

THE HISTORY OF THE BUILDING OF THE GOLDEN GATE BRIDGE

A DISSERTATION
SUBMITTED TO THE DEPARTMENT OF HISTORY
AND THE COMMITTEE ON GRADUATE STUDY
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FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

By

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PREFACE

The building of the Golden Gate bridge brought to realization an old dream of Bay area residents. Planned in the Golden Twenties and constructed during the Depression Thirties, the Golden Gate project spanned an important period of California history. Outside of E. Cromwell Mensch, The Golden Gate Bridge (San Francisco, 1935) and Joseph B. Strauss, The Golden Gate Bridge (San Francisco, 1937), both of which provide detailed technical descriptions, little effort hitherto has been made to place the building of the Golden Gate bridge in its historical setting. This study is the first general history that has been written about the bridge from original materials.

To uncover the story of the movement to build a bridge, to assess public opinion on both sides of the Golden Gate respecting such a structure, and to be cognizant of other current problems, the author examined several Bay area newspapers. In San Francisco, the Chronicle, Examiner, News, and Bulletin (after August 1929, the Call-Bulletin) were studied. The newspaper index of the California State Library in Sacramento provided several hundred references in the Chronicle and Examiner relating to the bridge. An examination of the articles appearing in these two San Francisco papers led to information contained in other Bay area

journals. Complete files of these newspapers were found in the San Francisco City Library.

Beyond the Golden Gate to the north, newspapers possessing a wide local circulation were studied. The San Rafael (Calif.) Independent contained approximately 200 stories dating back to 1916. Additional bridge material was obtained from the Marin (Calif.) Journal, a weekly also published in San Rafael. Files of the Independent were located in the library of the San Rafael Independent Journal.¹ The Marin Journal was found in the San Rafael City Library. A third North Bay newspaper examined at length was the Santa Rosa (Calif.) Press Democrat. Santa Rosa was a seedbed of pro-bridge agitation, thus particular attention was given to the editorial and news coverage of the Press Democrat in the years 1919 to 1932.

Other newspapers consulted included the Ukiah (Calif.) Republican Press, Sausalito (Calif.) News, Palo Alto (Calif.) Times, and the New York Times.

Valuable primary materials located in the San Francisco City Engineer's office aided in piecing together the history of the formative years of the bridge project. Here, two scrapbooks were discovered containing letters exchanged in 1920-21 by the city engineer, M. M. O'Shaughnessy, and Joseph B. Strauss, later to become chief engineer of the Golden Gate bridge district. These scrapbooks also contained

1. The San Rafael Independent Journal is the result of a merger, in 1948, of the Independent and the Marin Journal.

the correspondence between O'Shaughnessy and the U. S. Coast and Geodetic Survey in Washington concerning a federal survey of the Golden Gate channel to determine the feasibility of a bridge. Since neither the O'Shaughnessy-Strauss nor the O'Shaughnessy-Survey correspondence is available to the public, printed copies of the most significant letters are included in the appendix. Other local government repositories investigated included the files of the San Francisco Board of Supervisors, containing the Journal of Proceedings of that body, and the files of the California State Public Utilities Commission, where the annual statistics on ferry traffic across the Golden Gate during the twenties and thirties were recorded.

In the Marin County Free Library in San Rafael, the manuscript copy of Clifford Flack's Marin Chronology, 1880-1932, provided valuable data on Marin County history, including early sentiment for a Golden Gate crossing.

The litigation involving the bridge district was one of the important themes throughout the preconstruction period. Since the Golden Gate Bridge and Highway District was the first bridge district formed under the enabling statute passed by the State of California in 1923, the rulings of the county superior courts and the California State Supreme Court on the constitutionality of the bridge district took on unusual significance.

The Francis V. Keesling Papers in the Borel Collection at Stanford University provided the most important

single source of material pertaining to the construction period. Keesling, a bridge district director from 1929 to 1936 and chairman of the influential building committee during the same period, assembled three file drawers of material concerning the bridge district. Included in this collection were the "Memorandum of Minutes" of the board of directors, 1930-36; a 200-page daily calendar in which Keesling recorded a day-by-day account of his bridge activities; and three scrapbooks containing approximately 2,000 newspaper clippings. In addition, the papers contained several hundred letters, memoranda, telegrams, financial and traffic reports, proposals, surveys, speeches, and other printed matter.

Lacking an adequate political history of the Bay region during the period of the thirties, the author relied heavily upon the library of the San Francisco Chronicle and upon conversations with Earl C. Behrens, political editor of the Chronicle since the 1920's. Correspondence with some of the major contractors (such as Bethlehem Steel Company), several San Francisco business and booster organizations, and James Adam, general manager of the Golden Gate Bridge and Highway District, supplemented the contemporary coverage of the economic conditions during the depression.

The annual reports of the bridge district, California State Senate committee reports, and newspaper accounts were utilized for the final chapter, which surveys the history of the span since its opening in 1937. Biographies, memoirs,

special studies, textbooks, and magazine articles pertaining to the history of the Bay region and California provided a general background for the narrative.

A chronological ordering of the material was used in dealing with the history of the project to 1933. For the period of construction, 1933-37, a topical organization was followed; this portion of the study included treatment of the financing of the structure, the building of the bridge, and the maneuvering and impact of politicians upon bridge policies. Throughout the dissertation an effort has been made to interrelate the story of the Golden Gate bridge with the local and national economic and political developments of the period.

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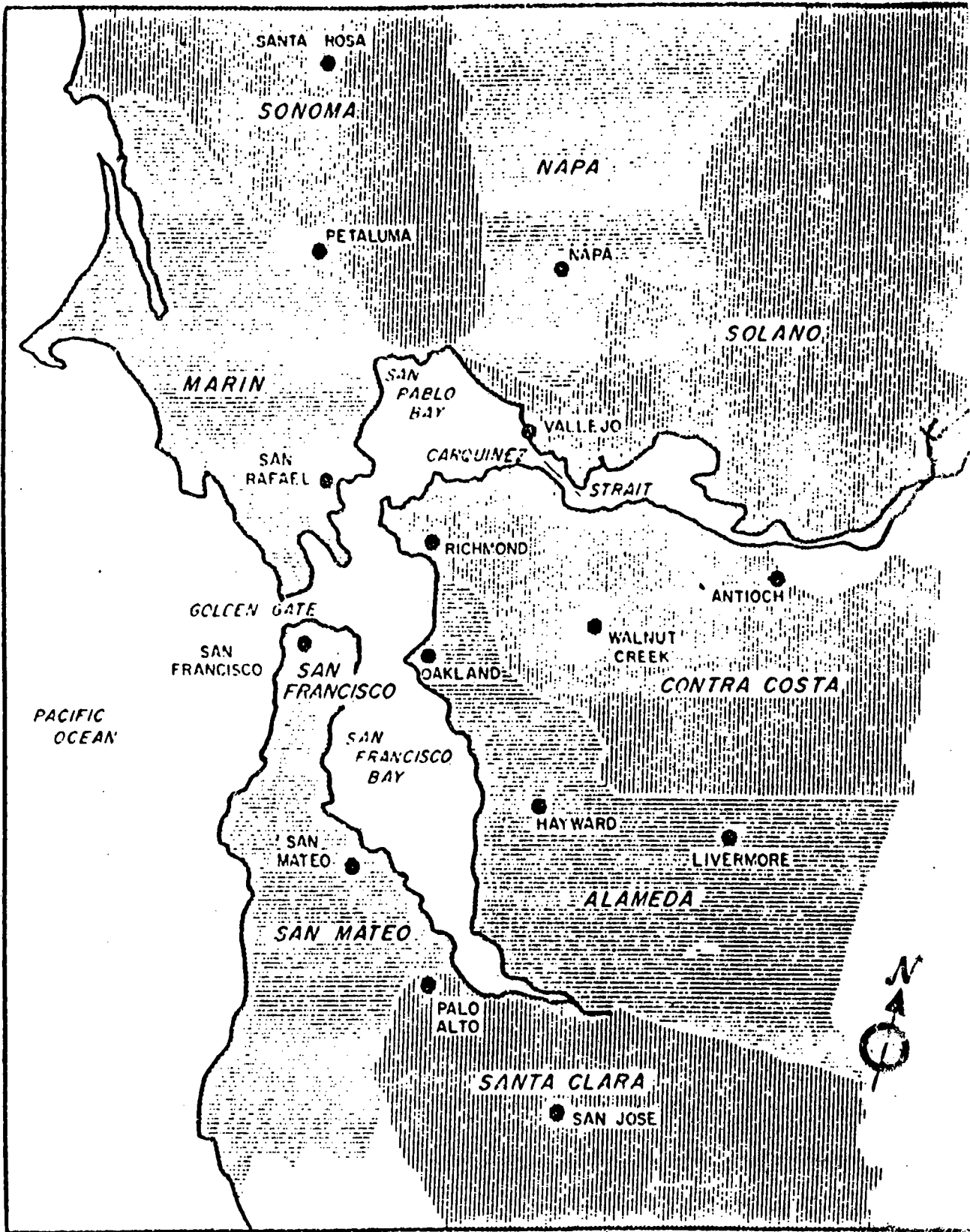
CHAPTER I

GROWTH OF THE IDEA

Introduction

Few metropolitan areas have been blessed with more natural advantages than the San Francisco Bay region.¹ Today (1958) the more than 3,000,000 people who reside in the area live in a climate that is mild the year round, tempered by the presence of the Pacific Ocean. Rich agricultural valleys, particularly the 515,000-acre Santa Clara Valley in the south and the narrow 270,000-acre Napa River Valley in the north, produce large amounts of farm and dairy products for the expanding population. The San Francisco Bay, which forms one of the finest natural harbors in the world, has made the port of San Francisco a gateway to the Pacific and a leading world trade center. To all these attributes may be added the fact that the area is rich in

1. See map, p. 2. The San Francisco Bay region as referred to in this study is comprised of nine counties; they are: San Francisco, Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, and San Mateo. This nine-county unit has been the basis for economic studies of the Bay area made by state and local authorities. See California, Fact-Finding Committee of the California Assembly on Tidelands Reclamation Development, Related Traffic Problems, and Relief of Congestion on Transbay Crossings, Report on Development of the San Francisco Bay Region, prepared by John L. Savage (San Francisco, 1951), p. 7; San Francisco, Department of City Planning, The Population of San Francisco: A Half Century of Change (San Francisco, 1954), p. 6.



The Nine-County
SAN FRANCISCO BAY AREA

natural beauty, yearly attracting thousands of new residents and visitors.²

The growth of the region, however, has not been without its problems. Since the days of the Gold Rush, the need of an adequate water supply for San Francisco and a satisfactory baywide transportation system has been a constant challenge. Throughout the latter half of the nineteenth century, San Francisco's water supply was developed from local resources. When these failed to meet the requirements of the rapidly expanding metropolis, the construction of the Hetch-Hetchy aqueduct from Yosemite National Park in the Sierra Nevada was undertaken. Begun in 1914, and put into operation in 1934, the Hetch-Hetchy project has met the water needs of San Francisco.³

Unlike the development of water resources, however, building an adequate transportation network in the Bay area has been infinitely more complicated. Such significant factors as geography, rapid population growth, and the introduction of the automobile had to be reckoned with in the construction of any transbay transportation system. San Francisco, key to the area, is located on a narrow, hilly

2. Walter McElroy, ed., San Francisco: The Bay and Its Cities (New York, 1947), pp. 43-44. For a full discussion of San Francisco's geography and points of interest see Aubrey Drury, California: An Intimate Guide (New York, 1947), pp. 242-82.

3. Ray W. Taylor, Hetch-Hetchy: The Story of San Francisco's Struggle to Provide a Water Supply for Her Future Needs (San Francisco, 1926), pp. 9-13; McElroy, San Francisco, pp. 43-44.

4

tip of a peninsula bounded on the west by the Pacific Ocean, on the north by the Golden Gate, and on the east by the San Francisco Bay. Across the Bay to the east lies the city and port of Oakland, the western terminal for transcontinental railroads. Immediately to the north beyond the Golden Gate is Marin County, gateway to the redwood country of Northern California with its rich agricultural and lumber industries.⁴

The land-locked harbor of San Francisco with its many bays and inlets is a magnificent waterway, covering over 400 square miles much of which is navigable by ocean-going vessels. The entrance to the Bay, the Golden Gate, is a picturesque strait one mile wide at its narrowest point and some three miles long. Through the strait flow all the waters from California's Central Valley river system.⁵

The Spanish founded San Francisco in 1775 on the water's edge from which they had access to ocean shipping lanes. In the years to follow, however, the Spanish settlers in the Bay area displayed little maritime interest. As late as 1841, American vessels visiting San Francisco found no evidence that the Spanish had made any effort to enlighten themselves concerning the maritime possibilities of the port.⁶

4. For a description of California's famed redwood empire see Alfred Powers, The Redwood Country (New York, 1949) and Howard Brett Melendy, "One Hundred Years of the Redwood Lumber Industry, 1850-1950" (Ph.D. dissertation, Stanford University, 1952).

5. Olaf P. Jenkins, ed., Geological Guidebook of the San Francisco Bay Counties (San Francisco, 1951), pp. 79-84.

6. John P. Young, San Francisco (San Francisco, 1912), I, 121-22.

5

The discovery of gold in 1848 brought about radical changes in the life of this coastal city. As hundreds of ships sailed through the Golden Gate bringing with them tens of thousands of gold-seekers, San Francisco became a world-renowned port. Almost simultaneous with this development was the establishment of a river steamer service to carry the heavy freight and passenger traffic moving from San Francisco to Sacramento and the gold fields that lay to the east. These river steamers, which made their first regular runs in 1850, were brought to San Francisco around the Horn from the Atlantic seaboard.⁷

Also in 1850, the first regular ferry service was inaugurated between San Francisco and the expanding settlements on the eastern shore of the Bay centering around Oakland. By the time of the Civil War, the San Francisco-Oakland ferry service had been increased to six trips daily. The completion of the first transcontinental railroad in 1869 with its western terminus at Oakland gave impetus to a further expansion of this service; on September 6, 1869, the first ferry boat carrying transcontinental rail passengers arrived in San Francisco from the train-ferry terminal in Oakland.⁸

7. John W. Caughey, California (New York, 1946), pp. 292-301; George H. Harlan and Clement Fisher, Jr., Of Walking Beams and Paddle Wheels (San Francisco, 1951), p. 16.

8. Neill C. Wilson and Frank J. Taylor, Southern Pacific: The Roaring Story of a Fighting Railroad (New York, 1952), p. 193.

Throughout the remainder of the nineteenth century and into the twentieth, the ferry boat facilities were extended to many other points on the San Francisco Bay. New routes were inaugurated, the number of ferry boats was increased, and the service was improved as the population in the Bay region soared from 50,000 at the end of 1849 to over 1,330,000 by World War I. In 1917, the year America entered the war, 43,000,000 passengers crossed the Bay on ferries.⁹

Up to the time the United States entered the world conflict, the ferry system had been able to meet the transportation needs of the San Francisco Bay area. There were some misgivings, however. A new form of transportation, the automobile, had made its appearance on California roads around the turn of the century. By 1910, the number of motor cars in California had increased to 44,000; a decade later that number had jumped to nearly 600,000.¹⁰ After 1910, the automobile began to appear in significant numbers in ferry statistics. In the year 1917, over 600,000 auto-ferry trips across the Bay were completed. This upsurge in automobile travel brought growing traffic congestion on the ferry routes. The vessels, designed primarily to carry passengers and a relatively few horse-drawn carriages, could not accommodate the herds of "horseless carriages." The

9. Drury, California, pp. 243-44; San Francisco, Chamber of Commerce, Ninth Annual Statistical Report of the San Francisco Chamber of Commerce, 1920 (San Francisco, 1921), p. 8.

10. U. S., Public Roads Administration, Highway Statistics: Summary to 1945 (Washington, 1947), p. 19.

ferry owners continued to improve and augment their fleets, but their efforts failed to meet the demands of the mounting number of car owners for more efficient transbay service.¹¹

A transportation revolution was in the making, one which would have a great impact on the economic, social, and political growth of the region. The automobile was the key to this new era, and to serve adequately this new form of transportation it would be necessary to replace the ferry boats with bridges.¹² New York City, which since 1883 had erected four bridges across the East River linking Manhattan Island with the mainland, provided an example for San Francisco.¹³ Building bridges in the San Francisco Bay, however, presented many financial and engineering problems which took years of careful planning, study, and public education to resolve.

The Golden Gate bridge project, promoted as a partial answer to San Francisco's transbay transportation problems,

11. The Southern Pacific Company constructed the first auto ferry in 1908, followed by a second vessel in 1912. At the time these two boats were evidently regarded as experiments, since it was not until the twenties that the ferry companies emphasized auto-ferry construction. At the height of the ferry boat era--the late twenties and early thirties--a fleet of over thirty vessels was devoted exclusively to transporting automobiles. See Harlan and Fisher, Of Walking Beams, p. 36.

12. For a history of the automobile industry see M. M. Muselman, Get A Horse! The Story of the Automobile in America (New York, 1950) and Allen Nevins, Ford: The Time, The Man, The Company (New York, 1954).

13. By 1910 New York was served by the Brooklyn bridge (1883), the Williamsburg bridge (1903), the Queensboro bridge (1908), and the Manhattan bridge (1909). See Encyclopedia Britannica, IV, 127.

originated during World War I. Today (1958), twenty-one years after its completion, the role of this crossing is still expanding, contributing to the development of an ever-enlarging metropolitan area.

Bridge Proposals

The most celebrated of the early bridge proposals for the San Francisco harbor was advanced by the fabulous "Emperor Norton I" in 1869. In August of that year "Emperor" Norton issued a proclamation directing that a suspension bridge be constructed from Oakland to Yerba Buena Island to Sausalito (Marin County), and from there to the Farallon Islands. Although this scheme was impossible of execution, it did underscore the basic desire for closer unity among the various Bay area communities.¹⁴

The proposal to bridge the Golden Gate had been agitated for a number of years. The first definite consideration given to the idea reportedly came in the 1870's, during the initial railroad building era in California. In 1872, Charles Crocker, one of the "Big Four" in the Central Pacific railroad, presented a plan to the Marin County Board of Supervisors calling for the construction of a railway bridge across the Golden Gate. The purpose of the span was to make

14. Emperor Norton I, Emperor of the United States and Protector of Mexico, a real person who assumed a legendary role during the early days of San Francisco. See Allen S. Lane, Emperor Norton: The Mad Monarch of America (Caldwell, Idaho, 1939) and Albert Dressler, ed., Emperor Norton (San Francisco, 1927), p. 20.

San Francisco the western terminus of the transcontinental railroad which had been completed in 1869.¹⁵ During the remainder of the nineteenth century and into the first decade of the twentieth century, plans to bridge the Golden Gate were frequently suggested. But, like Crocker's, they were all considered too visionary to be of practical value.¹⁶

After the beginning of World War I and prior to American involvement, the idea was put forth again, this time to take root and prosper until the bridge was planned and constructed. The man primarily responsible for initiating the movement was James H. Wilkins, a local engineer and newspaperman from Marin County.

Wilkins came to California in the year 1861, as a boy of seven. With his family he settled in Marin in the town of San Rafael, twenty miles north of San Francisco. Following his graduation in engineering from the University of California in the late 1870's, Wilkins returned to San Rafael. There, instead of pursuing his engineering training, he established a weekly newspaper, the Tocsin, and began to take an active interest in public affairs. Shortly after 1910, he accepted a position on the San Francisco Bulletin.

15. San Francisco Bulletin, Aug. 26, 1916.

16. Another proposal that received some currency was made by Thomas A. Box, a resident of Sausalito in Marin County. In 1896 he presented his plan to William Kent, at that time a United States Congressman from Marin. Kent evidently did not take the suggestion seriously; however, this did not prevent Box from pursuing his project winning for himself the dubious title of the "crazy old man" who wanted to bridge the Golden Gate. San Francisco Chronicle, May 27, 1937.

It was while he was on the staff of the Bulletin that he published the first of several articles outlining the need and a plan for a bridge across the Golden Gate.¹⁷

At the time of his first article in August 1916, Marin's economy was devoted almost entirely to agriculture. In fact, one of the most striking features in the history of the Bay area was the sharp contrast between the rate of growth of San Francisco and that of Marin County, separated as they were only by the Golden Gate. In the decades following the Gold Rush, San Francisco had grown to the status of a major seaport on the Pacific Ocean, serving as the regional capital for a large portion of the West. Since 1860 her population had grown from 57,000 to 417,000 by 1910.¹⁸ Marin, meanwhile, retained its rural atmosphere and occupations. During the 1870's, when the first railroads were constructed in the county, some of the civic and business leaders had a vision of developing a rival port on their side of the bay. These plans never materialized, however, as the momentum of an early start put San Francisco in a commanding position.¹⁹ By 1910, Marin's population

17. Florence Donnelly, secretary, Marin County Historical Society, to author, Nov. 12, 1956.

18. U. S., Bureau of Census, Thirteenth Census of the United States: 1910. Population, II, 149.

19. Marin County (Calif.) Journal, April 6, 1872; June 29, 1872. See J. P. Munro-Fraser, History of Marin County (San Francisco, 1880) for detailed coverage of Marin's early history. The best source for more recent events is Clifford Flack, Marin Chronology, 1880-1932, an unpublished manuscript in the Marin County Free Library.

stood at 25,000--only a fraction of that of the major metropolis that lay but one mile away across the Golden Gate.²⁰

Water communication between Marin and San Francisco was established on a permanent basis in 1868, when the first regular ferry service was inaugurated. Gradually this route was expanded, and by 1917 a flourishing passenger-freight-auto service existed operating between San Francisco and the town of Sausalito. In 1917, over five and one-half million passengers crossed the Golden Gate.²¹ The number of motor cars carried in that year is not available, but in 1919 over 123,000 vehicles made the trip by water.²²

James Wilkins was one of the growing number of businessmen who traveled daily to San Francisco from his home in Marin County. Since the 1870's he had watched this ferry traffic grow and had experienced firsthand some of the commuter's problems. By 1916 Wilkins had reached the decision that the future of Marin lay in closer transportation ties with San Francisco. Drawing upon his knowledge of engineering and using his faculty for writing, he launched a one-man campaign in the Bulletin to win support for the construction of a span across the Golden Gate.

20. U. S., Bureau of Census, Thirteenth Census of the United States: 1910. Population, II, 146.

21. San Francisco, Ninth Annual Statistical Report, p. 8; George H. Harlan, "The Saga of the Ferries," Sausalito (Calif.) News, Feb. 27, 1941, pp. 1-2.

22. Golden Gate Bridge and Highway District, Vol. II:

