camas Valley-Coos County Line	.....	5.67	.....
Total for Douglas County	.....	5.67	.....
GILLIAM COUNTY			
Quinton-Willow Creek	.....	26.55	.....
Willow Creek-Morrow County Line	.....	0.97	.....
Total for Gilliam County	.....	27.52	.....
LANE COUNTY			
Eugene-Goshen	4.50	.....	.....
Total for Lane County	4.50	.....	.....
LINCOLN COUNTY			
Toledo-Newport	.....	7.50	.....
Total for Lincoln County	.....	7.50	.....
MALHEUR COUNTY			
Vale-Ontario	.....	1.23	.....
Cairo-Nyssa	.....	5.80	.....
Total for Malheur County	.....	7.03	.....
MORROW COUNTY			
Gilliam County Line-Messner	.....	18.07	.....
Messner-Umatilla County Line	.....	11.20	.....
Lexington-Heppner	.....	2.19	.....
Total for Morrow County	.....	31.46	.....

TABLE No. 19—Continued

County and Section	Mileages of Resurfacing and Widening		
	Pavement Widening and Resurfacing	Broken-Stone or Gravel Resurfacing	Grade Widening
SHERMAN COUNTY			
Deschutes River-Biggs	.....	4.36	.....
Total for Sherman County	.....	4.36	.....
TILLAMOOK COUNTY			
Wilson River-South Prairie	.....	.....	4.50
Total for Tillamook County	.....	.....	4.50
UMATILLA COUNTY			
Morrow County Line-Umatilla	.....	3.90	.....
Umatilla-Pendleton	.....	38.80	.....
Pendleton-East	.....	3.00	.....
Pendleton-McKay Creek	.....	1.80	.....
Total for Umatilla County	.....	47.50	.....
UNION COUNTY			
Lone Pine-Telocaset	.....	15.60	10.00
La Grande-Island City	2.00	.....	.....
Total for Union County	2.00	15.60	10.00
WASCO COUNTY			
Seufert-Deschutes River	.....	12.47	.....
Total for Wasco County	.....	12.47	.....
WASHINGTON COUNTY			
Yamhill County Line-Newberg	8.39	.....	.....
Total for Washington County	8.39	.....	.....
WHEELER COUNTY			
Sarvice Creek Summit	.....	1.60	.....
Total for Wheeler County	.....	1.60	.....
YAMHILL COUNTY			
West Side Pacific Highway across County	0.79	.....	.....
Sheridan-Bellevue	.....	.....	4.00
Total for Yamhill County	0.79	.....	4.00
Totals for Entire State	15.68	166.01	33.52

TABLE No. 20

MILEAGES OF SURVEYS MADE

December 1, 1922, to November 30, 1924

This table includes only surveys made for state highways and only surveys made under the direct supervision of the State Highway Commission. It does not include surveys for market roads or surveys made for state highways under the supervision of the United States Bureau of Public Roads.

County and Section	Miles of Completed Location
BAKER COUNTY	
Baker-Unity	8.00
Middle Bridge-Love Bridge	3.80
Timber Canyon	3.40
Unity-Malheur County Line	10.70
Total for Baker County	25.90
BENTON COUNTY	
Albany Bridge Site	0.30
Albany-Corvallis	10.00
Corvallis-Wren	5.00
Total for Benton County	15.30
CLACKAMAS COUNTY	
Canemah-Canby	5.00
Total for Clackamas County	5.00
CLATSOP COUNTY	
East Entrance to Astoria	0.85
Seaside-Hamlet Junction	13.30
Total for Clatsop County	14.15
COOS COUNTY	
Myrtle Point-North	2.40
Glasgow-Hauser	6.20
City of Bandon	1.43
Total for Coos County	10.03
CURRY COUNTY	
Coos County Line-Denmark	4.69
Hunters Head-Myers Creek	1.30
Myers Creek-Pistol River	4.00
Brookings-California Line	5.26
Total for Curry County	15.25
DESCHUTES COUNTY	
Crooked River Crossing	1.20
Bend-Paulina Prairie	14.16
Total for Deschutes County	15.36
DOUGLAS COUNTY	
Harrisburg Bridge Revision	1.20
Oakland Overcrossing Section	0.35
Total for Douglas County	1.55

TABLE No. 20—Continued

County and Section	Miles of Completed Location
GILLIAM COUNTY	
Condon-Thirtymile Creek	5.94
Total for Gilliam County	5.94
JEFFERSON COUNTY	
Crooked River Crossing	3.34
Total for Jefferson County	3.34
JOSEPHINE COUNTY	
Grants Pass-Applegate Bridge	7.20
Total for Josephine County	7.20
KLAMATH COUNTY	
Dairy-Beatty	6.70
Beatty-Summit	10.00
Total for Klamath County	16.70
LAKE COUNTY	
Chewaucan Narrows-Hunters Hill	19.00
Total for Lake County	19.00
LANE COUNTY	
Goshen-Lowell	14.70
Harrisburg Bridge Revision	1.20
Blachly-Triangle Lake	2.75
Total for Lane County	18.65
LINCOLN COUNTY	
Devils Lake-Lane County Line	44.82
Yaquina River Bridge Site (County Hwy.)	0.61
Total for Lincoln County	45.43
LINN COUNTY	
Coxs Bridge Site	0.20
Albany Bridge Site	0.20
Total for Linn County	0.40
MALHEUR COUNTY	
Vale-Ontario	15.44
Snake River Bridge Site	0.75
Baker County Line-Cow Canyon	21.94
Total for Malheur County	38.13
MORROW COUNTY	
Jones Hill-Umatilla County Line	18.37
Total for Morrow County	18.37
SHERMAN COUNTY	
Columbia River Bridge Site at Biggs	3.54
Total for Sherman County	3.54
TILLAMOOK COUNTY	
Mohler-Hobsonville	10.00
Total for Tillamook County	10.00

TABLE No. 20—Continued

County and Section	Miles of Completed Location
UMATILLA COUNTY	
Vinson-Morrow County Line	4.00
Nye-Lazinka Ranch	7.19
Total for Umatilla County	11.19
UNION COUNTY	
Jimmy Creek Bridge	1.40
Total for Union County	1.40
WALLOWA COUNTY	
Enterprise-Forest Boundary	13.64
Total for Wallowa County	13.64
WASCO COUNTY	
Mayer Park	0.30
Sherman County Line-Cow Canyon	17.00
Total for Wasco County	17.30
WHEELER COUNTY	
Mitchell-Rock Creek	25.00
Total for Wheeler County	25.00
YAMHILL COUNTY	
St. Joseph-Tualatin Valley Highway	1.00
McMinnville City	1.20
Total for Yamhill County	2.20
Total for Entire State	359.97

TABLE No. 21

SCHEDULE OF BRIDGES CONSTRUCTED, UNDER CONSTRUCTION OR DESIGNED, SPANS 20 FEET AND ABOVE

December 1, 1922, to November 30, 1924

All bridges listed in this table are located on state highways, or are designed for location on state highways. The status of each structure or design as of November 30, 1924, is indicated by means of the symbols which appear in the third column, the key to which is given at the bottom of each page.

For structure designs for counties, see Table No. 22.

Bridge No.	Location and Type of Structure		Estimated Cost
	BAKER COUNTY		
705	R. C. Abutments for crossing under O. W. R. R. & N. Tracks near Durkee on Baker-Nelson Section, Old Oregon Trail	a	23,413.73
741	60' Curved Chord Steel Pony Truss Span on R. C. Abutments over Pritchard Creek at Station 1206, Baker-Nelson Section, Old Oregon Trail	a	10,825.34
	BENTON COUNTY		
866	38 lin. ft. Frame Trestle, 60' Wood Deck Truss Span, 35' "I" Beam, 95' Pile Trestle over Mary's River and S. P. R. R. Trestle at Blodgett, Corvallis-Newport Highway	a	12,552.94
933	75' Covered Wood Span and 38 lin. ft. Trestle over Mill Creek at Station 589, Alsea Forest Boundary Section, Alsea Highway	a	8,800.00
1008	96 lin. ft. Frame Trestle over Yew Creek at Station 1013, on the Alsea Mountain Section, Alsea Highway	a	5,094.32
1025	92 lin. ft. Retaining Wall, 5-32' R. C. Spans, 4-200' Steel Spans, 4-40' R. C. Spans over the Willamette River on Albany-Corvallis Highway at Albany	b	245,306.00
1036	100' Steel Truss Span and 35' R. C. Span over Bowers Slough at Station 188, Albany-Corvallis Highway	d	17,500.00
1071	60' Steel Deck Span, 228 lin. ft. Frame Trestle over Digger Creek at Station 30, Missouri Bend Section, Alsea Highway	b	14,665.00
1075	120' Covered Wood Span, 57 lin. ft. Pile Trestle over Mary's River at Station 214, Wren-Philomath Section, Corvallis-Newport Highway	a	19,500.00
	CLACKAMAS COUNTY		
357	350' Steel Arch Span encased in "Gunite" Concrete and 500 lin. ft. R. C. Approach over Willamette River at Oregon City on Pacific Highway	a	306,272.40
584	120' Steel Span, 585 lin. ft. R. C. Viaduct over Pudding River on line between Clackamas and Marion Counties at Aurora, Canby-Aurora Section, Pacific Highway	a	77,161.54
	CLATSOP COUNTY		
711	100' Clear Span Single Leaf Bascule Bridge and 703 lin ft. Pile Trestle over Lewis and Clark River, Astoria-Warrenton Section, Roosevelt-Coast Highway	b	180,000.00
914	Comfort Station and keepers quarters in Bradley Park at Clatsop Crest on Columbia River Highway	a	6,769.77
985	2-30' R. C. Deck Girder Spans over Bear Creek, one-half mile west of Svenson, Astoria-Svenson Section, Columbia River Highway	a	7,536.48
1054	20' R. C. Deck Girder Span over Mary's Creek at Station 46, on Svenson-Astoria Section, Columbia River Highway	a	5,180.05
	COLUMBIA COUNTY		
1017	Comfort Station at Little Jack Falls on Goble-Rainier Section, Columbia River Highway, near Prescott. (Contract was let for this structure, but it later developed that right-of-way could not be secured.)	d	1,400.00

Key to Symbols in Third Column: a—construction completed; b—under construction; d—design completed; f—designed but eliminated by subsequent relocation; h—designed but eliminated by substitution of pipe culvert.

TABLE No. 21—Continued

Bridge No.	Location and Type of Structure	Status Nov. 30, 1924	Estimated Cost
	COOS COUNTY		
609	40′ Clear Span Single Leaf Bascule Bridge, 210 lin. ft. Pile Trestle over Coal Bank Slough in City of Marshfield on Roosevelt-Coast Highway	a	24,154.84
953	40′ "A" Frame on piling with 57 lin. ft. Pile Trestle Approach over Bear Creek, Parkersburg Section, Roosevelt-Coast Highway	a	2,272.08
1037	43′ Wood Span to carry coal mining track over Highway near Riverton at Station 397, Lamprey Creek-Fat Elk Section, Roosevelt-Coast Highway	f	1,500.00
1056	120′ Steel Span and 1387 lin. ft. of Pile Trestle Approach over N. Fork Coquille River at Station 100, Myrtle Point-Coquille Section, Coos Bay-Roseburg Highway	d	52,235.00
1057	Revision approach of Coquille Bridge, Dike Section, Roosevelt-Coast Highway	a	5,595.67
1058	244 lin. ft. Pile Trestle at Station 100, Dike Section, Roosevelt-Coast Highway	a	5,995.19
1059	236 lin. ft. Pile Trestle at Station 110, Dike Section, Roosevelt-Coast Highway	a	4,927.17
1060	400 lin. ft. Pile Trestle at Station 130, Dike Section, Roosevelt-Coast Highway	a	8,009.87
1094	Reconstruction of existing pile trestle at Station 0 + 90 on Marshfield-Coquille Section, Roosevelt-Coast Highway	d	9,500.00
1097	133 lin. ft. Pile Trestle over Bear Creek Overflow on Coquille-Bandon Section, Roosevelt-Coast Highway	a	3,500.00
	CROOK COUNTY		
990	20′ Frame Trestle over Bear Creek 26 miles from Prineville, Station 865, on Crooked River Highway	a	1,653.21
	CURRY COUNTY		
901	3-90′ Steel Deck Truss Spans, 323 lin. ft. Pile Trestle over Sixes River at Sixes, Port Orford-Sixes Section, Roosevelt-Coast Highway	a	30,196.97
902	2-90′ Steel Deck Truss Spans, 418 lin. ft. Pile Trestle over Elk River, Port Orford-Sixes Section, Roosevelt-Coast Highway	a	24,119.08
928	95 lin. ft. of Pile Trestle over Crystal Creek at Station 452, Port Orford-Sixes Section, Roosevelt-Coast Highway	a	1,723.83
995	2-50′ and 1-26′ R. C. Deck Girder Spans over Meyers Creek at Station 577, Gold Beach-Pistol River Section, Roosevelt-Coast Highway	b	14,420.00
1029	160′ Steel Deck Truss Span, 380 lin. ft. Pile Trestle over Winchuck River at Station 14, Brookings-California Line Section, Roosevelt-Coast Highway	a	28,296.22
	DESCHUTES COUNTY		
519	40′ R. C. Span over North Canal at North City Limits of Bend, Station 0 + 75, Bend-Redmond Section, The Dalles-California Highway	a	3,542.68
945	Repairs to Bridge over Broad Canyon on McKenzie Highway	a	5,954.68
	DOUGLAS COUNTY		
599	90′ Covered Wood Span, 76 lin. ft. Pile Trestle over Coquille River on Camas Valley Section, Coos Bay-Roseburg Highway	a	7,385.54
587	105′ Covered Wood Span, 38 lin. ft. Frame Trestle over Looking Glass Creek at Station 1192, Camas Mountain-Pacific Highway Section, Coos Bay-Roseburg Highway	a	8,072.69
588	105′ Covered Wood Span, 38 lin. ft. Frame Trestle over Looking Glass Creek at Station 1000, Camas Mountain-Pacific Highway Section, Coos Bay-Roseburg Highway	a	7,756.49
805	105′ Covered Wood Span, 38 lin. ft. Frame Trestle over Looking Glass Creek at Station 1452, Camas Mountain-Pacific Highway Section, Coos Bay-Roseburg Highway	a	8,345.18
808	40′ "A" Frame Span, 26 lin. ft. Frame Trestle over South Fork Ten Mile Creek, Station 896, Camas Mountain-Pacific Highway Section, Coos Bay-Roseburg Highway	a	2,498.85

Key to Symbols in Third Column: a—construction completed; b—under construction; d—design completed; f—designed but eliminated by subsequent relocation; h—designed but eliminated by substitution of pipe culvert.

TABLE No. 21—Continued

Bridge No.	Location and Type of Structure	Status Nov. 30, 1924	Estimated Cost
	DOUGLAS COUNTY—Continued		
809	57 lin. ft. Frame Trestle over Porter Creek, Station 1089, Camas Mountain-Pacific Highway Section, Coos Bay-Roseburg Highway	a	1,797.64
839	7-112′ R. C. Arch Spans and 61′ R. C. Viaduct Approach over North Umpqua River at Winchester, Station 2275, Roseburg-Wilbur Section, Pacific Highway	a	123,419.11
855	40′ "A" Frame Span, 38 lin. ft. Frame Trestle Approach over S. Fork Ten Mile Creek, Station 885, Camas Valley Section, Coos Bay-Roseburg Highway	a	3,304.73
874	150 lin. ft. R. C. Viaduct over Elk Creek, Station 655, Pacific Highway at Drain	a	15,094.00
908	New abutments and reinforcement of Old Steel Span over Myrtle Creek at Station 487, Pacific Highway in Myrtle Creek	a	7,844.56
	GILLIAM COUNTY		
795	23 lin. ft. of Trestle on Masonry Abutments over Juniper Canyon at Station 968, Condon-Arlington Section, John Day Highway	a	2,800.00
802	70′ R. C. Viaduct over Rock Creek at Station 1082, Condon-Arlington Section, John Day Highway	a	6,000.00
905	40′ "A" Frame Span, 26 lin. ft. Pile Trestle over Willow Creek at Station 181, Heppner Junction-Morrow County Line Section, Oregon-Washington Highway	a	3,238.77
906	60′ Steel Span, 34 lin. ft. Pile Trestle over Willow Creek, Station 254, Heppner Junction-Morrow County Line Section, Oregon-Washington Highway	a	9,174.86
	GRANT COUNTY		
484	2-23′ Timber Spans on Masonry Abutments over Canyon Creek at edge of City of John Day on John Day Highway	a	5,940.65
886	95 lin. ft. Pile Trestle over Cumming's Creek at Station 755, Cumming's Creek-Valades Ranch Section, John Day Highway	a	2,380.83
887	38 lin. ft. Pile Trestle over Relief Channel of Cumming's Creek, Station 758, Cumming's Creek-Valades Ranch Section, John Day Highway	a	1,007.47
888	2-70′ Steel Spans, 207 lin. ft. Pile Trestle over John Day River at Station 1142, Cumming's Creek-Valades Ranch Section, John Day Highway	a	20,302.66
889	70′ Steel Span, 114 lin. ft. Pile Trestle over John Day River at Station 1309, Cumming's Creek-Valades Ranch Section, John Day Highway	a	11,064.08
890	30 lin. ft. Pile Trestle over Battle Creek at Station 1464, Cumming's Creek-Valades Ranch Section, John Day Highway	a	1,096.98
891	45 lin. ft. Pile Trestle at Station 1487, Cumming's Creek-Valades Ranch Section, John Day Highway	a	1,514.02
892	45 lin. ft. Trestle at Station 1500, Cumming's Creek-Valades Ranch Section, John Day Highway	a	1,563.53
987	100′ Steel Span, 76 lin. ft. Pile Trestle Approach, "Coles" Bridge over John Day River, Station 3, Coles Bridge-Cumming's Creek Section, John Day Highway	a	17,124.02
988	100′ Steel Span, 209 lin. ft. Pile Trestle Approach over John Day River at Mt. Vernon, Station 175, Coles Bridge-Cumming's Creek Section, John Day Highway	a	19.208.31
989	100′ Steel Span, 114 lin. ft. Pile Trestle Approach over John Day River at Moores Ranch on Coles Bridge-Cumming's Creek Section, John Day Highway	a	17,098.27
1041	76 lin. ft. Pile Trestle over Beach Creek, Station 82, Cumming's Creek-Coles Bridge Section, John Day Highway	a	1,681.73
1043	133 lin. ft. Pile Trestle over McClellan Creek, Station 269, Cumming's Creek-Coles Bridge Section, John Day Highway	a	2,774.40
1044	57 lin. ft. Pile Trestle over Moon Creek, Station 388, Cumming's Creek-Coles Bridge Section, John Day Highway	a	1,441.04
1045	49 lin. ft. Pile Trestle at Station 518, Cumming's Creek-Coles Bridge Section, John Day Highway	a	1,867.42

Key to Symbols in Third Column: a—construction completed; b—under construction; d—design completed; f—designed but eliminated by subsequent relocation; h—designed but eliminated by substitution of pipe culvert.

TABLE No. 21—Continued

Bridge No.	Location and Type of Structure	Status Nov. 30, 1924	Estimated Cost
	HOOD RIVER COUNTY		
645	97' Railroad Trestle, under Mt. Hood R. R. near Whiskey Creek, Station 1024, Booth Hill-Forest Boundary Section, Mt. Hood Loop Highway	a	6,415.00
646	56 lin. ft. Railroad Trestle to carry Mt. Hood Railroad over Highway near Van Horn, Station 893, Booth Hill-Forest Boundary Section, Mt. Hood Loop Highway	a	5,700.77
	JACKSON COUNTY		
829	2-30' R. C. Spans over Lost Creek at Station 629, Cascade Gorge-Trail Section, Crater Lake Highway	a	8,174.43
956	57 lin. ft. Frame Trestle over Emigrant Creek on Green Springs Mountain-Pacific Highway Section, Ashland-Klamath Falls Highway	a	1,615.98
1070	Patrolman's Quarters and Garage at Station 408, Siskiyou Mountain Section, Pacific Highway	b	5,000.00
	JEFFERSON COUNTY		
813	2-36' R. C. Spans over Hay Creek at Station 822, Madras-Wasco County Line Section, The Dalles-California Highway	a	7,754.00
971	40' R. C. Span over Willow Creek in Madras on The Dalles-California Highway	a	5,791.01
	JOSEPHINE COUNTY		
934	50' R. C. Span over Jump Off Joe Creek, at Station 410, Grants Pass-Sexton Mountain Section, Pacific Highway	a	10,854.72
959	57 lin. ft. Frame Trestle over Bear Creek, Station 403, Bear Creek Section, Oregon Caves Highway	a	1,505.44
1022	180' Steel Span, 323 lin. ft. Frame Trestle over Applegate River at Station 1945, Grants Pass-Wilderville Section, Redwood Highway	a	33,915.69
1077	6-19' Frame Trestle Spans, 180' Steel Span, 6-19' Frame Trestle Spans over East Fork Illinois River at Station 650, O'Brien School-Kerby Section, Redwood Highway	b	24,615.00
	KLAMATH COUNTY		
920	68 lin. ft. Frame Trestle over U. S. R. S. Canal at Station 1591, Merrill-California Line Section, The Dalles-California Highway	a	1,700.00
955	8-50' R. C. Spans, Spencers Crossing, Klamath River at Station 1517, Hayden Creek-Keno Section, Ashland-Klamath Falls Highway	a	41,613.66
	LANE COUNTY		
583	3-180' Steel Spans, 88-19' Pile Trestle Spans, over the Willamette River on the Pacific Highway at Harrisburg	b	183,200.00
614	120' Span and 57 lin. ft. Pile Trestle over Coast Fork Willamette near Cottage Grove, Walker-Cottage Grove Section, Pacific Highway	a	13,366.91
977	90' Wood Span, 9-19' Pile Trestle Spans over Long Tom River, 1¼ miles from Cheshire, Willamette Valley-Florence Highway	d	14,070.00
978	105' Covered Wood Span, 76 lin. ft. Pile Trestle over Lost River at Station 532, Goshen-Lowell Section, Willamette Highway	a	9,524.02
981	38 lin. ft. Pile Trestle over Bear Creek at Station 410, Cheshire-Goldson Section, Willamette Valley-Florence Highway	a	631.92
	LINCOLN COUNTY		
654	80 lin. ft. Pile Trestle over Hayes Creek, Station 1842, Eddyville-Chitwood Section, Corvallis-Newport Highway	a	1,404.58
683	80' Steel Span, 95 lin. ft. Pile Trestle over Yaquina River in Eddyville, Tum Tum-Chitwood Section, Corvallis-Newport Highway	a	10,629.40
856	51 lin. ft. Pile Trestle over Little Elk Creek at Station 1397, Tum Tum-Chitwood Section, Corvallis-Newport Highway	a	967.95

Key to Symbols in Third Column: a—construction completed; b—under construction; d—design completed; f—designed but eliminated by subsequent relocation; h—designed but eliminated by substitution of pipe culvert.

TABLE No. 21—Continued

Bridge No.	Location and Type of Structure	Status Nov. 30, 1924	Estimated Cost
	LINCOLN COUNTY—Continued		
857	38 lin. ft. Pile Trestle over Oglesby Creek at Station 1517, Tum Tum Chitwood Section, Corvallis-Newport Highway	a	714.76
858	95 lin. ft. Pile Trestle over Thornton Creek at Station 2058, Thornton Creek-Newport Section, Corvallis-Newport Highway	a	1,597.21
860	46 lin. ft. Frame Trestle over Simpson Creek, Station 2148, Chitwood-Toledo Section, Corvallis-Newport Highway	a	973.43
861	57 lin. ft. Frame Trestle over Simpson Creek at Station 2172, Chitwood-Toledo Station, Corvallis-Newport Highway	a	1,437.25
862	74 lin. ft. Pile Trestle over Cooks Fork of Simpson Creek at Station 2218, Chitwood-Toledo Section, Corvallis-Newport Highway	a	1,307.36
864	3-23' Pile Trestle Spans over Olalla Slough at Station 2356, Chitwood-Toledo Section, Corvallis-Newport Highway	a	1,101.24
865	21' Pile Trestle Span over W. Fork Olalla Slough at Station 2527, Chitwood-Toledo Section, Corvallis-Newport Highway	a	491.50
875	51 lin. ft. Pile Trestle over Big Beaver Creek at Station 130, Toledo-Newport Section, Corvallis-Newport Highway	a	910.22
876	51 lin. ft. Pile Trestle at Station 149, Toledo-Newport Section, Corvallis-Newport Highway	a	958.49
931	49 lin. ft. Pile Trestle at Station 1804, Tum Tum-Chitwood Section, Corvallis-Newport Highway	a	809.73
1092	Service Building near Toledo	d	300.00
	LINN COUNTY		
510	120' Covered Wood Span, 190 lin. ft. Trestle over Calapooya River at Station 470, Tangent-Shedd Section, Pacific Highway	a	23,000.00
552	2-19' Timber Spans at Station 432, Albany-Harrisburg Section, Pacific Highway	a	1,222.26
709	Under crossing with S. P. R. R. at Murder Creek on Albany-Jefferson Section, Pacific Highway	a	20,103.65
1024	3-30' R. C. Spans over Cox Creek, Station 367, Albany-Jefferson Section, Pacific Highway	d	9,014.00
1025	Albany Bridge. See Benton County.		
	MALHEUR COUNTY		
1000	4-200' Steel Spans, 4-35' R. C. Spans over Snake River on Oregon-Idaho State Line near Ontario, Old Oregon Trail	b	134,295.00
1040	Patrolman's House, Station 375, Baker County Line-Weiser Section, Old Oregon Trail	a	1,550.00
	MARION COUNTY		
1031	See Yamhill County.		
	POLK COUNTY		
492	80' Steel Span, 91' R. C. Approach, Sidewalk on one side, over Rickreall Creek at Rickreall, Rickreall-South Section, West Side Pacific Highway	a	20,337.10
745	120' Steel Span, 57 lin. ft. Frame Trestle over Yamhill River, 5½ miles West of Willamina, Station 287, Yamhill County Line-Butlers Store Section, McMinnville-Tillamook Highway	a	15,585.58
827	2-20' R. C. Spans over Basket Slough, Station 645+40, Holmes Gap-Rickreall Section, West Side Pacific Highway	a	5,138.15
871	40' R. C. Span over Soap Creek, Station 447, Monmouth-Suver Section, West Side Pacific Highway	a	6,996.73
872	40' R. C. Span over Soap Creek, Station 452, Monmouth-Suver Section, West Side Pacific Highway	a	7,105.69
	SHERMAN COUNTY		
108	Reconstruction of Bridge over John Day River, 5 miles east of Rufus on the Columbia River Highway. 4-20' Frame Trestle Spans, 79' Steel Deck Span (New), 2-126' Wood Deck Spans, 79' Steel Deck Span (New), 2-20' Frame Trestle Spans	a	17,599.12

Key to Symbols in Third Column: a—construction completed; b—under construction; d—design completed; f—designed but eliminated by subsequent relocation; h—designed but eliminated by substitution of pipe culvert.

TABLE No. 21—Continued

Bridge No.	Location and Type of Structure	Status Nov. 30. 1924	Estimated Cost
	SHERMAN COUNTY—Continued		
817	2-15' Timber Spans over Slaughter House Creek, at Station 554, Moro-Grass Valley Section, Sherman Highway	a	1,500.00
826	Moro Undercrossing under O. W. R. R. & N. Co. tracks, Station 617, Moro-Grass Valley Section, Sherman Highway	a	4,288.19
826	2-21' Timber Spans on Concrete over China Hollow Creek at Station 354, Biggs-Wasco Section, Sherman Highway	a	6,136.41
898	2-23' Timber Spans on Concrete over Spanish Hollow at Station 360, Biggs-Wasco Section, Sherman Highway	a	4,541.64
899	3-21' Timber Spans on Concrete over Spanish Hollow at Station 364, Biggs-Wasco Section, Sherman Highway	a	5,338.53
1093	Maintenance Warehouse at Rufus	b	1,085.00
	TILLAMOOK COUNTY		
574	234' Steel Swing Span, 460 lin. ft. Pile Trestle over Nehalem River, Nehalem-Wheeler Section, Roosevelt-Coast Highway	a	75,884.00
867	2-19' Spans Pile Trestle over Alder Creek, Station 114+50, Dolph-Hebo Section, McMinnville-Tillamook Highway	a	1,243.68
868	2-19' Spans Pile Trestle over Buck Creek, Station 155, Dolph-Hebo Section, McMinnville-Tillamook Highway	a	1,243.68
877	25' R. C. Span over Simmons Creek, Station 216, Tillamook-Hebo Section, McMinnville-Tillamook Highway	a	5,300.00
883	24' R. C. Span over Big Rock Heap Creek, Station 114, Clatsop County Line-Mohler Section, Roosevelt-Coast Highway	a	3,600.00
1051	33' "I" Beam Span on Concrete Piers, 279 lin. ft. Pile Trestle approach over S. P. R. R., Station 1154, Nehalem-Wheeler Section, Roosevelt-Coast Highway	a	17,548.51
	UMATILLA COUNTY		
624	16'-16'-19' R. C. Spans, 3-110' R. C. Arch Spans, 19'-16'-16' R. C. Spans over the Umatilla River on the Columbia River Highway at Umatilla	b	47,603.00
954	31' R. C. Span over U. S. R. S. Canal near Echo, Columbia River Highway	a	5,219.44
996	200 lin. ft. R. C. Viaduct over McKay Creek, Pilot Rock-Pendleton Section, Oregon-Washington Highway	a	24,496.52
1033	80' Steel Span over Wild Horse Creek, Wild Horse Section, Oregon-Washington Highway	b	10,500.00
1034	2-17' Frame Trestle Spans, 4.4 miles from Pendleton on Wild Horse Section, Oregon-Washington Highway	b	1,000.00
1035	2-23' Frame Trestle Spans over Borrow Pit, 4.4 miles from Pendleton on Wild Horse Section, Oregon-Washington Highway	b	1,330.00
	UNION COUNTY		
448	Undercrossing with O. W. R. R. & N. Co., on Hilgard-La Grande Section, Old Oregon Trail, 2-40' Deck Plate Girder Spans	a	18,500.00
626	41'-42'-48' R. C. Spans, 135' R. C. Arch Span, 43' R. C. Span over Grand Ronde River and O. W. R. R. & N. Co. Tracks near Perry, Station 146, Hilgard-LaGrande Section, Old Oregon Trail	b	52,400.00
796	240' Steel Span, 90 lin. ft. R. C. Viaduct Approach over Grande Ronde River and O. W. R. R. & N. Co. Tracks, Hilgard-LaGrande Section, Old Oregon Trail	a	46,959.16
799	140' Steel Span and 176 lin. ft. R. C. Viaduct over O. W. R. R. & N. Co. Tracks and Grande Ronde River, 3 miles from Elgin on Island City-Elgin Section, LaGrande-Wallowa Lake Highway	a	35,676.72
800	140' Steel Span, 475 lin. ft. Pile Trestle over Grande Ronde River near Elgin on Island City-Elgin Section, La Grande-Wallowa Lake Highway	a	23,975.99
837	57 lin. ft. Pile Trestle over Conley Creek, Station 256, Island City-Elgin Section, La Grande-Wallowa Lake Highway	a	1,271.36

Key to Symbols in Third Column: a—construction completed; b—under construction; d—design completed; f—designed but eliminated by subsequent relocation; h—designed but eliminated by substitution of pipe culvert.

TABLE No. 21—Continued

Bridge No.	Location and Type of Structure	Status Nov. 30, 1924	Estimated Cost
	UNION COUNTY—Continued		
838	76 lin. ft. Pile Trestle over Pierce Slough, Station 219. Island City-Elgin Section, La Grande-Wallowa Lake Highway	a	1,671.77
979	57 lin. ft. Pile Trestle over Hill Creek at Station 1215, Island City-Elgin Section, La Grande-Wallowa Lake Highway	a	1,194.11
	WALLOWA COUNTY		
446	Undercrossing with O. W. R. R. & N. Co. Tracks near Minam. Bents of R. R. Placed on a Skew	a	1,175.61
722	2-19′ Pile Trestle Spans at Station 1438, Wallowa Canyon-Joseph Section, La Grande-Wallowa Lake Highway	a	2,681.28
723	80′ Steel Span over Wallowa River, Wallowa-Joseph Section, La Grande-Wallowa Lake Highway	a	12,160.68
724	2-23′ Timber Spans over Trout Creek at Station 1607, Wallowa-Joseph Section, La Grande-Wallowa Lake Highway	a	4,683.98
1038	160′ Steel Span on R. C. Abutments over Wallowa River at Minam, La Grande-Wallowa Lake Highway	a	22,632.94
	WASCO COUNTY		
893	30′ R. C. Span over Eight Mile Creek, Station 199, Eight Mile Creek-Dufur Section, The Dalles-California Highway	a	4,154.70
894	30′ R. C. Span over Eight Mile Creek, Station 213, Eight Mile Creek-Dufur Section, The Dalles-California Highway	a	4,566.75
895	2-24′ R. C. Spans over Eight Mile Creek, Station 250, Eight Mile Creek-Dufur Section, The Dalles-California Highway	a	5,286.42
896	30′ R. C. Span over Eight Mile Creek at Station 309, Eight Mile Creek-Dufur Section, The Dalles-California Highway	a	4,954.45
917	120′ Steel Span and 2-25′ R. C. Spans over White River, Station 528, Tygh Valley-Maupin Section, The Dalles-California Highway	a	19,615.04
966	160′ Steel Deck Span, 30′ "I" Beam Span, 295 lin. ft. Trestle over O. W. R. R. & N. Co. Tracks, Deschutes River and O. T. Ry. at Maupin, The Dalles-California Highway. Repairs only	a	7,176.98
967	2-21′ Frame Trestle Spans over May's Canyon, Station 1206, Tygh Valley-Dufur Section, The Dalles-California Highway	a	1,500.00
1069	2-24′ R. C. Multiple Beam Spans over Fifteen Mile Creek at Dufur, Dufur-Tygh Grade Section, The Dalles-California Highway	b	6,492.00
	WASHINGTON COUNTY		
744	6-50′ R. C. Spans with Sidewalk on both sides of Roadway, over Dairy Creek at Station 39, Hillsboro-Forest Grove Section, Tualatin Valley Highway	a	40,559.34
810	100′ R. C. Viaduct over Tualatin River at Gaston, Station 332, Forest Grove-Gaston Section, Tualatin Valley Highway	a	9,932.83
	WHEELER COUNTY		
846	23′ Timber Span on Masonry, over Pioneer Creek, Station 1077+80, Sarvice Creek Section, John Day Highway	a	2,046.15
847	23′ Timber Span over Little Sarvice Creek, Station 1165+16, Sarvice Creek Section, John Day Highway	a	1,407.50
848	23′ Timber Span over Jenkins Creek, Station 1406, Sarvice Creek Section, John Day Highway	a	1,357.83
919	4-19′ Timber Spans over West Branch Creek, Station 490, Forest Boundary-Mitchell Section, Ochoco Highway	a	9,676.82
	YAMHILL COUNTY		
416	6-50′ R. C. Spans over Ash Swale near Amity, Amity-Holmes Gap Section, West Side Pacific Highway	a	28,770.23
442	101′ R. C. Viaduct over Deer Creek near Bellevue, McMinnville-Sheridan Section, McMinnville-Tillamook Highway	a	9,866.89
676	Whiteson Undercrossing, under S. P. R. R. Tracks, Station 114, McMinnville-Amity Section, West Side Pacific Highway	a	4,000.00
937	80′ Steel Span, 7-19′ Frame Trestle Spans over Willamina River, Sheridan-Willamina Section, McMinnville-Tillamook Highway	a	11,137.43

Key to Symbols in Third Column: a—construction completed; b—under construction; d—design completed; f—designed but eliminated by subsequent relocation; h—designed but eliminated by substitution of pipe culvert.

TABLE No. 22

BRIDGE DESIGNS PREPARED FOR COUNTIES

December 1, 1922, to November 30, 1924

Designs for the following bridges, constructed or to be constructed on county roads, have been prepared by the Highway Department, at the request of county road officials. In most cases the Highway Department has also supervised and engineered the construction work.

For the status of each structure as of November 30, 1924, refer to the third column and to the key to symbols given at the bottom of the page.

Bridge No.	Location and Type of Structure	Status Nov. 30. 1924
	BENTON COUNTY	
1049	40' R. C. Deck Girder Span over Oak Creek at South edge of Corvallis on Corvallis-Philomath Road	a
	CLATSOP COUNTY	
999	175 lin. ft. Pile Trestle with one 23' Span movable, over Clatskanie River on County Road	a
1063	Investigation of design for Luten Arch constructed by the County over the Necanicum River at Seaside	a
1090	45 lin. ft. Pile Trestle over Muddy Creek, on Elk Creek-Cannon Beach Market Road	b
	CROOK COUNTY	
970	90' Steel Span, 133 lin. ft. Frame Trestle over Crooked River at Station 1126, Market Road No. 6	a
	DESCHUTES COUNTY	
1048	143 lin. ft. Frame Trestle, Station 700, Lower Bridge Market Road	b
1079	2-80' Steel Spans over Deschutes River, Terrebonne-Lower Bridge Road	b
	DOUGLAS COUNTY	
969	105' Covered Wood Span, 257 lin. ft. Frame Trestle Approach over Cow Creek, Yokum Bridge on Riddle-Canyonville Road	a
1020	2-135' Covered Wood Spans, 61 lin. ft. Frame Trestle over South Umpqua River on Rice Creek Road	d
1021	2-120' and 1-75' Covered Wood Spans, 76 lin. ft. Frame Trestle over the North Umpqua River on the Glide-Rock Creek Road	a
1061	120' Covered Wood Span, 195 lin. ft. Pile Trestle, 38 lin. ft. Frame Trestle over Mill Creek four miles west of Scottsburg, Butler Section, Elkton-Reedsport County Road	b
	GILLIAM COUNTY	
926	80' Medium Traffic Steel Span, 72 lin. ft. Trestle over Rock Creek at Station 258, Gwendolin-Rock Creek Section, Cayuse Canyon Market Road	a
	HARNEY COUNTY	
946	2-19' Spans Pile Trestle over Pine Creek, Station 41, Pine Creek-Otis Creek Market Road	a
947	2-19' Spans Pile Trestle over Pine Creek, Station 3350, Pine Creek-Otis Creek Market Road	a
	JACKSON COUNTY	
1028	90' Wood Span on Piling, 74 lin. ft. Pile Trestle over Evans Creek, on a County Road	a
	JOSEPHINE COUNTY	
1030	Substructure for old 70' Steel Pony Span from Jump Off Joe Bridge, Constructed over Jump Off Joe Creek on a Market Road	a
1067	40' "A" Frame Span, 4-19' Frame Trestle Spans over Slate Creek near Wilderville, Marble Mountain Road	a
1096	3-19' Pile Trestle Spans over Pass Creek at Station 377, Grants Pass-Eisman Market Road	d

Key to Symbols in Third Column: a—Construction completed; b—under construction; d—design completed; f—designed but eliminated by relocation.

TABLE No. 22—Continued

Bridge No.	Location and Type of Structure	Status Nov. 30, 1924
	LANE COUNTY	
1083	60′ Covered Wood Span with R. C. Abutments over Camp Creek	b
	LINCOLN COUNTY	
851	190′ Covered Wood Span, 171 lin. ft. Pile Trestle over Siletz River, ¾ mile North of Siletz on County Road	a
852	190′ Covered Wood Span, 95 lin. ft. Pile Trestle over Siletz River, 3 miles North of Siletz on County Road	a
853	190′ Steel Span, 8-19′ Trestle Spans over Siletz River at Siletz, on County Road	a
854	190′ Covered Wood Span, 110 lin. ft. Pile Trestle over Siletz River, 7 miles East of Siletz on Norton-Siletz Road	a
1086	Bridge at Station 157, C. C. Clem Market Road	d
1087	Bridge at Station 195, C. C. Clem Market Road	d
	MALHEUR COUNTY	
943	80′ Steel Span, 36 lin. ft. Frame Trestle over Malheur River near Juntura on County Road	a
1091	2-19′ Spans Pile Trestle, 2-150′ Steel Spans, 2-19′ Spans Pile Trestle over Snake River on County Road at Morton Island	d
	MARION COUNTY	
962	3-34′ R. C. Spans over Little Pudding River, Salem-Silverton Road. (County Road)	a
	MORROW COUNTY	
900	3-17′ Spans Frame Trestle, 2 miles East of Heppner, Station 178, Lexington-Jarmon Market Road	a
	POLK COUNTY	
1084	Bridge over La Creole Creek on Levans Street in Dallas. Checking Design	a
1088	100′ Steel Span, 5-19′ Pile Trestle Spans over Big Luckiamute River, County Road South of Independence	d
	SHERMAN COUNTY	
998	32′ R. C. Span over Hay Canyon, Station 156, Hay Canyon Market Road	a
1065	48′ Wood Span, 21′ Frame Trestle over Grass Valley Canyon on Monkland Market Road	a
	UNION COUNTY	
1076	90′ Steel Span, 2-15′ Pile Trestle Spans over Grande Ronde River on Union County Market Road	a
1082	129′ Steel Span, 2-19′ Pile Trestle Spans over Grand Ronde River on Union County Market Road	a
	WASCO COUNTY	
939	60′ Steel Deck Truss Span over Deschutes River at Shearars, County Road	a
1066	3-19′ Frame Trestle Spans over Pine Hollow	a
	WASHINGTON COUNTY	
1081	3-50′ R. C. Spans over the Tualatin River, Hillsboro-Laurel Market Road	a
	YAMHILL COUNTY	
1031	New Concrete Pier under West End of Existing Bridge over Willamette River at Newberg	a

Key to Symbols in Third Column: a—Construction completed; b—under construction; d—design completed; f—designed but eliminated by relocation.

TABLE No. 23

RECAPITULATION OF TRAFFIC COUNTS MADE BY THE STATE HIGHWAY DEPARTMENT DURING THE YEARS 1923 AND 1924

The numbers given in this table are the numbers of vehicles of all kinds passing the observation points listed, between the hours of 6:00 a. m. and 10:00 p. m. on the dates stated at the heads of the columns. A blank in a column opposite any particular observation point signifies that no count of the traffic at that point was made upon that particular date.

Observation Point	June 13, 1923, Wednesday	July 19, 1923, Thursday	Aug. 17, 1923, Friday	Sept. 15, 1923, Saturday	Oct. 21, 1923, Sunday	June 13, 1924, Friday	July 17, 1924, Thursday	Aug. 15, 1924, Friday	Sept. 13, 1924, Saturday	Oct. 19, 1924, Sunday
PACIFIC HIGHWAY										
North of Junction with County Road So. of Oswego	1,062	1,484	1,658	1,941	2,531	2,212	2,425	2,544	2,347	3,359
On County Road at Junction So. of Oswego	226	338	482	327	94	520	579	627	536	665
So. of Junction with County Road So. of Oswego	878	1,241	1,517	1,654	2,578	1,830	1,974	2,061	1,959	2,874
East side River Road No. of Oregon City	1,548	1,863	1,881	1,766	1,764	1,835	1,964	2,263	2,379	3,368
Eighty-second St. Road No. of Oregon City	1,293	2,297	1,586	1,286	1,895	1,630	2,205	1,806	2,085	3,659
Park Place Bridge No. of Oregon City	2,659	3,498	3,212	2,758	3,569	3,112	3,571	3,389	3,999	6,250
No. of Junction with County Road No. of Aurora	1,458	1,737	1,932	2,391	1,965	2,183	2,310	2,521	2,575	4,191
On County Road at Junction No. of Aurora	101	90	100	73	255	76	72	110	103	106
So. of Junction with County Road No. of Aurora	1,545	1,790	1,835	2,337	1,771	2,214	2,388	2,615	2,672	4,268
Quarter Mi. So. of Santiam River Br. at Jefferson	922	1,459	1,525	1,667	1,701	1,522	1,904	1,951	1,473	2,093
No. of Junction with West Side Pac. Hwy. at Jct. City	347	613	744	620	662	696	768	869	813	795
So. of Jct. with West Side Pac. Hwy. at Junction City	962	1,412	1,758	1,716	1,547	1,463	1,710	1,893	1,901	2,165
Harrisburg Ferry	.....	.....	.....	.....	.....	.....	.....	.....	.....	912
Yoncalla	618	985	1,048	881	714	949	1,322	1,394	1,164	1,043
North of Jct. with Willamette Hwy. at Goshen	875	1,336	1,338	1,440	1,236	.....	1,840	1,902	1,841	2,193
South of Jct. with Willamette Hwy. at Goshen	865	1,214	1,200	1,178	1,081	.....	1,574	1,617	1,480	1,753
North of Jct. with Coos Bay Hwy. at Winston	657	1,133	1,291	1,135	893	912	1,352	1,649	1,329	1,108
South of Jct. with Coos Bay Hwy. at Winston	634	952	1,123	949	755	762	1,106	1,390	1,090	824
One mile South of Wolf Creek	481	823	897	605	465	632	1,015	1,036	741	638
No. of Jct. with Redwood Hwy. So. of Grants Pass	1,345	1,978	2,070	1,975	1,482	1,723	2,238	2,209	2,233	2,122
So. of Jct. with Redwood Hwy. So. of Grants Pass	.....	2,055	1,333	1,229	1,037	.....	1,614	1,505	1,301	1,312
One mile South of Medford	2,027	2,307	2,308	*7,217	1,913	1,945	2,984	2,751	* 7,552	2,449
North of Jct. with Ashland-Klamath Falls Hwy.	483	922	877	837	708	273	1,186	1,080	1,042	1,113
South of Jct. with Ashland-Klamath Falls Hwy.	409	790	718	678	563	582	1,061	985	836	704
COLUMBIA RIVER HIGHWAY										
Clatsop-Columbia County Line	461	769	1,003	859	646	571	790	1,017	829	827
Columbia-Multnomah County Line	1,123	1,695	2,145	1,880	1,590	1,132	1,310	1,573	1,484	2,270
W. of Jct. with Base Line Road near Auto Club	.....	.....	.....	.....	1,737	.....	.....	.....	.....	.....
On Base Line Road at Jct. near Auto Club	.....	.....	.....	.....	708	.....	.....	.....	.....	.....
E. of Jct. with Base Line Road near Auto Club	.....	.....	.....	.....	1,583	.....	.....	.....	.....	.....
One mile West of Multnomah Falls	.....	.....	.....	.....	1,470	.....	.....	.....	.....	.....
One mile West of Cascade Locks	831	1,260	1,198	1,162	1,253	1,200	1,425	1,594	1,346	1,667
Two and one-half miles East of Hood River	731	984	902	866	966	915	1,111	1,225	985	1,228

West of Fulton Canyon Junction	407	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fulton Canyon Road	80	.....	.....	.....	.....	.....	.....	.....	.....	.....
East of Fulton Canyon Junction	313	.....	.....	.....	.....	.....	.....	.....	.....	.....
West of Junction with The Dalles-California Highway near Seufert	.....	.....	.....	1,159	1,074	1,033	1,193	1,337	1,259	1,180
East of Junction with The Dalles-California Highway near Seufert	.....	.....	.....	789	696	760	865	1,008	865	801
Big Eddy	577	672	652	.....	.....	727	860	977	823	753
West of Junction with Sherman Highway at Biggs	.....	530	539	492	409	668	738	804	640	603
East of Junction with Sherman Highway at Biggs	.....	445	473	411	348	591	658	738	500	462
West of Junction with John Day Hwy. at Arlington	461	648	501	670	445	919	821	837	594	471
East of Junction with John Day Hwy. at Arlington	452	451	723	461	316	768	631	651	438	349
West of Junction with Oregon-Washington Highway at Willow Creek	311	422	487	339	273	487	584	605	408	303
East of Junction with Oregon-Washington Highway at Willow Creek	289	385	485	329	233	435	555	585	384	266
Fifteen miles West of Pendleton	403	506	522	522	388	546	632	703	547	499
WEST SIDE PACIFIC HIGHWAY										
East of Junction with Tualatin Hwy. near St. Joseph	310	339	390	530	540	493	550	567	604	906
West of Junction with Tualatin Hwy. near St. Joseph	606	765	867	950	1,026	841	1,011	1,068	1,302	1,686
No. of Jct. with Tillamook Hwy. W. of McMinnville	795	573	630	862	904	681	1,521	1,280	2,073	2,379
So. of Jct. with Tillamook Hwy. W. of McMinnville	402	221	318	379	496	369	778	767	1,075	1,453
No. of Jct. with Salem-Dallas Hwy. at Rickreall	75	108	278	205	388	616	572	648	947	1,410
So. of Jct. with Salem-Dallas Hwy. at Rickreall	287	242	303	273	420	382	436	499	806	1,392
Luckiamute River Bridge at Helmick	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,204
One-half mile So. of Mary's River Br. at Corvallis	820	1,024	1,006	1,229	1,197	1,054	1,185	1,394	1,308	1,665
Intersection with Pacific Hwy. at Junction City	619	847	1,062	1,098	947	781	962	1,014	1,115	1,564
THE DALLES-CALIFORNIA HIGHWAY										
South end of The Dalles—3 mile Creek Sec.	263	412	259	.....	.....	.....	.....	.....	.....	.....
Junction with the Columbia River Hwy. near Seufert	.....	.....	.....	496	531	271	342	335	386	429
Tygh Valley	120	126	103	257	156	126	152	162	267	145
Three miles North of Madras	121	130	100	144	113	98	149	131	143	82
One mile South of Redmond	271	247	291	292	328	282	277	342	395	442
North of Junction with Ft. Rock Road at Lapine	98	95	86	102	66	89	64	47	41	38
South of Junction with Ft. Rock Road at Lapine	30	40	15	32	25	14	48	56	34	28
North of Jct. with Silver Lake Road So. of Lapine	.....	.....	.....	.....	.....	53	87	50	55	68
On Silver Lake Road	.....	.....	.....	.....	.....	5	9	16	10	21
South of Jct. with Silver Lake Road So. of Lapine	.....	.....	.....	.....	.....	50	84	39	49	49
No. of Jct. with Crater Lake Road near Ft. Klamath	.....	42	58	57	31	82	87	71	63	78
So. of Jct. with Crater Lake Road near Ft. Klamath	.....	137	235	186	165	191	293	378	232	169
North of Junction with Chiloquin Road	207	.....	.....	.....	.....	188	320	268	224	182
On Chiloquin Road at Junction	101	.....	.....	.....	.....	145	110	93	94	134
South of Junction with Chiloquin Road	310	.....	.....	.....	.....	303	402	359	306	316
North of Junction with Lakeview Highway, 5 miles South of Klamath Falls	411	576	521	742	651	452	437	541	732	969
South of Junction with Lakeview Highway, 5 miles South of Klamath Falls	226	301	315	440	375	244	238	316	468	680

TABLE No. 23—Continued

Observation Point	June 13, 1923, Wednesday	July 19, 1923, Thursday	Aug. 17, 1923, Friday	Sept. 15, 1923, Saturday	Oct. 21, 1923, Sunday	June 13, 1924, Friday	July 17, 1924, Thursday	Aug. 15, 1924, Friday	Sept. 13, 1924, Saturday	Oct. 19, 1924, Sunday
JOHN DAY HIGHWAY										
Junction with Columbia River Highway at Arlington	157	231	280	261	154	219	246	252	214	179
North Limits of Condon	160	265	144	52	99	134	74	80	115	165
South Limits of Condon	.....	.....	.....	.....	.....	.....	.....	.....	.....	129
North Limits of Fossil	123	152	102	139	87	140	103	143	359	142
One mile West of Spray	44	63	31	123	62	81	84	41	71	87
North of Junction with Ochoco Hwy. near Dayville	30	41	35	55	46	48	54	46	47	39
South of Junction with Ochoco Hwy. near Dayville	29	41	37	75	51	52	63	54	61	49
Two miles East of John Day	114	132	129	128	93	152	120	142	162	141
Jamieson	105	104	114	136	137	137	149	117	108	152
West of Cairo	118	149	174	216	274	172	183	194	273	112
East of Cairo	.....	218	225	274	261	304	373	369	485	261
South of Cairo	183	332	375	423	485	190	244	221	286	190
THE OLD OREGON TRAIL										
Meacham	149	174	324	343	232	458	593	675	379	360
East Limits of La Grande	701	1,034	858	894	823	858	934	1,070	840	957
One mile South of Union	220	357	382	380	372	412	514	557	457	503
Five miles South of Haines	.....	.....	.....	.....	.....	.....	616	673	614	701
Weatherby	120	214	273	248	179	233	346	347	280	223
West of Jct. with road to Weiser North of Ontario	245	235	257	254	219	259	363	371	310	248
Weiser Road at Junction North of Ontario	177	233	243	264	272	243	243	302	330	224
East of Jct. with road to Weiser North of Ontario	.....	258	263	255	264	276	315	347	299	249
Between Ontario and the Idaho Line	567	572	701	817	983	710	650	734	854	1,027
CENTRAL OREGON HIGHWAY										
One mile east of Bend	276	323	317	388	439	333	398	365	429	590
OREGON-WASHINGTON HIGHWAY										
Jct. with Columbia River Hwy. at Willow Creek	28	42	32	38	49	57	45	37	51	66
East Limits of Lexington	134	135	68	208	140	142	128	126	180	201
West of Junction with Pendleton-John Day Highway near Pilot Rock	38	45	34	49	37	20	25	27	22	41
East of Junction with Pendleton-John Day Highway near Pilot Rock	.....	53	62	92	63	38	46	47	45	21
One mile South of Adams	605	572	490	638	541	604	595	646	686	765
One-half mile North of Freewater	.....	.....	.....	.....	1,490	1,515	1,319	1,481	1,608	1,933
ROOSEVELT COAST HIGHWAY										
Youngs Bay Bridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,409
East of Jct. with Warrenton Road near Skipanon	354	929	1,083	747	571	823	1,016	1,181	992	1,336
On Warrenton Road North of Junction	256	379	378	361	297	313	299	371	328	485

South of Jct. with Warrenton Road near Skipanon	608	1,214	1,377	1,070	822	1,105	991	1,532	1,162	1,655
North of Junction with Cannon Beach Road	.....	.....	.....	.....	.....	189	263	371	197	166
On Cannon Beach Road at Junction	.....	.....	.....	.....	.....	133	185	268	112	77
South of Junction with Cannon Beach Road	.....	.....	.....	.....	.....	76	122	175	91	93
North of Junction with Garibaldi Road	130	141	136	108	103	265	332	.....	306	235
On Garibaldi Road	239	272	286	216	199	392	662	.....	494	533
So. of Jct. with Garibaldi road	217	226	233	226	194	348	657	.....	553	536
No. of Jct. with McMinnville Hwy. at Hebo	281	.....	501	449	262	396	824	895	686	579
So. of Jct. with McMinnville Hwy. at Hebo	232	.....	426	384	283	351	652	575	586	532
Yaquina Ferry (Newport-So. Beach)	.....	.....	.....	.....	.....	.....	27	19	10	11
Ferry between Glasgow and North Bend	.....	.....	.....	.....	.....	.....	.....	.....	153	208
Between Marshfield and Coquille at Coaledo	379	503	488	647	1,098	577	737	738	940	1,340
So. end of bridge at Coquille	.....	.....	159	132	.....	.....	.....	.....	.....	.....
On detour Rd. E. of Jct. with Myrtle Point Rd. W. of Coquille	.....	.....	86	91	.....	.....	.....	.....	.....	.....
On Myrtle Point Rd. at Jct. with detour W. of Coquille	.....	.....	78	35	.....	.....	.....	.....	.....	.....
On detour Rd. W. of Jct. with Myrtle Point Rd. W. of Coquille	.....	.....	140	66	.....	.....	.....	.....	.....	.....
Riverton on Coquille-Bandon detour	.....	.....	.....	.....	.....	188	277	326	364	575
Four miles So. of Bandon	.....	.....	389	448	327	323	405	491	465	477
Langlois	142	251	.....	.....	.....	.....	.....	.....	.....	.....
One mile No. of Port Orford	79	173	204	259	154	210	301	447	245	238
Hubbard Creek bridge So. of Port Orford	.....	.....	156	152	60	88	181	236	140	156
Bagnell Ferry No. of Gold Beach	25	63	82	57	28	82	166	147	114	64
One half Mi. No. of Brookings	.....	.....	.....	.....	.....	.....	128	99	66	81
On road to Brookings at Junction	.....	.....	.....	.....	.....	.....	436	.....	.....	.....
One half Mi. So. of Brookings at Chetco River	.....	.....	.....	.....	.....	.....	375	340	408	381
LA GRANDE-WALLOWA LAKE HWY.										
Alicel	.....	.....	.....	.....	.....	.....	338	368	409	636
Minam Hill, ten miles E. of Elgin	60	123	125	188	245	156	198	174	219	304
3.5 miles east of Enterprise	.....	.....	.....	.....	.....	.....	455	539	507	474
McKENZIE HIGHWAY										
Thurston	209	240	269	315	301	157	334	354	395	479
Sparks Ranch, one Mi. W. of Blue River	.....	.....	.....	.....	.....	.....	.....	.....	.....	110
West of Jct. with Bend Hwy. near Sisters	84	107	101	41	105	101	116	120	141	234
East of Jct. with Bend Hwy. near Sisters	39	45	38	25	42	37	47	48	60	89
McKENZIE-BEND HIGHWAY										
Jct. with McKenzie Hwy. near Sisters	47	61	55	49	63	64	67	76	92	147
WILLAMETTE HIGHWAY										
Jct. with Pacific Hwy. at Goshen	170	176	202	378	227	.....	300	340	424	520
BAKER-CORNUCOPIA HIGHWAY										
Foot of Flagstaff Hill 7 mi. E. of Baker	.....	185	137	162	202	.....	113	127	153	195

TABLE No. 23—Continued

Observation Point	June 13, 1923, Wednesday	July 19, 1923, Thursday	Aug. 17, 1923, Friday	Sept. 15, 1923, Saturday	Oct. 21, 1923, Sunday	June 13, 1924, Friday	July 17, 1924, Thursday	Aug. 15, 1924, Friday	Sept. 13, 1924, Saturday	Oct. 19, 1924, Sunday
PRINEVILLE-LAKEVIEW HIGHWAY										
One half mile So. of Prineville	63	50	44	47	12	40	75	50	46	62
N. of Jct. with Adel Mkt. road 5 Mi. No. of Lakeview	118	75	100	94	104	82	84	126	96	86
On Adel Market road at Junction	.....	.....	.....	.....	.....	71	59	82	64	108
So. of Jct. with Adel Mkt. road 5 mi. No. of Lakeview	.....	.....	.....	.....	.....	162	147	189	159	156
Three miles So. of Lakeview	94	77	133	81	124	137	101	153	131	140
TUALATIN VALLEY HIGHWAY										
East of Jct. with Canyon Road near Beaverton	777	953	1,084	1,026	1,550	1,071	1,094	1,232	1,440	2,830
Canyon Road at Jct. near Beaverton	1,150	1,285	1,399	1,402	1,417	1,466	1,334	1,486	1,920	2,490
West of Jct. with Canyon Road near Beaverton	1,851	2,168	2,279	2,224	2,599	2,279	2,142	2,487	3,144	4,410
Jct. with West Side Pacific Hwy. near St. Joseph	455	521	556	515	630	445	543	611	789	1,039
ALBANY-CORVALLIS HIGHWAY										
Granger-Midway between Albany and Corvallis	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,753
SALEM-DALLAS HIGHWAY										
West of Jct. with West Side Pacific Hwy. at Rickreall	504	403	611	710	837	618	601	730	785	1,067
East of Jct. with West Side Pacific Hwy. at Rickreall	591	442	705	719	988	738	782	904	1,195	1,481
McMINNVILLE-TILLAMOOK HIGHWAY										
Jct. with West Side Pacific Hwy. near McMinnville	507	356	446	655	567	415	935	1,084	1,055	1,436
Jct. with Roosevelt Coast Hwy. at Hebo	264	.....	565	513	424	392	990	954	651	690
CORVALLIS-NEWPORT HIGHWAY										
E. of Jct. with Alsea Hwy. near Philomath	316	446	506	738	.....	566	673	727	578	747
W. of Jct. with Alsea Hwy. near Philomath	193	278	369	442	.....	357	451	488	392	502
Eddyville	.....	136	260	.....	.....	225	251	276	294	265
East of Siletz road 1¼ mi. W. of Toledo	.....	172	.....	.....	.....	202	607	666	336	758
On Siletz road at Jct.	.....	148	.....	.....	.....	139	176	162	240	286
West of Siletz road 1¼ mi. W. of Toledo	.....	177	.....	.....	.....	224	552	614	382	660
COOS BAY-ROSEBURG HIGHWAY										
Jct. with Pacific Hwy. at Winston	.....	270	308	374	322	234	304	418	347	359
Summit of Camas Mountain	108	180	216	288	230	199	300	.....	.....	.....
E. of Jct. with Powers Road 2 mi. E. of Myrtle Point	334	387	455	610	351	422	497	565	701	595
On Powers Road	165	168	.....	236	152	171	206	204	372	353
W. of Jct. with Powers Road 2 mi. E. of Myrtle Point	323	513	455	785	525	561	704	675	868	858
Halfway between Myrtle Point and Coquille	332	399	507	548	461	579	655	687	829	991

OREGON CAVES HIGHWAY										
At Jct. with Redwood Hwy. So. of Kerby	.....	.....	.....	.....	.....	65	182	150	84	100
OCHOCO HIGHWAY										
One mile West of Prineville	190	157	203	172	157	111	184	164	309	399
One mile East of Prineville	150	278	243	144	141	144	192	160	342	294
Jct. with John Day Hwy. 4 mi. No. of Dayville	3	14	14	20	13	6	15	12	20	12
KLAMATH FALLS-LAKEVIEW HIGHWAY										
Jct. with The Dalles-California Hwy. S. of Klamath Falls	224	258	215	279	293	248	233	243	268	373
Bonanza Road at Jct. East of Hildebrand	.....	.....	.....	.....	.....	.....	.....	.....	.....	23
Hildebrand Road at Jct. East of Hildebrand	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
Bly road at Jct. East of Hildebrand	.....	.....	.....	.....	.....	.....	.....	.....	.....	39
Three miles West of Lakeview	144	111	152	171	151	152	138	183	162	226
ASHLAND-KLAMATH FALLS HIGHWAY										
Jct. with Pacific Hwy. So. of Ashland	126	140	167	182	168	755	371	340	331	470
West of Jct. with Ager Road West of Klamath Falls	91	102	111	93	153	.....	.....	.....	.....	.....
On Ager Road	8	30	11	19	12	.....	.....	.....	.....	.....
East of Jct. with Ager Road West of Klamath Falls	95	115	110	82	147	.....	.....	.....	.....	.....
West of Jct. with Dorris Road West of Keno	.....	.....	.....	.....	.....	297	342	307	339	487
Dorris Road at Jct.	.....	.....	.....	.....	.....	75	88	63	89	116
East of Jct. with Dorris Road West of Keno	.....	.....	.....	.....	.....	366	416	358	414	589
MEDFORD-CRATER LAKE HIGHWAY										
W. of Jct. with Derby Rd. at McLeod Bridge	81	149	301	180	51	142	361	298	187	145
On Derby Road at McLeod Bridge Jct.	30	35	36	34	15	39	85	19	41	32
E. of Jct. with Derby Road at McLeod Bridge	.....	177	309	181	45	129	330	307	214	155
REDWOOD HIGHWAY										
Jct. with Pacific Hwy. So. of Grants Pass	379	681	737	740	542	733	743	825	933	811
No. of Jct. with Oregon Caves Hwy. So. of Kerby	138	226	117	197	144	124	248	234	184	82
So. of Jct. with Oregon Caves Hwy. So. of Kerby	.....	.....	.....	.....	.....	65	77	99	98	82
MT. HOOD LOOP HIGHWAY										
West of Forks of Road at E. Limits of Sandy	133	278	328	501	527	446	520	601	784	1,641
Bull Run Rd. at Jct. at E. Limits of Sandy	23	66	49	79	65	69	75	81	113	90
East of Forks of Road at E. Limits of Sandy	110	224	285	443	468	380	453	534	682	1,515
Three mi. So. of Jct. with Columbia River Hwy. near Hood River	433	436	489	699	1,077	560	618	713	1,159	1,466
ALSEA HIGHWAY										
Jct. with Corvallis-Newport Hwy. near Philomath	155	186	177	303	.....	272	308	348	229	273
PENDLETON-JOHN DAY HIGHWAY										
Jct. with Oregon-Washington Hwy. near Pilot Rock	31	42	28	33	29	22	26	28	20	29

TABLE No. 23—Continued

Observation Point	June 13, 1923, Wednesday	July 19, 1923, Thursday	Aug. 17, 1923, Friday	Sept. 15, 1923, Saturday	Oct. 21, 1923, Sunday	June 13, 1924, Friday	July 17, 1924, Thursday	Aug. 15, 1924, Friday	Sept. 13, 1924, Saturday	Oct. 19, 1924, Sunday
SHERMAN HIGHWAY										
Jct. with Columbia River Hwy. at Biggs	.....	125	119	181	107	137	135	191	204	213
One mile So. of Moro	188	198	204	384	166	151	206	206	405	212
KLAMATH-CRATER LAKE HIGHWAY										
Jct. with The Dalles-California Hwy. near Ft. Klamath	.....	88	199	131	123	157	258	281	189	149
LA PINE-FORT ROCK HIGHWAY										
No. of Jct. with The Dalles-California Hwy. at Lapine	.....	.....	.....	.....	.....	.....	33	31	64	72
So. of Jct. with The Dalles-California Hwy. at Lapine	70	68	71	89	52	82	76	8	73	81
Totals	52,727	72,160	77,652	85,567	83,047	77,316	102,252	106,436	112,410	139,558

PERCENTAGE CLASSIFICATION OF VEHICLES COUNTED

Class of Vehicles	June 13, 1923, Wednesday	July 19, 1923, Thursday	Aug. 17, 1923, Friday	Sept. 15, 1923, Saturday	Oct. 21, 1923, Sunday	June 13, 1924, Friday	July 17, 1924, Thursday	Aug. 15, 1924, Friday	Sept. 13, 1924, Saturday	Oct. 19, 1924, Sunday
Horse drawn vehicles	2.05	1.50	1.81	1.89	0.55	1.50	1.15	1.32	1.13	0.41
Motorcycles	0.96	0.94	0.77	0.94	0.55	0.60	0.61	0.64	0.66	0.48
Oregon passenger cars	67.81	62.21	63.20	71.48	80.99	65.78	61.75	62.70	71.84	86.49
Passenger cars from other states	19.36	26.90	25.17	16.70	14.33	22.87	28.53	27.00	17.79	9.79
Trucks, 1.5 tons and under	5.12	4.06	4.33	4.68	2.21	5.10	4.46	4.70	4.93	1.83
Trucks over 1.5 tons	4.70	4.39	4.72	4.31	1.37	4.15	3.50	3.64	3.65	1.00
Totals	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TABLE No. 24

VOLUME OF TRAVEL TO CRATER LAKE AND OREGON CAVES

As an index to the rate at which travel over the Crater Lake Highway and the Redwood Highway is increasing, the following tabulations of yearly registrations at Crater Lake National Park and at the Oregon Caves are given. The information pertaining to Crater Lake National Park was furnished by the U. S. National Park Service, and that pertaining to the Oregon Caves was furnished by the Grants Pass Chamber of Commerce.

CRATER LAKE NATIONAL PARK

YEAR	Cars Registered	Visitors Registered
1904	Not listed	1,400
1905	Not listed	1,400
1906	Not listed	1,800
1907	Not listed	2,600
1908	Not listed	5,275
1909	Not listed	5,000
1910	Not listed	5,000
1911	Not listed	4,500
1912	Not listed	5,235
1913	Not listed	6,235
1914	Not listed	7,096
1915	Not listed	11,371
1916	2,649	12,265
1917	2,756	11,645
1918	3,105	13,231
1919	4,637	16,645
1920	5,158	20,135
1921	7,892	28,617
1922	9,429	33,011
1923	15,377	52,017
1924	19,331	64,312

OREGON CAVES

YEAR	Number of Visitors
1922	10,000
1923	14,500
1924	16,500

TABLE No. 25

APPORTIONMENT OF 1923 MARKET ROAD FUNDS

County	Amount Paid into State Market Road Fund by County	County's Pro rata Share of Surplus Funds	County's Pro rata Share of All Funds	County Market Road Levy for 1924	Final Apportionment of State Funds		
					Total	Paid to County in Cash	Paid to County in Service and Supplies
Baker	$ 22,424.63	$ 8,369.99	$ 30,794.62	$ 34,411.13	$ 30,794.62	$ 30,605.51	$ 189.11
Benton	14,657.11	5,470.76	20,127.87	20,408.70	20,127.87	20,123.87	4.00
Clackamas	39,336.30	14,682.26	54,018.56	55,000.00	54,018.56	54,018.56	.00
Clatsop	30,870.94	11,522.57	42,393.51	39,317.00	39,317.00	39,308.52	8.48
Columbia	15,328.13	5,721.22	21,049.35	35,234.47	21,049.35	21,049.35	.00
Coos	23,330.64	8,708.15	32,038.79	31,704.00	31,704.00	31,699.84	4.16
Crook	6,010.08	2,243.26	8,253.34	10,000.00	8,253.34	4,126.67	4,126.67
Curry	3,914.81	1,461.20	5,376.01	5,551.35	5,376.01	4,894.20	481.81
Deschutes	10,957.87	4,090.02	15,047.89	15,164.24	15,047.89	15.030.34	17.55
Douglas	28,753.44	10,732.21	39,485.65	34,387.24	34,387.24	34,372.90	14.34
Gilliam	10,713.52	3,998.82	14,712.34	14,975.84	14,712.34	14,106.66	605.68
Grant	8,113.80	3,028.47	11,142.27	17,138.78	11,142.27	11,142.27	.00
Harney	11,551.88	4,311.74	15,863.62	16,075.97	15,863.62	13,725.47	2,138.15
Hood River	9,866.20	3,682.56	13,548.76	14,983.46	13,548.76	13,547.04	1.72
Jackson	27,661.18	10,324.52	37,985.70	41,888.24	37,985.70	32,547.93	5,437.77
Jefferson	5,746.26	2,144.79	7,891.05	8,121.63	7,891.05	7,496.39	394.66
Josephine	7,739.40	2,888.73	10,628.13	12,260.95	10,628.13	9,577.01	1,051.12
Klamath	18,593.39	6,939.98	25,533.37	30,322.46	25,533.37	20,793.88	4,739.49
Lake	11,098.95	4,142.68	15,241.63	15,462.90	15,241.63	14,801.55	440.08
Lane	40,487.11	15,111.80	55,598.91	55,600.00	55,598.91	55,598.91	.00
Lincoln	7,752.39	2,893.58	10,645.97	10,595.83	10,595.97	10,595.97	.00
Linn	32,849.09	12,260.91	45,110.00	44,683.28	44,683.28	44,683.28	.00
Malheur	16,037.34	5,985.93	22,023.27	23,735.55	22,023.27	21,037.66	985.61
Marion	43,219.59	16,131.70	59,351.29	61,320.53	59,351.29	59,351.29	.00
Morrow	11,557.35	4,313.78	15,871.13	16,155.40	15,871.13	16,471.95	Cr. 600.82
Multnomah	342,854.36	.00	100,949.92	100,949.92	100,949.92	100,949.92	.00
Polk	18,751.72	6,999.07	25,750.79	30,114.68	25,750.79	25,554.14	196.65
Sherman	11,518.81	4,299.39	15,818.20	26,156.03	15,818.20	15,814.20	4.00
Tillamook	17,693.03	6,603.92	24,296.95	24,117.60	24,117.60	24,117.60	.00
Umatilla	47,395.65	17,690.41	65.086.06	67,182.42	65,086.06	65,086.06	.00
Union	21,095.77	7,873.98	28,969.75	29,619.68	28,969.75	28,063.10	906.65
Wallowa	13,883.28	5,181.93	19,065.21	19,622.32	19,065.21	19,015.19	50.02
Wasco	17,676.83	6,597.87	24,274.70	30,000.00	24,274.70	24,274.70	.00
Washington	31,331.62	11,694.52	43,026.14	49,636.33	43,026.14	41,185.07	1,841.07
Wheeler	5,120.69	1,911.29	7,031.98	6,044.48	6,044.48	4,587.16	1,457.32
Yamhill	23,606.00	8,810.93	32,416.93	43,263.44	32,416.93	32,416.93	.00
Totals	$1,009,499.16	$ 248,824.94	$1,016,419.66	$1,091,205.85	$1,006,266.38	$ 981,771.09	$ 24,495.29

TABLE No. 26

APPORTIONMENT OF 1924 STATE MARKET ROAD FUNDS

County	Amount Paid into State Market Road Fund by County	County's Pro rata Share of Surplus Funds	County's Pro rata Share of All Funds	County Market Road Levy for 1924	Final Apportionment of State Funds			
					Total	Paid to County in Cash	Paid to County in Service and Supplies	Balance to Be Paid to County in Cash
Baker	$ 23,034.77	$ 8,441.95	$ 31,476.72	$ 32,602.49	$ 31,476.72	$ 15,738.36	$ 18.86	$ 15,719.50
Benton	15,756.63	5,774.60	21,531.23	20,404.14	20,404.14	10,202.07	362.82	9,839.25
Clackamas	42,635.02	15,625.19	58,260.21	58,260.21	58,260.21	29,130.11	11.20	29,118.90
Clatsop	31,226.10	11,443.97	42,670.07	42,700.00	42,670.07	21,335.03	301.03	21,034.01
Columbia	16,713.58	6,125.31	22,838.89	30,801.74	22,838.89	11,419.44	16.26	11,403.19
Coos	25,312.71	9,276.78	34,589.49	25,294.24	25,294.24	12,647.12	20.15	12,626.97
Crook	6,030.59	2,210.13	8,240.72	9,997.15	8,240.72	4,120.36	1,183.72	2,936.64
Curry	4,058.61	1,487.43	5,546.04	5,318.88	5,318.88	2,659.44	2,137.32	522.12
Deschutes	11,824.18	4,333.41	16,157.59	14,011.57	14,011.57	7,005.79	1,612.43	5,393.35
Douglas	29,803.92	10,922.75	40,726.67	49,799.91	40,726.67	20,363.33	758.70	19,604.64
Gilliam	10,547.88	3,865.66	14,413.54	15,032.72	14,413.54	7,206.77	1,390.35	5,816.42
Grant	7,961.74	2,917.88	10,879.62	12,233.88	10,879.61	5,439.81	11.28	5,428.52
Harney	9,590.14	3,514.66	13,104.80	9,268.94	9,268.94	4,634.47	2,908.36	1,726.11
Hood River	10,229.23	3,748.88	13,978.11	16,046.50	13,978.11	6,989.05	12.00	6,977.06
Jackson	28,755.56	10,538.55	39,294.11	43,101.87	39,294.11	19,647.06	3,393.52	16,253.53
Jefferson	6,117.05	2,241.82	8,358.87	8,056.59	8,056.59	4,028.29	528.04	3,500.26
Josephine	7,723.72	2,830.65	10,554.37	12,526.07	10,554.37	5,277.19	1,810.41	3,466.77
Klamath	19,474.15	7,137.03	26,611.18	49,637.67	26,611.18	13,305.59	343.09	12,962.50
Lake	11,063.03	4,054.46	15,117.49	15,549.43	15,117.49	7,558.74	2,054.00	5,504.75
Lane	42,318.60	15,509.23	57,827.82	55,778.21	55,778.21	27,889.11	267.15	27,621.95
Lincoln	8,309.19	3,045.21	11,354.40	11,706.05	11,354.40	5,677.20	10.98	5,666.22
Linn	33,494.32	12,275.24	45,769.56	45,365.42	45,365.42	22,682.71	22.98	22,659.73
Malheur	15,838.74	5,804.70	21,643.44	23,735.55	21,643.44	10,821.72	4,146.24	6,675.48
Marion	45,383.59	16,632.50	62,016.09	62,524.19	62,016.09	31,008.04	4.17	31,003.88
Morrow	11,562.27	4,237.42	15,799.69	16,364.78	15,799.69	7,899.85	631.25	7,268.59
Multnomah	352,791.90	.....	104,241.06	105,413.61	104,241.06	52,120.53	.....	52,120.53
Polk	19,140.34	7,014.69	26,155.03	27,000.00	26,155.03	13,077.51	35.50	13,042.02
Sherman	11,171.13	4,094.08	15,265.21	25,821.24	15,265.21	7,632.61	164.38	7,468.22
Tillamook	21,514.27	7,884.70	29,398.98	29,398.98	29,398.98	14,699.49	.....	14,699.49
Umatilla	48,966.36	17,945.54	66,911.90	66,976.81	66,911.90	33,455.95	10.90	33,445.05
Union	20,448.36	7,494.06	27,942.42	29,920.16	27,942.42	13,971.21	1,493.31	12,477.90
Wallowa	13,400.12	4,910.97	18,311.09	20,639.90	18,311.09	9,155.54	115.95	9,039.60
Wasco	18,237.13	6,683.68	24,920.81	30,115.67	24,920.81	12,460.41	.....	12,460.40
Washington	32,950.74	12,076.02	45,026.76	51,819.02	45,026.76	22,513.38	1,090.46	21,422.92
Wheeler	5,014.97	1,837.92	6,852.89	9,118.95	6,852.89	3,426.44	1,279.45	2,147.00
Yamhill	24,009.98	8,799.35	32,809.33	38,112.62	32,809.33	16,404.67	149.74	16,254.92
Totals	$1,042,410.62	$ 252,736.42	$1,046,596.20	$1,120,455.16	$1,027,208.78	$ 513,604.39	$ 28,296.00	$ 485,308.39

TABLE No. 27

SUMMARY OF RECEIPTS AND EXPENDITURES BY COUNTIES IN CONNECTION WITH MARKET ROAD WORK, YEAR 1923

With the exception of amounts pertaining to state apportionments and state payments, the information given in this table is based upon information furnished by the officials of the respective counties.

County	County Market Road Tax		State Aid			Total Cash Market Road Income for Year	Balance Carried Over from Previous Year*	Amount Expended by County	Balance in County Treasury at End of 1923*
	Amount Levied	Amount Collected	Total Amount Apportioned	Deducted for Service and Supplies Furnished	Total Cash Paid to County				
Baker	$ 34,411.13	$ 32,518.78	$ 30,794.62	$ 189.11	$ 30,605.51	$ 63,124.29	$ 59,624.34	$ 119,776.01	$ 2,962.62
Benton	20,408.70	19,827.95	20,127.87	4.00	20,123.87	39,951.82	3,427.32	33,840.51	9,538.62
Clackamas	55,000.00	54,108.85	54,018.56	.00	54,018.56	108,127.41	−1,238.94	121,407.61	−12,280.20
Clatsop	39,317.00	39,326.20	39,317.00	8.48	39,308.52	78,634.72	7,167.60	61,557.16	24,225.16
Columbia	35,234.47	33,476.32	21,049.35	.00	21,049.35	54,525.67	12,207.69	55,654.23	11,079.13
Coos	31,704.00	31,704.00	31,704.00	4.16	31,699.84	63,403.84	−24,343.58	50,388.66	−11,328.40
Crook	10,000.00	8,398.65	8,253.34	4,126.67	4,126.67	12,525.32	13,277.38	23,420.79	2,381.91
Curry	5,551.35	5,570.67	5,376.01	481.81	4,894.20	10,464.87	8,226.22	3,115.28	15,585.21
Deschutes	15,164.24	10,516.09	15,047.89	17.55	15,030.34	25,546.43	18,732.70	22,084.62	22,194.51
Douglas	34,387.24	51,354.70	34,387.24	14.34	34,372.90	85,727.60	29,977.78	102,885.87	12,833.85
Gilliam	14,975.84	23,513.50	14,712.34	605.68	14,106.66	37,620.16	36,766.16	69,919.59	4,466.67
Grant	17,138.78	16,119.78	11,142.27	.00	11,142.27	27,262.05	242.65	18,260.76	−756.06
Harney	16,075.97	13,221.50	15,863.62	2,138.15	13,725.47	26,946.97	17,616.14	26,476.91	18,260.20
Hood River	14,983.46	15,000.00	13,548.76	1.72	13,547.04	28,547.04	−2,706.05	26,236.09	−850.27
Jackson	41,888.24	44,233.48	37,985.70	5,437.77	32,547.93	76,781.41	16,486.68	86,841.61	6,426.43
Jefferson	8,121.63	7,504.04	7,891.05	394.66	7,496.39	15,000.43	1,998.24	14,698.42	2,400.25
Josephine	12,260.95	12,215.11	10,628.13	1,051.12	9,577.01	21,792.12	959.00	22,291.60	459.52
Klamath	30,322.46	36,496.60	25,533.37	4,739.49	20,793.78	57,290.38	22,084.26	69,655.24	9,719.50
Lake	15,462.90	15,472.35	15,241.63	440.08	14,801.55	30,273.90	9,344.26	29,866.91	9,751.25
Lane	55,600.00	54,367.81	55,598.91	.00	55,598.91	109,966.72	30,272.61	128,645.85	13,030.19
Lincoln	10,595.83	11,679.44	10,595.97	.00	10,595.97	22,275.41	11,856.52	33,679.58	452.35
Linn	44,683.28	45,025.64	44,683.28	.00	44,683.28	89,708.92	31,037.90	84,700.29	36,141.98
Malheur	23,735.55	22,588.82	22,023.27	985.61	21,037.66	43,626.48	9,670.05	11,683.83	41,612.70
Marion	61,320.53	113,215.87	59,351.29	.00	59,351.29	172,567.26	.00	172,567.16	.00
Morrow	16,155.40	14,919.57	15,871.13	Cr. 600.82	16,471.95	31,391.52	485.24	28,378.93	3,499.83
Multnomah	100,949.92	92,313.12	100,949.92	.00	100,949.92	193,263.04	.00	193,263.04	.00
Polk	30,114.68	30,421.46	25,750.79	196.65	25,554.14	55,975.60	8,205.11	58,601.93	1,090.85
Sherman	26,156.03	24,766.22	15,818.20	4.00	15,814.20	40,580.42	2,705.04	48,480.93	.00
Tillamook	24,117.60	21,439.80	24,117.60	.00	24,117.60	45,557.40	19,228.85	62,505.87	14,200.39
Umatilla	67,182.42	68,580.39	65,086.06	.00	65,086.06	133,666.45	5,799.28	144,605.46	−5,134.73
Union	29,619.68	29,120.04	28,969.75	906.65	28,063.10	57,183.14	21,459.63	71,972.48	6,670.30
Wallowa	19,622.32	15,399.51	19,065.21	50.02	19,015.19	34,414.70	1,180.95	30,331.13	5,115.86
Wasco	30,000.00	43,280.14	24,274.70	.00	24,274.70	67,554.84	−108.75	29,011.18	38,434.21
Washington	49,636.33	51,074.61	43,026.14	1,841.07	41,185.07	92,259.68	.00	84,849.93	7,409.75
Wheeler	6,044.48	6,358.93	6,044.48	1,457.32	4,587.16	10,946.09	11,650.42	22,546.26	50.25
Yamhill	43,263.44	42,655.08	32,416.93	.00	32,416.93	75,072.01	139.92	84,689.64	.00
Totals	$1,091,205.85	$1,157,785.02	$1,006,266.38	$ 24,495.29	$ 981,771.09	$2,139,556.11	$ 383,432.62	$2,248,891.36	$ 289,643.83

* Amounts in this column which are preceded by minus signs are amounts of overdrafts.

TABLE No. 28

SUMMARY OF RECEIPTS AND EXPENDITURES BY COUNTIES IN CONNECTION WITH MARKET ROAD WORK, YEAR 1924

With the exception of amounts pertaining to state apportionments and state payments, the information given in this table is based upon information furnished by the officials of the respective counties.

County	COUNTY MARKET ROAD TAX		STATE AID			Total Cash Market Road Income for Year	Balance Carried Over from Previous Year*	Amount Expended by County	Balance in County Treasury at End of 1924*	Balance to Be Paid County by State
	Amount Levied	Amount Collected	Total Amount Apportioned	Deducted for Service and Supplies Furnished	Total Cash Paid to County					
Baker	$ 32,602.49	$ 30,559.02	$ 31,476.72	$ 18.86	$ 15,738.36	$ 46,297.38	$ 2,962.62	$ 44,813.61	$ 4,456.59	$ 15,719.50
Benton	20,404.14	19,579.87	20,404.14	362.82	10,202.07	29,781.94	9,538.62	52,494.33	−13,173.77	9,839.25
Clackamas	58,260.21	51,288.32	58,260.21	11.20	29,130.11	80,418.43	−12,280.20	56,883.95	54,640.00	29,118.90
Clatsop	42,700.00	33,350.10	42,670.07	301.03	21,335.03	54,685.13	24,225.16	79,397.20	−486.91	21,034.01
Columbia	30,801.74	34,593.56	22,838.89	16.26	11,419.44	46,013.00	11,079.13	49,986.73	7,105.40	11,403.19
Coos	25,294.24	34,312.85	25,294.24	20.15	12,647.12	46,959.97	−11,328.40	66,417.71	−19,457.74	12,626.97
Crook	9,997.15	8,435.67	8,240.72	1,183.72	4,120.36	12,556.03	2,381.91	12,800.96	2,106.98	2,936.64
Curry	5,318.88	4,091.54	5,318.88	2,137.32	2,659.44	6,750.98	15,585.21	16,522.73	5,814.06	522.12
Deschutes	14,011.57	15,861.31	14,011.57	1,612.43	7,005.79	22,867.10	22,194.51	36,958.25	8,103.36	5,393.35
Douglas	49,799.91	39,063.68	40,726.67	758.70	20,363.33	59,427.01	12,833.85	94,914.80	−22,653.94	19,604.64
Gilliam	15,032.72	13,338.66	14,413.54	1,390.35	7,206.77	20,545.43	4,466.67	22,945.23	5,297.19	5,816.42
Grant	12,233.88	11,440.28	10,879.61	11.28	5,439.81	16,880.09	−756.06	15,253.78	1,626.31	5,428.52
Harney	9,268.94	7,878.04	9,268.94	2,908.36	4,634.47	12,512.51	18,260.20	7,959.52	26,138.24	1,726.11
Hood River	16,046.50	15,000.00	13,978.11	12.00	6,989.05	21,989.05	−850.27	22,202.06	−5.47	6,977.06
Jackson	43,101.87	37,361.41	39,294.11	3,393.52	19,647.06	57,008.47	6,426.33	102,752.16	−30,308.80	16,253.53
Jefferson	8,056.59	10,420.26	8,056.59	528.04	4,028.29	14,448.55	2,400.25	14,150.55	610.28	3,500.26
Josephine	12,526.07	12,526.07	10,554.37	1,810.41	5,277.19	17,803.26	459.52	20,159.55	−1,896.77	3,466.77
Klamath	49,637.67	35,631.02	26,611.18	343.09	13,305.59	48,936.61	9,719.50	57,082.72	1,573.38	12,962.50
Lake	15,549.43	13,081.22	15,117.49	2,054.00	7,558.74	20,639.96	9,751.25	26,916.80	3,474.41	5,504.75
Lane	55,778.21	45,830.43	55,778.21	267.15	27,889.11	73,719.54	13,030.19	81,342.35	5,407.28	27,621.95
Lincoln	11,706.05	10,627.58	11,354.40	10.98	5,677.20	16,304.78	452.35	22,235.72	−5,488.59	5,666.22
Linn	45,365.42	56,025.08	45,365.42	22.98	22,682.71	78,707.79	36,141.98	109,801.03	5,044.94	22,659.73
Malheur	23,735.55	29,267.22	21,643.44	4,146.24	10,821.72	40,088.94	41,612.70	16,661.82	54,218.11	6,675.48
Marion	62,524.19	131,207.46	62,016.09	4.17	31,008.04	162,215.50	.00	193,223.54	−31,003.88	31,003.88
Morrow	16,364.78	31,091.25	15,799.69	631.25	7,899.85	38,991.10	3,499.83	54,255.84	420.44	7,268.59
Multnomah	105,413.61	82,340.75	104,241.06	.00	52,120.53	134,461.28	.00	209,274.38	−52,130.53	52,120.53
Polk	27,000.00	22,094.26	26,155.03	35.50	13,077.51	35,171.77	1,090.85	82,191.95	−45,929.33	13,042.02
Sherman	25,821.24	23,510.97	15,265.21	164.38	7,632.61	31,143.58	.00	26,353.45	−5,600.81	7,468.22
Tillamook	29,398.98	24,870.10	29,398.98	.00	14,699.49	39,569.59	14,200.39	50,540.74	−3,721.86	14,699.49
Umatilla	66,976.81	66,970.61	66,911.90	10.90	33,455.95	100,426.56	−5,134.73	68,677.22	24,929.61	33,445.05
Union	29,920.16	26,896.94	27,942.42	1,493.31	13,971.21	40,868.15	6,670.30	43,281.09	4,585.61	12,477.90
Wallowa	20,639.90	58,313.85	18,311.09	115.95	9,155.54	67,469.39	5,115.86	68,740.65	3,844.60	9.039.60
Wasco	30,115.67	19,882.13	24,920.81	.00	12,460.41	32,342.54	38,434.21	88,582.56	−21,318.29	12,460.40
Washington	51,819.02	49,712.41	45,026.76	1,090.46	22,513.38	72,225.79	7,409.75	87,210.03	−14,384.24	21,422.92
Wheeler	9,118.95	5,315.14	6,852.89	1,279.45	3,426.44	8,741.58	50.25	5,684.30	3,107.53	2,147.00
Yamhill	38,112.62	37,925.29	32,809.33	149.74	16,404.67	54,329.96	14,745.21	54,244.50	−110.74	16,254.92
Totals	$1,120,455.16	$1,149,694.35	$1,027,208.78	$28,296.00	$513,604.39	$1,663,298.74	$304,388.94	$2,062,913.81	$−45,167.35	$485,308.39

* Amounts in this column which are preceded by minus signs are amounts of overdrafts.

TABLE No. 29

STATE FUNDS APPORTIONED TO COUNTIES FOR MARKET ROAD WORK—1920-1924, INCLUSIVE

County	1920	1921	1922	1923	1924	Total
Baker	$ 33,042.66	$ 33,202.52	$ 30,923.50	$ 30,794.62	$ 31,476.72	$ 159,440.02
Benton	17,061.33	16,990.50	18,177.77	20,127.87	20,404.14	92,761.61
Clackamas	47,601.79	35,628.81	49,423.58	54,018.56	58,260.21	244,932.95
Clatsop	40,148.59	44,986.98	42,818.32	39,317.00	42,670.07	209,940.96
Columbia	20,433.77	41,808.56	21,733.14	21,049.35	22,838.89	127,863.71
Coos	31,149.76	24,459.41	32,190.86	31,704.00	25,294.24	144,798.27
Crook	8,477.15	9,993.55	8,323.86	8,253.34	8,240.72	43,288.62
Curry	5,304.40	5,418.96	5,391.25	5,376.01	5,318.88	26,809.50
Deschutes	14,190.06	10,856.50	15,413.31	15,047.89	14,011.57	69,519.33
Douglas	37,050.68	34,173.39	39,560.42	34,387.24	40,726.67	185,898.40
Gilliam	14,735.79	17,784.61	15,269.56	14,712.34	14,413.54	76,915.84
Grant	11,189.79	13,475.84	11,404.11	11,142.27	10,879.61	58,091.62
Harney	15,907.50	19,320.55	16,173.06	15,863.62	9,268.94	76,533.67
Hood River	13,764.65	15,929.40	14,170.89	13,548.76	13,978.11	71,391.81
Jackson	41,114.37	41,020.76	38,601.85	37,985.70	39,294.11	198,016.79
Jefferson	7,368.33	7,792.56	8,070.47	7,891.05	8,056.59	39,179.00
Josephine	11,327.61	12,276.32	10,974.85	10,628.13	10,554.37	55,761.28
Klamath	23,420.53	21,038.87	25,543.54	25,533.37	26,611.18	122,147.49
Lake	15,633.24	12,027.32	15,597.83	15,241.63	15,117.49	73,617.51
Lane	55,918.09	56,145.97	56,343.43	55,598.91	55,778.21	279,784.61
Lincoln	10,316.51	11,000.22	10,986.95	10,595.97	11,354.40	54,254.05
Linn	42,656.82	45,359.97	43,829.97	44,683.28	45,365.42	221,895.46
Malheur	20,813.50	24,328.09	23,948.62	22,023.27	21,643.44	112,756.92
Marion	58,455.99	62,673.91	60,602.44	59,351.29	62,016.09	303,099.72
Morrow	15,672.61	15,251.03	16,027.95	15,871.13	15,799.69	78,622.41
Multnomah	99,043.55	104,083.90	103,647.38	100,949.92	104,241.06	511,965.81
Polk	24,482.14	25,500.00	26,449.79	25,750.79	26,155.03	128,337.75
Sherman	15,414.52	19,618.91	16,939.75	15,818.20	15,265.21	83,056.59
Tillamook	22,696.60	27,372.71	24,372.04	24,117.60	29,398.98	127,957.93
Umatilla	62,465.43	66,113.94	66,006.14	65,086.06	66,911.90	326,583.47
Union	29,655.90	30,822.83	29,951.96	28,969.75	27,942.42	147,342.86
Wallowa	19,975.85	17,528.65	17,869.19	19,065.21	18,311.09	92,749.99
Wasco	23,211.89	26,205.24	24,677.09	24,274.70	24,920.81	123,289.73
Washington	41,253.66	41,934.48	42,899.15	43,026.14	45,026.76	214,140.19
Wheeler	7,305.95	6,574.60	7,236.73	6,044.48	6,852.89	34,014.65
Yamhill	32,174.46	21,862.75	33,007.19	32,416.93	32,809.33	152,270.66
Totals	$ 990,435.47	$ 1,020,562.61	$ 1,024,557.94	$ 1,006,266.38	$ 1,027,208.78	$ 5,069,031.18

TABLE No. 30

SUMMARY OF EXPENDITURES ON MARKET ROADS—1920 TO 1924, INCLUSIVE

This table is compiled from information furnished by officials of the respective counties. The amounts given include expenditures made by the State Highway Commission for market road surveys and for other service and supplies furnished, as well as expenditures made directly by the counties.

County	1920	1921	1922	1923	1924	Total
Baker	$ 33,388.90	$ 57,955.71	$ 37,966.56	$ 119,965.12	$ 44,832.47	$ 294,108.76
Benton	10,783.75	59,804.38	25,161.42	33,844.51	52,857.15	182,451.21
Clackamas	25,776.42	105,404.79	123,349.37	121,407.61	56,895.15	432,833.34
Clatsop	88,960.49	95,952.18	85,653.02	61,565.64	79,698.23	411,829.56
Columbia	3,227.11	115,546.92	73,127.49	55,654.23	50,002.99	297,558.74
Coos	51,132.52	62,188.62	74,274.60	50,392.82	66,437.86	304,426.42
Crook	3,937.95	38,804.99	11,081.43	27,547.46	13,984.68	95,356.51
Curry	5,390.47	8,454.02	8,818.62	3,597.09	18,660.05	44,920.25
Deschutes	26,037.62	12,933.68	12,807.92	22,102.17	38,570.68	112,452.07
Douglas	22,801.31	84,621.97	73,629.90	102,900.21	95,677.50	379,630.89
Gilliam	3,320.27	31,775.64	16,342.77	70,525.27	24,335.58	146,299.53
Grant	18,809.47	34,076.49	34,667.40	18,260.76	15,265.06	121,079.18
Harney	14,270.05	23,716.38	31,078.18	28,615.06	10,867.88	108,547.55
Hood River	17,167.20	17,745.74	58,043.47	26,237.81	22,214.06	141,408.28
Jackson	103,240.79	91,808.19	66,183.75	92,279.38	106,145.68	459,657.79
Jefferson	9,678.35	21,151.56	16,464.05	15,093.08	14,678.59	77,065.63
Josephine	57,668.93	26,918.73	20,587.42	23,342.72	21,969.96	150,487.76
Klamath	15,218.08	51,517.64	50,144.21	74,394.73	57,425.81	248,700.47
Lake	11,069.47	52,082.70	29,565.08	30,306.99	28,970.80	151,995.04
Lane	58,423.96	120,579.91	114,499.20	128,645.85	81,609.50	503,758.42
Lincoln	13,590.13	25,155.18	14,659.16	33,679.58	22,246.70	109,330.75
Linn	43,892.77	104,670.55	78,092.09	84,700.29	109,824.01	421,179.71
Malheur	16,691.21	39,639.71	60,739.48	12,669.44	20,808.06	150,547.90
Marion	130,492.21	132,515.28	162,274.71	172,567.16	193,227.71	791,077.07
Morrow	6,597.42	42,282.47	53,253.39	28,378.93	54,887.09	185,399.30
Multnomah	261,978.43	217,510.42	208,052.28	193,263.04	209,274.38	1,090,078.55
Polk	2,983.68	106,129.03	38,725.83	58,798.58	82,227.45	288,864.57
Sherman	29,937.07	40,476.16	41,545.80	48,484.93	26,517.83	186,955.79
Tillamook	18,729.00	72,069.22	35,089.96	62,505.87	50,540.74	238,934.79
Umatilla	111,465.43	132,227.88	112,305.52	144,605.46	68,688.12	569,292.41
Union	52,821.18	63,942.34	58,892.75	72,879.13	44,774.40	293,309.80
Wallowa	28,322.03	46,513.62	45,001.74	30,381.15	68,856.60	219,075.14
Wasco	29,298.29	61,362.87	85,583.54	29,011.18	88,582.56	293,838.44
Washington	54,710.36	114,377.00	87,929.30	86,691.00	88,300.49	432,008.15
Wheeler	2,114.66	15,956.48	10,218.39	24,003.58	6,963.75	59,256.86
Yamhill	45,461.16	39,182.91	84,255.97	84,689.64	54,394.24	307,983.92
Totals	$ 1,429,388.14	$ 2,367,045.36	$ 2,140,065.77	$ 2,273,987.47	$ 2,091,213.81	$10,301,700.55

TABLE No. 31

MILEAGES OF COUNTY ROADS CONSTRUCTED UNDER MARKET ROAD ACT

Years 1920, 1921, 1922, 1923, 1924

County	Paving		Rock or gravel surfacing		Grading	
	Width 16 ft. or Greater	Width Less Than 16 ft.	Width 16 ft. or Greater	Width Less Than 16 ft.	Width 16 ft. or Greater	Width Less Than 16 ft.
Baker	.....	.....	12.0	7.9	15.2	8.0
Benton	.....	.....	8.1	.....	27.8	.....
Clackamas	.....	51.5	106.1	.....	115.0	.....
Clatsop	1.1	9.3	.....	.....	11.4	.....
Columbia	.....	.....	13.7	1.2	19.5	.....
Coos	.....	.....	8.4	27.3	40.2	.....
Crook	.....	.....	.....	18.9	31.1	2.7
Curry	.....	.....	.....	4.5	.....	6.3
Deschutes	.....	.....	10.0	2.9	24.8	.....
Douglas	.....	.....	.....	65.8	63.8	5.9
Gilliam	.....	.....	3.9	2.0	11.5	.....
Grant	.....	.....	.....	2.3	30.7	6.2
Harney	.....	.....	.....	.....	44.5	7.0
Hood River	4.3	.....	.....	.....	4.3	.....
Jackson	8.4	.....	4.4	33.7	39.3	.....
Jefferson	.....	.....	.....	28.9	37.2	.....
Josephine	.....	.....	.....	27.7	28.0	.....
Klamath	.....	.....	2.0	26.2	36.2	.....
Lake	.....	.....	.....	9.1	11.9	.....
Lane	.....	.....	4.7	87.2	101.2	.....
Lincoln	.....	.....	.....	11.0	16.2	.....
Linn	.....	.....	28.0	74.5	106.8	.....
Malheur	.....	.....	.....	19.3	26.5	.....
Marion	108.9	.....	.....	.....	105.0	.....
Morrow	.....	.....	16.5	3.7	20.2	.....
Multnomah	14.8	.....	23.1	22.8	21.7	.....
Polk	1.3	.....	.....	36.0	43.1	.....
Sherman	.....	.....	4.9	18.9	23.8	.....
Tillamook	1.1	.....	2.8	0.4	8.2	.....
Umatilla	.....	.....	45.5	46.4	95.3	.....
Union	.....	.....	15.8	13.4	42.5	3.4
Wallowa	.....	.....	.....	19.4	28.1	.....
Wasco	.....	.....	.....	38.6	35.5	.....
Washington	0.5	.....	.....	94.3	45.4	.....
Wheeler	.....	.....	.....	7.6	9.6	.....
Yamhill	.....	.....	.....	43.1	43.7	.....
Totals	140.4	60.8	309.9	795.0	1,365.9	39.5

Note—Owing to other funds, such as bond funds, general funds, road and bridge funds, special levies, donations, railroad funds, forest service funds, etc., being used in cooperation with Market Road funds, it is not possible, in all cases, to segregate and give the exact mileages constructed with Market Road funds alone. Where segregation is not possible, credit is taken in this table for the entire mileage of completed road.

TABLE No. 32

CONTINUING STATEMENT OF EQUIPMENT AND SUPPLIES ACCOUNT

In this table are summarized the disbursements and credits entering into the State Equipment and Supplies Account since the commencement of the operation of the State Equipment Department. The difference between the total of the disbursements and the total of the credits (which is referred to in the table as "Total Net Cost 1917 to End of Period"), represents the net cost to the State of all equipment and supplies on hand (including shops and warehouses), the value of which is shown in the column headed "Inventory Value of Equipment and Supplies on Hand."

Period	Gross Expense	Total Credits	Net Cost for the Period	Total Net Cost 1917 to End of Period	Inventory Value of Equipment and Supplies on Hand
1917-1918	$ 111,547.03	$ 24,829.48	$ 86,717.55	$ 86,717.55	$ 100,000.00
1919-1920	602,230.22	308,629.62	293,600.60	380,318.15	1,500,000.00
1921	403,500.21	476,502.73	Cr. 73,002.52	307,315.63	825,000.00
1922	357,921.30	387,873.24	Cr. 29,951.94	277,363.69	759,325.00
1923	487,118.10	575,851.80	Cr. 88,733.70	188,629.99	993,769.89
1924	615,373.69	670,141.27	Cr. 54,767.58	133,862.41	970,267.20
Totals..	$2,577,690.55	$2,443,828.14	$ 133,862.41		

The large fluctuation in inventory values of equipment and supplies on hand are due to the fact that the major part of the equipment has been received from the U. S. War Department at a cost far below its inventory value, and to the fact that much of the equipment on hand at the end of 1920 and of that subsequently received has been turned over to the counties of the State at much less than its inventory value.

TABLE No. 33

RECORD OF EQUIPMENT ACQUIRED, EQUIPMENT DISPOSED OF AND EQUIPMENT ON HAND

Period December 1, 1922, to November 30, 1924

This table gives inventories of the heavy equipment owned by the State Highway Department as of December 1, 1922, and as of December 1, 1924. It also gives an accounting for all heavy equipment acquired or disposed of during the two-year period between those dates.

Kind of Equipment	Number on Hand Dec. 1, 1922	Number Bought 1923-1924	Number Allotted by Government, 1923-1924	Number Converted from Other Equipment	TOTAL	Allotted and/or Sold to Cities, Counties, State Institutions and Others, 1923-1924	Disposed of as Obsolete, Unserviceable, and/or Unsuitable, 1923-1924	Converted to Other Types of Equipment, 1923-1924	Number on Hand Nov. 30, 1924
Trucks—									
Federal	1	.....	.....	.....	1	.....	1	.....	.....
Ford Light Delivery	15	.....	.....	17	32	.....	2	2	28
Ford Trucks	8	5	.....	.....	13	.....	.....	.....	13
F.W.D. 3 ton	41	.....	*5	.....	46	.....	.....	.....	46
G.M.C. ¾ ton	12	.....	13	.....	25	3	.....	.....	22
G.M.C. 3½ ton	1	.....	.....	.....	1	.....	1	.....	.....
Heavy Aviation	16	.....	6	.....	22	6	7	.....	9
Indiana	1	.....	.....	.....	1	.....	.....	.....	1
Liberty	25	.....	43	.....	68	20	.....	.....	48
Moreland 1½ ton	4	.....	.....	.....	4	.....	4	.....	.....
Moreland 2 ton	1	.....	.....	.....	1	1	.....	.....	.....
Moreland 4 ton	18	.....	1	.....	19	1	5	.....	13
Nash Quad	30	.....	*10	.....	40	.....	1	.....	39
Packard 1½ ton	8	.....	18	.....	26	.....	6	.....	20
Packard 3 ton	1	.....	.....	.....	1	.....	.....	.....	1
Packard 5 ton	3	.....	.....	.....	3	.....	3	.....	.....
Pierce Arrow 2 ton	15	.....	.....	.....	15	8	1	.....	6
Pierce Arrow 5 ton	21	.....	.....	.....	21	.....	.....	.....	21
Standard	19	.....	4	.....	23	6	5	.....	12
White	20	.....	.....	.....	20	.....	.....	.....	20
Totals	260	5	100	17	382	45	36	2	299
Automobiles—									
Buick Touring	8	7	.....	.....	15	.....	8	.....	7
Cadillac Touring	1	.....	2	.....	3	.....	.....	.....	3
Chalmers Roadster	1	.....	.....	.....	1	.....	1	.....	.....
Dodge Touring	7	1	.....	1	9	.....	2	.....	7
Dodge Roadster	1	.....	.....	.....	1	.....	.....	1	.....
Ford Touring	72	31	.....	.....	103	.....	36	17	50
Ford Roadster	1	2	.....	2	5	.....	.....	.....	5
Studebaker Touring	1	.....	.....	.....	1	.....	1	.....	.....
Studebaker Roadster	1	.....	.....	.....	1	.....	.....	.....	1
Assembled Car	.....	.....	1	.....	1	.....	.....	.....	1
Buick Roadster	.....	2	.....	.....	2	.....	.....	.....	2
Totals	93	43	3	3	142	.....	48	18	76
Motorcycles—									
Cleveland	1	.....	.....	.....	1	.....	.....	.....	1
Harley Davidson	17	5	.....	.....	22	.....	13	.....	9
Totals	18	5	.....	.....	23	.....	13	.....	10

TABLE No. 33—Continued

Kind of Equipment	Number on Hand Dec. 1, 1922	Number Bought 1923-1924	Number Allotted by Government, 1923-1924	Number Converted from Other Equipment	TOTAL	Allotted and/or Sold to Cities, Counties, State Institutions and Others, 1923-1924	Disposed of as Obsolete, Unserviceable, and/or Unsuitable, 1923-1924	Converted to Other Types of Equipment, 1923-1924	Number on Hand Nov. 30, 1924
Tractors—									
Cleveland	2	.....	.....	.....	2	.....	2	.....	.....
Case, J. I. Steam	1	.....	.....	.....	1	.....	.....	.....	1
Fordson	.....	1	.....	.....	1	.....	.....	.....	1
Holt 2½ ton	.....	.....	8	.....	8	.....	.....	.....	8
Holt 5 ton	19	.....	3	.....	22	5	.....	.....	17
Holt 10 ton	1	.....	4	.....	5	.....	.....	.....	5
Holt 20 ton	14	.....	*1	.....	15	2	4	.....	9
Truck Tractor	2	.....	.....	.....	2	.....	.....	.....	2
Totals	39	1	16	.....	56	7	6	.....	43
Miscellaneous Equipment									
Locomotive Crane	2	.....	.....	.....	2	1	.....	.....	1
Steam Hoist	1	.....	.....	.....	1	.....	.....	.....	1
Drag Line	.....	1	.....	.....	1	.....	.....	.....	1
Clam Shells	4	.....	.....	.....	4	.....	.....	.....	4
Orange Peel	4	.....	.....	.....	4	1	1	.....	2
Road Rollers	6	.....	.....	.....	6	.....	.....	.....	6
Railroad Paving Plant	1	.....	.....	.....	1	.....	1	.....	.....
Portable Paving Plant	1	.....	.....	.....	1	.....	.....	.....	1
Portable Repr. Paving Plant	.....	2	.....	.....	2	.....	.....	.....	2
Gas Locomotive	2	.....	.....	.....	2	.....	.....	.....	2
Crushing Plants	6	.....	.....	.....	6	1	.....	.....	5
Concrete Mixers	8	.....	.....	.....	8	1	1	.....	6
Graders	35	75	.....	.....	110	.....	.....	.....	110
Heavy Road Drag	13	14	.....	.....	27	7	.....	.....	20
Snow Plows (Tractor)	7	10	.....	.....	17	.....	.....	.....	17
Snow Plows (Truck)	.....	18	.....	.....	18	.....	.....	.....	18
Power Units	6	1	1	2	10	1	3	.....	6
Pumping Units	31	12	3	1	47	.....	1	.....	46
Air Compressors	4	1	.....	.....	5	.....	.....	.....	5
Stiff Leg Derricks	1	.....	.....	.....	1	.....	1	.....	.....
Mower	.....	1	.....	.....	1	.....	.....	.....	1
Trailers	4	2	10	.....	16	.....	1	4	11
Sand Spreaders	.....	2	.....	.....	2	.....	.....	.....	2
Engineering Equipment									
Transits	98	.....	.....	.....	98	1	.....	.....	97
Levels	68	.....	.....	.....	68	1	.....	.....	67
Barometers	6	.....	7	.....	13	.....	.....	.....	13
Typewriters	16	2	.....	.....	18	.....	.....	.....	18
Adding Machines	10	8	.....	.....	18	.....	.....	.....	18

* One F. W. D. truck, three Nash Quad trucks, and one 120 H.-P. Holt tractor, formerly allotted by the Highway Commission to counties and state institutions, have been turned back to the state this biennium and are included in this column.