

California Highways and Public Works



Let us have faith in California!... Let us display at the opening of this new year the courage and confidence which inspired the pioneers; which have characterized Californians from the earliest days and without which there is little in life worth having.
-- GOVERNOR JAMES ROLPH, JR



We can shape our own future. Let us do so. And let us begin today by resolving to open a new administration with a revived and strengthened faith in California.
-- GOVERNOR JAMES ROLPH, JR.



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Table of Contents

	Page
My Highway Creed.....	1
<i>By James Rolph, Jr., Governor of California.</i>	
Build Together for California.....	2
<i>By Colonel Walter E. Garrison, Director of the Department of Public Works.</i>	
The Task Before the California Highway Commission.....	4
<i>By Earl Lee Kelly, Chairman of the California Highway Commission.</i>	
The New State Highway Commission—	
<i>Earl Lee Kelly</i>	5
<i>Harry A. Hopkins</i>	5
<i>Timothy A. Reardon</i>	6
<i>Frank A. Tetley</i>	6
<i>Philip A. Stanton</i>	7
State Highway Budget for 1931-1933.....	8
James I. Herz, Deputy Director of the Department of Public Works..	9
Traffic Officers Thanked for Inaugural Assistance.....	9
Editorial Lauds Purcell's Retention.....	9
Employment Measure Signed by Governor Rolph.....	10
Hugh K. McKeivitt Named Attorney for Highway Commission.....	11
Captain Cato Heads State Highway Patrol.....	12
Colonel Garrison Asks Permit for Bay Bridge.....	12
The California System of Compiling Motor Vehicle Accident Statistics	13
<i>By Victor W. Killick, Statistician, Division of Motor Vehicles.</i>	
The Red Rock Canyon Highway.....	16
<i>By E. K. Guion, District Office Engineer.</i>	
Governor Rolph Outlines Policies Governing Public Works Program..	17
Courtesy Wins Commendation for Highway Patrol.....	20
Ratio Motor Vehicle Deaths to Gasoline Consumption.....	21
Census Bureau Reports Show Increased Danger in Auto Traffic.....	22
Progress Report of Activities, Division of Water Resources.....	26
Progress Report, Division of Motor Vehicles.....	29
Progress Report, Division of Architecture.....	29
Right of Way Agents Receive Appointments.....	29
Progress on State Highway System.....	30
Civilization Moulded by Highways.....	32
Commissary Clerk Saves Workman in Heroic Rescue.....	36
Motor Vehicle Appointments.....	36
Highway Bids and Awards.....	37
Water Applications and Permits.....	37
Dam Applications and Approvals.....	39



My Highway Creed

By JAMES ROLPH, JR., Governor of California

I AM INTENSELY interested in the highways of California, for it is over these highways that the life of the state is flowing.

Some think of highways in terms of traffic only; others in terms of engineering and materials; still others in terms of mileage and location. I do not minimize the importance of any of these factors. But I like to think of our highways in California as alive and vital. I like to consider them in terms of human values.

Over these highways that we have built and are building, the thoughts, the ideas, and the ideals of a whole people are flowing.

Over these highways the great traditions of our great state are flowing.

Over these highways the civilization of the past is merging into the civilization of the present, and the civilization of the present is flowing into that of the future.

The highways of California are also making every part of California the common possession of every other part.

The people of the North have the common right to enjoy with the people of the South the entrancing beaches, the spectacular deserts, the amazing cities and the wonderful communities that have made the Southland envied around the world.

And the people of the South have also the right to enjoy with the North the glory of the Redwoods, the majesty of the Sierras, and the lure and romance that have made our northern cities loved around the world.

By reason of our highways the coast belongs to the valley, and the valley to the coast.

Yosemite, Lassen, Tahoe, Shasta—all these and countless other attractions have been written into the lives of our people by reason of our highways.

Our highways are also doing an even greater work. They are acquainting our people with each other.

Lack of acquaintanceship begets sectionalism, and sectionalism begets suspicion.

Neighborliness on the other hand is the hand servant of trust, confidence and friendship.

Our highways are making the people of California neighborly, and in that they are dealing a deathblow to the spirit of selfish sectionalism.

The California state highway system has been well started. Our task is its early completion. And in doing this we should keep in mind a few simple, yet important standards to guide our endeavor and to measure our success.

The roads of California must be so built that they both are adequate for traffic needs, and that they also invite and encourage the free flow of travel from every part of the state to every other part.

The highways of California must be made as safe for travel as it is humanly possible so to do.

The highways of California, through beautification and adornment, must be made pleasant and attractive to travel.

If we build highways in this way, we can know that the lives of the people of California will be enriched many times over the cost of the highways to us.

And it is my firm determination so to build.

ROLPH INAUGURALISMS

The greatest business of the State is the business of Government.

Government should be conducted on lines of economy, but not on a basis of parsimony.

Let us face 1931 with heads up and shoulders back, looking forward with serene confidence in the destiny of our State.

I wish to imbue the people of California with my own faith in California.

All California needs right now to bring about recovery is a spirit of confidence and quick response to courageous leadership; the state of mind which says, "I will," instead of "I can not."

Build Together for California

By COLONEL WALTER E. GARRISON, Director of the Department of Public Works

THE Department of Public Works is so integrally connected with the development of California, and the growth and prosperity of its every part, that I feel a heavy sense of responsibility not only to the state but to every county and community in it, as I assume the duties of Director of the Department.

The reason for this will be apparent to all when it is remembered that the Department of Public Works deals directly with the construction, maintenance and operation of California's state highways, its water resources, and both the planning and building of its state institutions.

The completion of our highway system, the workmanlike construction of roads, and their proper location require the most careful thought, the exercise of sound business judgment, and absolute fairness to every section of California.

The growth of California depends in large measure upon the solution of the difficult water problems that confront the state.

One test of the humanity of California is the manner in which it cares for the wards of the state. Our state institutions must be planned and built to meet this test.

But the major phases of these problems have been stated. Each major problem involves a multitude of minor problems. Responsibility for their proper solution lies largely with the Department of Public Works.

If we look only at the problems, the task that confronts the Department would indeed be discouraging. Fortunately there is another side to the picture.

The history of California is written in terms of difficulties surmounted, of obstacles

overcome, of problems, apparently unsolvable, successfully solved.

The greatest legacy of the pioneer days to California is the genius of its people for accomplishing the seemingly impossible, and of achieving the seemingly unachievable.

This heritage still remains with our people. We largely pioneered the construction of improved highways in the nation. We have done much pioneering in our water development. The same ability of our people to solve highway and water problems in the past, will enable us to solve these problems in the future.

My own work is first to gather information and to collect, assemble and analyze facts. With these facts as a foundation, policies and programs for constructive action can then be formulated.

California is a large state. The highway problems of the whole

world are found in its mountains and deserts, in its valleys and along its coasts. The water problems of the world are also found here, with a few peculiarly our own thrown in for good measure.

The solution of these problems is too large a task for any one man. It is too large a task for any staff of experts, however skilled such staff may be. It requires the collective wisdom and the constructive thought of the people of the whole state.

It is this assistance that I want, and I know that Governor Rolph wants the same.

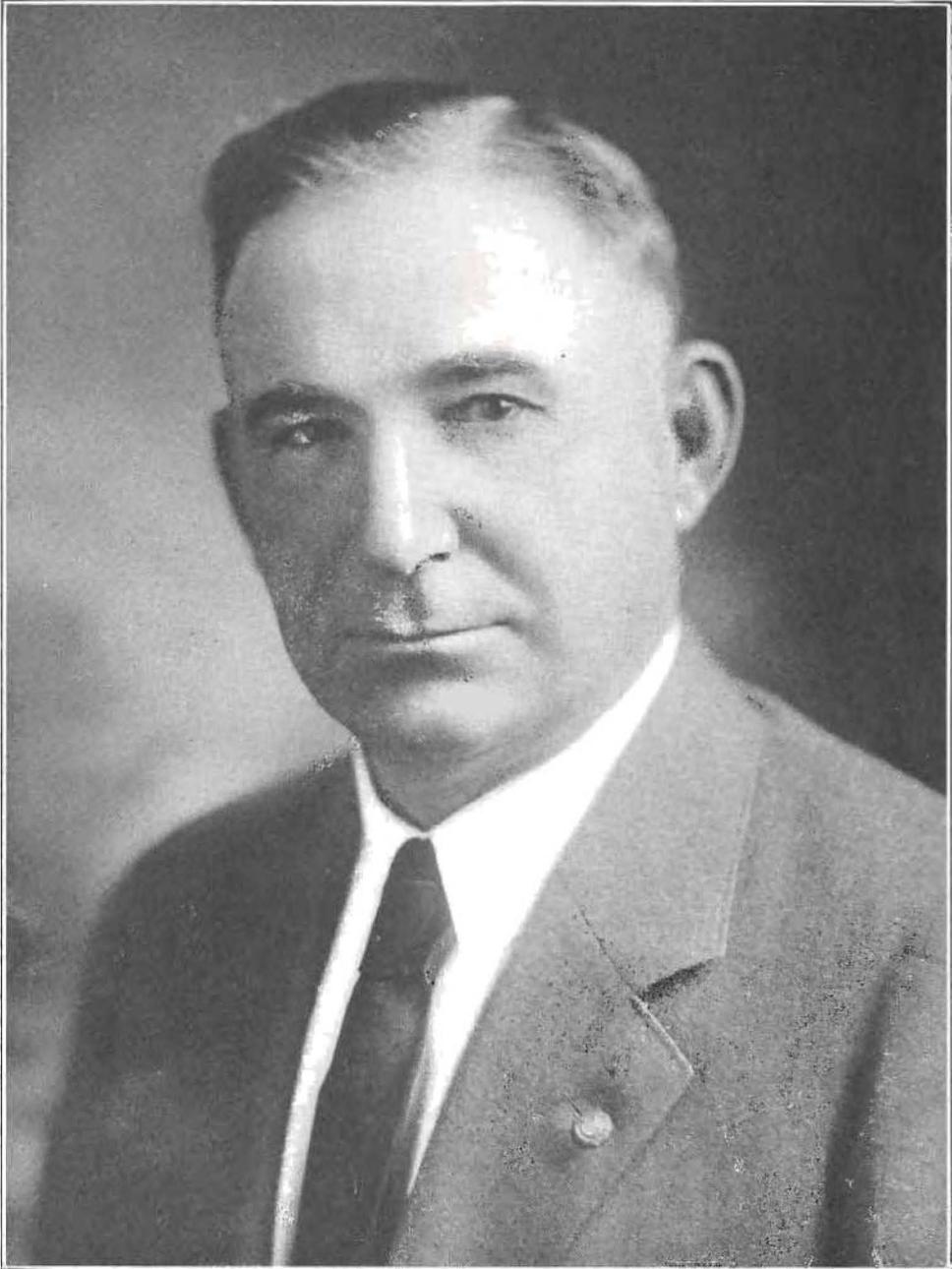
During the coming four years it is my hope that the Department of Public Works will be the clearing house for highway, water and institutional information from every community in California. I want also to be

COLONEL WALTER E. GARRISON

Appointed by Governor Rolph as Director of the Department of Public Works, brings to the department a long experience in matters with which the department is chiefly concerned. As one of the most extensive vineyardists in California, Colonel Garrison knows the water problems of this state from the point of view both of a practical irrigationist, and of one who has been active in the development of water for irrigation. In highway matters Colonel Garrison has been a prominent proponent of the cause of good roads since the earliest state highway days. He has been particularly active in the development of improved highways in Stanislaus and San Joaquin counties, where he has made his home since his birth.

Colonel Garrison has had extensive business experience both in growing grapes and in their marketing. His vineyards are in the Lodi district.

Colonel Garrison also brings to the administration a distinguished war record. He served with honor in the Philippines during the Spanish-American War. He was wounded twice in action in the World War, and his valor on the field of battle won for him an award from the French Government of the greatly coveted Croix de Guerre. He is now an active officer with the 181st Brigade, attached to the 91st Division.



COLONEL WALTER E. GARRISON

told the hopes and the ambitions of these communities for their own growth and development. By such cooperation in constructive endeavor, these four years can be made

outstanding in California as a period of sound and prosperous expansion, and as an era of comfort, contentment and well-being on the part of its people.

The Task Before The California Highway Commission

By EARL LEE KELLY, Chairman of the California Highway Commission.

THE state highways of California have contributed so largely to making California what it is today that it is, indeed, a great privilege to be assigned an active part in building and maintaining these roads.

I know that I speak for all the members of the California Highway Commission when I say that we are determined that the period for which Governor Rolph has entrusted us with responsibility in state highway matters shall be years of active development.

It is, of course, impossible for newly appointed members of a commission to speak in anything but general terms of either state highway policies or state highway plans. This becomes very apparent when it is realized that state highway activities on the one hand are as far reaching as California itself, and, on the other hand are so detailed that they cover by minute specifications and order every foot of highway in the state system.

There are some general features of the work, however, that have impressed themselves on me.

There is a need for a balanced development of our highway program. The roads in the rural sections of the state must be developed both to take care of their own traffic needs, and also to provide transportation facilities in and out of the metropolitan centers. Governor Rolph expressed this thought in his very able inaugural address.

California is rapidly becoming the playground for the nation and the development of recreational highways is, therefore, a matter in which the whole state has a very direct financial and social interest. Accordingly, the measure of support given these roads cannot be judged by census figures of population living along them, but must be determined by the recreational service to the whole state that their improvement will make possible.

Commercial highways in California must be both located and designed to enable both present traffic to be served and future traffic to be cared for without undue and unnecessary cost in expansion of highway expenditures.

We must be ever watchful that the revenues of the California highway system be protected against diversion to other than highway uses. Fairness to motorists, who are paying the highway bill, requires this. Fair-



Earl Lee Kelly

ness to the highway system makes the same demand. Unless these revenues are so protected, the completion of our state system will be delayed for many years to the consequent injury of the whole state.

In a period of unemployment such as we are having at the present time, it is the duty of those in charge of public works through an expansion of their program, to point out the path to private industry and to lead the way to a larger volume of employment, with its resultant relief of both public and personal distress.

These are some of the tasks to which the California Highway Commission has committed itself.

I desire to say that our every effort will be exerted to reflect credit upon our new Governor and to assist him in making the next four years outstanding in the history of California—an era of friendly, sound and economical businesslike administration.

(Continued on page 5.)

The New State Highway Commission

Chairman of Highway Board Well Versed In Road Matters

Earl Lee Kelly, chairman of the California Highway Commission, lives in Redding, where he is president and general manager of the Shasta County Title Company. He spent his boyhood days in Humboldt County, graduating from the Eureka High School. He is a graduate of the law department of the University of California with the class of 1915.

After returning from service in the World War, Mr. Kelly engaged in the title and insurance business in Redding, making an outstanding success of this business.

Mr. Kelly has served Redding both on the City Council and as Mayor of the city. He has also been prominent in state political affairs, and is an active member of the Republican State Central Committee.

During his life-long residence in Northern California, Mr. Kelly has become exceptionally well versed in state highway problems and policies, especially as they affect the northwestern coastal counties and the valley and mountain counties of northeastern California. He brings to these problems a seasoned and successful business judgment, gained both in the conduct of his own business, and in the course of his official service as Mayor and City Councilman of Redding.

THE TASK BEFORE THE CALIFORNIA HIGHWAY COMMISSION

(Continued from page 4.)

Therefore, on behalf of the California Highway Commission, I ask that cooperation in state highway matters so aptly described by Governor Rolph in his inaugural address as

"a disposition among all of our people to bear with one another in the differences which naturally exist among us in order that we may all cooperate in the many matters in which we are or should be in full accord. If we take counsel among ourselves in a spirit of true charity we are certain to be an harmonious and happy people."

Banker: I suppose that is the hired man."

Farmer: "No, that's the fourth Vice President in charge of Cows."

Road Interests of Central State are In Expert Hands

Harry A. Hopkins, selected by Governor Rolph as a member of the California Highway Commission, has long been a prominent figure in the development of the San Joaquin Valley.



Harry A. Hopkins

His home for the past twenty-seven years has been in Kern County, and for twenty-one years in Taft. Mr. Hopkins served as the first postmaster of Taft, he naming the city after President Taft. He served this city as its mayor from 1912 to 1914, and as councilman for eight years, and since retiring from public office to private business as manager of the Taft Ice Company, he has worked unceasingly in public affairs. His interest in these matters has included not only Taft and

Kern County, but the state as a whole, and has covered a wide range from civic promotion and betterment activities to service in patriotic organizations, particularly the Red Cross.

Mr. Hopkins brings to the new work to which he has been appointed a successful experience both in private and public business affairs. He also brings an exceptionally intimate knowledge of the highway needs both of the San Joaquin Valley and the central portion of the state generally.

Timothy A. Reardon Is Heir to Pioneer Qualities of Parents

Few men in California have had greater experience in the conduct of public work than Timothy A. Reardon, appointed by Governor Rolph as a member of the California Highway Commission from San Francisco.

Mr. Reardon was born of pioneer parents, his father coming to California in 1850 and his mother in 1852. The qualities of unflinching courage, shrewd intelligence and unbounding energy, characteristic of the pioneers, were the invaluable legacy that these pioneer parents left to their children. Beginning his life as a mechanic apprentice, these qualities enabled Mr. Reardon to fight his way to the presidency of the powerful and important Board of Public Works of San Francisco. These same qualities lead Governor Rolph to name Mr. Reardon as a member of the California Highway Commission.

As president of the Board of Public Works, and appointed to that position when Governor Rolph was first selected Mayor of San Francisco, Mr. Reardon has been in active charge under Mr. Rolph of the rebuilding of San Francisco. Under his administration as President of the Board of Public Works, over \$411,000,000 has been expended. The operations of the Board of Public Works, which include operating as well as construction activities, involve annual expenditures approximating \$30,000,000.

Before his appointment to the presidency of the Board of Public Works of San Francisco, Mr. Reardon served that city as Superintendent of Public Works. It was the service performed in that capacity that led to his promotion to the presidency of the board having public works in charge.

Mr. Reardon's appointment to the California Highway Commission makes the vast



Timothy A. Reardon

fund of knowledge and experience he has gained in over twenty years of active control of San Francisco's building and operating program available to the whole State of California. This appointment came as a complete surprise to him. He was in Sacramento congratulating Governor Rolph upon the latter's active assumption of the duties of chief executive. Mr. Reardon was about to leave for home when the appointment was made. As he stepped up to shake hands with Mr. Rolph, the Governor placed the commission in his hands.

New Commissioner Has Had Big Part in Building Southland

FRANK A. Tetley of Riverside, appointed by Governor Rolph to the California Highway Commission, is outstanding in the development of southern California. Born in Moscow, Russia, of English parentage, he came to the United States when three years of age. He celebrated his coming to majority by immediately moving to California, locating in Riverside.

In Riverside Mr. Tetley found his first employment with Frank A. Miller of the Mission



Frank A. Tetley

Inn. Later he entered the real estate and insurance business.

Believing in the California citrus industry, Mr. Tetley started in 1900 in the citrus nursery business. He has continued in this business for over 30 years. During this time he has produced and sold over 1,000,000 trees, and has improved and reclaimed over 1250 acres of land by installing wells and pumping plants.

Mr. Tetley has been in the banking business for thirty years and is at present a director in the Citizens National Trust & Savings Bank of Riverside, vice president of the Security Savings Bank of Riverside and a director in the Citizens Bank of Arlington, California. He served for several years on the Board of Public Utilities of Riverside.

"Lapland is the most thinly populated country in the world," says a contemporary. It doesn't say how many Lapps there are to the mile.—*The Passing Show*.

Single Gent: "What's the best month to get married in?"

Married Person: "Oetemburary."

Single Gent: "Why, there's no such month."

Married Person: "Just so."

Philip A. Stanton has Long and Distinguished Record of Achievement

Philip A. Stanton of Anaheim, appointed by Governor Rolph as a member of the California Highway Commission, has won, through public service and personal achievement, the distinguished honor of a place in "Who's Who in America." Born in Ohio, Mr. Stanton came to California in 1887, then a youth of nineteen years. Three towns in southern California, Huntington Beach, Seal Beach and Stanton, were founded through his vision and constructive genius.

Mr. Stanton is president of four important water and land companies. In addition to



Philip A. Stanton

this he qualifies as an 'honest to God' farmer, as the greater part of his time is now spent on and in the active management of his 250-acre ranch at Stanton, which is largely planted to oranges and walnuts.

(Continued on page 12.)

State Highway Budget For 1931-1933 Biennium Presented to State Legislature

THE biennial state highway budget recommending expenditures of \$63,322,500 upon the state highway system for the ensuing two fiscal years was presented to the State Legislature on Monday, January 12th, by Governor Rolph.

The budget covers contemplated expenditures for all state highway purposes including construction, reconstruction, maintenance, purchase of rights of way, engineering and administrative costs. The distribution of the money between northern and southern counties, and between primary and secondary highways is in accordance with the provisions of the Breed Bill.

While the budget is for the fiscal years of July 1, 1931, to June 30, 1933, if previous rulings are followed, the funds provided in the budget will be available for expenditure upon adoption by the Legislature and approval by the Governor. This will enable state highway work to proceed without interruption, a course greatly desired by Governor Rolph and Colonel Garrison, director of the Department of Public Works.

Construction and reconstruction projects included in the budget, as submitted to the Legislature by Governor Rolph are as follows:

REDWOOD HIGHWAY

(San Francisco to Oregon Line Near Monumental)

Grading, structures, 17.3 miles, Cloverdale to Hopland (Mendocino and Sonoma counties), \$900,000. Beginning of construction on new line along the Russian River between Cloverdale and Hopland which will eliminate the present steep and crooked existing road. This section was never undertaken before through fear of slide conditions. The design of the road to be built there provides for these conditions, shortens the distance over $1\frac{1}{2}$ miles, substitutes a light water grade for a long mileage of steep maximum grades.

Grading, structures, armor rock surfacing, 1.4 miles, Little Dam Creek to Leggett (Mendocino County), \$85,000.

Cedar Creek and Dann Creek (Mendocino County), 2 bridges, concrete and steel, \$284,000.

Crescent City to Elk Valley (Del Norte County), 5.3 miles, grading, structures, oil rock surfacing, \$249,000. This completes the present Redwood Highway gap in Del Norte County and locates the road via Crescent City, settling a long existing controversy.

Dyerville bridge and approaches (Humboldt County), \$196,400.

Bridge and approaches over east branch of Eel River at Ben Bow (Humboldt County), \$111,000.

Grading and trestle approaches, Robinson Ferry bridge (Humboldt County), \$51,400.

Slope protection, Hiouchi Bridge to north boundary of Del Norte County, \$50,000.

Grading, structures and armor rock surface, 5.5 miles, Pepperwood School to Farm House Inn (Mendocino County), \$561,000. This provides for the reconstruction of the present narrow, steep and tortuous Rattlesnake Grade in Mendocino County.

Grading and macadam shoulders 11.3 miles, South Scotia bridge to Fortuna (Humboldt County), \$135,600. The present 15-foot pavement will be widened and made safer for the increased traffic using this section of the road.

Grading and oil surfacing, Arnold to Pepperwood School, portions (Mendocino County), \$85,000.

Oil surfacing, Loleta to 2 miles north of Beatrice, 5.3 miles (Humboldt County), \$60,000.

PACIFIC HIGHWAY

(Section from Red Bluff to Oregon Line)

Bridge at Clear Creek (Shasta County), \$57,800.

Bridge at Cottonwood Creek (Siskiyou County), \$18,500.

Oiling surface, 7 miles, 1.3 miles north of Yreka to Klamath River (Siskiyou County), \$22,400.

Grading, oil surfacing, Cottonwood Creek bridge, approaches (Siskiyou County), \$27,600.

PACIFIC HIGHWAY

(East Side—Sacramento to Tehama Junction via Marysville)

Grading and shoulders, 6.3 miles, Shasta Union School to 6 miles north (Butte County), \$28,350.

Grading and pavement, 8.4 miles, Lincoln to Sheridan and Wheatland to Dry Creek (Placer and Yuba counties), \$63,000.

Bridge at Coon Creek (Placer County), \$27,500.

PACIFIC HIGHWAY

(West Side—Tehama Junction to Benicia)

Grading, structures, paving 0.5 of a mile in Willows (Glenn County), \$25,000.

Oil rock surfacing, 8.9 miles, Williams to Maxwell (Colusa County), \$100,000.

Grading, gravel base and small structures, 4 miles, Williams to 4 miles south (Colusa County), \$80,000.

All three of these projects constitute the progressive improvement of the West Side Highway.

GOLDEN STATE HIGHWAY

(Valley Route—Sacramento to Los Angeles)

Merced River Bridge and approaches (Merced County), \$215,000.

Berenda Slough Bridge (Madera County), \$38,000.

Grading structures and pavement, 0.7 of a mile, Madera city limits northerly, \$40,500.

Bridge over Fresno River (Madera County), \$60,000.

(Continued on page 33.)

James I. Herz, Newly Named Deputy Director Knows His California

James I. Herz, newly appointed Deputy Director of the Department of Public Works, brings to the work a background of experience in administrative and financial affairs and a knowledge of California that will prove



James I. Herz

of great value to the department. He was born in San Francisco, has lived all his life in California, and has at one time or another visited every county in the state. Accordingly he knows his California.

His administrative experience was gained as a member of the San Francisco Board of Supervisors. As deputy director he will have largely to do with the finance of the department. To this he brings a knowledge of financing methods gained in the stock and bond business, and supplemented by legal training.

Mr. Herz is thirty-five years old and is a graduate of the University of California and of Hastings College of the Law. He is a veteran of the World War, and is president of

TRAFFIC OFFICERS ARE GIVEN PRAISE FOR INAUGURAL ASSISTANCE

CITY OF SACRAMENTO
STATE OF CALIFORNIA

January 8, 1931

Motor Vehicle Department,
Sacramento, California.
Gentlemen:

I desire to thank you for your cooperation during the Rolph Inaugural in Sacramento on January 6 and 7.

Please convey to the men who were detailed to assist this Department our sincere thanks. Their work was well done, and many favorable comments were received.

It is only through cooperation such as we received that big affairs of this nature can be properly handled and in closing I wish to again thank you for your assistance.

Very truly yours,
(Signed) W. M. Hallanan,
Chief of Police.

Editorial Lauds Purcell's Retention as Highway Engineer

The fact that C. H. Purcell will remain as State Highway Engineer has been the subject of many congratulatory editorials in the press throughout the state.

The following excerpt from the San Francisco Chronicle, published prior to the inauguration of Governor Rolph, indicates the tenor of many of these editorials.

Mayor Rolph is to be congratulated on his statement that as Governor he will reappoint State Engineer Purcell. This official has given excellent service in the many and highly technical duties of the place, particularly in connection with the San Francisco Bay bridge project. His value to the state has been vastly enhanced by his intimate experience with the fine points of that very delicate matter. If for no other reason than his value to the bay bridge project it would be nothing short of a calamity for the state to lose Engineer Purcell's services at this critical juncture.

State-wide realization of Mr. Purcell's peculiar fitness for the problems at hand brought the importance of retaining him to Mr. Rolph's attention. The Mayor was quick to see the merit of the case and to declare his intentions.

the 91st Division Association and past vice commander of the American Legion.

In addition to electing him a member of the Board of Supervisors, San Francisco has further honored Mr. Herz by selecting him as a member of the War Memorial trustees.

Employment Measures Signed



Governor Rolph signs building employment bill; seated, left to right, Edgar C. Levey, Speaker of the Assembly; Arthur H. Breed, President pro tem of the Senate; Lieutenant Governor Frank C. Merriam; Governor James Rolph, Jr. Standing, left to right, James I. Herz, Deputy Director of the Department of Public Works; Dr. J. M. Toner, Director of the Department of Institutions; Colonel Carlos Huntington, Director of the Department of Professional and Vocational Standards; Assemblyman Robert L. Patterson; Assemblyman Harry F. Sewell, Harold E. Smith, Superintendent of Accounts, Department of Finance; State Architect George E. McDougall, Colonel Walter E. Garrison, Director of the Department of Public Works; C. H. Purcell, State Highway Engineer; Rolland A. Vandegrift, Director of the Department of Finance.

A total of \$10,000,000 in state institution and state highway construction will be under way in California within the next ninety days, Colonel Walter E. Garrison, director of the Department of Public Works, has announced.

Colonel Garrison's statement was made as Governor Rolph signed the bill appropriating \$5,109,600 for state institutional construction. The director lauded the action of the chief executive in signing this bill as an emergency measure. He assured Governor Rolph that the money thus provided would find its way into the hands of labor and trade under orders of full speed ahead.

RED TAPE SLASHED

A new record is being established in placing this program under construction, Colonel Garrison further stated. Red tape has been

ruthlessly slashed in order that the work provided through Governor Rolph's signature to the appropriation bill may be made immediately available to the people of California.

Instancing the manner in which this program is being speeded up, the director stated that the suggestion of Governor Rolph, advertisements for bids on some projects included in the bill signed today by the Governor, had been started even before the Legislature had passed the measure. In this way fully thirty days had been gained in starting actual construction on the projects thus advertised. To speed up the work of preparing plans and specifications for other projects included in the bill signed by Governor Rolph, so that they will be available for contract within six months, Colonel Garrison announced that

architects other than those in the Division of Architecture will be employed.

DISTRIBUTION OF WORK

Included in the \$10,000,000 program scheduled to be under way within ninety days, are \$3,500,000 in building projects for state institutions, and \$6,500,000 in highway projects. The total of \$3,500,000 for state institution projects is in addition to \$988,000 in projects at these institutions, work upon which was started during the present month.

Colonel Garrison estimates that the work at state institutions will provide employment for 900 men during a period of thirteen months. Its wide distribution over the state adds to its value. The highway construction will give additional employment to 2500 men.

"EMPLOYMENT PREPAREDNESS"

"I have been instructed by Governor Rolph to get the state building program under way without a day's unnecessary delay," said Colonel Garrison today. "This is in accordance with the Governor's policy of providing the largest possible amount of public work at this time as a means of relieving unemployment and bettering business conditions. To accomplish this we have been forced to cut red tape and forget precedents. We are inaugurating a policy of 'employment preparedness,' which we believe will relieve unemployment to a very measurable extent, and point out a path for private business to follow. We intend to increase the amount of public work in the succeeding three-month period and instructions to this effect have been given both to the Division of Highways and the Division of Architecture of the State Department of Public Works."

STATEMENT BY GOVERNOR ROLPH

In signing the bill, Governor Rolph stated that the action of the Legislature in making possible the beginning of his building program constitutes a new precedent in appropriation measures for construction at the various institutions, and speeds up the building program at least six or eight months in advance of that which would have been possible had the appropriations taken their regular course in the general appropriation bills.

"Waiter, this pork chop has a piece of steel in it."
"Yes, sir, it came from a razor-back hog."

"I think there is just one thing which keeps you from being a bare-faced liar."

"What's that?"

"Your whiskers."

Hugh K. McKevitt Is Named Attorney for Highway Commission

At the first session of the California Highway Commission, Hugh K. McKevitt, San Francisco attorney, was selected by the commission as its attorney, vice Harry A. Encell, whose resignation was presented to the commission and accepted by that body.



Hugh K. McKevitt

Mr. McKevitt has been a prominent member of the California bar for many years, and has been closely associated with Governor Rolph in many matters affecting the welfare and upbuilding of San Francisco. Mr. McKevitt has been particularly active in civil service matters, and under appointment by Governor Rolph, then mayor of San Francisco, has served with distinction as a member of the civil service board of that city.

NEW YORK—This state plans for a width of more than 40 feet on all highways by 1940, according to Superintendent of Public Works, Col. Frederick Stuart Greene. The Department of Public Works has adopted such an ultimate road-width map, based upon a traffic survey made in August, 1929.

Captain Cato Heads State Highway Patrol; Outlines Policies



Captain E. Raymond Cato

E. Raymond Cato, superintendent of the California Highway Patrol, succeeding Eugene Biscailuz, has had a long and successful experience in the Los Angeles Police Department. Mr. Cato joined that department in 1910 and by the merit of his service rose to the important position of captain of detectives.

In assuming the office of superintendent of the California Highway Patrol, Captain Cato said:

"I intend seeking for the patrol the full cooperation of police departments, sheriff's offices and law enforcement agencies throughout the state. I want my men to continue the policy of courtesy to motorists and to treat each case on its own merits.

"I aim to make the highways safe by keeping accidents at a minimum through a relentless drive against reckless and intoxicated drivers.

Colonel Garrison Asks U. S. Permit for S. F.-Oakland Bridge

The United States Government has been asked officially to grant a permit to the State of California for the construction of the \$72,000,000 San Francisco-Alameda County bay bridge along the Rincon Hill-Yerba Buena-Alameda mole route.

A request for the permit was sent to the War Department on January 16th by Colonel Walter E. Garrison, director of the State Department of Public Works.

Colonel Garrison acted as a member of and for the California Toll Bridge Authority, consisting of Governor Rolph, Lieutenant Governor Merriam, Highway Engineer Purcell and director of Finance Vandegift.

Simultaneously with the request for the War Department permit came the presentation of a bill in congress by Congresswoman Kahn asking for a permit from that body for the construction of the bridge.

The toll bridge authority, created by the 1929 Legislature to handle the toll bridge problems of the state, held a hurried early morning meeting in Governor Rolph's office and decided to make application for the War Department permit at once so that hearings could be held by the board of army engineers to be appointed from Washington, as soon as the thirty-day period of advertising necessary before the meeting can be called, has elapsed.

PHILIP A. STANTON HAS LONG AND DISTINGUISHED RECORD OF ACHIEVEMENT

(Continued from page 7.)

Mr. Stanton's ability has won for himself a distinguished place in California's political life. He was a member of the state Assembly from 1903 to 1909, serving both as chairman of the Ways and Means Committee and as speaker of the Assembly. During this period much notable legislation was passed including the legislation abolishing race-track gambling and the direct primary law. From 1912 to 1916 he was one of California's representatives in the Republican National Committee. He was also a candidate for the governorship on the Republican primary election of 1910, his candidacy receiving widespread support in all parts of California.

The California System of Compiling Motor Vehicle Accident Statistics

By VICTOR W. KILLICK, Statistician, Division of Motor Vehicles and California Highway Patrol

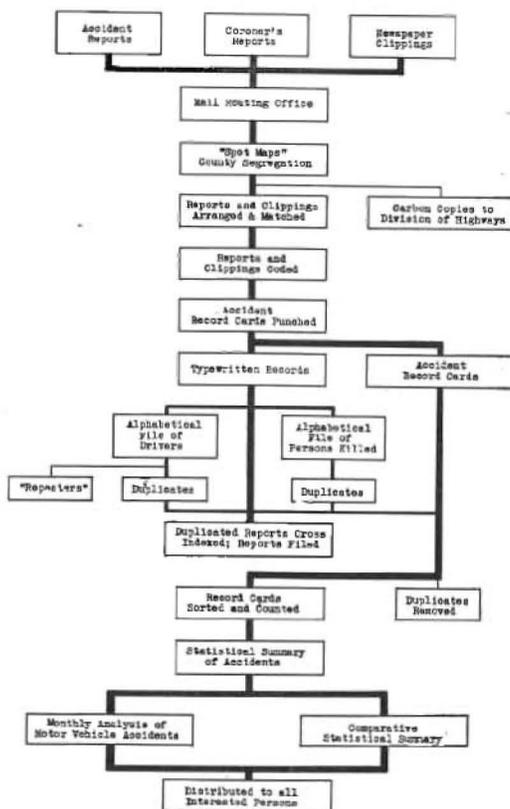
DURING the year 1930 the Division of Motor Vehicles of California introduced a new, complete and practically serviceable statistical system for studying motor vehicle accidents. This improved system has attracted so much attention throughout the United States and in Canada and England that it has become a burden to the statistical bureau adequately to describe the system in responding to hundreds of inquiries. The present purpose is to completely describe the system in a form which can be promulgated readily.

It is a source of gratification, not only to the statistical bureau, but to the heads of the Division of Motor Vehicles, that six other states in the Union are either reorganizing their motor vehicle accident statistical work to conform with the California system or are applying essential phases of it. A marked interest has also been taken by various safety organizations, city and county departments, auto clubs, insurance companies and the public schools.

The outstanding feature of the new California system is its usefulness. To many persons statistics mean only so many figures. As difficult and complex as it is to secure good, consistent and reliable data on traffic accidents, the matter of getting the full use of such statistics in a practical way appears to have been even a greater problem with the states and various organizations. It really requires technically trained persons to fully comprehend the meaning and the limitation of statistical data. Gross misinterpretation, costly and sometimes fatal experiments occur when the use of statistics is attempted by others.

BUREAU OF RESEARCH AND STATISTICS CREATED

In December, 1929, there was created a Bureau of Research, Statistics and Traffic Safety as a subdivision of the California Highway Patrol. Among the functions of this bureau were the gathering of traffic accident statistics throughout the state as required by Section 142 of the California Vehicle Act, together with the application of direct research in addition. The gathering



Routing Diagram of Accident Reports

of the statistics is, of course, fundamental but the application of research puts the statistics to use. These two functions combined form the back-bone of the California system.

The next important step in the organization of the system was the securing of well-trained, thoroughly experienced workers.

As at present constituted, the bureau is subdivided into four sections as follows:

1. Accident statistics
2. Motor vehicle driver statistics
3. Internal administrative statistics
4. Research

No discussion will be made in this article of the administrative statistical section which functions independently of the accident statistical section and is not directly related thereto.

The accident statistical section is under the direct management of an especially trained assistant selected chiefly for his thoroughness and constant vigilance. Securing reliable statistics from numerous sources in a large state like California requires perpetual vigilance. A good system once inaugurated will run automatically. Alert and virile management is constantly required to make it work.

GATHERING THE DATA

The gathering of motor vehicle accident statistics begins with the obtaining of an accident report of each individual accident. It is required by law that such a report be made by the driver of every motor vehicle involved in such an accident where either death or injury to human beings occurs. California does not require reports of accidents in which property damage only occurs. The law makes it optional with the driver to report motor vehicle accidents to either the Division of Motor Vehicles at Sacramento, its branch offices, the officers of the California Highway Patrol, the police departments, sheriffs or constables of local jurisdiction. Reports first received by city police departments and other agencies are in turn sent to the Division of Motor Vehicles at Sacramento monthly.

The first objective in the gathering of these reports is to get a report on absolutely every accident. This is not a simple matter to bring about. The mere fact that it is a legal requirement does in no way guarantee the Division of Motor Vehicles a report on each accident. Everywhere drivers are negligent in making reports and the division is obliged to consider this a question of law enforcement when cases of negligence are detected. The ability of the statistical bureau to detect such negligence, however, is naturally limited, but we have installed a scheme, now functioning more or less automatically, which enables us to get reports on more than 99 per cent of all accidents.

THE ACCIDENT QUESTIONNAIRE

The first feature of this reporting system is the blank upon which a report is made. It would be very surprising to the layman to

realize how much bearing this apparently insignificant form has upon the reliability of the data received as well as upon the effect it has in securing a report in every instance.

Several years ago a very carefully prepared letter-size form was introduced calling for 249 statements concerning the accident. Experience after operating with this for many months clearly showed that it was physically impossible for people to answer the questions consistently in all instances and furthermore the size of the report form made it unhandy for officers to carry the blanks with them when on patrol duty. Such officers frequently made casual notes on a handy piece of paper which often became lost or which did not fully answer the required questions in the questionnaire. The inadequacy of the old report blank was the subject of study for a period of twelve months involving consultation with representatives of the State Railroad and Highways Commissions, the auto clubs and the Division of Motor Vehicles. The present report blank which is approximately half the size of the former blank and which reduces by 50 per cent the volume of questions asked, was the development of a series of conferences. Every individual question asked was carefully considered before being adopted. Our present accident report form has greatly facilitated obtaining consistent and reliable data. In its application for over a period of six months it has greatly advanced the statistical work. Copies of this blank form and all others used in the system will be mailed to any interested persons upon request.

The outstanding features of the revised accident report form include a more specific description of the location with the idea of making it possible to effect the correction or repair of road conditions contributing to an accident. Certain items of engineering interest have also been incorporated to aid in describing dangerous sections of the highways. Numerous items of general interest contained in the old report form, but upon which no basis for remedial action could be taken, were omitted. After a field survey,

(Continued on page 23.)

FORMS USED IN CALIFORNIA MOTOR VEHICLE ACCIDENT STATISTICAL SYSTEM

The illustrated samples are the report blank forms used in the California accident statistical system. On the right-hand side the first two top forms illustrate the front and reverse side of the general report blank. On the left-hand side is a coroner's monthly report of deaths. Two small cards—one the record of driver's accident and the other the death record are referred to in detail in the text. The balance of the illustrations show the tabulating card used in the mechanical tabulating machine, the comparative statistical summary and the general statistical summary. Copies of any or all of these forms will be mailed upon request to interested persons.

DEPARTMENT OF PUBLIC WORKS
STATE OF CALIFORNIA

County _____
City _____

Cameron's Monthly Report of Motor Vehicle Deaths
Present in Bureau 115, paragraph 117 of California Vehicle Act
which reads in part as follows:
"Every person holding the office of coroner in this state shall give the monthly report of each month ending in the middle of every month containing the precise record relating to the death of any person when any vehicle is involved in such accident."
NOTICE
All items of information must be given in detail in which an report is made. There must also be stated "before printing." Details relating to the cause of death in this report shall be so made as to be included in the monthly report in such manner as to be included in a separate vehicle accident report given quarterly for use relating to the vehicle involved in the accident and the date of death. Always give the date of the accident as well as the date of death.

Person Killed _____
Age _____ Sex _____
Date of Death _____
City _____
County _____

Person Killed _____
Age _____ Sex _____
Date of Death _____
City _____
County _____

Person Killed _____
Age _____ Sex _____
Date of Death _____
City _____
County _____

Person Killed _____
Age _____ Sex _____
Date of Death _____
City _____
County _____

STATE OF CALIFORNIA - DEPARTMENT OF PUBLIC WORKS
OFFICE OF MOTOR VEHICLE ACCIDENT REPORTING

Case No. _____
Date of accident _____
Time _____
Place _____

Driver A _____
Driver B _____

Witnesses _____

Character of accident _____

Remarks _____

Signature _____
Date _____

Board of Driver's Accidents

Name	Address	City	County	Coroner No.
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____

STATISTICAL SUMMARY - MOTOR VEHICLE ACCIDENTS

Category	1934	1935	1936	1937
PERSONS KILLED	2,285	2,241	2,241	2,241
PERSONS INJURED	10,000	10,000	10,000	10,000
VEHICLES INVOLVED	15,000	15,000	15,000	15,000

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The Red Rock Canyon Highway

By E. K. GUION, District Office Engineer

THE marvels of nature through the famous Red Rock Canyon are being, in part, rearranged by the handy-work of man, as a splendid new State Highway is being constructed by the George Herz Company, which will make this wonder-spot available to the ever increasing number of nature loving tourists.

Red Rock Canyon is situated in Kern County on the Midland Trail approximately 24 miles north of Mojave.

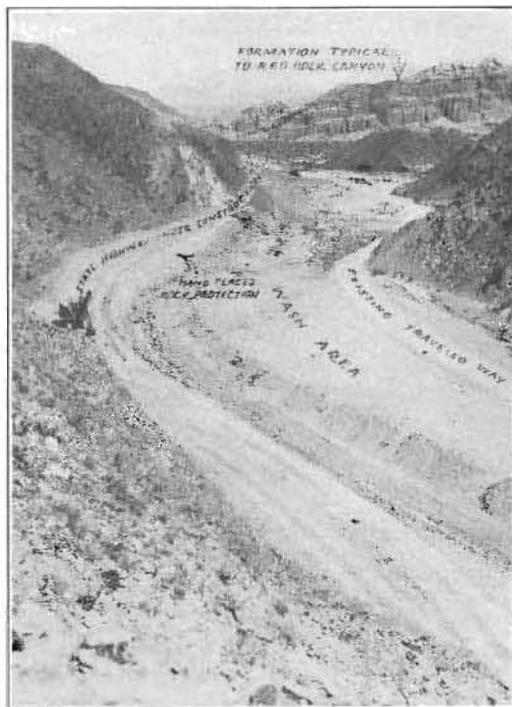
The State Highway traverses Red Rock Canyon for a distance of about 2.3 miles following the westerly wall.

To nature lovers the desert offers a certain unexplainable enchantment. The desert country traversed by the Midland Trail in reaching Red Rock Canyon is by no means an exception, as this stretch is dotted with Joshua trees and occasional cactus. The air is filled with the fragrance of the familiar sagebrush. The tourist travels northward from Mojave over the improved State Highway by long tangents and easy rolling grades to a spur from the Tehachapi range, through which ready access is given by Red Rock Canyon. This canyon was doubtless formed by a fault generations ago and accentuated by cloudburst run-off. The action, together with the winds, has laid bare a most unique strata formation.

Mother Nature has laid this strata in nearly horizontal formation, being supported by occasional columns and spires, colored most enchantingly in many shades and hues.

The bed of the canyon proper averages about 100 feet in width. Inasmuch as this area is frequented by cloudbursts of considerable proportion, a rather unique construction problem was presented. This was met by locating the State Highway some 15 feet above the floor of the canyon and setting the roadway well into the walls by what is commonly called "contour construction." The excavation material thus obtained was used to support a portion of the roadbed on embankment. This in turn called for special protection work in order that the material might not be lost by erosion.

The outer five feet of the embankment was constructed entirely of rock which was carried down below the bed of the wash about six feet into a trench, which was also given



Relocation of State Highway in Red Rock Canyon

a five foot width beyond the toe of the extended embankment. The rock was then carried out on a $1\frac{1}{2}$:1 slope to the bed of the creek, which in turn gives a supporting foundation of considerable proportion consisting entirely of rock.

The outer face of the rock on the embankment was all hand-placed and arranged to present a smooth face to the flow.

The picture above gives a general view of the canyon. On the right the existing traveled way may be observed, occupying a grade approximating that of the wash area which is shown in the view. Any flow immediately puts this whole road under water and out of service. On the left is shown the new State Highway now under construction. A close study will reveal the rock protection for the embankment. In the background of this view is a striking illustration of strata formation typical of the Canyon. The view, of course, does not do justice as the color is not apparent.

Governor Rolph Outlines Policies Governing Public Works Program

THE inaugural message of Governor Rolph dealt both forcefully and directly with activities of the state, the administration of which is vested in the Department of Public Works.

The following article comprises excerpts from the message dealing with these subjects, and setting forth in detail the views of Governor Rolph on these matters and the policies governing them he will initiate and support.

STATE HIGHWAY SYSTEM

The economic distribution of our products from farm, factory and mine to market, is a problem of general interest. The main arteries and laterals of our great highway system tap the places where our products are produced.

The increase in tourist travel through California is an example of the great service our highway system, as developed to the present date, has rendered. The motoring public has assumed the obligation of constructing and maintaining the state system of highways, and also of assisting our county systems with one-third of the total gas tax revenue and one-half of the motor vehicle fees. California's highway system, as now established, consists of a total of 6590 miles of which there are 4287 miles of primary roads and 2303 miles of secondary roads.

For the maintenance and expansion of our highway system, the state highways receive from the motor vehicle revenues, fuel tax, and federal aid an allotment of approximately thirty-one and a half millions a year, and the counties also receive from the motor vehicle revenues and fuel tax about one-half that amount per year. The state highway fund is expended under the terms of the Breed act. I will not occupy you now with a statement of details showing the allocation and application of that fund.

Federal aid which has been available by act of congress since 1921 is for projects on the federal aid system, only, the federal aid system being state highways selected by the federal government in 1921 as the federal aid system. This amounts to approximately four and a quarter million per year under the existing authorizations.

I believe that we should continue our program of building and improving the state highway system and that the development should be carried out on a balanced program, both in the sparsely settled mountain and desert areas as well as in the rich valley and urban regions. It is essential to the proper development of our state that a fair distribution of mileage commensurate with the funds for this purpose be made. The development of our system either north or south is a benefit to the entire state. I am in accord with the principles laid down by the last legislature in considering the addition of new highways to the state highway system, as this recognizes the lack of balance between the mileage of secondary roads in the south and in the north.

I expect to ask our highway authorities to cooperate in the construction of roads inside incorporated cities that are logically direct connections and a part of our state system to the extent possible with the funds available under existing law, without jeopardiz-

ing the carrying on of the state highway program. Necessarily, at the start, this class of work will be limited to points where the conditions are most acute with respect to passing traffic in and out of towns and cities, and where communities are least able to bear the burden. Where the highway system does damage to the smaller towns in passing through them, justice demands our aid. Such aid is compulsory in towns under populations of 2500 and optional above that.

The highway work should be expanded as rapidly as funds can be provided, in order that during this temporary period of unemployment the greatest number of our citizens can be put to constructive work as soon as possible. Approximately eighty-five per cent of each dollar expended on highways goes directly or indirectly to labor. It is important that the legislature proceed to make the funds available at the earliest possible date for carrying out the program of highway construction.

TRANSBAY BRIDGE

Ever since the earliest days, traffic between San Francisco and Oakland has been by ferries; at all times this has created a serious traffic problem. Industrial science and improved construction methods now afford us a solution of this traffic problem by building a bridge connecting the counties of San Francisco and Alameda.

The history of this bridge begins some ten years and more ago, when private capital sought franchises from the city and county of San Francisco, under the old Toll Bridge act, for permission to build a bridge between San Francisco and Alameda counties.

There was a rush of applicants for this permission and after years of hearings before the supervisors, the city appropriated a sum of money and appointed an engineering board consisting of the City Engineer of San Francisco, John Galloway, and Robert Ridgway, who in an exhaustive report found that it was feasible to build such a bridge.

They approved several tentative sites, numbering them in the order of their approval, but stated that they could not definitely approve any site owing to the lack of foundation data.

In 1928 it became apparent that the state should assume the obligation of building this tremendous undertaking, and to this end the legislature in the 1929 session passed the necessary legislation placing this projected bridge under state control.

The war department had continuously refused permission to build such a structure north of Hunter's Point, but during the early part of last year, President Hoover and Governor Young appointed a joint bridge commission consisting of navy, army and civilian

membership, and this commission in a signed report unanimously approved the feasibility of such a structure, conserving both the interest of navigation and national defense.

In 1930, the Hoover-Young bridge commission made its report to the President and the Governor. This report cleared the way for the actual construction of the bridge. Under the auspices of the state highway engineer and after exhaustive borings were made, plans and estimates for a double-deck bridge were submitted to the commission, accommodating motor vehicle traffic, and interurban cars. The estimated cost was seventy-five million dollars, which money was to be found by the sale of revenue bonds. The report showed that these bonds could be retired and interest paid on them by anticipated traffic, as shown by traffic surveys.

All toll bridges in the state should, I believe, be freed from tolls as soon as economically possible and be made a part of the highway system. The highway commission is charged with the determination of the location and routing of roads, and in my judgment should stand squarely behind this movement to insure the completion of this bridge, serving one-quarter of the state's population, resident to the San Francisco bay area.

This bridge will be the most stupendous undertaking of its kind in the world. Under proper financing and safe and economical construction, and under the able direction of the state authorities, in cooperation with the world's best engineers, it will prove a boon to the State of California, and fill a long felt want of the great metropolitan area of San Francisco bay.

The necessary additional legislative measures are now under way. There is pending a case before the Supreme Court to determine the validity of the bonds and bill to be presented to congress and to the state legislature in order to facilitate the early starting of the work, with the hope that it will commence before the close of this year.

It is extremely important, in my opinion, that these two great communities be afforded modern methods of communication with each other, and this at the earliest possible moment.

THE WATER PROBLEM

Only a brief reference to the water problems of California is possible in this message. I assure the legislature and the people, however, that I am not unmindful of those problems; the problems of flood control in the northern valleys and in the Santa Ana river system, of saline encroachment in the lower reaches of the Sacramento river, and of the drying-up of the lands in certain southern sections of the San Joaquin Valley. A coordinated solution of these problems has long and earnestly been sought. Surely, in California, where water is so precious, the state must devise a general unified plan for the conservation and use of its water against the increasing needs of its increasing population and the demands of the coming generations whose stewards we are. No complete or satisfactory solution has been found yet although the elaborate and expensive studies heretofore made will doubtless aid in the ultimate determination of a plan. The difficulties are mainly financial. Economically, the cures proposed thus far seem about as bad as the disease. We may not rob or wreck one section, industry, or group in order to sustain another. We must not spend more in salvaging lands than the lands will be worth when salvaged. We cannot impoverish the farmers of any section in

order to bring under cultivation lands whose yield will merely argument the existing over-production of farm products. As the Joint Committee of the senate and assembly said in its final report, submitted January 18, 1929 (p. 15) "development should not proceed more rapidly than economic needs of the state require." We must be sure we are right before we go ahead with any plan. Yet we should not permit any section, industry or group to languish and suffer unduly for lack of energetic action on the state's part. I stand ready as Governor to give the legislature and the distressed localities all the assistance in my power toward finding a practicable solution of these pressing problems. We must not approach these problems in a narrow or sectional spirit. While the benefits sought may primarily effect certain localities, the evils we seek to cure have been brought into being by causes that are not local. Every irrigationist along the upper stretches of the Sacramento, the Feather and the American rivers, has contributed to the slow salting of the distant delta by tidal trespass. We cannot heal these real woes by sympathy or fair words, however sincere. Distinctly, the duty of relieving the acute situation caused by the uneven distribution of our water resources and the growing demand on them is mainly the business of the state and not solely of the affected localities. The Hoover-Young commission has submitted a report. To give that report the serious consideration which it merits will be one of your duties and mine during the current session of the legislature.

Fortunately, definite progress has been accomplished toward the construction of the Colorado river dam and thereby toward relief of the great and populous coastal plain of Southern California from the menace of a water famine. All the forces of the state government will be constantly available to aid in smoothing out the obstructions that still lie in the way of the completion of the Boulder dam.

Nor must we forget that water is not the only natural resource of California calling for conservation. Our wealth of natural gas must not be wasted. The water will continue to flow so long as the snow and rains continue to fall, but natural gas once escaped cannot be recaptured and the supply is not inexhaustible and cannot be replenished. So, too, our forests, which, once destroyed, cannot be replaced for ages, present an acute problem. They must have adequate protection from destruction by fire through wise, preventive measures.

RECLAMATION AND FLOOD CONTROL

I have inherited from previous administrations a tremendous and pressing problem in the reclamation and flood control projects in which the State of California is interested. It would be impossible at this time to review in detail the many ramifying aspects which are presented and, therefore, I shall advert only to the principal policies which shall govern my administration regarding them. The importance of the subject is readily apparent when it is understood that the Sacramento and San Joaquin drainage district, a state agency, comprises 1,115,000 acres in the Sacramento and San Joaquin valleys, and that the California debris commission has estimated that the project completed will cost \$51,000,000.

The above estimate grew out of the commission's report of 1925, sometimes referred to as the "Grant Report," and sometimes as the "Revised Report," which was adopted by congress and approved by President Coolidge, February 28th, 1928. This report has also been adopted by the State of California,

and is the basis for the participation of the state government, and the landowners affected, with the federal government. It recommended that the annual appropriations from the federal government be increased from \$500,000 to \$1,000,000 per year, the limit set by the existing law, which recommendation was adopted by congress in the enactment of the Curry bill in 1929, under which the federal government appropriated \$1,000,000 as its yearly contribution, whereupon the State of California matched this amount by appropriating \$1,000,000 for each of the 81st and 82d fiscal years, the latter ending June 30, 1931.

The basic understanding behind these appropriations was that the costs of the great works of flood control and reclamation should be borne one-third by the government of the United States, one-third by the State of California, and one-third by the landowners living within the defined area. The program for the fiscal year ending June 30, 1932, so far as the federal government is concerned, already has been approved by the chief of engineers and is based upon the federal appropriation of \$1,000,000 for work during that fiscal year. The obligation of the State of California to make equal appropriations with the federal government has been many times definitely stated and publicly recognized, and in order that the State of California shall do its full part I have caused to be inserted in the budget of my administration for the 83d and 84th fiscal years an appropriation of \$2,000,000, and I have no hesitation in stating as a definite policy that the State of California during my tenure of office will continue to go forward in step and in alignment with the government of the United States toward the completion of the tremendous works of improvement contemplated by the report of the California debris commission.

There is another problem involved in these policies which appeals to me as being of even greater importance and concern. I refer to the pressing plight of the landowners and farmers whose holdings are situated not only within the boundaries of the Sacramento and San Joaquin drainage district but also within the confines of separate and distinct reclamation and irrigation districts superimposed as it were upon the land of the greater district.

The homes, the holdings, and the very existence of these landowners are imperiled by the appalling underlying reclamation and irrigation tax burdens upon their lands. It is now a matter of common occurrence that banks in many cases have refused originally to grant, or, in other cases, to renew, mortgages upon these country lands because of the staggering liens from reclamation and irrigation taxes which would be anterior to the ordinary land mortgage. In many cases the ruin of a life's work and the destruction and loss of all he possesses stare the landowner in the face.

The state should find some means of assisting these farmers and citizens. In the Sacramento and San Joaquin drainage district alone in November, 1930, as evidenced by assessments No. 2, No. 6 and No. 7, there was still outstanding against affected lands the large sum of nearly \$7,000,000 in underlying liens. The unfortunate part of the situation is that in addition to this huge sum the lands involved are in turn again situated in smaller districts, and the lands have again been saddled with large underlying liens imposed for the purpose of creating and completing the local problems of reclamation and irrigation.

As I said before, this phase of the reclamation tax problem appeals to me most strongly, and I shall do everything in my power during the coming years of my administration to lessen and alleviate it. I hope that with careful study and intensive analysis some

means will be found whereby the state itself can be of aid in refunding and refinancing the reclamation and irrigation liens and encumbrances. I pledge myself and my administration to use every means at our disposal not only to fulfill the obligations of this state in the completion of its great reclamation and drainage projects, but also to aid and assist by every means possible the landowners and agriculturists who are so vitally threatened.

STATE INSTITUTIONS

The greatest business of the state is the business of government, and it is the least understood. Government should be conducted on lines of economy, but not on a basis of parsimony.

Real economy consists in honest and reasonable expenditure of the people's money in return for general advancement of the public welfare. Any economy which denies to the state's unfortunates the comforts due to human beings is false economy.

As Governor I stand for an economical administration of the state's affairs. But I shall refuse to make a political record through starving the state institutions. I shall refuse to recommend inadequate appropriations for the relief of state institutions merely to gain the plaudits of those who do not understand the crying needs of the state. This state may well be proud of the great institutions which have been built for the shelter of the unfortunate and the care of the needy. Many of these institutions are in need of immediate repair, as well as extensions. Their facilities must keep pace with the growth of our population.

The poor, the stricken and the unfortunate shall have a first claim on the consideration of my administration. Every poor creature, bereft of reason, should have a bed in which to sleep, comfortable habitations in which to live, decent and sanitary surroundings and wholesome food. This is the very least that humanity has a right to demand.

I shall consider my administration a failure if, through parsimony or neglect, the poor state's unfortunates shall fail to receive the ordinary comforts of life. What means the wealth of the State if those who have faltered by the wayside of life do not receive the common charity due to all men?

Many of our state institutions are in need of enlargement to keep pace with the demands of public growth. There, should be no waste of funds, no needless expenditures, but there should be an adequate building program to tenderly care for all the state's unfortunates. Furthermore, some of our state buildings are approaching the point of decay. They should be promptly and immediately modernized in order to protect the lives of their unfortunate inmates. Fire in any of these institutions would be an appalling disaster. A record in tax economy would stand as a feeble answer to the appalling charge of neglecting the safety of the unfortunate wards within this and other buildings. Disaster such as has confronted the public institutions of other states would leave a blot upon our history that no record of false economy could make us forget.

Our state prisons present one of the great problems of modern society. Owing to the complexity of our laws, the enactment of innumerable statutes and other causes, our state prisons are becoming overcrowded. Penal institutions should not by overcrowding be made into houses of torture to break the spirits of men. While discipline and punishment are necessary to those who break the law, an opportunity should be afforded to all to reform and to rebuild their lives.

While I do not believe in nurturing or mollicodding criminals, I believe that vast numbers of men who have been led astray can, by proper effort, be reformed.

Our state prison system does not permit of the segregation of criminals. The petty offender is too frequently made the constant companion of the cut-throat and the gunman. An enlightened system of penology points to the classification of criminals where those of milder degree are not thrown in constant contact with the vicious and degraded type. Our overcrowded prisons are a breeding place for future crimes. Broken, dispirited men, merely plot against their fellows. Soured and embittered, they plot against society. Our state prisons should be so enlarged that they will give opportunity for segregation and for constant and wholesome employment for the inmates.

The state, at least, owes the duty to society of trying to lessen the crimes of the future. Discipline, rigid and even severe, must be imposed on those who break the law, but these violators of the laws of their country are men, within the breasts of whom there must be some spark of human good. Be that instinct toward good, small or great, we should encourage its development in order to lessen the prospects of future crime. Relief from crowded and intolerable conditions, even at the expense of building added prisons, should be looked to to solve this problem.

The institutions for the blind and for the feeble minded should have our especial care. I commend to the Legislature enactments which will give to the sightless unfortunates of the state the last possible need of encouragement and support. We, who have eyes to see, should, in return for our blessings, stint no effort to give to the blind every possible opportunity for education, wholesome surroundings and congenial occupations. I shall consider that my administration has some claim to remembrance if it shall make the cause of these poor but proud and dependent wards of the state, the special object of our care.

Little does it comfort us, though the public at large be prosperous and happy, if our less fortunate, broken, sightless or demented kindred are forgotten and neglected. The cry of human need is the first call that we must answer.

Courtesy Wins Commendation for Highway Patrol

Many letters are received by the Division of Motor Vehicles commending officers of the California Highway Patrol for courtesies extended to and assistance given motorists. The following letters are typical of scores of others received:

A. C. Powers of Sacramento thanks Officer Warren for assistance given in a wreck near Livermore in which one life was lost. The letter says:

"Officer Warren was on the scene a few moments after the distressful accident occurred, and I wish to attest the efficiency, skill and human kindness he displayed in handling the situation. I am sure that if the personnel of the Highway Patrol possesses the tact, good judgment and human understanding that

Officer Warren showed that we Californians may be proud of having the best Patrol to be found anywhere."

Mayor Herman Logan, Vancouver Barracks, Washington, writes to express appreciation of the kind and courteous treatment received from Officer Richard White, during an automobile accident close to Empire on the Redwood Highway, Monday, December 15, 1930.

Leland S. Weeks of Stockton writes of assistance received from Officer Thomas Sheldon and Donald Haldeman when his car skidded from the highway near Merced. The letter concludes:

"I am not eloquent enough to say what I would like to say about your California Highway Patrol. Without doubt all of your other officers are of the same caliber as the young men I have just mentioned. Motorists are beginning to look upon the Patrol as an agency of friendship and assistance, worthy of full cooperation. I am glad to subscribe to this opinion. The continuation of such a spirit of helpfulness on the part of your officers will rapidly make of the Patrol a service with a tradition.

L. F. Hoekley of Oakland thanks State Highway Patrolman Tony Rose, Alameda County, for assistance given when his car was stalled on the highway and he faced the probability of an all-night stay there.

Floyd Colbert of Sacramento thanks Captain Reynolds, Officer Essenhuth and other officers whose names were not obtained for aid given when his car was wrecked.

There are scores of letters from women motorists, expressing appreciation of aid given by patrol officers in changing tires, etc. Many other letters tell of courteous, but firm manners in which the officers have corrected autoists for some inadvertent infraction of motor vehicle rules.

Here are just a few excerpts from these letters:

"It is indeed a pleasure to travel the highways of California knowing that you have these guardians within a few miles all of the time to give you aid and assistance."

"Conduct and courtesy of this kind is commendable, and a credit to you and your department."

"I want your Bureau to know that your officers are adding kindly assistance beyond and above their duties."

"I shall always have a kindly feeling in my heart toward every man who wears the uniform of the California Highway Patrol."

"You certainly are to be complimented on your efficient and capable organization."

A slow-pay customer sent the following note to his grocer: Please send six dozen eggs; if good, will send check."

The grocer, however, was not doing any business on such risky terms, so he wrote back: "Send check; if good, will send six dozen eggs."

Ratio of Motor Vehicle Deaths to Gasoline Consumption Is Told

AT LEAST nineteen states of the Union have motor vehicle death rates based on gasoline consumption that are higher than California.

This was revealed today in a comparison of motor vehicle accidents of states prepared and released by the bureau or research, statistics and traffic safety of the Division of Motor Vehicles.

The rate for California is 1.81 deaths for every million gallons of gasoline consumed. Of the thirty-four states included in the bureau's study, California is fifteenth on the list. The bureau concludes that this puts California in a relatively favorable light inasmuch as the death rate is well below the general average of other states.

The study shows an average death rate of 1.99 for the thirty-four states included, North Dakota being lowest with 0.80 and West Virginia being highest with 2.62. The figures are all based on motor vehicle fatalities and gasoline consumption for 1929. California motorists consumed approximately 1,241,000,000 gallons of gas for the year and there were 2244 deaths.

The bureau regards death rates based on gasoline consumption as the fairest basis for comparing fatalities between states inasmuch as a motor vehicle is exposed to accident hazard in direct proportion to the number of miles it is driven.

"It follows that motor vehicle death rates created by computing a ratio of deaths to the consumption of gasoline in each of the states will be quite truly comparative, statistically speaking," the bureau's statement said.

"The gasoline consumption ratio reduces the motor vehicle deaths to a common denominator by which we may compare one state with another without incorporating errors of unknown quantities as may be done when comparisons are made on other bases. The vehicle that travels twice as far as another is naturally exposed to twice the hazard. This condition is equally true in all states."

The bureau points out further that the California vehicle is likely to be exposed to greater traffic hazard than cars driven in almost any other state since favorable weather

conditions here permit the all-year use of motor vehicles.

A table showing the death rates computed for the various states, based on gasoline consumption, follows:

MOTOR VEHICLE DEATH RATE BY STATES BASED ON GASOLINE CONSUMPTION FOR 1929

A	B	C	D	D/C	
	State	Gasoline consumed, million gallons 1929	Total motor vehicle deaths 1929	Rate per million gallons	
1	North Dakota	124.3	100	.80	
2	Iowa	335.6	403	1.20	
3	Kansas	360.9	439	1.22	
4	Nebraska (A)	187.3	235	1.31	
5	Oregon	163.6	237	1.45	
6	Oklahoma	316.3	478	1.51	
7	Rhode Island	77.8	128	1.52	
8	Dist. of Columbia	71.8	112	1.56	
9	Massachusetts	501.9	786	1.57	
10	Maine	96.0	151	1.57	
11	Montana	79.1	125	1.58	
12	Idaho	55.1	93	1.69	
13	Wisconsin	393.3	701	1.78	
14	Missouri	392.9	706	1.80	
15	California	1,240.9	2,244	1.81	
16	Delaware	32.5	61	1.88	
17	Arizona	72.8	140	1.92	
18	Michigan	785.2	1,541	1.96	
19	Arkansas	134.6	272	2.02	
20	New York (B)	1,000.4	2,044	2.04	
21	Wyoming	34.5	71	2.06	
22	New Mexico	45.7	94	2.06	
23	Florida	223.8	464	2.07	
24	Connecticut	202.3	436	2.16	
25	Illinois (C)	353.3	840	2.16	
26	Virginia	208.3	475	2.28	
27	North Carolina	285.1	614	2.32	
28	Ohio	953.5	2,278	2.39	
29	Kentucky	154.8	376	2.43	
30	Indiana	432.0	1,054	2.44	
31	Pennsylvania	900.4	2,198	2.44	
32	New Jersey	498.0	1,275	2.56	
33	Alabama	178.1	467	2.62	
34	West Virginia	126.5	332	2.62	
		Total for 34 states	11,033.9	21,970	1.99

(A)—Estimated for 10 months.
 (B)—Estimated for 8 months.
 (C)—Estimated for 5 months.

BIRTH STONES

- For laundresses, the soapstone;
- For architects, the cornerstone;
- For cooks, the puddingstone;
- For soldiers, the bloodstone;
- For politicians, the blarneystone;
- For borrowers, the touchstone;
- For policemen, the pavingstone;
- For stock brokers, the curbstone;
- For shoemakers, the cobblestone;
- For burglars, the keystone;
- For tourists, the Yellowstone;
- For beauties, the peachstone;
- For editors, the grindstone;
- For motorists, the milestone;
- For pedestrians, the tombstone.

—The Parade.

Census Bureau Reports Show Increased Danger in Auto Traffic

AN INCREASE of more than 3000 deaths from automobile accidents in the United States last year was indicated in a statement by the Bureau of the Census, Department of Commerce.

This estimate was based on actual figures from the death registration area, comprising more than nine-tenths of the country.

Four states of heavy population—New York, Pennsylvania, Ohio and California—recorded the greatest number of fatalities from this cause, although a state of small population—Nevada—had the highest death rate, it was stated.

The statement, made public by the Department of Commerce, follows in part:

"The Department of Commerce announces that in the death registration area in continental United States accidents in which automobiles were involved caused 29,531 deaths in 1929 with a death rate of 25.4 per 100,000 population. Of this total, collisions of automobiles with railroad trains and with street cars were responsible for 1958 and 507 deaths, respectively, which, if excluded, would leave 27,066 deaths with a death rate of 23.3.

The death registration area in 1929 was composed of 46 states, the District of Columbia, and nine registration cities in nonregistration states, and included 95.7 per cent of the total population of continental United States. Assuming that the same death rate would hold true for the remainder of the continental United States, the number of deaths in 1929 from accidents in which automobiles were involved is estimated at 30,858 for the whole country, as compared with an estimate of 27,618 for the year 1928. These figures indicate an increase of over 3000 deaths from this cause in a single year.

Comparing the states, the greatest number of deaths occurred in New York (3192), followed by Pennsylvania (2331), Ohio (2320), and California (2271). Nevada has the highest death rate per 100,000 population (51.1). Next in order are California (41.2), Arizona (36.2), Florida (35.5), Ohio (35.3), Indiana (34.1), and Wyoming (33.7).

It is gratifying to observe, however, that if collisions with railroad trains and street cars are excluded the following eight states, Delaware, Idaho, Illinois, Montana, Oregon, Rhode Island, Vermont, and Wisconsin, had fewer deaths than in the previous year.

The number of automobile deaths reported for each state and city includes those due to accidents outside of the limits of the city or state. If these and collisions with railroad trains and street cars are excluded, the cities would rank as follows: New York City, with 1328 deaths, Chicago (729), Los Angeles (390), Detroit (369), and Philadelphia (356). Other cities with over 100 deaths are Cleveland (294), St. Louis (152), Pittsburgh (150), Baltimore (143), Buffalo (136), Boston (133), Cincinnati (121), Newark (121), Indianapolis (107), San Francisco (107), and New Orleans (103). Cities with the highest death rates per 100,000 population, however, are Youngstown (42.4), Gary (40), Camden (37.6), Long Beach (36.7), Miami (35.7), Cleveland (32.9), Los Angeles (32.8), Canton (32.6), and Columbus (30.4). The lowest rate shown is that for New Bedford (7.9).

Chicago had the greatest number of deaths from collisions of automobiles with railroad trains (26) and with street cars (30). Next in order are Gary with 14 deaths from collisions of automobiles with railroad trains and Los Angeles with 19 deaths from collisions of automobiles with street cars.

An interesting phase of the report is the extent to which accidents outside of the city limits form of the total crude death rate. In the case of Albany, Camden, Fort Wayne, Grand Rapids, Hartford, Springfield, Mass., and Trenton, the number of these accidents play a very important part in the total number of deaths from automobile accidents."

The census figures distribute deaths from automobile accidents in California for 1929 as follows:

Total number of deaths.....	2271
Total number of deaths in collisions with railroad trains.....	117
Total number of deaths in collisions with street cars.....	54

THE CALIFORNIA SYSTEM OF COMPILING MOTOR VEHICLE ACCIDENT STATISTICS

(Continued from page 14.)

reduction of the size of the report to $8\frac{1}{2} \times 5\frac{1}{2}$ " was determined to be highly desirable due to the ease with which it can be carried in the saddle bag of a motoreycle, or when once folded, in the inside coat pocket of a pedestrian officer. It is important that the report blank be carried to the scene of the accident if full information is to be obtained.

PROCESS OF COMPILING

After the accident reports come to the Division of Motor Vehicles at Sacramento they pass through a mill of scrutiny. At every point in the operation of this process certain information is abstracted from the reports which is at once put to work and also forms the basis of the statistical accounting. The accompanying diagram illustrates the routing of the reports through the statistical bureau and indicates the action which is taken at each step.

All of the accident reports fall into two major groupings: Those in which deaths occur and those in which injury only occurs.

Principal attention is given those reports in which a death occurs. In fact the bureau individually investigates every such case. It is required by law that coroners report all traffic deaths once a month to the division. These reports form an official and authentic record of the number of motor vehicle deaths. The coroners' reports furthermore serve as a basis to check, in part, the total amount of all accident reports.

A commercial newspaper clipping service of traffic accidents is used. The newspaper clippings are compared with the accident reports received from individuals as a check on the total number. If a coroner reports a death on which no accident report has been received, the bureau immediately investigates the reason for the non-receipt of the original report. The same process is employed when newspaper clippings reveal that accidents have occurred on which the department has not received a formal report. These investigations are conducted with the aid of the various captains of the California Highway Patrol.

THE ROUTING THROUGH BUREAU

In studying the accompanying diagram it will be noted that the reports issuing from the three sources of information consisting

of the accident reports, the coroner reports and newspaper clippings, come into the office through the mailing room. At this point all mail relating to the statistical bureau is segregated from the general mail of the Division of Motor Vehicles and sent to the bureau.

On arrival at the bureau the accident reports are received at the desk of a clerk whose duty it is to maintain spot maps by counties, a few of the largest cities, and for the state as a whole. On these maps pins are inserted for deaths and accidents according to geographical location. The purpose of the maps is to indicate the relative congestion of accidents so as to attract attention to any location in which a local hazard may exist otherwise unnoticed.

COORDINATION WITH HIGHWAY WORK

At this point also carbon copies of certain highway accidents are made and dispatched to the State Division of Highways so that division is made aware of those locations on the highways in which accidents are happening and re-occurring and in which it may be possible that constructional engineering features may in part be responsible.

The next step consists of matching the reports and newspaper clippings. At this point a clerk is engaged in noting and weeding out the duplicates and in noting the absence of reports in cases on which a newspaper clipping is received only. Reports for each county as a unit are arranged by date of occurrence. The newspaper clippings go through the same procedure. The clippings are attached to the report to which they refer. All clippings of accidents not reported by police and other agencies, etc., are mounted on blank report forms and placed in order by county and date. Duplicates found during this procedure are brought together and attached.

From this point the next step is to one of preparation for mechanical tabulating. It consists in numerically coding the items in the accident reports and clippings. This facilitates the work of a key punch operator who immediately thereafter receives the reports and punches on a machine a card for the accident according to the code as a permanent record.

The only information not coded is the age of the drivers and the age of the injured or killed. These ages are punched directly on the card as this has the advantage of permitting studies being made by any desired age groupings for either regular or special reports. The punching is performed with the aid of an automatic key punch machine, per-

forations being made at certain points on the card. Each original card in the California system represents one accident and one person killed or injured, giving all information pertaining to the accident. A duplicate card is made for each additional person injured or killed in which the accident information is repeated, but those items referring to the individual injured or killed are changed according to his or her age, sex, extent of injury, action and physical condition. Such duplicate cards are used only for the information they contain in reference to the individual.

The accident record cards are punched by county units according to the alphabetical arrangements of counties and numbered consecutively. This gives a natural sequence by which the original reports may be referred to by number without knowing the date or location of the accident. During the punching of these cards the "Coroner's monthly report of motor vehicle deaths" is used to verify the age, date of accident and death, etc., of each person killed.

SPOTTING THE BAD DRIVER

It will be noted on the diagram that the main routing line breaks immediately after the record cards of the accident are punched. The diagram indicates that typewritten records are set up on one hand and accident record cards are set up on the other hand. The typewritten records refer to the making of special card files relating to drivers of cars involved in accidents and for those killed. These two files are alphabetical. One is based on the names of the drivers involved in accidents, providing spaces for five accidents. It gives the accident number, date and county of occurrence, whether fatal or non-fatal. This will show how many times an individual driver may have been involved in accidents. This file is presided over by a clerk who is constantly searching for "repeaters." When a card is detected for a driver who has been involved in three or more accidents the name and record of this driver is immediately turned over to another bureau of the California Highway Patrol for the direct investigation and possible re-examination of such a driver with the view of revoking operator's license should that appear advisable. The alphabetical drivers' file serves the purpose of a cross index to the general file. It is one of the most valuable and important, practical features of the whole system. To emphasize the important features of this file the following points should be noted:

1. It indicates "repeaters" (persons having several accidents)
2. It eliminates the possibility of duplicate reports occurring in the same month or any two or more months.
3. It provides a means of determining whether or not a particular accident has been reported.
4. It provides the quickest and most complete accident record of any driver under investigation.
5. It serves as an auxiliary function in aiding locating or tracing "missing persons."

At the time the "Record of Driver's Accident" cards are typed, another card is also made. It is an alphabetical file of persons killed. This file was established for the following reasons and has proven of great value:

1. Eliminates the possibility of duplicating deaths. (The same individual has been reported killed two consecutive months by the same coroner).
2. Provides a means of locating reports of fatal accidents when the driver's name is unknown. (Example—"hit and run" cases).
3. Provides a means of determining whether a "missing person" (or others) was killed in a motor vehicle accident.

It further serves as a cross-index to the general filing system.

TABULATING

After all the typewritten records are prepared as above, duplicates removed and destroyed, the accident record cards are ready to be sorted and counted. They are then passed into the tabulating room where they are run through a mechanical tabulating device and automatically sorted and counted.

The mechanical counting-sorter is used for this purpose and the totals obtained in each item are written in the space provided on the statistical summary sheet or office record. In the process of this operation another search for duplicates is made and if an occasional one is found it is weeded out to make the final statistical count a net total.

MONTHLY STATISTICAL SUMMARY

This summary is a compilation of the accident reports involving personal injury or death. A full description of the arrangement and plan of this summary is explained on the reverse side of the form. The general plan includes four sections as follows:

Section 1: Statistics on persons involved in accidents.

- (1) Those killed and injured
- (1a) Drivers involved
- (1b) Pedestrians involved

Section 2: Statistics on vehicles involved
Types of vehicles
Conditions of vehicles

Section 3: Statistics on time of accidents
Hour of occurrence
Light conditions
Day of occurrence

Section 4: Statistics on roads and weather

Road location
 Road surface
 Road conditions
 Weather conditions

This summary is prepared once a month and is recapitulated annually and semi-annually. Upon the completion of the monthly summary sheet certain outstanding items are abstracted from the report for publication. These items consisting of six in number set forth the total number of accidents during the month, the persons killed, the persons injured, the drivers involved, the pedestrians involved and the vehicles involved.

The report is issued promptly in mimeographed form designed to show a comparison with the corresponding figures of the same month a year ago; the total for the year to date compared with the corresponding total of the year previous.

Accompanying this comparative statistical summary each month there is a written analysis prepared by qualified statisticians explaining other more technical features of the complete statistical summary. The distribution of these reports is made in relatively a large volume but is very carefully directed to individuals and institutions which are actively engaged in promoting traffic safety conditions. Frequent revision of the mailing list is made in order to avoid sending these reports to those who are not actively engaged in such safety matters.

RESEARCH

Upon the completion of the monthly statistical summaries, the reports are finally scrutinized by the chief statistician. At this point the technical research begins. All outstanding features of the statistical summaries are carefully charted and various experimental technical studies are being continually carried on with a view of more adequately explaining conditions which may not be at once apparent to the statisticians themselves. When the figures indicate that possibly some important significant matter is escaping attention a field research study may be made to determine more precisely the nature of the problem. In this work a district in the state may be selected and the traffic officers of the Highway Patrol instructed to report in very specific detail additional matters to those contained in the ordinary accident report. Extended correspondence with drivers involved in accidents and direct investigation of wrecked cars and injured persons are also employed. Photography is resorted to. Much practical and enlighten-

ing information has been developed during the last twelve months from these field research studies. In some cases the results of such research work have been quite startling, revealing the fact that the accident reports in themselves although being a reliable indication of volume of certain accident classifications, seldom reveal the controllable causes of the accidents. These controllable causes have been largely exposed through the field research operations rather than by the statistics themselves. On the other hand the statistics have indicated the need of the field research in a definite direction.

Upon finding useful facts in the research studies, every possible effort is made to set such facts to work. Reports carrying recommendations are sent direct to every agency or organization of the state which can directly employ them. The findings are further disseminated to other states. The research section maintains a consultation service for all who seek its advice and handles a large volume of correspondence in this work.

In conclusion the development of the California system of motor vehicle accident statistics is the outcome of a gradual evolutionary process. Many outside influences have contributed to the success of the system. We would be derelict in duty were we not to recall the influence which the National Conference on Street and Highway Safety of Washington, D. C., and the work of the National Safety Council of Chicago have played in creating an appetite for good and sufficient traffic accident statistics throughout the country. These institutions together with the auto clubs of the state, the California Committee on Public Safety, the State Chamber of Commerce, and dozens of insurance companies, have all contributed advice and assistance of inestimable value in perfecting the California system. The responsibility for the development of the system is vested with the statistician but he in turn has enjoyed the very best kind of cooperation and assistance of the officials of the California Highway Patrol and the Division of Motor Vehicles. If the system has won distinction the credit for its success is due to all of these contributing elements combined.

"Do you know a fellow down your way with one leg named Oliver?"

"I'm not sure," returned the other doubtfully. "What's the name of the other leg?"

Auto Driver: "Have you some of that gasoline that stops knocking?"

Attendant: "Yes, sir."

Auto Driver: "Then, give my wife a glass."

<p>Flood Control Activities</p> <p>☛ ☛ ☛</p> <p>Prepare Dams For Winter Floods</p>	<h2 style="margin: 0;">Progress Report of Activities</h2> <p style="margin: 0;">In the</p> <h3 style="margin: 0;">Division of Water Resources</h3> <p style="margin: 0;">AS OF JANUARY 1, 1931</p> <p style="margin: 0;">EDWARD HYATT, Chief of Division</p>	<p>Salinity Studies in the Delta</p> <p>☛ ☛ ☛</p> <p>Applications Filed to Appropriate Water</p>
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IRRIGATION, WATER STORAGE DISTRICTS

1. A conference was held with the officials of the Palo Verde Irrigation District and others interested in its welfare for the consideration of plans in furtherance of the future economic development of the district.

2. Visits were made to the El Dorado Irrigation District, located in El Dorado County, in connection with construction work in progress and to the Richvale Irrigation District, located in Butte County, in connection with the proposed water supply for that district.

3. The following matters were reported upon by the State Engineer to the California Bond Certification Commission:

Lindsay-Statham Irrigation District, Tulare County—Approval of contract for expenditure of \$13,500 for purchase of water stock.

Paradise Irrigation District, Butte County—Approval of an expenditure of \$2,854 for repairs of the outlet of Magalia Dam.

Richvale Irrigation District, Butte County—Approval of agreement for purchase of water rights and certain canals and laterals from the Sutter-Butte Canal Company for a consideration of \$750,000, and approval of a bond issue in the amount of \$515,000 in connection with the proposed purchase.

El Nido Irrigation District, Merced County—Approval of agreement for the purchase of water from the Merced Irrigation District.

IRRIGATION AND RECLAMATION FINANCING AND REFINANCING

A complete technical study of the methods of financing and refinancing reclamation, irrigation and other related districts in this state has been made by this Commission and a report of their findings is now being prepared in which will be incorporated recommended legislation which it is believed will assist these districts in financing and refinancing their projects on a sound basis.

DAMS

During this period the efforts of the department have been directed toward directing repairs of existing dams and enlargement of spillways prior to the winter season of high water, as well as to further inspection and study of new and old dams.

To date 133 applications for approval of existing dams have been filed, 54 applications for approval of plans for construction or enlargement, and 113 applications for approval of plans for the repair or alteration of dams.

Applications received for approval of plans for repair or alteration.

Dam	Owner	County
White Reservoir,	James M. Fitzhugh,	Modoc County.
Courtwright,	H. Anchordoguy,	Modoc County.
Chino Ranch No. 2,	W. Astley,	San Bernardino County.
Chino Ranch No. 3,	W. Astley,	San Bernardino County.
Port Costa,	Port Costa Brick Works,	Contra Costa County.
Los Serranos,	Davidson Investment Company,	San Bernardino County.
Alvord,	Riverside Water Company,	Riverside County.
Mocking Bird Canyon,	Gage Canal Company,	Riverside County.
Porter,	Pearl F. Porter,	Modoc County.
Culbertson,	Pacific Gas and Electric Company,	Placer County.
Lower Peeley,	Pacific Gas and Electric Company,	Nevada County.
Lower Lindsey,	Pacific Gas and Electric Company,	Nevada County.
Meadow Lake,	Pacific Gas and Electric Company,	Nevada County.
Middle Lindsey,	Pacific Gas and Electric Company,	Nevada County.
Rucker Lake,	Pacific Gas and Electric Company,	Nevada County.
Upper Peeley,	Pacific Gas and Electric Company,	Nevada County.
Dingee,	East Bay Municipal Utility District,	Alameda County.
Webb Flat,	Gerig Bros.,	Modoc County.
Antioch,	Town of Antioch,	Contra Costa County.

Plans approved for construction: Plans have been approved for the construction of the Peters Canyon Dam in Orange County, to be built by the Irvine Company of Tustin. This will be an earthfill dam 41 feet in height with a storage capacity of 1000 acre-feet, the water stored by it to be used for irrigation.

Plans approved for repair or alteration: Fifteen such applications have been approved by the State Engineer during the period.

Order authorizing use pending formal approval was issued for the North Battle Creek Dam located in Shasta County and belonging to the Pacific Gas and Electric Company.

FLOOD CONTROL AND RECLAMATION

Maintenance of Sacramento and San Joaquin Drainage District: During this period only routine maintenance work has been carried on, consisting of clearing second growth timber in the by-pass, servicing the pumping plants, and other miscellaneous work. An average of twenty-five men have been employed during this period.

Flood control project maintenance—Bank protection: The construction of one tree current retard in cooperation with Reclamation District No. 70 at the Yates place, approximately four miles south of Meridian, is about one-half completed, and bank protection work at Girdner Bend, also in cooperation with this district, is well under way.

The work on Andrus Island at the Reardon ranch has been completed, with the exception of a small amount of dredger work. All other bank protection work for this season which has been definitely programmed has been completed. There is under consideration a small job in cooperation with Levee District No. 3, Glenn County, but the season is now so late it is not known whether or not this will be undertaken.

Sacramento flood control project: The work of clearing the lower Sutter-Butte Slough, and Tisdale by-passes was continued to about December 7th when the available funds were exhausted. The camp at Robbins was dismantled and moved on December 8th, and the crew at Fremont Weir housed in our floating camp was reduced to a working force of 16 men. No men were discharged by reason of discontinuing the camp at Robbins, as they were transferred to other work. The reduction in force has been made gradually by not taking on new men.

At Starr Bend on the Feather River, two openings have been made to permit the flood waters to occupy the widened flowage area, and one cut has been made in the Bear River levee for the same purpose west of the recently completed Lake of the Woods levee. This work was done directly by this office with a bulldozer hired by the hour from Le Tourneau of Stockton, who was the contractor on the Starr Bend and Lake of the Woods levees.

The deputy in charge of flood control and reclamation attended one meeting of the Reclamation Board and one meeting of the flood control construction committee.

Much detail work has been done in connection with the flood control construction program for this year, particularly as to securing rights-of-way. Plans have been prepared for most of the various construction units.

The California Debris Commission has let contract for the construction of the west levee of the Yolo By-pass, four miles in length, along Reclamation District No. 2068, the estimated cost of which is \$25,680. The Commission has also received bids for the construction of the West Yolo By-pass levee on Liberty Farms and Sullivan, Sullivan and Roche, but the contracts have not yet been let. The estimated cost of these two units is \$36,960 and \$31,640, respectively.

Emergency flood control and rectification of rivers: The bank protection work on Andrus Island in cooperation with Reclamation District No. 317 has been completed at a cost of \$21,000. This consisted of reconstructing about 3400 feet of levee and protecting it from wave wash with a quarry rock toe and blanket.

Work will be commenced about December 20th on protection of Twitchell Island, consisting of a rock facing 600 feet long.

Santa Maria River: The clearing work in the channel of the Santa Maria River near Gundalupé, in cooperation with Santa Barbara and San Luis Obispo counties, has been completed at a cost of \$7,600. Additional work at one point is contemplated, consisting of the excavation of a short channel, to cost approximately \$1,200.

Pajaro River flood control: The improvement in the channel of the Pajaro River for a length of 13,750 feet has been completed under contract with Karstedt

and Karstedt of Watsonville at a total cost of \$4,537. This work consisted of clearing a width of 60 feet and loosening the bottom material to a depth of two feet to promote erosion and channel rectification during flood.

Salinas River: No work has been done during this period on the Salinas River channel excavation, as the right to perform the work has not yet been decided by court. The dragline excavator is still on the ground and will resume work as soon as a favorable decision is rendered. This work is being done by the Division of Fish and Game.

Mokelumne River: The improvement of the flood channel of the Mokelumne River has been commenced, in cooperation with San Joaquin County. A total of \$12,500 is available for this work, one-half of which is furnished by San Joaquin County. The work is in charge of our foreman and a crew of 30 men is at work. The men in this crew work for a period of four days and are laid off four days to allow a second crew to work. In this way 60 men are provided with four day's of work each week. The work so far undertaken is clearing brush and timber.

Russian River Jetty: The recent heavy winter storms have caused some damage to the jetty on the Russian River at Jenner. The Fish and Game Commission has provided \$5,000 for the repair and maintenance of the structure and to continue the addition of rock during the winter.

Flood measurements and gages: The recording and staff gages operated by this office have been placed in condition and in operation, and preparations have been made for taking flood measurements in the various channels during the winter. An automatic tide gage has been installed in the lower Yolo By-pass at the Liberty Reclamation.

During the period November 15th to December 15th, an average of ninety-five men have been employed in the above work, exclusive of contractor's employees. Since December 10th all employees on construction and maintenance have been working on a three-day week basis, which permits us to provide half-time work for twice the number of men.

WATER RIGHTS

APPLICATIONS TO APPROPRIATE

During the month of November fifteen applications to appropriate water were received, eleven were canceled, and twenty-five approved. Twelve permits were revoked and seven licenses were issued.

Among the more important applications received were those of Humboldt Placer Mining Company to appropriate 175 second-feet from Trinity River and tributaries in Trinity County for mining purposes; Turlock and Modesto Irrigation districts to appropriate 350 second-feet and 80,000 acre-feet per annum from Tuolumne River and tributaries in Tuolumne County at an estimated cost of \$1,885,000 for power purposes; La Mesa, Lemon Grove and Spring Valley Irrigation District to appropriate 50 second-feet and 18,000 acre-feet per annum from Santa Ysabel Creek in San Diego County for municipal, irrigation and domestic purposes; and Fred J. Blakeley to appropriate 25 second-feet and 4000 acre-feet per annum from Elliott Creek in Siskiyou County for the irrigation of 6000 acres at an estimated cost of \$50,000.

Among the more important applications approved were those of East Bay Municipal Utility District to appropriate 42 second-feet and 41,436 acre-feet per annum from the San Leandro Creek and tributaries in Alameda County at an estimated cost of \$1,377,000 for

municipal purposes; Scott F. Ennis and Edward S. Brown to appropriate 60 second-feet from Sacramento River in Sutter County for the irrigation of 2482 acres at a cost of \$41,000; cities of Arcadia and Sierra Madre to appropriate a total of 6 second-feet and 4500 acre-feet per annum from Santa Anita Creek and tributaries in Los Angeles County at an estimated cost of \$80,000; Security First National Bank of Los Angeles to appropriate 6000 acre-feet per annum from Santa Anita Creek for domestic purposes at an estimated cost of \$100,000; El Sur Land and Cattle Company to appropriate 12 second-feet from Big Sur River in Monterey County for the irrigation of 1024 acres at an estimated cost of \$50,030; and Temescal Water Company to appropriate 12,000 acre-feet per annum from San Jacinto River in Riverside County for the irrigation of 5000 acres at an estimated cost of \$100,000.

ADJUDICATIONS

Shasta River (Siskiyou County)—Case pending in Superior Court of Siskiyou County.

Whitewater River (San Bernardino and Riverside Counties)—case pending in the Superior Court of Riverside County awaiting developments in regard to the proposed All-American Canal from Colorado River.

North Cow Creek (Shasta County)—Referee's final report has been completed and is ready for submission to the Superior Court of Shasta County.

Oak Run Creek (Shasta County)—Case pending in the Superior Court of Shasta County awaiting the entry of a decree in the North Cow Creek case.

Clover Creek (Shasta County)—Case pending in Superior Court of Shasta County awaiting the court's pleasure in placing it on the calendar.

Butte Creek (Siskiyou County)—Case pending in the Superior Court of Siskiyou County awaiting action by the parties involved.

Los Alamos Creek (Santa Barbara County)—Action by referee being deferred awaiting the outcome of the circulation of a stipulation for consent judgment among the parties involved.

Davis Creek (Modoc County)—The report of referee has been completed and is ready for submission to the Superior Court of Modoc County.

Mill Creek (Modoc County)—A report is in course of preparation covering the administration of the tentative schedule of allotments which was authorized for the 1930 season.

Deep Creek (Modoc County)—The report covering the field investigation of water supply and use of water made during the 1930 irrigation season is being prepared.

Franklin Creek (Modoc County)—The data collected in the field during the 1930 irrigation season is being studied and analyzed preparatory to fixing a schedule for trial distribution during the 1931 irrigation season.

WATER DISTRIBUTION

The report on water master service on North Cow Creek for the 1930 season has been completed.

Reports on water master service for the 1930 irrigation season on Davis, Emerson, Mill, Owl and Soldier creeks (Modoc County); Burney, Clover, Hat and Oak Run creeks (Shasta County), and Lower Shasta River and Little Shasta River (Siskiyou County) are in the course of preparation.

CALIFORNIA COOPERATIVE SNOW SURVEYS

Office work has included the preparation of sketch maps of newly located and relocated snow courses, revision of the key map showing all courses, and con-

tinued computations necessary in preparation for the correlation of snow survey data with run-off when the data from the surveys become available.

A field trip was made to the snow course at Lake Alpine in the Stanislaus Basin to locate a new observer. The latter will be stationed at Lake Alpine throughout the winter which will permit of monthly surveys at this location beginning in January. On the recent trip it was still possible to travel by automobile to within fourteen miles of the lake. The remainder of the trip was made on skis.

SACRAMENTO-SAN JOAQUIN WATER SUPERVISOR

The regular field work has been completed and the work of the past month except for salinity observations and gage maintenance, has been confined to the office work in compiling the report for the 1930 season covering all diversions, stream flow, return flow, etc., throughout the Sacramento-San Joaquin territory.

Salinity investigations are being continued through the maintenance of sampling at 37 stations in the bay and delta areas. During the past month the sampling at nine stations was discontinued as the salinity at these locations had reached a constant minimum and further observations were not required. Maintenance of eight tide gages has been continued. These are located at Sacramento, Walnut Grove, Georgiana Slough, Sacramento and San Joaquin ends of Three Mile Slough, Mossdale, Antioch, and Collinsville. The following are comparative salinity data for 1929 and 1930:

Station	Salinity in Parts of Chlorine per 100,000	
	11-30-30	11-30-29
Bullhead Point	1080	1140
O and A Ferry (1)	225	(3) 450
Collinsville (2)	60	285
Antioch	36	255
Jersey	7	55
Emmaton (2)	2	23
Webb Pump	5	12
	(1) November 18th	
	(2) November 26th	
	(3) November 22nd	

WATER RESOURCES

Ventura County Investigations. The progress report on Ventura County Investigations for the year 1930 was completed during the present month.

South Coastal and other Southern California Investigations: Work on the South Coastal and other miscellaneous investigations in Southern California has been continued throughout the present month.

Napa Valley Investigation: Gaging stations on Conn Creek and Napa River have been maintained during the month and readings of wells in the south-westerly and northerly parts of the valley have been repeated.

Santa Clara Investigation: The office work in connection with the Santa Clara Investigation has proceeded during the present month and the report covering work done during the past year is now being typed.

Pit River (Modoc and Lassen Counties): Routine field work was continued throughout the month. The survey of the irrigated lands was completed except for

a few disconnected areas located on small tributary streams. The survey was stopped for the season on November 20, due to weather conditions. A contour survey has been made of Essex Reservoir to determine its capacity and a water stage register installed for the purpose of securing intensity of run-off data on the area tributary to the reservoir.

WATER RESOURCES INVESTIGATIONS

The water resources investigations being carried on in the Sacramento and San Joaquin Valleys and in portions of Southern California, and the investigation of the salt water barrier and salinity conditions in the delta, in furtherance of a coordinated plan for the conservation, development and utilization of the water resources of this State, as provided in Chapter 832 of the Statutes of 1929, are now drawing to completion and practically the entire staff engaged in this work has been concentrated upon the preparation of reports covering the results of the investigations made by the Division of Water Resources.

The bulletins of the Division of Water Resources to be prepared and published covering the results of the investigations made are twelve in number as follows:

- (1) Bulletin 25—Report to the Legislature of 1931 on State Water Plan.
- (2) Bulletin 26—Sacramento River Basin.
- (3) Bulletin 27—Salinity Control in Sacramento-San Joaquin Delta and Upper San Francisco Bay.
- (4) Bulletin 28—Economic Aspects of a Salt Water Barrier Below Confluence of Sacramento and San Joaquin Rivers.
- (5) Bulletin 29—San Joaquin River Basin.
- (6) Bulletin 30—The Pacific Slope of Southern California.
- (7) Bulletin 31—Santa Ana River Basin.
- (8) Bulletin 32—South Coastal Basin.
- (9) Bulletin 33—Rainfall Penetration and Consumptive Use of Water in Santa Ana River Valley and Coastal Plain.
- (10) Bulletin 34—Permissible Annual Charges for Irrigation Water in Upper San Joaquin Valley.
- (11) Bulletin 35—Permissible Economic Rate of Irrigation Development in California.
- (12) Bulletin 36—Cost of Irrigation water in California.

REPORT OF DIVISION OF MOTOR VEHICLES

FRANK SNOOK, Chief

LICENSE RENEWAL PERIOD IS ON

On December 15th, the Division counters were opened to the public for the distribution of 1931 license plates. New offices were opened at Pasadena, San Bernardino, San Jose and Stockton.

REGISTRATION FIGURES

As of December 1st, the Division has registered 1,929,428 automobiles, 15,476 solid tire trucks, 82,816 pneumatic tire trucks, 9,326 motorcycles, 9,543

solid tire trailers, and 38,658 pneumatic tire trailers, making a total of 2,085,247 fee paid registrations. In addition to the fee paid registrations exempt license plates have been issued to 32,361 automobiles, 911 motorcycles and 3,961 trailers, or a total of 37,233 exempt cars have been registered. The total fee paid and exempt registrations as of December 1st, is 2,122,480.

LIGHT AND BRAKE ENFORCEMENT ACTIVITIES

The Inspector in charge of the Bureau of Lights of the California Highway Patrol has continued the drive against glaring headlights as well as vehicles with one headlight and no taillight. We feel that a great benefit has been derived from the work done so far. An extensive program has been outlined for this work which will be followed as closely as possible.

The Bureau of Brakes report a substantial number of cars tested last month. The Inspector in charge with the Attorney for the Division has spent much time in preparing data for the Motor Vehicles Conference meetings. Three meetings of the Conference have been held to date and some very valuable information has been obtained.

REPORT OF DIVISION OF ARCHITECTURE

GEORGE B. MCDUGALL, Chief

During the month of December, 1930, contracts totaling \$247,745 were awarded. These contracts included work at the following institutions:

Stockton State Hospital.
San Jose State Teachers College.
Preston School of Industry.
Patton State Hospital.
San Diego Teachers College.
Agnews State Hospital.

Right of Way Agents Receive Appointments

Appointments of right of way agents for the Division of Highways have been announced as follows:

San Francisco—John Howard, Herbert Forbes, Frank F. Webb, Halloway Jones, and Jay J. Herz.

Eureka—Philip C. Eastman.

Redding—Leland L. Rose.

Los Angeles—Adolph N. Sutro.

Sacramento—Charles S. Smith, Bradford Perry, George Pulich, and Louis Malatesta.

San Bernardino—J. A. Gregory and Charles L. Flack.

Fresno—Henry Sellers.

Lady: "Doctor, I want to reduce. What exercises should I take?"

Doctor: "Push yourself away from the table three times a day."

Progress on State Highway System

MAJOR PROJECTS COMPLETED, UNDER WAY AND ADVERTISED,
AS OF JANUARY 1, 1931—OTHER ACTIVITIES OF DEPARTMENT

C. H. PURCELL, Chief of Division of Highways.

DECEMBER AWARDS

During December, 1930, contracts were awarded and work advertised as follows:

Work placed under contract.....	\$1,111,100
Contracts pending and work advertised	896,600
Total	\$2,007,700

Unemployment Activities

Reports as of Saturday, December 20, 1930, shows that the program for unemployed relief upon the state highway system is affording employment to 3107 men who otherwise would be without work.

On that day 1732 men were at work on relief maintenance crews working out from over 200 centers in California. These men are working upon a three-day-a-week basis and are paid \$4 per day. They provide their own board and lodging, and are organized in addition to the regular maintenance organization.

In order to afford relief to unemployed labor in the metropolitan areas of California five labor camps have been established and are now carrying their full quota of 250 men each. These camps are respectively located in Plumas County on the Feather River lateral; on the alternate ridge route and on the Arroyo Seco Highway in Los Angeles County; on the Yosemite lateral in Mariposa County and on the Carmel-San Simeon Highway in Monterey County. A special relief construction crew of 125 men is working on the latter highway south of Monterey.

The men employed in labor camps are selected by the state free employment agencies and are again selected on the basis of their great need for labor and ability to qualify as bona fide residents of California. They are paid \$3 a day and provided with board and lodging. The special construction crew working out of Monterey and Carmel provide their own board and lodging.

COMPLETED CONTRACTS

Contracts were completed during December on the following important projects:

Rose Canyon Work

In San Diego County five and one-half miles of Portland cement concrete pavement, 30 feet wide, have been placed, through Rose Canyon, on the recently graded roadbed over the new alignment of that portion of the main route between San Diego and Los Angeles from Balboa Ave. to Torrey Pines Road, within the city limits of San Diego. This new rout-

ing is an improvement over the old road, via La Jolla, shortening the highway between Los Angeles and San Diego by some 4½ miles. As a unit of this rerouting of the state highway was the construction of a reinforced concrete girder bridge, 210 feet long, completed last June. The cost of this new route, including the grading, paving and construction of the bridge, amounted to \$319,500.

San Bernardino-El Centro Lateral

A contract has just been completed for constructing uniform 8 foot shoulders along each side of the existing 20 foot concrete pavement over the six miles between the San Bernardino County line and one mile west of Beaumont in Riverside County. Construction on this route, carrying much heavy produce trucking from the fertile Imperial Valley, as well as a large portion of transcontinental tourist traffic entering Southern California, is being pushed forward to modern standards as rapidly as possible. Besides the contract just completed in Riverside County, the 13 miles between Arroyo Salado and the northerly county line in Imperial County are now under construction, a 20 foot asphalt concrete pavement being placed on a 36 foot graded roadbed. Also a project was advertised for bids on December 23d, which calls for placing a 20-foot asphalt concrete pavement over the existing 16-foot Portland cement concrete pavement and grading the roadbed to a full 36-foot width between Trifolium Canal and Kane Springs in Imperial County. The cost of the widening in Riverside County amounted to \$41,100, and the proposed six miles of paving between the Trifolium Canal and Kane Springs is estimated to cost \$185,000.

Redwood Highway

Progress on the new alignment of that portion of the Redwood Highway between San Rafael and Sausalito in Marin County is noted by the completion of the contract for placing a 30-foot bituminous macadam pavement on the recently constructed roadbed from San Rafael to Alto. Another unit of this work to be completed during the past month was the erection of a bascule span and 855 feet of timber trestle across the tide lands near the mouth of Corte Madera Creek at Greenbrae, the bascule span crossing the navigable channel of the creek. This bridge has a clear roadway width of 44 feet and a 5-foot sidewalk. The southerly sector of this rerouting of the Redwood Highway is now under construction between Alto and Waldo, where it will connect with the existing road. Bids were opened on November 26th for the construction of a bridge across the tracks of the Northwestern Pacific railroad and an arm of Richardson's Bay at Manzanita within the limits of this southerly section. This structure will consist of 2340 feet of timber trestle on pile and frame bents with a 56-foot plate

girder lift span on concrete piers with pile foundations and a 45-foot steel stringer span on concrete bents with pile foundations. This structure also will have a 44-foot roadway. Upon its completion the highway over this new alignment will materially shorten the distance between Sausalito and San Rafael and will also eliminate from the route the dangerous Corte Madera grade. The cost of the surfacing between Alto and San Rafael amounted to \$95,600 and the Corte Madera Creek bridge was erected at a cost of \$170,000. The Manzanita bridge will cost \$346,150.

Cosumnes River Bridge

A timber bridge across the Cosumnes River connecting Amador and El Dorado counties has been completed as a unit of the construction of the historic Mother Lode Highway through the heart of early California mining districts. This new structure cost \$23,000 and was built on a straightened alignment at this river crossing, replacing the old light steel bridge with its serpentine approaches which was erected by the counties in 1895.

Victory Highway

Further progress on the reconstruction of the Sacramento to Reno road via Auburn is noted by the completion of nine and one-half miles of grading on new alignment between the airport at Emigrant Gap and Indian Springs in Placer and Nevada Counties. This new alignment is a great improvement, both as to line and grade, over the old road. Two grade separations, an underpass at Emigrant Gap and an overhead at Yuba Pass, which will eliminate the dangerous Emigrant Gap and Crystal Lakes grade crossings, are now under construction. Surfacing over this section has already begun and has been completed from the South Fork of the Yuba River over the 11 miles to Soda Springs, easterly from the grading project just completed. The cost of the completed grading and surfacing contract was \$605,800. The improvement of this highway is of great interest to thousands of California motorists who seek their recreation in the many vacation spots around Lake Tahoe and in the high Sierra, as well as to the many transcontinental tourists who enter California by this beautiful mountain highway.

Valley Route

Repaving of the Los Angeles to Sacramento highway north of Stockton is rapidly progressing. During the past four weeks seven miles of Portland cement concrete pavement twenty feet wide with eight foot shoulders between Stockton and Lodi have been completed and accepted, from Cherokee Station to Harney Lane between Stockton and Lodi. This pavement cost \$278,600, and replaces the old 16-foot bituminous macadam pavement which was built by the county. At a cost of \$63,500, a 20-foot asphalt concrete pavement was placed between Forest Lake and the San Joaquin-Sacramento county line and work is nearing completion on the paving from Houston School to Forest Lake north of Lodi.

BIDS RECEIVED

Projects upon which bids have been received since November 24th include the following:

Yuma Highway

In Imperial County an asphalt concrete pavement twenty feet wide is to be placed over the six miles from Yuma to Araz. This project will be the improvement of the most southerly highway entrance into California. Construction on this transconti-

ental highway will begin at the Colorado River bridge at Yuma. The new pavement is to be placed on a gravel subbase which will raise the grade of the highway sufficiently to give proper and adequate drainage. The cost of the improvement will be \$245,000.

Coast Route

Two projects of prime importance to the improvement of the heavily traveled Coast Route connecting Los Angeles and San Francisco will be the following: The one, in Santa Barbara County, calls for the construction of a graded roadbed and the placing of a 20-foot Portland cement concrete pavement over three miles of this road as it passes through the Gaviota Canyon. The project will extend from Gaviota Station to Las Cruces, and will cost \$231,700. The existing sharp curves and adverse grades through the canyon are to be reconstructed to modern standards of highway alignment. To accomplish this end much heavy grading along the canyon walls will be necessary. Under a separate contract a reinforced concrete arch bridge will be constructed at a crossing of Gaviota Creek.

The other project comprises the grading and paving of eleven miles of the Coast Route in San Luis Obispo County from Paso Robles to the Monterey County line. In this instance the pavement will be asphalt concrete, and portions will be placed over the existing 15-foot Portland cement concrete pavement. The new pavement is to be placed with a "one-way crown" so that future widening may be done on the west side away from the tracks of the Southern Pacific Railroad which parallel the highway. The cost of the grading and paving of this project is \$290,200.

Pacheco Pass Lateral

In Santa Clara County nearly eleven miles of the Pacheco Pass lateral are to be reconstructed from San Felipe to one mile east of Bell's station. The present improvement will involve the placing of a 20-foot bituminous macadam pavement, with eight foot shoulders, on an improved alignment and grade. This lateral, connecting as it does the Valley Route at Califa with the Coast Road at Gilroy, carries a rapidly increasing amount of traffic, especially high speed commercial trucking, and this work is so designed that the road may better care for the travel it is called upon to bear. The improvement is estimated to cost \$245,000.

Feather River Lateral

A project of the first magnitude will be the erection of a steel cantilever bridge across the North Fork of the Feather River at Pulga in Butte County. The work of placing the concrete piers and abutments is under way, and bids for the erection of the steel superstructure were opened on the 3d day of December. The deck of the highway bridge will be 170 feet above high water and 130 feet above the top of the Western Pacific Railroad bridge which passes diagonally under the State's proposed structure. The project for the substructure calls for placing two reinforced concrete abutments and two reinforced concrete piers. The erection of the superstructure will include one 350-foot steel arch span, two 62-foot plate girder spans, and one 44-foot plate girder span. The roadway width of the bridge will be 24 feet. At a cost of \$181,700 another link will be added to this new all year highway to Quincy and to Plumas County.

Her: "Was that your new girl I saw you with last night?"

He: "No, just the old one painted over."

Civilization Moulded By Highways

By LEO G. LAUCK, Economist, Washington, D. C.*

NO OTHER movement is more closely related to many phases of present-day civilization than that of highway development and transportation. It touches the life, directly and indirectly, of every man, woman and child throughout the universe. It has many angles—social, economic and financial.

The real movement for expansion is of comparatively recent origin. It came with the advent of the automobile and the motor truck. Originally the speed of the horse was the measuring rod by which the roads of the past were developed. Today the speed of the automobile and the weight of the motor truck have become the gauge on which development must proceed.

Just as the various countries were unprepared for participation in a World War, so they were unprepared for the Aladdin-like spread of the automobile to every corner of the world. Motor development, with its rapid strides in the space of the past ten years, has run far ahead of highway development, and the world is now straining to catch up.

In spite of the fact that the Romans, almost two thousand years ago, built some roads that still exist; that Napoleon gave not only his code but many hundreds of kilometers of excellent roads to France, and that there are many other scattered examples of good road building, highway development as a science and as a fact has made greater advances in the past thirty years or less than in all previous history.

Invention has made the highways of the past as useless to modern civilization as a coat of armor would be to the present-day soldier. Pioneer highway engineers would all have changed their predictions with regard to the lines of commercial and industrial development which their respective countries would take if they could have looked forward a few years to the invention of the steam engine, or still further to the coming of the automobile and the motor truck, supplementing, as they do, the railway in the commercial and social life of the world.

People everywhere have become impatient of restraint and adventurous in spirit, and as a consequence industrialization and standardization have shown rapid progress

throughout the world. They have their values, but they are prison bars to one phase of the modern temperament. The automobile has furnished the release.

This fact is emphasized most vividly by a survey of the world's highways recently prepared by the United States Department of Commerce. It discloses a total of 7,805,629 miles of roads distributed by continents as follows: America, 3,727,393; Europe, 2,450,439; Asia, 1,014,014; Australia and Oceania, 350,863, and Africa, 262,920 miles.

The United States, not including Alaska and the outlying possessions, has the greatest actual mileage of highways, with 3,016,281, or 38.7 per cent of the world total. Russia ranks second with 776,712 miles and is followed by Japan with 575,325 miles; France, 405,028 miles; Canada, 381,977 miles; Australia, 300,000 miles; India, 283,506 miles; Germany, 216,672 miles; United Kingdom, 179,095 miles, and Poland, 139,631 miles.

The fairest basis on which to compare highway mileage seems to be the proportion of road mileage to area. One country large in area may have a greater road mileage than a smaller country and yet be less adequately provided with roads it needs. Considering the area and total mileage, Japan leads the world with three miles of road to the square mile, followed by Luxemburg with 2.6; Northern Ireland, 2.5; United Kingdom, 2; Denmark, 1.9; France, 1.89; Irish Free State, 1.75; Belgium, 1.43; Lithuania, 1.28; Germany, 1.19; Netherlands, 1.18; Hungary, 1.05; and the United States in twelfth place with 1 mile of road to the square mile of area.

As the population of the world continues to grow in number and as further development of industry results in increased production, the demand for more roads is certain to increase still further. It is up to the individual countries to meet that increase. During the past few years individual effort nearly everywhere has kept pace with the increased demand for additional highways; yet their capabilities have scarcely been tried.

As the ancients believed the roads lead to a liberal education, so the governments of this great world of ours have rested conclusively in their upward progress upon the slender path of the aborigine, swelled to the well defined trail of the caravan, broadened into the cart and wagon road, all to be supplanted by a vast network of macadam, concrete and brick. What will follow it? Time alone can tell.

Definition: A pedestrian is a man looking for the place where he parked his car.—*Life*.

* Republished from the Highway Magazine.

STATE HIGHWAY BUDGET FOR 1931-1933 BIENNIUM PRE- SENTED TO STATE LEGISLATURE

(Continued from page 8.)

Grading, structures, pavement and oiled shoulders, Turner's Station to Stockton (San Joaquin County), \$319,400. This provides for the improvement of the so-called "Hogan" Road from Stockton south.

Nine timber bridges (San Joaquin County), \$95,600.

Grading, filling borrow pits, pavement and structures, Cosumnes River bridge to 1.4 miles north of McConnell (Sacramento County), \$26,000.

McConnell grade separation, subway (Sacramento County), state's share, \$66,500.

Stanislaus River Bridge and approaches (Stanislaus County), \$105,300.

Grading and structures, 5.3 miles, Canton Creek to Piru Creek, Ridge Route Alternate (Los Angeles County), \$500,000.

Grading and structures, 3.9 miles, Los Alamos Divide, Ridge Route Alternate (Los Angeles County), \$1,000,000. This item and the one immediately above provides for continuation of construction upon the Alternate Ridge Route.

Grading, structures, pavement, 3.1 miles, Fresno to Fancher Creek (Fresno County), \$216,200. This completes the widening of pavement immediately north of the city of Fresno.

Grading, oil rock shoulder, 29.8 miles, Bakersfield to Grapevine (Kern County), \$360,000. This widens the roadbed and improves conditions upon the "seventeen mile tangent."

Grading and resurfacing, 11.8 miles, Goshen to Kingsburg (Tulare County), \$473,000. This provides for widening the 15-foot pavement in Tulare County.

Five bridges over Cross Creek, widening; bridge over canal near Traver (Tulare County), \$60,000.

Grading, structures, oil shoulders, pavement, 5.5 miles, Plaza Garage to Goshen; grading, structures, oil shoulders, Plaza Garage to 0.3 of a mile westerly (Tulare County), \$272,000. This with other work will complete the widening of the 15-foot pavement in Tulare County and provide a grade separation at the junction of the Golden State Highway and the Hanford lateral.

Plaza Garage grade separation (subway) Tulare County, state's share, \$50,000.

Grading, structures, oil shoulders, pavement 2.9 miles, Union avenue to Beardsley Canal (Kern County), \$236,000. This provides for improving and widening pavement at the north city limits of Bakersfield.

Bridge over Kern River (Kern County), \$400,000.

Bridge over Beardsley Canal (Kern County), \$16,000.

COAST HIGHWAY

(San Francisco to San Diego)

Grade separation with S. P. tracks at Madrone (Santa Clara County), state's share, \$110,000.

Soledad Grade separation and approaches (Monterey County), \$96,000.

Bridge over San Benito River (San Benito County), \$140,000.

Santa Clara River bridge (Ventura County), \$410,000. The original was washed out by the flood following the failure of the San Francisquito Dam. The new bridge is on new alignment, and is an improved structure.

Grading, structures, widening pavement, Fullerton to Los Angeles County line (Orange County), \$164,500. This will complete the 30-foot width of pavement on the Coast Highway between Los Angeles and Santa Ana.

Grading, surfacing and structures, 3.9 miles, Wigmore, to Los Alamos (Santa Barbara County), \$150,000. This provides for widening the existing 15-foot pavement.

Repairing floor, Santa Ynez River bridge at Buelton (Santa Barbara County), \$18,000.

Grading, pavement, structures, widening, 5.1 miles, Serra to San Diego County line (Orange County), \$382,500. This project increases the present 20-foot pavement to 30 feet in the southern part of Orange County between the junction of the Coast Highway and the Oxnard-Capistrano Highway.

Grading, structures, pavement, widening 4.5 miles, Ventura to El Rio (Ventura County), \$100,000. This provides for a 30-foot pavement south of Ventura to the junction of the Coast Highway and the Oxnard-Capistrano Highway.

Bridge and approaches, San Dieguito River bridge (San Diego County), \$224,500. This corrects alignment and substitutes an improved bridge for the present trestle.

Grading, structures, pavement, 16.8 miles, Santa Rita to San Benito River, 16.8 miles (Monterey and San Benito counties), \$1,046,700. This provides for grading and paving of the relocated San Juan grade.

Bridge over San Juan Creek (San Benito County), \$10,000.

VICTORY HIGHWAY

(Roseville to Nevada Line via Auburn)

Grading, pavement and small structures, 4 miles, Newcastle to Auburn (Placer County), \$335,000. This project provides for correction of alignment and widening of 15-foot pavement.

Oil rock surfacing, Airport to Soda Springs, 20 miles (Placer and Nevada counties), \$93,000.

Oil rock surfacing, Colfax to Gold Run, 8.9 miles (Placer County), \$135,000.

Grading, structures, oil rock surfacing, Gold Run to Airport, 12 miles (Placer County), \$780,000. This completes the remaining unimproved section east of Auburn.

Towle Grade separation (subway beneath S. P. tracks) (Placer County), state's share, \$20,000.

Oil rock surfacing 1.8 miles near Bay View Rest (El Dorado County), \$7,200.

Myers to Nevada Line via Truckee River

Oil rock surfacing, Tahoe Junction to Hinton, 9 miles (Nevada County), \$135,000.

Oil surfacing, Bay View, northerly, 1.8 miles (El Dorado County), \$7,200.

TAHOE-UKIAH HIGHWAY

Armor top surface, Nevada City to Washington Road, 11.8 Miles (Nevada County), \$41,000.

Bridge over Russian River (Mendocino County), \$30,000.

PLACERVILLE-TAHOE HIGHWAY

(Sacramento to Nevada Line via Placerville)

Grading and structures from Brighton to Mills (Sacramento County), \$339,000. This provides for placing a concrete pavement on the first section of the Placerville road from Sacramento easterly.

Grading, structures, paving in Placerville (El Dorado County), \$40,000. (Cooperative project.)

Oil rock surfacing Riverton to Kyburz, Strawberry to Phillips (El Dorado County), \$51,200.

Oil rock surfacing, Mays to state line (El Dorado County), \$50,200.

Grading, structures, oil rock surfacing, Placerville to RR Xing (El Dorado County), \$59,000. This provides for grading and surfacing a section of the road immediately east of Placerville hitherto unimproved except for maintenance.

Oil surfacing, Clarks Corner to Placerville, 1.7 miles (El Dorado County), \$5,450.

MOTHER LODGE HIGHWAY

(Auburn to Sonora)

Grading, structures, armor top surfacing 1.2 miles, San Andrens to 1.4 miles north of Calaveritas Creek (Calaveras County), \$35,000.

Armor top surfacing north and south of Calaveritas Creek, 2.9 miles (Calaveras County), \$13,300.

Armor top surfacing, 7.2 miles, Dry Town to Martell (Amador County), \$29,500.

FEATHER RIVER LATERAL

(From Pacific Highway to Quincy via Oroville)

Grading, structures and oil rock surface from Pulga to East Butte County line (Butte County), \$483,400. This continues construction on the Feather River lateral from the crossing at Pulga east to the Plumas County line.

Bardees Bar bridge (Butte County), \$41,000.

Grading, structures and oil rock surfacing 1.2 miles, Spanish Creek to Keddie (Plumas County), \$135,000.

Spanish Creek and W. P. tunnel, bridge and portal structures (Plumas County), \$100,000.

Bridge over West Branch Creek (Butte County), \$45,000.

Oiled surface, Oroville to Feather River, 4.1 miles (Butte County), \$16,000.

TRINITY LATERAL

(Redding to Arcata via Weaverville)

Oiled surface, Weaverville to Tower House, 32 miles (Trinity and Shasta counties), \$69,100.

Clear Creek bridge approaches (Shasta County), \$9,300.

Bridge at Browns Creek and approaches (Trinity County), \$9,700.

Bridge at Clear Creek (Shasta County), \$17,700.

Oil rock surfacing, 9 miles, Humboldt Creek to Willow Creek (Humboldt County), \$58,500.

DOWNIEVILLE LATERAL

(Nevada City to Downieville)

Grading, structures and surfacing, Nevada City to Downieville (Nevada, Yuba and Sierra counties), \$50,000. This starts the redevelopment and widening of the old highway originally built by convicts on standards not satisfactory for present traffic.

ALTURAS LATERAL

(Redding to Nevada Line via Alturas)

Oiled surface, Fall River to Hot Creek, 36 miles (Shasta, Lassen and Modoc counties), \$243,600.

Oiled rock surfacing, Diddy Hill to Old Round Mountain, 8.7 miles (Shasta County), \$115,000.

Oiled surface, 3 miles east of Alturas to railroad crossing, 1.4 miles (Modoc County), \$5,000.

Oiled rock surfacing, Main Street to East City Limits of Alturas (Modoc County), \$5,500.

RED BLUFF-SUSANVILLE LATERAL

(Red Bluff to Nevada Line near Purdy's via Susanville)

Oiled surfacing, Mineral to Chester, 31 miles (Tehama and Plumas counties), \$55,600.

Oiled surfacing, Westwood to Willards, 12.8 miles (Lassen County), \$32,000.

Grading, oil rock surfacing, structures, 9.2 miles, Willards to Susanville (Lassen County), \$296,800. This provides for reconstructing and improving a section that is difficult both of maintenance and snow removal.

Oiled rock surfacing from 2 miles east of Dales to Paynes Creek, 7.3 miles (Tehama County), \$96,700.

Oil rock surfacing, 11.4 miles, Lake Almanor to Westwood (Lassen and Plumas counties), \$97,700.

Oil surfacing, Doyle to Long Valley Creek, 7.5 miles (Lassen County), \$18,800.

KLAMATH RIVER LATERAL

(Redwood Highway near Klamath River to Pacific Highway)

Walker bridge and approaches (Siskiyou County). Cooperative project, state's share, \$19,000.

Beaver Creek bridge and approaches (Siskiyou County), \$48,300.

Grading and bridge replacements, Weitchpec to Happy Camp, \$105,000 (Siskiyou and Humboldt counties).

UKIAH TO MENDOCINO STATE HOSPITAL

Bridge over Russian River (Mendocino County), \$30,000.

BAYSHORE HIGHWAY

(San Francisco to San Jose)

Bituminous macadam pavement from Fifth Avenue, San Mateo to Willows Road, 11.4 miles (San Mateo County), \$315,200.

Grading, structures and bituminous macadam pavement, 9.3 miles, Willow Road to Alviso Road (San Mateo and Santa Clara counties), \$716,850.

Bridge over San Francisquito and Stevens Creek, \$65,000.

Concrete pavement, Broadway to Fifth Ave., 3 miles (San Mateo County), \$272,450.

These projects continue present pavement activities to San Mateo and provide for construction and surfacing of the remaining sections of the road to a connection with the Alviso Road, 6 miles from San Jose.

SKYLINE BOULEVARD

(San Francisco to Glenwood)

Grading, structures and bituminous macadam, Saratoga Gap to Black Road, portions, 4 miles, (Santa Clara and Santa Cruz counties), \$300,000. This continues the construction of the Skyline Boulevard southerly.

SACRAMENTO-OAKLAND HIGHWAY

Grading, pavement, structures and oil shoulders, 1.7 miles west of Cordelia to 1.7 miles west of Fairfield (Solano County), \$294,600. This will eliminate the last piece of 15-foot pavement existing on this highway.

Bridges over Ledgwood, Suisun and Knightson creeks (Solano County), \$25,000.

Filling borrow pits, pavement, and oil shoulders, 1.3 miles, west of causeway (Yolo County), \$70,000.

ALBANY TO MARTINEZ

Grading, structures and pavement, San Pablo Creek to Crockett, excepting Pinole; "A" Street subway, Crockett (Contra Costa County), \$396,000. This project provides for a 30-foot asphaltic and concrete pavement on the existing macadam highway between Richmond and Crockett.

STOCKTON TO SANTA CRUZ VIA OAKLAND

Grading, structures and pavement, Castro Valley Road (Alameda County), \$50,000.

Grading, armor top surface, structures, French Camp via McKinley Avenue to Stockton (San Joaquin County), \$50,000. This completes the improvement of the south approach to Stockton through Altamont Pass.

Bridges, over Homestead Canal and Walker Slough (San Joaquin County), \$18,500.

Grading, structures, pavement and shoulders, 5 miles, Greenville to Livermore (Alameda County), \$166,100. This project constitutes an improvement of the westerly side of the Altamont Pass.

Grading, structures, pavement, shoulders, 3.5 miles, Meridian Road to Ware Avenue (Santa Clara County), \$70,000. This will correct reverse curves near Johnson's Corner south of San Jose.

Grading, structures, surfacing (Santa Cruz County), Santa Cruz to 1 mile west, \$60,000.

Grading, structures, surfacing, 6.5 miles, Inspiration Point to Vine Hill Road, portions (Santa Cruz County), \$360,000. This with the item immediately preceding constitutes the first unit in the relocation of the present highway congested Los Gatos-Santa Cruz highway.

SALIDA TO ROUTE 23 AT JUNCTION

(Salida on Valley Route North of Lodi, Through Sonora, Over Sonora Pass to Junction north of Bridgeport)

Grading, armor top surface, structures, Sonora to one-half mile east (Tuolumne County), \$27,400.

Grading, structures, and oil rock surfacing, Long Barn to Stoddard Springs (Tuolumne County), \$97,000 (note an additional \$30,000 will be spent on this section from Forest Highway Funds). This continues the improvement from the end of the surfaced road at Long Barn.

SAN ANDREAS LATERAL

(From Golden State Highway, Valley Route, Near Lodi to Route 23, Near Silver Creek, Calaveras County)

Grading, structures and surfacing, 7.1 miles, Waterloo Road to 1.3 miles east of Clements (San Joaquin County), \$213,000. This project provides for the pavement of the present county built macadam east of Lodi, taken over by the state when the road was admitted into the state system.

Grading, structures, oil rock surfacing, Big Trees to Dorrington, 3 miles (Calaveras County), \$104,000. (This is a cooperative project and \$38,000 of Forest Highway funds will be added to the state construction of \$104,000.)

Grading, structures, surfacing near Lake Alpine, 5 miles, portions (Alpine County), \$50,000.

MANTECA TO ROUTE 5**NEAR MOSSDALE SCHOOL**

Grading, pavement and structures, 4.2 miles, Mossdale to Manteca (San Joaquin County), \$174,000.

Grade separation, underpass, Western Pacific RR. (San Joaquin County), state's share, \$30,000.

This provides for paving the remaining unimproved portion of the road with a grade separation structure beneath the tracks of the Western Pacific tracks.

PACHECO PASS LATERAL

(Califa, on the Valley Highway to Gilroy on the Coast)

Three timber bridges with approaches over High-

line Canal and San Joaquin overflow (Merced County), \$51,500.

REDWOOD PARK ROAD

(Saratoga Gap Near Redwood Park to Blooms Mill)

Grading, structures and Armor top surfacing, 3.6 miles, Saratoga Gap to Waterman Switch (Santa Cruz County), \$271,600. This completes the grading to a connection with the improved county road in San Lorenzo Canyon.

SAN LUCAS TO SEQUOIA NATIONAL PARK

Grading, structures and 20 foot bituminous macadam pavement from 1 mile west of Merryman to 3 miles east of Lemon Cove, 10.4 miles (Tulare County), \$350,000. This constitutes an improvement of the present unsatisfactory county paved road which was taken over by the state when this road was admitted into the state system.

Grading and oil shoulders west of Plaza Garage to county line, 3.5 miles (Tulare County), \$12,000.

CARMEL-SAN SIMEON HIGHWAY

Grading, structures and oil rock surfacing, 5.4 miles, San Remo Divide to Carmel (Monterey County), \$214,000.

Bridge over Carmel River, San Jose and Wild Cat Canyon Creeks (Monterey County), \$85,000.

Bridge over Granite Creek (Monterey County), \$45,000.

Bridge over Garrapata Creek (Monterey County), \$35,000.

Grading, structures and oil rock surfacing, 8.6 miles, Cambria to San Simeon (San Luis Obispo County), \$210,000. This completes the present state highway at southerly end connecting with convict construction to the north. These projects will complete the grading and surfacing of the highway with the exception of a 25 mile gap between convict camps.

Bridge over San Simeon Creek, Pico Creek, Little Pico Creek, near San Simeon (San Luis Obispo County), \$90,000.

EAST OF SIERRA HIGHWAY

(Saugus to Route 11 at Alpine Junction)

Grading, structures and oil rock surfacing, Yerbys to McGee Creek, 7.3 miles (Mono County), \$243,600.

Grading, structures and oil rock surfacing, Convict Creek to Casa Diablo Hot Springs, 5.5 miles (Mono County), \$120,450.

Grading, structures and oil rock surfacing, Casa Diablo Hot Springs to Deadman Creek, 8.8 miles (Mono County), \$234,950.

Grading and structures from 1 mile north of Bridgeport to Sonora Pass Junction, 15 miles (Mono County), \$261,000.

Bridge over Walker River (Mono County), \$15,000.

All of these projects are in Mono County and located north of Bishop.

EL RIO TO SAN JUAN CAPISTRANO

(Portion of the Coast Route)

Grading, structures and pavement, 7.4 miles, Los Flores Canyon to Santa Monica (Los Angeles County), \$510,200. This provides for widening pavement to 40 feet.

Widening pavement, Topanga Canyon to Los Flores Canyon, 3.2 miles (Los Angeles County), \$80,000.

Santa Ana River bridge, widening (Orange County), \$80,000.

Shore protection, Santa Monica to Pt. Mugu, 7.2 miles (Los Angeles and Ventura counties), \$240,000.

ARROYO SECO HIGHWAY

(La Canada to Mt. Wilson Road via Arroyo Seco)

Grading and structures, La Canada to Mt. Wilson (Los Angeles County), \$520,000. This continues construction on this route.

BEAR LAKE HIGHWAY

(San Bernardino, end of County Pavement, to Bear Lake)

Grading, structures, oil rock surfacing, 5 miles, near Camp Waterman to end of county pavement (San Bernardino County), \$850,000. This completes the grading and surfacing of this highway.

ARROWHEAD TRAIL

(San Bernardino to Nevada Line Near Jean)

Alray grade separation, subway beneath Santa Fe tracks (San Bernardino County), state's share, \$30,000.

Gish grade separation, subway beneath Santa Fe tracks (San Bernardino County), state's share, \$30,000.

Grading, structures, rock surfacing, from point near Baker to 28 miles east (San Bernardino County), \$475,000.

Grading, structures, oil rock surfacing, 12 miles, Devore to Alray (San Bernardino County), \$400,000. These projects combine construction on the main highway leading to Boulder Dam.

COLTON-LOS ANGELES HIGHWAY

Grading, structures and pavement, Pomona to Los Angeles (Los Angeles County), \$540,000. This is one of the recommended additional highways.

WEST OF CLAREMONT TO RIVERSIDE

Widening bridge and approaches over Santa Ana River at Riverside (Riverside County), \$150,000.

SAN BERNARDINO TO EL CENTRO

Grading, structures, second story concrete pavement, shoulders, Imperial County line to 6 miles north (Riverside County), \$300,000.

This project provides for widening the 15-foot pavement from the Salton Sea northerly on this route.

SAN DIEGO TO EL CENTRO

Pavement of unpaved portions, La Posta to Tecote Divide, 8.3 miles (San Diego County), \$332,000. This completes the paving of the entire distance on the San Diego-El Centro highway.

Grading, structures, pavement, 8 miles, 3 miles west of Coyote Wells to 7 miles west of Dixieland (Imperial County), \$492,400. This project provides for widening the east section of the old 15-foot highway on this road.

EL CENTRO TO YUMA

Grading, structures, and pavement, 9 miles, Sand Hills to 5 miles west of Yuma (Imperial County), \$441,000. This provides paving the last unpaved section of this route.

MECCA-BLYTHE HIGHWAY

Grading, structures, oil rock surfacing, 16 miles, portion (Riverside County), \$300,000. This continues construction.

COOPERATIVE PROJECTS

The budget sets up a total of \$1,600,000 for cooperative projects in the southern portion of the state, and an amount of \$500,000 for similar work in the northern portion.

Commissary Clerk Saves Workman in Heroic Rescue

The following letter was received by State Highway Engineer C. H. Purcell from District Engineer L. H. Gibson of San Luis Obispo:

On November 30, 1930, Commissary Clerk W. L. Harvey at Camp B, Anderson Canyon, on the Monterey coast, rescued an employee, A. E. Foster, from drowning.

This man was fishing from a rock at the mouth of Anderson Canyon and was swept from this position by a large wave which carried him approximately fifty feet into deep, rough water. Without hesitating Mr. Harvey, who was within hearing distance, doffed his coat and shoes and swam to Mr. Foster's rescue as he was going down for the third time.

Mr. Harvey effected this rescue in a spectacular manner by stiff-arming the drowning man and rendering him unconscious. From witnesses, there is no doubt but that Mr. Foster would have drowned, had not Mr. Harvey quickly gone to his rescue, as he was unable to swim.

Anyone familiar with the rough and rugged Monterey coast can appreciate the danger involved in attempting a rescue in such rough water, and I feel that Mr. Harvey should be publicly commended for his brave act.

Mr. Harvey is particularly adept at first aid work and the efficient manner in which he made this rescue is a practical test of his ability along this line.

Following the receipt of the above letter, Mr. Purcell addressed the following to Mr. Harvey:

My attention has been called to an incident which happened on November 30 wherein it is reported that you were responsible for the saving of an employee who had been swept off a rock and was some distance from the shore at the time of rescue.

While such acts do not come within the scope of your employment, you are to be highly commended for your action in this case and knowledge of handling such a situation. I wish to personally compliment you on your coolheadedness in meeting such an emergency.

MOTOR VEHICLE APPOINTMENTS

Russell Bevans of San Francisco has been appointed chief inspector of the California Highway Patrol, and assigned to the Governor's office. Mr. Bevans is a former police officer of San Francisco and was assigned to the Mayor's office there.

George E. Hammill is to be a member of the California Highway Patrol in Nevada County.

Venice will in the future be linked to the mainland, according to an official decree issued in Rome authorizing the expenditure of \$4,500,000 for a new bridge. The span will provide accommodations for tramway, an automobile road, and a wide sidewalk for pedestrians.

HIGHWAY BIDS AND AWARDS

For Month of December, 1930

BUTTE COUNTY—Steel Bridge with concrete deck over W. P. R.R. and across the North Fork of the Feather River at Pulga. Dist. II, Rt. 21, Sec. C. M. B. McGowan, \$161,550; Minneapolis Moline Power Co., Los Angeles, \$172,897; C. J. Nystedt, Oakland, \$171,890; Guthleben Bros., Oakland, \$158,215; Rocca and Caletti, San Rafael, \$148,760; Contract awarded to \$138,848.

KERN COUNTY—Between Hart Station and 3 miles east, 3 miles grading and surfacing with bituminous macadam. Dist. VI, Rt. 33, Sec. C. Larsen Brothers, Galt, \$19,176; A. Teichert and Son, \$22,737; Hartman Construction Co., Bakersfield, \$25,131; Valley Paving and Construction Company, Visalia, \$21,929; Peter McHugh, San Francisco, \$23,020; Fred W. Nighbert, Bakersfield, \$25,509; Contract awarded to Lilly, Willard and Biasotti, Stockton, \$18,696.

LOS ANGELES COUNTY—Between one-half mile north of Castaic School and the Los Angeles City limits, 15.5 miles of traffic stripe to be painted. Dist. VII, Rt. 4, Sec. B. A. and E. John E. Bauer Co., Los Angeles, \$465. McEverlast Service Co., Los Angeles, \$613; contract awarded to Essick Co., Los Angeles, \$339.45.

NEVADA COUNTY—Between 1 mile west of Washington Road and one-half mile East of Summit, 7.4 miles of grading. Dist. III, Rt. 15, Sec. C-D. Lewis Construction Company, Los Angeles, \$124,424; W. H. Hauser Co., Oakland, \$121,535; Finnell Co., Inc., Sacramento, \$132,454; Isbell Construction Co., Carson City, \$133,588; C. W. Wood, Stockton, \$124,974; O. A. Lindberg, Stockton, \$157,091; Morrison Knudson Co., Boise, Idaho, \$118,367; Larsen Bros., Galt, \$122,718; Hemstreet and Bell, Marysville, \$104,452; Chigris and Sustos, San Francisco, \$134,476; C. R. Adams, Nevada City, \$129,389; A. Teichert and Son, Sacramento, \$134,356; Contract awarded to Fredrickson and Watson, Oakland, \$92,012.

PLACER COUNTY—One-fourth mile west of Newcastle, moving meeting hall from the right of way. Dist. III, Rt. 17, Sec. B. O. F. Brown, Sacramento, \$2,182; Edward R. Jameson, Sacramento, \$1,663; W. E. Truesdale, Sacramento, \$2,885; Chas. E. Wilkins, Sacramento, \$2,840; G. J. Reeves and Geo. S. Clutter, Sacramento, \$3,139; Contract awarded to D. H. Moiser and Son, Sacramento, \$1,536.50.

SAN LUIS OBISPO COUNTY—Between Paso Robles and Northerly county boundary, 10.9 miles to be graded and paved with asphaltic concrete. Dist. V, Rt. 2, Sec. A. Clark and Henry Const. Co., San Francisco, \$302,850; O. A. Lindberg, Stockton, \$319,277; Jones and King, Hayward, \$295,370; Hemstreet and Bell, Marysville, \$277,553; Irving L. Ryder, San Jose, \$289,575; Steele Finley, Santa Ana, \$303,523; A. Teichert and Son, Sacramento, \$318,323; H. W. Rohl Co., Los Angeles, \$311,376; Macco Construction Co., Clearwater, \$350,826; Basich Brothers, Torrance, \$310,748; Hanrahan Company, San Francisco, \$276,705; Valley Paving and Construction Co., \$324,228; Geo. H. Oswald, Los Angeles, \$312,014; Griffith Company, Los Angeles, \$323,395; Contract awarded to Peninsula Paving Co., San Francisco, \$268,382.10.

SANTA BARBARA COUNTY—Between Gaviota and 1 mile north of Las Cruces, grading and paving

with Portland cement concrete. Dist. V, Rt. 2, Sec. E. Jahn and Bressi, Los Angeles, \$213,823; Cornwall Const. Co., Santa Barbara, \$233,919; Macco Const. Co., Clearwater, \$239,319; J. F. Knapp, Oakland, \$229,595; Basich Bros., Torrance, \$218,285; J. G. Donovan and Son, Los Angeles, \$253,630; Contract awarded to Gist and Bell, Arcadia, \$205,070.

WATER APPLICATIONS AND PERMITS

Applications for Permits to Appropriate Water Filled with the Department of Public Works, Division of Water Resources, During the Month of December, 1930.

RIVERSIDE COUNTY—Application 6839. G. O. Trauzettel, Route 2, Box 465, Redlands, California for 2.5 c.f.s. and 900 acre feet per annum from San Timoteo Creek tributary to Santa Ana River to be diverted in Sec. 20, T. 2 S., R. 2 W., S. B. B. and M., for irrigation and domestic purposes on 520 acres. Estimated cost \$1,200.00.

SAN BERNARDINO COUNTY—Application 6840. The Metropolitan Water District of Southern California, 222 South Hill St., Los Angeles, California, for an average of 1500 c.f.s. and not to exceed 1,085,950 acre feet in any calendar year and 717,000 acre feet per annum from the Colorado River tributary to Pacific Ocean to be diverted in Sec. 4, T. 2 N., R. 27 E., S. B. B. and M., for domestic and municipal purposes within the Metropolitan Water District of Southern California. Estimated cost \$200,000,000.00.

SAN BERNARDINO COUNTY—Application 6841. Mojave River Irrigation District, c/o L. H. Manning and Co., box 396, Los Angeles, California, for 85,000 acre feet per annum from (1) Deep Creek and (2) West Fork of Mojave River tributary to Mojave River to be diverted in (1) Sec. 17, T. 3 N., R. 3 W., S. B. B. and M. (2) Sec. 18, T. 3 N., R. 3 W., S. B. B. and M., for irrigation and domestic purposes (26,878 acres). Estimated cost \$1,500,000.00.

EL DORADO COUNTY—Application 6842. J. W. Moore and W. C. Neumiller, 143 E. Walnut st., Stockton, California for 0.02 c.f.s. from Forni Creek tributary to South Fork of American River to be diverted in Sec. 24, T. 11 N., R. 16 E., M. D. B. and M., for domestic purposes (3 lots). Estimated cost \$350.00.

RIVERSIDE COUNTY—Application 6843. Arthur H. Nightingale, 1164 North Bronson, Hollywood, California, for 4 gallons per minute, or approximately 0.009 c.f.s. from Omstott Creek tributary to Palm Canyon to be diverted in Sec. 10, T. 7 S., R. 5 E., S. B. B. and M., for domestic purposes. Estimated cost \$500.00.

SIERRA COUNTY—Application 6844. Kate Hurdy Mining Co., c/o R. F. Taylor, Downieville, California, (A) 0.125 (3) 0.08 c.f.s. from (A) unnamed Ravine (B) unnamed ravine tributary to Woodruff Creek thence N. Fork Yuba River to be diverted in Sec. 20, T. 19 N., R. 10 E., M. D. B. and M., for mining purposes. Estimated cost \$300.00.

SAN DIEGO COUNTY—Application 6845. Division of Highways, Department of Public Works, State of California, Public Works Bldg., Sacramento, California, for 0.0125 c.f.s. from La Posta Spring (previously unnamed) tributary to La Posta Creek to be

diverted in Sec. 6, T. 17 S., R. 6 E., S. B. B. and M., for recreational purposes.

TRINITY COUNTY—Application 6846. Grunauer and Slack, c/o Chas. A. Slack, Tracy, California, for 10.00 c.f.s. from Little Boulder Creek tributary to Coffee Creek and Trinity River to be diverted in Sec. 14 or 22, T. 37 N., R. 8 W., H. B. and M., for placer mining purposes.

COLUSA COUNTY—Application 6847. Mary E. Porter Gleason, c/o Rutledge and Rutledge, attorneys, Colusa, California, for 1.92 c.f.s. from Sacramento River tributary to Suisun Bay to be diverted in Sec. 7, T. 14 N., R. 1 E., M. D. B. and M., for irrigation purposes on 153.58 acres. Estimated cost \$2,515.00.

RIVERSIDE COUNTY—Application 6848. Grace L. Williams, Lake Arrowhead, California, for 1½ gallons per minute from unnamed spring tributary to San Joaquin River watershed to be diverted in Sec. 2, T. 6 S., R. 2 E., S. B. B. and M., for domestic purposes. Estimated cost \$250.00.

HUMBOLDT COUNTY—Application 6849. Salyer Consolidated Mines Co., Salyer, Trinity Co., California, for (a) 25, (b) 10 and (c) 15 c.f.s. from (a) Campbell Creek, (b) Four Mile Creek and (c) Martin Creek including all intercepted water along the line of the conduit tributary to (a) and (b) South Fork of Trinity River and (c) Trinity River to be diverted in Sec. (a) and (b) 20, T. 6 N., R. 5 E., H. B. and M., (c) Sec. 16, T. 6 N., R. 5 E., H. B. and M., for mining purposes. Estimated cost \$200,000.00.

HUMBOLDT COUNTY—Application 6850. Geo. H. Bergin, Weaverville, California, for 125 c.f.s. from Horse Linto Creek tributary to Trinity River to be diverted in Sec. 15, T. 7 N., R. 6 E., H. B. and M., for mining purposes. Estimated cost \$200,000.00.

EL DORADO COUNTY—Application 6851. John J. Scherrer, box K, Placerville, California, for 0.05 c.f.s. from unnamed stream tributary to Hangtown Creek to be diverted in Sec. 18, T. 10 N., R. 11 E., M. D. B. and M., for domestic and irrigation purposes (0.5 acres).

SAN BERNARDINO COUNTY—Application 6852. Robert M. Stapp, P. O. box 5, Lake Arrowhead, California, for 0.008 c.f.s. from unnamed spring tributary to Burnt Mill Canyon and Little Bear Creek to be diverted in Sec. 28, T. 2 N., R. 3 W., S. B. B. and M., for domestic and recreational purposes. Estimated cost \$200.00.

TRINITY COUNTY—Application 6853. W. E. Campbell, c/o J. Emerson Gee, 211 South Berendo St., Los Angeles, California, for 100 c.f.s. from Canyon Creek tributary to Trinity River to be diverted in Sec. 17, T. 35 N., R. 10 W., M. D. B. and M., for hydraulic mining purposes.

MENDOCINO COUNTY—Application 6854. C. D. & Anna D. Flowers, c/o Hale McCowen, Jr., attorney, Ukiah, California, for 0.30 c.f.s. from Russian River tributary to Pacific Ocean to be diverted in Sec. 4, (projected) T. 14 N., R. 12 W., M. D. B. and M., (in Lot 66, Yokayo Rancho) for irrigation purposes (24 acres). Estimated cost \$2,800.00.

MENDOCINO COUNTY—Application 6855. J. C. Crawford, c/o Hale McCowen, attorney, Ukiah, California, for 0.60 c.f.s. from Russian River tributary to Pacific Ocean to be diverted in Sec. 4, (projected) T. 14 N., R. 12 W., M. D. B. and M., (in Lot 66, Yokayo Rancho) for irrigation purposes (52 acres). Estimated cost \$2,800.00.

SAN BERNARDINO COUNTY—Application 6856. John L. McKee, Twenty-nine Palms, California, for 15 gallons per minute from Surprise Springs to be diverted in Sec. 15, T. 3 N., R. 7 E., M. D. B.

and M., for irrigation and domestic purposes (25 acres). Estimated cost \$1,500.00.

Permits to Appropriate Water Issued by The Department of Public Works, Division of Water Resources During the Month of December, 1930.

SAN BERNARDINO COUNTY—Permit 3625, Application 6778. William T. Elliot, Summit, California, December 1, 1930, for .062 c.f.s. from Little Horsethief Canyon in Sec. 27, T. 3 N., R. 5 W., S. B. for irrigation and domestic use on 5 acres.

EL DORADO COUNTY—Permit 3626, Application 6756. Ida M. Scott, Los Angeles, California, December 1, 1930, for .005 c.f.s. from unnamed stream in Sec. 30, T. 11 N., R. 16 E., M. D., for domestic use. Estimated cost \$300.00.

SAN JOAQUIN COUNTY—Permit 3627, Application 6802. Western Pacific Railroad Co., San Francisco, California, December 2, 1930, for .885 c.f.s. from Potato Slough in Sec. 13, T. 3 N., R. 4 E., M. D. M., for industrial use. Estimated cost \$11,500.00.

EL DORADO COUNTY—Permit 3628, Application 6765. J. R. Taylor, H. Derr and George Horstinger, Sacramento, California, December 2, 1930, for 600 g.p.d. from unnamed stream in Sec. 19, T. 11 N., R. 16 E., M. D., for domestic use. Estimated cost \$150.00.

SHASTA COUNTY—Permit 3629, Application 6716. J. J. Vokal and Mary Vokal, Redding, California, December 8, 1930, for 5 c.f.s. from Olney in Sec. 24, T. 31 N., R. 5 W., M. D. M., for power purposes. Estimated cost \$250.00.

SHASTA COUNTY—Permit 3630, Application 6716. J. J. Vokal and Mary Vokal, Redding, California, December 8, 1930, for .5 c.f.s. from Olney Creek in Sec. 24, T. 31 N., R. 5 W., M. D. M., for irrigation and domestic use on 27 acres. Estimated cost \$250.00.

TRINITY COUNTY—Permit 3631, Application 6578. New River Mining Co., Los Angeles, California, December 8, 1930, for 40 c.f.s. from Quimby Creek in Sec. 29, T. 7 N., R. 7 E., H. M., for mining use. Estimated cost \$10,000.00.

SHASTA COUNTY—Permit 3632, Application 6786. August L. Cox and W. E. Winston, Big Bend, California, December 9, 1930, for .93 c.f.s. from Nelson Creek in Sec. 29, T. 37 N., R. 1 E., M. D. M., for irrigation and domestic use on 75 acres. Estimated cost \$1,200.00.

SUTTER COUNTY—Permit 3633, Application 6743. McGrath Bros. et al, Meridian, California, December 9, 1930, 131 c.f.s. from Butte Slough in Sec. 35, T. 16 N., R. 1 W., M. D., for irrigation use on 5,295.53 acres.

BUTTE COUNTY—Permit 3634, Application 6723. E. O. Cullen, Glendora, California, December 11, 1930, for 3 c.f.s. and 9 acre feet per annum storage from Empire Creek in Sec. 20, T. 23 N., R. 4 E., M. D., for mining purposes. Estimated cost \$200.00.

LAKE and MENDOCINO COUNTIES—Permit 3635, Application 6594. Snow Mountain Water and Power Co., San Francisco, California, December 11, 1930, for 50 c.f.s. and 14,500 acre feet per annum storage from South Eel River in Sec. 6, T. 17 N., R. 11 W., M. D., for irrigation use on 4965.9 acres. Estimated cost \$2,000,000.00.

NEVADA COUNTY—Permit 3636, Application 6597. South Yuba Co., Ltd., San Francisco, California, December 11, 1930, for 40 c.f.s. from Scotchman Creek in Sec. 18, T. 17 N., R. 11 E., M. D., for mining use. Estimated cost \$7600.00.

CALAVERAS COUNTY Permit 3637, Application 6764. State of California, Division of Highways, District X, Sacramento, California, December 7, 1930, for .016 c.f.s. from an unnamed spring in Sec. 32, T. 7 N., R. 17 E., M. D., for domestic purposes. Estimated cost \$800.00.

SIERRA COUNTY—Permit 3638, Application 6798. Kate Hardy Mining Co., Downieville, California, December 17, 1930, for 2 c.f.s. from two unnamed ravines in Sec. 19, T. 19 N., R. 10 E., M. D., for mining and domestic use. Estimated cost \$650.00.

MONO COUNTY—Permit 3639, Application 6519. W. O. Garner, Pomona, California, December 18, 1930, for 150 g.p.d. from unnamed spring in Sec. 9, T. 4 S., R. 27 E., M. D., for domestic use. Estimated cost \$100.00.

BUTTE COUNTY—Permit 3640, Application 6790. Edward Steadman, Oroville, California, December 18, 1930, for 3 c.f.s. from Feather River in Sec. 27, T. 18 N., R. 3 E., M. D., for irrigation and domestic use on 253.117 acres. Estimated cost \$8000.00.

YUBA COUNTY—Permit 3641, Application 6731. W. C. Cunningham and A. Cunningham, Camptonville, California, December 22, 1930, for 0.2 c.f.s. from Mosquito Creek in Sec. 22, T. 18 N., R. 8 E., M. D., for irrigation and domestic use on 40 acres. Estimated cost \$1000.00.

TRINITY COUNTY—Permit 3642, Application 6596. Fred W. Ruhser, Weaverville, and Hayfork, California, December 31, 1930, for 80 c.f.s. from Big French Creek in Sec. 17, T. 5 N., R. 8 E., H. B., for hydraulic mining.

DAM APPLICATIONS AND APPROVALS

Applications for approval of dams built prior to August 14, 1929, filed with the State Department of Public Works, Division of Water Resources, during the month of December, 1930.

MODOC COUNTY—Pope Dam No. 165. Lizzie D. Pope, Canby, California, owner; timber crib dam, 8½ feet above streambed with a storage capacity of 400 acre feet, situated on Pit River tributary to Sacramento River in Sec. 2, T. 41 N., R. 9 E., M. D. M., for diversion purposes for irrigation use.

MODOC COUNTY—River Dam No. 148-2. John O. Cummings, Alturas, California, owner; concrete dam, 7 feet above streambed, situated on Pit River tributary to Sacramento River in Sec. 18, T. 42 R., 12 E., M. D. M., for storage purposes for irrigation use.

SAN MATEO COUNTY—McMahon Gulch Dam No. 608. Dante Dianda and Giovanni Patroni, Halfmoon Bay, California, owner; earth dam, 41 feet above streambed with a storage capacity of 25 acre feet situated on McMahon Creek in T. 5 S., R. 6 W., M. D. M., for storage purposes for irrigation use.

MODOC COUNTY—Lindauer and Meckfessel Dam No. 152-2. Lindauer and Meckfessel, Alturas, owners; wooden crib dam, 7½ feet above streambed, situated on Pit River, for diversion purposes for irrigation use.

MODOC COUNTY—Meckfessel Dam No. 152-2. Gus Meckfessel, Alturas, owner; wood crib dam, 6.25 feet above streambed, situated on Pit River tributary to Sacramento River, for diversion purposes, for irrigation use.

MODOC COUNTY—Seven Bar Dam No. 152-2. F. W. Caldwell, Canby, owner; crib dam, 7.2 feet above streambed with a storage capacity of 125 acre feet, situated on Pit River tributary to Sacramento River in Sec. 29, T. 42 N., R. 10 E., M. D. M., for diversion purposes for irrigation use.

LASSEN COUNTY—Watson Dam No. 160-2. Peter Gerig, A. Babcock, et al., Bieber, owners; log dam, situated on Pit River tributary to Sacramento River in Sec. 2, T. 38 N., R. 7 E., M. D. M., for diversion purposes for irrigation use.

ALAMEDA COUNTY—Dingee Dam No. 31-14. East Bay Municipal Utility District, Oakland, owner;

earth dam, 18 feet above streambed with a storage capacity of 16½ acre feet, situated on unnamed draw tributary to Temescal Creek, for storage purpose for municipal use.

EL DORADO COUNTY—Lower Cleese Dam No. 468. John P. Cleese, Placerville, owner; earth dam, 18 feet above streambed, situated on North Canyon Creek tributary to South Fork American River in Sec. 35, T. 11 N., R. 11 E., M. D. M. for storage purposes for irrigation use.

EL DORADO COUNTY—Upper Cleese Dam No. 468-2. John P. Cleese, Placerville, owner; earth dam, 21 feet above streambed, situated on North Canyon Creek tributary to South Fork American River in Sec. 35, T. 11 N., R. 11 E., M. D. M., for storage purposes for irrigation use.

MODOC COUNTY—Hughes Dam No. 166. H. C. Hughes, Canby, owner; timber crib dam, 4 feet above streambed with a storage capacity of 170 acre feet, situated on Pit River tributary to Sacramento River in Sec. 30, T. 42 N., R. 10 E., M. D. M., for diversion and storage purposes, for irrigation use.

Applications for approval of plans and specifications for construction or enlargement of dams filed with the State Department of Public Works, Division of Water Resources, during the month of December, 1930.

LOS ANGELES COUNTY—Chatsworth Dam No. 64. City of Los Angeles, Los Angeles, owner; earth dam, 40 feet above streambed with a storage capacity of 10,500 acre feet, tributary to Los Angeles River in Ex Mission San Fernando for storage purposes for municipal use. Estimated cost \$861,228. (Amending Application of Feb. 15, 1930.)

ORANGE COUNTY—Santiago Creek Dam No. 75. Serrano and Carpenter Irrig. Dist. and the Irvine Company, Orange, owners; earth dam, 110 feet above streambed with a storage capacity of 25,000 acre feet, situated on Santiago Creek, tributary to Santa Ana River in T. 4 S., R. 8 W., S. B. M., for storage purposes for irrigation use. Estimated cost \$700,000. Fees paid \$4,000.

Applications for approval of plans and specifications for repair or alteration of dams filed with the State Department of Public Works, Division of Water Resources, during the month of December, 1930.

MODOC COUNTY—Porter Dam No. 162. Pearl F. Porter, Alturas, owner; earth and rock dam, situated on tributary of Parker Creek in Sec. 12, T. 42 N., R. 13 E., M. D. M.,

NEVADA COUNTY—Culbertson Dam No. 97-17. Pacific Gas and Electric Company, San Francisco, owner; earth and rock dam, situated on Texas Creek tributary to So. Yuba in Sec. 15, T. 18 N., R. 12 E., M. D. M.

NEVADA COUNTY—Lower Feeley Dam No. 97-35. Pacific Gas and Electric Company, San Francisco, owner; earth and rock dam, situated on Fall Creek tributary to South Yuba River in Sec. 29, T. 18 N., R. 12 E., M. D. M.

NEVADA COUNTY—Lower Lindsey Dam No. 97-76. Pacific Gas and Electric Company, San Francisco, owner; earth and rock dam, situated on Texas Creek tributary to South Yuba River in Sec. 20, T. 18 N., R. 12 E., M. D. M.

NEVADA COUNTY—Meadow Lake Dam No. 97-40. Pacific Gas and Electric Company, San Francisco, owner; earth and rock dam, situated on a small creek tributary to Fordyce Creek in Sec. 27, T. 18 N., R. 13 E., M. D. M.

NEVADA COUNTY—Middle Lindsey Dam No. 97-41. Pacific Gas and Electric Company, San Francisco, owner; earth and rock dam, situated on Texas Creek tributary to South Yuba River in Sec. 21, T. 18 N., R. 12 E., M. D. M.

NEVADA COUNTY—Rucker Lake Dam No. 97-44. Pacific Gas and Electric Company, San Francisco, owner; earth and rock dam, situated on Rucker Creek tributary to South Yuba River in Sec. 3, T. 17 N., R. 13 E., M. D. M.

NEVADA COUNTY—Upper Feeley Dam No. 97-45. Pacific Gas and Electric Company, San Francisco, owner; earth and rock dam, situated on Fall Creek tributary to South Yuba River in Sec. 28, T. 18 N., R. 12 E., M. D. M.

ALAMEDA COUNTY—Dingee Dam No. 31-14. East Bay Municipal Utility District, Oakland, owner; earth dam, situated on unnamed draw tributary to Temescal Creek.

MODOC COUNTY—Webb Flat Dam No. 160. Gerig Bros., Bieber, owners; earth dam, situated on Webb Flat tributary to Egg Lake in Sec. 5, T. 41 N., R. 7 E., M. D. M.

CONTRA COSTA COUNTY—Antioch Dam No. 3. Town of Antioch, Antioch, owner; earth dam, situated on unnamed creek tributary to San Joaquin River in Sec. 36, T. 2 N., R. 1 E., M. D. M.

SAN MATEO COUNTY—McMahon Gulch Dam No. 508. Dianda and Patroni, Halfmoon Bay, owners; earth dam situated on McMahon Creek in T. 5, S., R. 6 W., M. D. M.

PLACER COUNTY—Lower Peak Dam No. 97-37. Pacific Gas and Electric Company, San Francisco, owner; earth and rock dam situated on small creek tributary to South Yuba River in Sec. 30, T. 17 N., R. 14 E., M. D. M.

PLACER COUNTY—Upper Peak Dam No. 97-47. Pacific Gas and Electric Company, San Francisco, owner; earth and rock dam, situated on small creek tributary to South Yuba River in Sec. 32, T. 17 N., R. 14 E., M. D. M.

Plans for the repair or alteration of dams approved by the State Department of Public Works, Division of Water Resources, during the month of December, 1930.

CONTRA COSTA COUNTY—Chenery Reservoir No. 581. California Water Service Company, San Francisco, owner; earthfill dam, situated on tributary to Sacramento River in Sec. 13, T. 2 N., R. 2 W., M. D. M.

RIVERSIDE COUNTY—Alvord Dam No. 815. Riverside Water Company, Riverside, owner; earth dam.

MODOC COUNTY—Lower Roberts Dam No. 157-2. H. M. Roberts, Lookout, California, owner; earth dam, situated on Antelope drainage tributary to Pit River in Sec. 11, T. 29 N., R. 7 E., M. D. M.

MODOC COUNTY—Porter Dam No. 162. Pearl F. Porter, Alturas, owner; earth and rock dam, situated on tributary of Parker Creek in Sec. 12, T. 42 N., R. 13 E., M. D. M.

ALAMEDA COUNTY—Dingee Dam No. 31-14. East Bay Municipal Utility District, Oakland, owner; earth dam, situated on unnamed draw tributary to Temescal Creek.

SANTA CLARA COUNTY—Lower Howell Dam No. 622-2. San Jose Water Works, San Jose, California, owner; earth dam, situated on Rundell Creek tributary to Los Gatos Creek in Sec. 31, T. 8 S., R. 1 W., M. D. M.

NEW HAMPSHIRE—Definite progress in beautifying roadsides has been made this year, according to Frederick A. Gardner, State Highway Department Engineer. Grass, trees and shrubbery planted along the roadside and at intersections have greatly enhanced highways.

Simplified Spelling

The new church treasurer wrote a letter, and 50 per cent of the members paid up. He wrote another and all but one paid. Finally he wrote one more and the last man sent in his check. Shortly afterwards the pastor dined at the man's home.

"You have a new treasurer?" inquired the host.

"Yes," answered the minister.

"He writes a nice letter," remarked the host, "except that he can't spell."

"Is that so?"

"Yes, he ought to be corrected on that. He spelled 'skunk' with a 'c' and had two 's's' in 'lousy.'"

THE FROG

Speaking of school teachers, one of them sent in an essay on the frog, written by a Japanese student: "What a wonderful bird the frog are! When he stand, he sit, almost. When he hop, he fly, almost. He ain't got no tail, hardly, either. When he sit, he sit on what he ain't got, almost!"

CALIFORNIA HIGHWAYS AND PUBLIC WORKS

Official journal of the Division of Highways of the Department of Public Works, State of California; published for the information of the members of the department and the citizens of California.

Editors of newspapers and others are privileged to use matter contained herein. Cuts will be gladly loaned upon request.

COLONEL WALTER E. GARRISON-----Director
GEORGE C. MANSFIELD-----Editor

Address communications to California Highways and Public Works, P. O. Box 1103, Sacramento, California.

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RESTORATIVES

When I grow tired of seeking pelf, and feel so sorry for myself,

I wander down to Lamping Lane, where begging folk hold sway;

And there I watch the halt and lame play on at this Existence game.

And hear the beggars whine and moan when once you look their way.

I see the blind and crippled man who deftly shakes his money can;

The legless one who rides upon a cart with tiny wheels;

The twisted creature with a leer; the scarred and maimed, who know no cheer;

And when I hear a laugh at all, it comes in nervous peals.

And when at last I stumble back and find my daily beaten track,

I breathe a prayer so fervent that it can not be ignored—

I quite forget my selfish woes—I have my fingers and my toes—

I have my eyes, and, through it all, my Hope has been restored!

—Selected.

In the days before oil was discovered in Texas, a traveling man stopped for the night at a dry-land ranch near Wink. As he discussed the affairs of the country with his host he became more inquisitive as to how the ranch paid its way. At last he ventured the question:

"How in the world do you make a go of things at all?"

Indicating the hired man, who was sitting at the far end of the supper table, the host replied: "You see that feller there? Well, he works for me and I can't pay him. In two years he gits the ranch. Then I work for him till I git it back."—*Dravo Bulletin*.

Don't hunt for trouble
But look for success.
You'll find what you look for,
So don't look for distress.
If you see but your shadow,
Remember, I pray,
That the sun is still shining,
But you're in the way.

Mary Lee: "Bill is an awful pest—he never seems to know when to stop."

Mary Lou: "That's strange. I was riding with him last night and he found a dandy place."

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Department of Public Works

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STATE HIGHWAYS IN CALIFORNIA SHOWING THE PRIMARY AND SECONDARY ROAD SYSTEMS AND THE DIVISION OF THE STATE UNDER THE BREED BILL.

