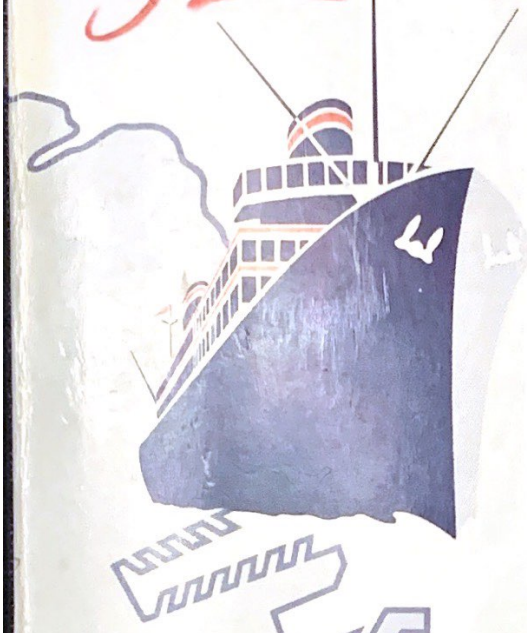
32

a part of the **MASTER PLAN**



SHORELINE DEVELOPMENT

OAKLAND

CALIFORNIA

city planning commission

SHORELINE DEVELOPMENT

a part of the MASTER PLAN

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OAKLAND
CALIFORNIA

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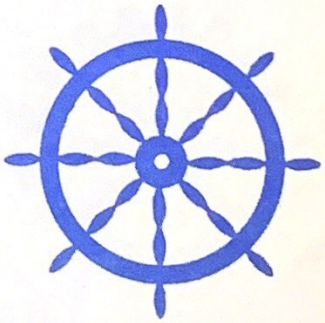
CARL O. OLSEN	resigned november 28, 1951
CHARLES A. REED superintendent of streets ex-officio city engineer	ex-officio



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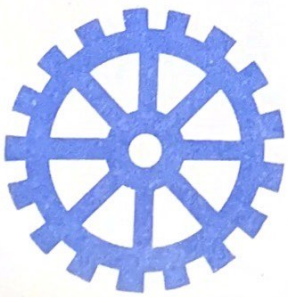

Honorable City Council
City of Oakland

Gentlemen:

The City Planning Commission submits herewith a proposed plan of shoreline development, in compliance with Resolution No. 23452 C.M.S., August 18, 1949. The report has been reviewed in detail by a special committee of the City Planning Commission and discussed with the Port of Oakland and other interested agencies. Following the required public hearing, the plan has been approved by the Commission.

It is recommended that the Council hold a public hearing on the plan and adopt it as part of the comprehensive, long-range Master Plan for the development of Oakland.

If adopted, the plan should be transmitted to Alameda County to be incorporated as part of the County Master Plan of Shoreline Development.

Following adoption of the plan, the appropriate City agencies should be directed to find ways and means of accomplishing the recommended public projects as they become feasible and practical.

Respectfully submitted,

Galen H. Drury
Chairman

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TO THE READER

This is a thick report. In 89 pages and 11 maps, charts and drawings it describes the master plan for the development of Oakland's shoreline. But the report is not the master plan.

The master plan is the map which faces page 51. The rest of the book tells the story behind the plan. The report covers all the various factors that were considered - past trends, present conditions, other plans which affect the shoreline. The text describes the thinking that went into the making of the plan. Detailed site plans are included merely to illustrate the potentialities of certain parts of the shoreline. The final chapter deals with the machinery for turning the plan into action.

The master plan can be boiled down into the following essential elements:

1. Balanced development of the shoreline, giving due weight to the economic and the social needs of the people of the East Bay.

2. Reservation of waterfront lands for the great expansion of the Port which eventually will be needed when the Orient becomes industrialized and transpacific trade increases consequently.

3. Development of San Leandro Bay as a harbor, and the tidelands and surrounding area for industrial sites, in accord with the Port of Oakland's Post-War Projects Plan.

4. Improvement of Inner Harbor, in accord with the Port of Oakland's plan.

5. Development of Brooklyn Basin as a harbor.

6. Expansion and improvement of Outer Harbor, in accord with the Port of Oakland's plan.

7. Construction of a major port and industrial center at North Harbor, in accord with the Port of Oakland's plan.

8. Development for industrial sites of all the land seaward of the future Eastshore Freeway as far east as 5th Avenue and seaward of the Western Pacific Railroad from 5th Avenue to the San Leandro line with the exception of the areas specifically mentioned below.

9. Limitation of all industrial areas adjacent to residential, recreational and commercial districts to light industrial use.

10. Relocation of the Santa Fe Railway on the tidelands west of

the present Eastshore Highway.

11. Relocation of the Southern Pacific Railroad's Newark line connection with the Niles Canyon line in Sobrante Park, to the south, between West Avenue 132 and West Avenue 150 in Alameda County.

12. Relocation of the Western Pacific Railroad's 3rd Street tracks, west of 14th Avenue, on 1st Street.

13. Location of a union railroad passenger terminal at 16th and Wood Streets.

14. Enlargement of the Oakland Municipal Airport, in accord with the Port of Oakland's plan.

15. Completion of the Eastshore Freeway and construction of the West Grand Avenue overpass, the Webster Street tube, the Cypress Street tube and the Fruitvale Avenue Bridge, in accord with the Master Plan of Freeways and Major Streets.

16. Construction of a freeway along the western boundary of the proposed industrial area north of the Bay Bridge, a third level on the Bridge distribution structure, a grade-separated approach to the Airport, and a parkway on the abandoned Southern Pacific right-of-way in Sobrante Park.

17. Provision of transit service on all freeways and construction of bus turnouts, passenger stations and pedestrian accessways.

18. Construction of a drainage channel north of the Bay Bridge to take care of storm-water runoff from Temescal Creek.

19. Development of a waterfront recreation area south of the Airport designed to provide sufficient beach space and safe, pollution-free swimming area to accommodate peak-hour crowds comfortably; a yacht harbor and related facilities of sufficient size to meet the needs of Oakland and environs; an attractive, safe watercourse for motorboats, rowboats, canoes and small sailing craft; and a variety of other recreation facilities so that the development will have wide appeal and will be intensively used.

20. Construction of a municipal stadium, with adequate parking space, on the land bounded by the Southern Pacific Railroad, Hegenberger Road, the municipal corporation yard, the Eastshore Freeway and the extension of 57th Avenue.

21. Development of the area at the foot of Broadway, bounded by Clay and Franklin Streets and 5th Street and the Estuary, as a commercial amusement center, combining the attractions of the waterfront, the produce district and historic old Oakland with new restaurants, cafes, markets, shops, theaters and a plaza for public festivities.

22. Expansion of the Columbian Gardens neighborhood to the west as far as Hegenberger Road and San Leandro Creek and location of a school and shopping center there.

23. Separation of the Brookfield Village, Sobrante Park and Columbian Gardens neighborhoods from surrounding light industrial areas by park strips and major traffic arteries.

It should be emphasized that this is a long-range plan covering a period of 30 to 40 years - or more. Almost every project recommended can be developed in stages. Each of the public improvements is contingent on the taxpayers' willingness to pay for it. Each of the private projects must await the day when it is economically justified. But all of the recommendations are within the range of reasonable probability if Oakland continues to grow and prosper.

INTRODUCTION

San Francisco Bay exerts a far-reaching influence on the lives of many of the two and a half million people who live along its shores. One of the world's finest harbors, it directly or indirectly provides employment for hundreds of thousands in manufacturing, warehousing, shipping and related enterprises. But the presence of the Bay does more than give people a means of earning their livelihood. Depending on how it has been preserved or developed, it makes existence either more pleasant or unpleasant for those who live within its orbit.

To families fortunate enough to live on hill sites overlooking the Bay, its ever-changing beauty is a constant source of delight. But to those living close to the shore, it is a foul-smelling nuisance. To commuters, it is little more than an annoyance, a body of water to be crossed and recrossed each working day. For a relatively few people the Bay is a recreation ground where they can swim or fish or sail. But the great majority have no direct contact with the water. For all the pleasure or sport it gives them, they might as well live in central Kansas.

In the East Bay the situation is no different. Some port facilities and industrial sites have been developed, and plans have been made for future improvement and expansion. But the residential and recreational potentialities of the Bay practically have been ignored. Excepting the shore of Alameda, scarcely a single residence is located along the 52 miles of shoreline between Point San Pablo and Newark. Aside from a little-used park in Richmond, a small yacht harbor and lagoon in Berkeley and a few spots of beach in Alameda, there are no facilities for bringing the people and the Bay together.

Why has the East Bay missed the opportunity to diversify the use of its shoreline? What is being done now and what can be done in the future to achieve balanced development? What are the best uses for Oakland's shoreline, from the standpoint of the city's economic and social well-being? These are the questions which this report tries to answer.

Oakland must realize that its shoreline is limited and that this type of land possesses extraordinary economic and social values. The uses to be made of such a valuable asset deserve the most careful consideration. To ensure the future prosperity of Oakland and, at the same time, to make it a truly good place to live, balanced development of the shoreline will be necessary. The city earns its living primarily from its industries, port and transportation facilities. If Oakland is to continue to grow and prosper, new industrial plants and additional port and transportation facilities must be built. But the importance of economic development must not be allowed to conceal the need for improving

parts of the shoreline for popular enjoyment. If adequate safeguards against pollution are provided, industrial and recreational use of the waterfront can be compatible.

In this report, proposals for future development are presented in broad outline. Details are to be filled in as each project, public or private, is undertaken. Whether or not the proposals of the master plan ever are realized is, as always, up to the people of Oakland.

EXISTING CONDITIONS

Topography

In the vicinity of San Francisco Bay the Coast Range divides into two parts, the Santa Cruz Range forming the spine of the San Francisco Peninsula, and the Mount Diablo Range and its arm, the Contra Costa Hills, hemming in the East Bay. At the base of the Contra Costa Hills is a low-lying area covered to a depth of from 100 to 200 feet with a superficial drift of clay, sand and gravel. On this narrow plain Oakland and the other 10 cities of the metropolitan East Bay have grown.

Oakland's shoreline slopes gently down to the water's edge. Except where deep channels have been dug in the vicinity of the military installations in the Outer and Middle Harbors and along the Estuary, the bottom inclines gradually out to the center of the Bay, where it drops off sharply into the main channel. The Bay floor adjacent to Oakland is almost uniformly covered with a deposit of soft alluvial mud.

The city of Oakland covers an area of 60.3 square miles - 7.2 square miles of water and 53.1 square miles of land. Almost a sixth of the present land area originally was tidelands which have been reclaimed from the Bay.

Situated on the continental side of one of the largest land-locked harbors in America, Oakland has 22 miles of waterfront. From the Oakland-Emeryville boundary on the north, it extends west along the North Harbor shoreline, south along the Outer and Middle Harbors, southeast along the winding San Antonio Estuary, and then along the irregular shores of San Leandro Bay to the Oakland-Alameda city boundary. Also included within the city is a small strip of shoreline along the south shore of Bay Farm Island.

Beginning at the Oakland-Emeryville boundary, the shoreline has been filled in to provide the right-of-way for the Eastshore Highway. This highway leads to the San Francisco-Oakland Bay Bridge distribution structure and then turns west on filled land leading to the Bridge. The shoreline in this area is called North Harbor, despite the fact that it is too shallow for navigation. The water varies in depth up to a maximum of 10 feet.

The combined Outer and Middle Harbor waterfront, from the Bay Bridge to the mouth of the Estuary, is lined with docks and berths for military transport and freight vessels. The bottom is maintained to a depth of 30 feet or more with the exception of a small area off the end of the Southern Pacific Mole.

Flanking Oakland to the southwest and separated from it by the Estuary lies the island city of Alameda, six miles long by one mile wide. Four Estuary crossings connect Alameda with Oakland: a two-lane subaqueous tube giving access to downtown Oakland, and bridges at Park Street, Fruitvale Avenue and High Street. The shoreline along the Estuary is eight miles long, and at its southern end, it opens out into San Leandro Bay. From Middle Harbor south to the 23rd Avenue bridge, the Estuary is dredged to a depth of 30 feet, sufficient to accommodate any but the largest ocean-going vessels. The remainder of the Estuary is maintained at 18 feet. The channel has been extended across San Leandro Bay to the Oakland Municipal Airport.

Near the center of the Estuary, wholly within the city of Alameda, lies Government Island, a 100-acre fill created by the dredging of Brooklyn Basin, directly to the east. The island is now under lease to the Federal government and in use as a Coast Guard base. North of Government Island the Estuary varies in width from 700 to 1400 feet; to the south the channel is only 350 feet wide. Just north of Brooklyn Basin, an arm of the Estuary forms Lake Merritt.

The marshy shores of San Leandro Bay follow an irregular outline and are cut by innumerable creeks and sloughs. The Bay is bounded by Alameda, Oakland and Bay Farm Island, a misnamed peninsula jutting into San Francisco Bay. Half of Bay Farm Island lies in Alameda and the other half in Oakland. A narrow inlet between the southern tip of Alameda and Bay Farm Island connects San Leandro Bay with San Francisco Bay. The inlet is too shallow for navigation and is spanned by an old two-lane vehicular bridge, now being replaced.

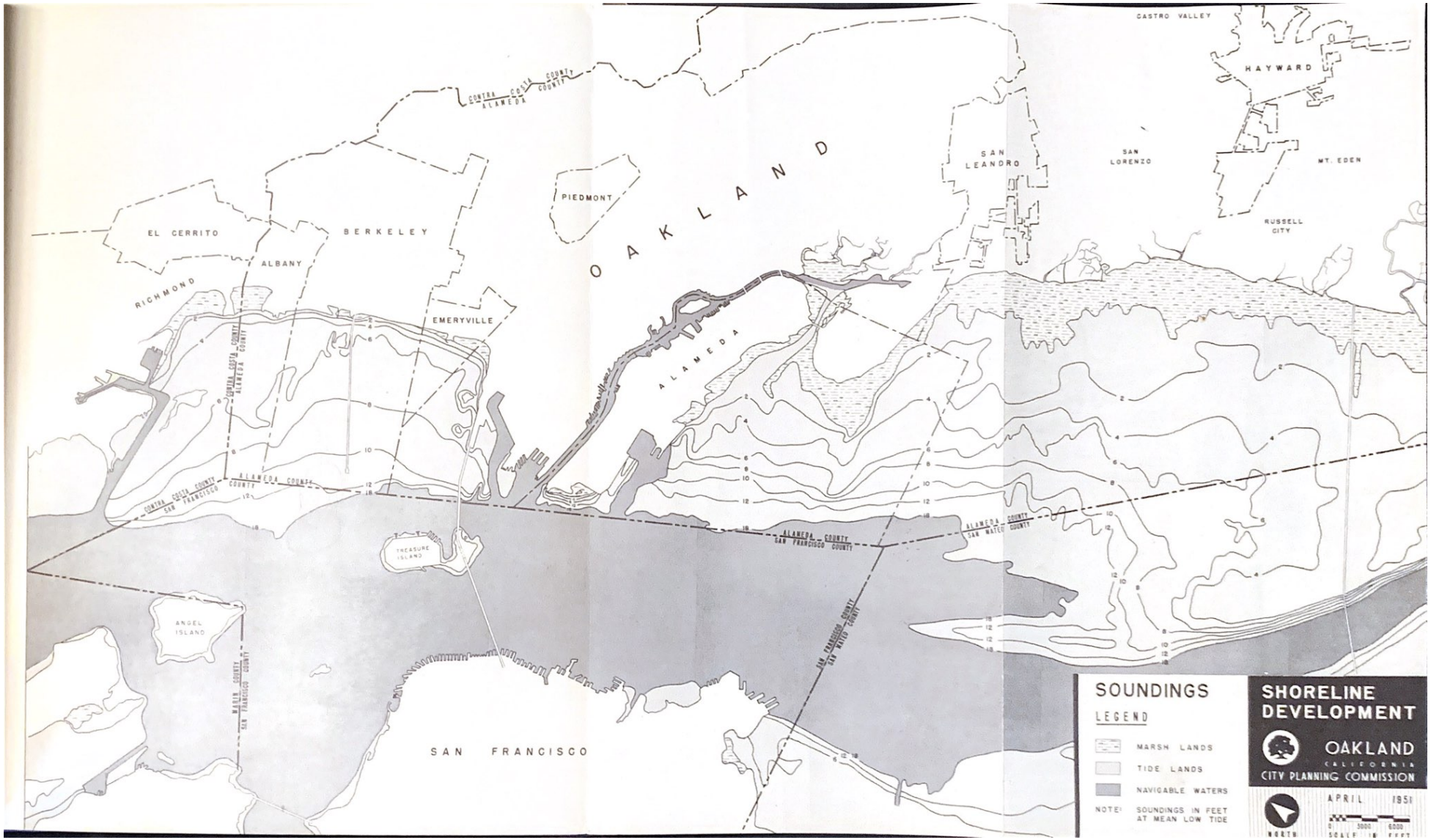
South of Bay Farm Island, the shoreline extends toward San Jose in an unbroken succession of tidal flats and sloughs.

Tide

Rise and fall of the tide is not great along the East Bay shore. There is a range of 8.5 feet between highest and lowest tides. Tidal currents are weak along the shallow waters of the coastline. Maximum current velocity occurs at the mouth of and within the Estuary, where the ebb tide occasionally reaches 1.3 knots per hour, about equal to the speed of a moderate swimmer.

Climate

The climate of the East Bay is healthful and bracing. Oakland is in the same latitude as Smyrna, Palermo and Seville but is not subject to the extremes of heat and cold which occur in those cities so famous for their climate. No matter how hot the weather is in Oakland at midday, mornings and evenings are always cool. The mean spring, summer, autumn and winter temperatures are respectively 54, 62, 55 and 49


CASTRO VALLEY
HAYWARD
SAN LEANDRO
SAN LORENZO
MT. EDEN
RUSSELL CITY
PIEDMONT
OAKLAND
EL CERRITO
BERKELEY
ALBANY
RICHMOND
EMERYVILLE
ALAMEDA
TREASURE ISLAND
ANGEL ISLAND
SAN FRANCISCO
CONTRA COSTA COUNTY
ALAMEDA COUNTY
SAN FRANCISCO COUNTY
MARIN COUNTY
SAN WATER COUNTY
SOUNDINGS
LEGEND
MARSH LANDS
TIDE LANDS
NAVIGABLE WATERS
NOTE: SOUNDINGS IN FEET AT MEAN LOW TIDE
SHORELINE DEVELOPMENT
OAKLAND
CALIFORNIA
CITY PLANNING COMMISSION
APRIL 1951
NORTH
SCALE IN FEET

degrees Fahrenheit, a difference of only 13 degrees. Corresponding seasonal temperatures for New York City show a difference of 41 degrees. Oakland averages 138 clear days, 128 partly cloudy days and 99 cloudy or rainy days during the year.

The Bay Region has only two seasons - the dry summer months and the rainy period of winter. In April and November the temperature is practically the same. September is the warmest month, with a mean temperature of 63.5 degrees, and January, with a monthly mean of 48.7, is the coolest.

Ocean fogs and breezes provide Oakland with an air-conditioning system. On even the warmest summer afternoons, the wind velocity at the Golden Gate rises with almost clock-like regularity and a canopy of fog moves in, causing the temperature to fall to about 55 degrees.

The rainy season begins in mid-November. Ocean storms arise in the North Pacific and move southward, whirling counterclockwise and generating a south wind well known locally as the forerunner of rain. Storms ordinarily last only three or four days. March brings a close to the rainy season except for light showers diminishing to a mere trace during the summer months.

Climatic conditions along the waterfront, as reported by readings of the weather stations at the Oakland Municipal Airport and at the Naval Air Station in Alameda, correspond closely with the city averages, with a notable exception: there is considerably less rainfall along the Bay front than at higher elevations. The average is 17 inches at the Airport, while the mean monthly annual precipitation in the hills is between 23 and 25 inches.

From February through October the prevailing wind along the shoreline blows from the west. The velocity varies from 10 to 19 miles per hour and is greatest during April, May, June and July. During the winter months, particularly in December and January, moderate winds blow from the northeast, east and southeast quadrant.

Very rarely is the weather oppressively hot along the waterfront. During a 12-year period the temperature at the Oakland Municipal Airport exceeded 85 degrees on only 148 days - only 3 per cent of the time. Even on these hot days the humidity is relatively low, and it is extremely seldom that people are driven to seek relief from the heat. On the other hand, most summer afternoons are warm enough for swimming and, until late in the day, are free of fog.

The average monthly relative humidity in Oakland varies only slightly from month to month. According to the U. S. Weather Bureau, the yearly averages for four different times of the day are as follows:

TIME	RELATIVE HUMIDITY
4:30 A.M.	86 per cent
10:30 A.M.	69 per cent
4:30 P.M.	66 per cent
10:30 P.M.	82 per cent

The high humidity at night and low humidity during the sunny part of the day is responsible for the area's reputation for cool days and comfortable nights.

In addition to weather, the temperature of the water is an important consideration in planning any portion of the shoreline for recreation. Reliable data were gathered and published in the East Bay Cities Sewage Disposal Survey of 1941. Temperatures were recorded near Point San Pablo, Berkeley Municipal Pier, Key Route Pier and at many points along Oakland Inner Harbor and in San Leandro Bay. During the months of September and October, when the readings were taken, temperatures ranged from 66 to 74 degrees at the surface and as high as 74 degrees twenty feet below the surface. Since the temperature of the municipal swimming pools is maintained at 68 to 72 degrees, it is evident that the Bay water would be comfortable for swimming on fair days.

Drainage

The crest of the Contra Costa Hills forms the eastern boundary of the East Bay watershed. The small watershed area and light local rainfall make the storm-water problem relatively easy to solve. The gradient from the hills to the shoreline simplifies the disposal of both storm and sanitary sewage.

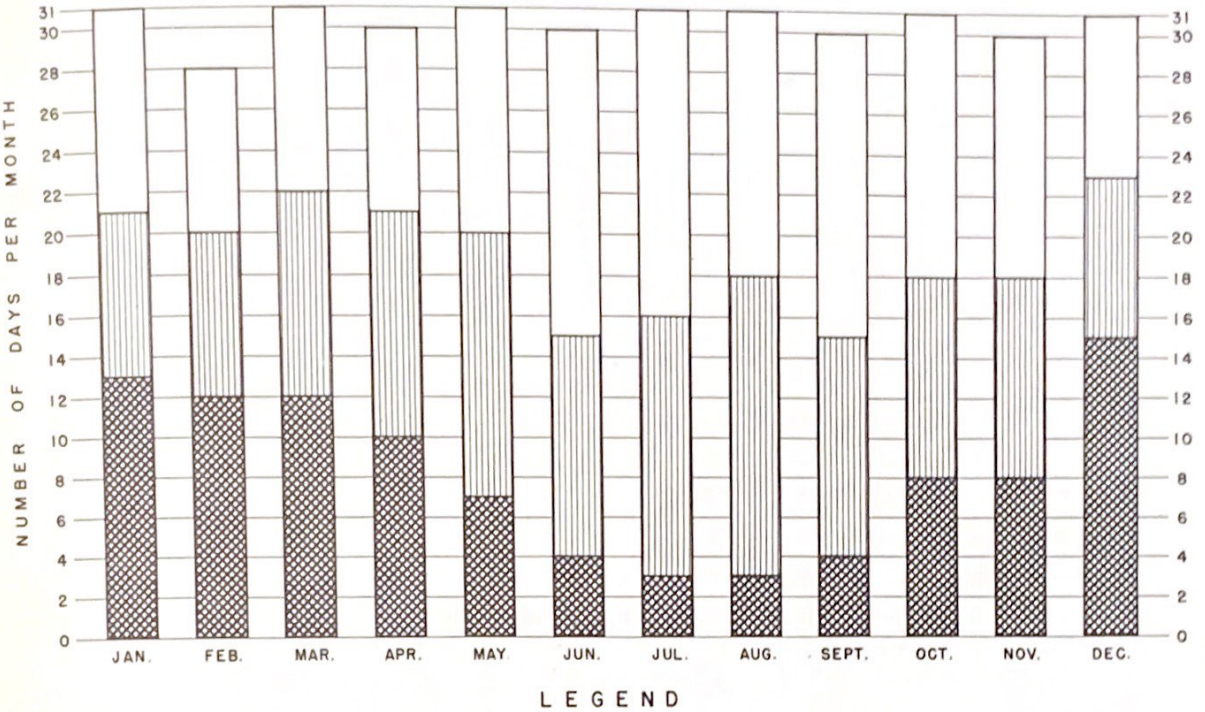
Seven creeks discharge storm water from the hills along the Oakland shoreline. In the course of their rapid descent they pick up sand and mud, but when the storm waters reach the more level coastal plain, their velocities decrease, allowing a large amount of the silt to settle out along the stream beds. Nevertheless, the largest streams -- Temescal, Leona-Arroyo Viejo and San Leandro Creeks - have built up substantial flood plains.

Water Pollution

At present much of San Francisco Bay is polluted due to the dumping of untreated sewage and industrial wastes at many points along its shores. This situation is particularly notorious along the Oakland, Emeryville and Berkeley shorelines where the oppressively foul odor becomes obvious at low tide to passengers on the Bay Bridge and Eastshore Highway.

SKY COVER, SUNRISE TO SUNSET

OAKLAND MUNICIPAL AIRPORT



SOURCE: U.S. WEATHER BUREAU
AIRPORT STATION

PERIOD OF RECORD: 1930-1949

OAKLAND CITY PLANNING COMMISSION
MARCH 1950

PRESENCE OF FOG

OAKLAND MUNICIPAL AIRPORT

AVERAGE NUMBER OF HOURS WHEN CEILING IS 500 FEET OR LESS AND/OR VISIBILITY IS ONE MILE OR LESS

	A.M.												P.M.													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
JAN.	3	3	3	3	3	4	4	5	5	5	5	4	3	2	2	2	1	2	2	2	2	5	3	2	75	JAN.
FEB.	1	1	2	2	2	2	3	3	3	3	2	2	1	1	1	†	†	†	†	1	1	†	1	1	33	FEB.
MAR.	1	1	1	1	1	1	†	1	1	1	1	†	0	0	0	0	0	0	†	†	0	†	†	†	10	MAR.
APR.	†	1	1	1	1	1	1	1	†	†	†	0	0	0	0	0	0	0	0	0	†	†	†	†	7	APR.
MAY	1	1	2	2	2	2	1	1	1	†	†	†	†	†	†	0	0	0	0	†	1	1	1	1	17	MAY
JUN.	1	1	1	1	1	1	1	0	†	†	0	0	0	0	0	0	0	0	0	0	†	†	1	1	9	JUN.
JUL.	2	2	3	4	5	4	1	1	1	†	0	0	0	0	0	0	0	0	0	†	†	1	1	2	27	JUL.
AUG.	2	2	3	4	5	5	4	2	1	1	0	0	0	0	0	0	0	0	0	†	†	1	2	3	35	AUG.
SEPT.	2	2	2	3	3	3	3	3	2	1	1	†	0	0	0	0	0	0	†	†	1	†	1	1	28	SEPT.
OCT.	2	2	3	3	3	4	4	4	3	4	2	1	1	†	†	†	†	†	†	1	2	2	1	2	44	OCT.
NOV.	2	2	2	2	2	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	2	2	43	NOV.
DEC.	2	2	2	2	3	3	3	3	4	4	3	2	2	2	1	1	1	1	2	2	2	2	3	3	55	DEC.
TOTAL	19	20	25	28	31	33	28	27	24	22	16	11	8	6	5	4	3	4	5	7	10	13	16	18	383	

† LESS THAN ONE HOUR

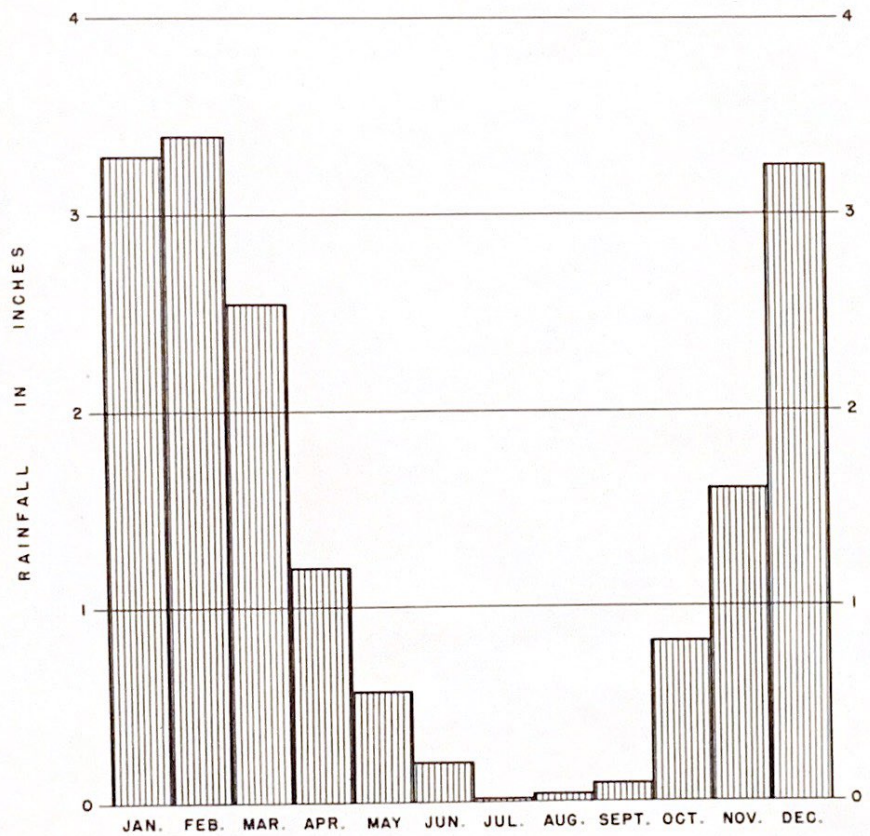
SOURCE: U.S. WEATHER BUREAU
AIRPORT STATION

PERIOD OF RECORD: 1942-1946

OAKLAND CITY PLANNING COMMISSION
MARCH 1950

MEAN MONTHLY RAINFALL

OAKLAND MUNICIPAL AIRPORT



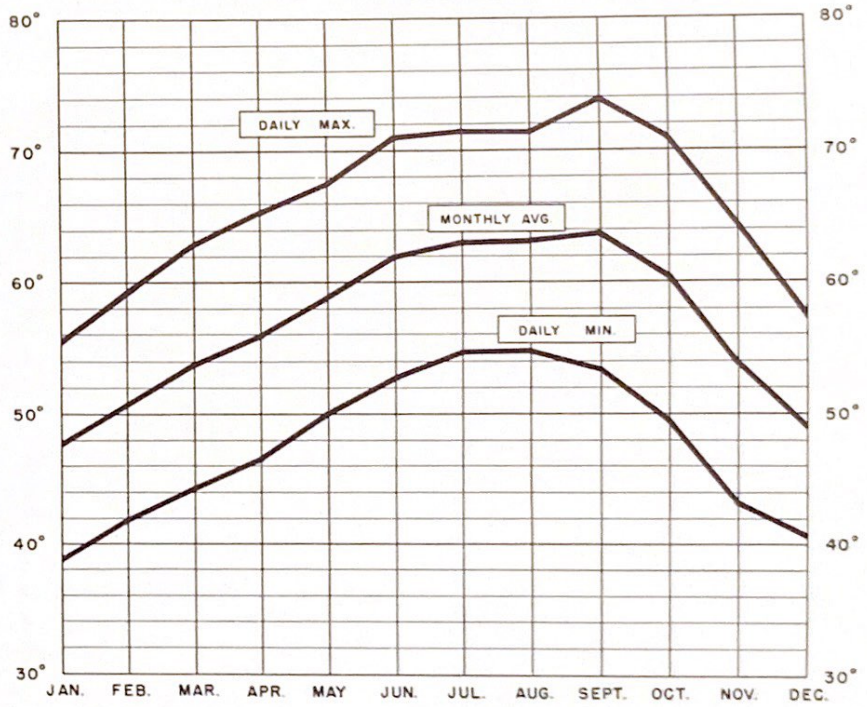
SOURCE: U.S. WEATHER BUREAU
AIRPORT STATION

PERIOD OF RECORD: 1928-1949

OAKLAND CITY PLANNING COMMISSION
MARCH 1950

MONTHLY AVERAGE TEMPERATURE

OAKLAND MUNICIPAL AIRPORT



SOURCE: U.S. WEATHER BUREAU
AIRPORT STATION

PERIOD OF RECORD: 1928-1949

OAKLAND CITY PLANNING COMMISSION
MARCH 1950

Oakland's sewerage system has been constructed over the past 70 years, but not according to any comprehensive plan until the last decade. As new areas were annexed, additional sewers were patched into the existing hodgepodge network. Some of the older portions of the system have outlived their usefulness and gradually are being replaced.

Today there are 22 large sewer outfalls located at regular intervals along the Oakland shoreline and 8 outfalls on the Alameda side of the Estuary. In addition, there are numerous small public and private outlets. As a result of dumping untreated sewage in the Estuary and on the tide flats, the entire length of the shoreline is dangerously contaminated. The sight of fecal matter floating in the water and noisome gases bubbling up out of the sludge banks surrounding the outfalls is commonplace.

In recent years all but 11 of the cities around San Francisco Bay have taken action to abate shoreline pollution. Some of the treatment and disposal facilities already are in use, and others are under construction. In the East Bay, Special Sewer District No. 1 of the East Bay Municipal Utility District was organized in 1944 by the cities of Alameda, Albany, Berkeley, Emeryville, Oakland and Piedmont. A comprehensive system of 21 miles of interceptor sewers, a primary treatment plant and 9100 feet of outfall sewer went into operation at the end of 1951. Within a few months offshore conditions will be greatly improved, although it will be a number of years before the existing sludge banks are completely digested. However, the danger of contamination from neighboring cities emptying raw sewage into the Bay will continue to be a threat.

Under the State Water Pollution Act, it now is illegal to dump untreated wastes into the Bay. Most of the East Bay cities and unincorporated areas now are taking steps to conform with the law. To the south, San Leandro's primary and secondary treatment plant has been in operation since 1939. Alameda Naval Air Station now has a primary treatment plant and is considering connecting with the E.B.M.U.D. system. Hayward has completed its plans. In southern Alameda County the Alvarado, Decoto, Irvington and Union Sanitary Districts already are in operation. To the north, Richmond has reached the final plan stage. However, the cities of El Cerrito and San Pablo have gone no farther than to discuss the comparative advantages of tying in with the projected Richmond system or building plants of their own. Rodeo and Crockett have no facilities, but their populations are too small at present to cause contamination of the Bay. All the other cities on the east side of the Bay treat their sewage before discharging it.

Air Pollution

Because of the strong winds and favorable atmospheric conditions that prevail throughout most of the year, air pollution is not yet making residents of the Bay Area cry and cough. Only when there are

calm days, principally in the fall, do gaseous wastes become noticeable and occasionally irritating. The pollutants are produced mainly by smoke-emitting industries, oil refineries, burning garbage, and sewage sludge banks. Heavy industry is concentrated along the San Leandro-Oakland-Emeryville-Berkeley shoreline. Large oil refineries are located in Richmond and north of Rodeo. There are smoking garbage dumps just across Oakland's south city line, north of the Berkeley Yacht Harbor, at Russell City, and at several other points along the east shore of the Bay.

The potential menace of air pollution is greater in Oakland and the East Bay than in most parts of the metropolitan region. The flat sites along the western shore, close to rail and waterborne transportation, offer highly desirable industrial locations. The prevailing westerly winds blow the wastes over the commercial and residential areas between the Bay and the Contra Costa Hills. For example, the pungent smell of tomato catsup, produced by a plant in West Berkeley, permeates many parts of that city when the wind rises. If the amount of smoke and other gaseous wastes produced by industries located along the shoreline were materially increased, the East Bay would face a serious air pollution problem.

Until Los Angeles found itself enveloped in smog, little attention was paid to air pollution in the Bay Area. Now several national, state and regional organizations are interested in the problem. The U.S. Public Health Service, the Smoke Prevention Association of America, the California Assembly Fact-Finding Committee on Water Pollution, and the Bay Area Council Air Pollution Committee have concerned themselves with pollution but have taken no positive steps to abate it in the Bay Region. In the East Bay, the Oakland and Richmond Health Departments have acted to eliminate smoke and other wastes, principally on a trouble-spot basis. Health officials have persuaded a number of industries to change their processes and to install mechanical and chemical smoke-control devices.

Land Use

When Oakland was first settled, a short 100 years ago, the water lapped the shore where the Southern Pacific tracks and Middle Harbor Road are now located. The Estuary extended up to 1st Street, and most of the existing harbor was either under water or was marshy waste land. A slough ran inland along West Grand Avenue into Lake Merritt, and a rickety, privately-owned toll bridge spanned the tidal channel where 12th Street now passes over Frickstad Viaduct. Since the early days thousands of acres of tidelands have been filled in. Here a great industrial complex has been created, and a thriving metropolis has developed.

As Oakland has grown, its physical pattern has changed. The early settlement hugged the shoreline, but now business and residential

districts have moved inland and industry has taken up its logical position along the waterfront. The improvements that have been built along the shoreline are of great importance in planning for its future. Not only do they represent millions of dollars in property values, but they include the economic mainstay of Oakland - its heavy industrial plant and port facilities.

The shoreline, as defined in this report, is the land and water within the city limits of Oakland lying seaward of a line formed by Peralta Street, Cypress Street, Fifth Street, the Eastshore Freeway and the Western Pacific Railroad right-of-way from 19th Avenue to the San Leandro city line. There are, in this area, 5,436 acres of land and 5,414 acres of tidelands and water.

The City has turned over the responsibility for the orderly growth and development of its port to an agency created especially for this purpose - the Port of Oakland. The Board of Port Commissioners has broad powers to control, supervise and develop all public land within the Port area and to enforce rules and regulations relating to port activities. The jurisdiction of the Board embraces not only Oakland's modern harbor facilities but also large areas devoted to warehousing and industry, the Oakland Municipal Airport and vacant lands and tidelands. The area controlled by the Port consists of North Harbor, Outer Harbor west of Maritime Street, Middle Harbor, Inner Harbor and all of the San Leandro Bay area and the Airport - a total of 7,820 acres.

All of the waterfront is zoned for industry except a portion of the area which lies south of Hegenberger Road. The neighborhood located between Edes Avenue and San Leandro Creek, south of Hegenberger Road, is zoned for residences except for two small shopping centers. Despite the fact that most of the waterfront is zoned for industry, the land is actually used for a wide variety of purposes as indicated in the following table.

SHORELINE LAND USE, 1951

USE	AREA		PER CENT
	Acres	Square Miles	
Industry	1910	2.99	27.7
Military Establishments	866	1.35	12.6
Railroads	794	1.24	11.5
Commerce	56	0.09	0.8
Private Housing	446	0.70	6.5
Public Housing	111	0.17	1.6
Public and Semi-public	147	0.23	2.1
Vacant Land	1106	1.73	16.1
Streets	1450	2.26	21.1
TOTAL LAND AREA	6886	10.76	100.0
Under Water	3964	6.19	
TOTAL SHORELINE AREA	10850	16.95	

The table illustrates the extent to which industrial activity dominates the shoreline. Industries, the military establishments and the railroads occupy 65.7 per cent of the total usable land. Only a few scattered vacant parcels lie north of East Creek Slough. The great bulk of the undeveloped property surrounds San Leandro Bay, most of it held by the Port of Oakland.

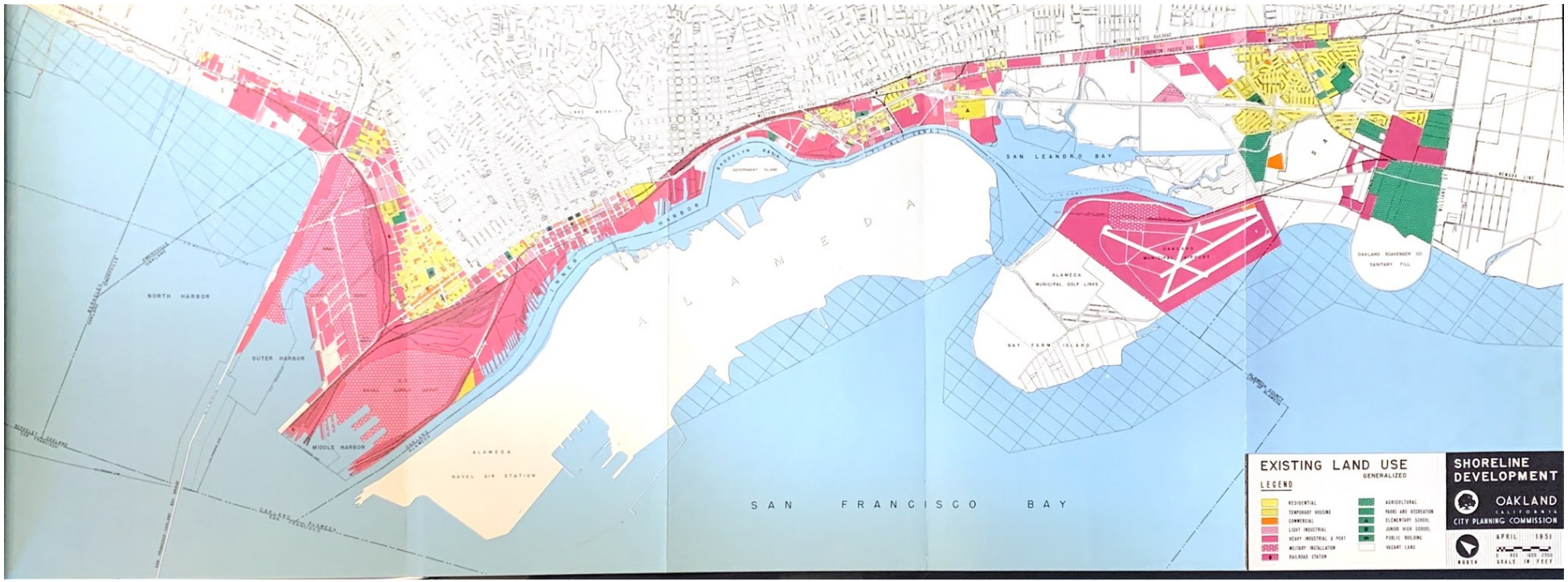
There are 389 acres of tideland lots still undeveloped within the city. These are private holdings of submerged land sold by the State of California prior to the turn of the century. Three hundred thirty-five acres, owned by the Atchison Topeka and Santa Fe Railway, lie north of the Bridge Toll Plaza, and 54 acres lie along the north shore of San Leandro Bay. The Port Commission recently acquired title to the latter parcels.

Beginning at the north end of the shoreline, the Bay Bridge distribution structure occupies a conspicuous position. On a strip of land between it and Emeryville several heavy industries are located. The Southern Pacific main line runs along the Bay shore from the north and passes under the distribution structure en route to the 16th Street Station. The East Bay Municipal Utility District treatment plant and the Key System train yards are located between the Bridge approach and Outer Harbor.

Extensive Southern Pacific classification yards lie between an area of mixed industry and outmoded residences and the Oakland Army Base to the west. Within the area east of the yards several run-down temporary war emergency housing projects are located at 34th and Cypress Streets and on scattered sites between 18th and 24th Streets. Campbell Village, a permanent project, is situated in the block bounded by 8th, Campbell, 10th and Willow Streets adjacent to Prescott Junior High School. Ernie Raimondi Park is bounded by 18th, Campbell, 20th and Wood Streets. McFeely School is located on a tiny triangle at the intersection of Campbell and Peralta Streets. Small retail stores and wholesale outlets are scattered throughout the area, with a string of them concentrated along 7th Street from the railroad tracks to the central business district.

On the shore of Outer Harbor, almost surrounded by the Army Base, are several petroleum plants, a flour mill and the Port of Oakland terminal wharf. At the foot of 7th Street stands the venerable, picturesque Southern Pacific mole, where the Railroad maintains ferry connections for passengers bound for San Francisco.

Middle Harbor lies between the Southern Pacific yards and the Western Pacific Railroad yards bordering the Estuary. The U. S. Naval Supply Depot, a vital segment of the military supply line to the Far East, occupies the entire Middle Harbor area. South of Middle Harbor Road and facing the Estuary is Harbor Homes, a 528-unit war housing project, with a temporary elementary school.


NORTH HARBOR
OUTER HARBOR
MIDDLE HARBOR
INNER HARBOR
BROOKLYN BASIN
SAN LEANDRO BAY
ALAMEDA
ALAMEDA NAVAL AIR STATION
ALAMEDA MUNICIPAL GOLF LINKS
BAY FARM ISLAND
OAKLAND MUNICIPAL AIRPORT
OAKLAND SCAVENGER CO. SANITARY FILL
SAN FRANCISCO BAY
EXISTING LAND USE
GENERALIZED
LEGEND
RESIDENTIAL
TEMPORARY HOUSING
COMMERCIAL
LIGHT INDUSTRIAL
HEAVY INDUSTRIAL & PORT
MILITARY INSTALLATION
RAILROAD STATION
AGRICULTURAL
PARKS AND RECREATION
ELEMENTARY SCHOOL
JUNIOR HIGH SCHOOL
PUBLIC BUILDING
VACANT LAND
SHORELINE DEVELOPMENT
OAKLAND
CALIFORNIA
CITY PLANNING COMMISSION
APRIL 1951
SCALE IN FEET

Flanking Oakland on the southwest is Inner Harbor, a 13-mile ribbon of heavy industry mixed with docks, slips, wharves and jetties along the Estuary. At the north end are found Moore Dry Dock Company, an oil works and the Western Pacific Railroad shops. Behind these, blighted housing, commerce and all types of industry and wholesaling activity are jammed into the area between 1st and 5th Streets. Thompkins School occupies a site at 5th and Chestnut, and Campbell School is located at 5th and Grove. The Western Pacific main line tracks run along 3rd Street between Filbert Street and 5th Avenue, and the Southern Pacific main line is located on 1st Street.

The area between Market and Broadway is predominantly in industrial use. At the foot of Grove Street the Pacific Gas and Electric Company power station and gas tanks loom up. Oakland's wholesale produce district lies between Broadway and Harrison Streets.

The Santa Fe Railway owns wharves, docks and storage space extending from Alice to Fallon Streets below 1st. The area between Fallon and the Lake Merritt channel is vacant. Part of Auditorium Village, a temporary war housing project, occupies the land between 1st Street and the Freeway. Various marine and shipping facilities, including the Port's 9th Avenue pier and a P. G. and E. emergency power station, surround Clinton Basin, a narrow inlet at the foot of 7th Avenue. To the south are large lumber yards, warehouses and several vacant parcels. Tangent to the east side of the large, semi-circular Brooklyn Basin runs the Freeway, and immediately east of it are the parallel Southern Pacific and Western Pacific rights-of-way.

Near 19th Avenue the Oakland Municipal Yacht Harbor is situated, with berthing space for about a hundred small craft. Across 19th Avenue are a number of metal fabrication plants, lumber storage yards and a petroleum plant. South of 23rd Avenue, between the Freeway and the Estuary, lies a 20-block area of deteriorating small homes and rooming houses mixed with small industrial enterprises. Directly fronting on the Estuary are several large industrial installations. A spur of the Southern Pacific runs parallel with Fruitvale Avenue, crossing the Estuary to Alameda on a new lift bridge.

Bounded by 23rd and 29th Avenues, the Freeway and the railroad rights-of-way, there are about a dozen blocks of mixed residential and industrial uses. Lazear School is located at 29th Avenue and the Freeway. A Pacific Gas and Electric Company substation and the large California Packing Corporation cannery front on the railroad tracks.

At 27th Avenue the rights-of-way of the two railroads diverge, the Western Pacific following a route along the east side of San Leandro Street and the Southern Pacific paralleling it a block to the west. The 600 to 800 foot strip between the railroad rights-of-way is predominantly occupied by industrial plants all the way to the city boundary. The few major exceptions occur in the vicinity of Fruitvale Avenue, 50th Avenue and 98th Avenue, where small islands of residences break into the

industrial strip.

South of Fruitvale Avenue, the large Owens-Illinois glass factory and American Can Company plant are located. An industrial spur line crosses High Street along Alameda Avenue, serving these two plants and several medium-sized heavy industrial establishments on the Estuary. A dozen or more small light industries are located between High Street and East Creek Slough. High Street Homes, a 47-acre war housing project, and a school also are located in this section, just east of Tidewater Street. The most prominent landmark in the area is Pacific Gas and Electric Company's 300-foot-high gas tank located at the foot of 49th Avenue. A large lumber mill, a wharf, box factory and two small vacant parcels fill out the remainder of the developed land.

About a mile and a quarter to the south, Hegenberger Road strikes off in a southwesterly direction to the Airport from San Leandro Street. Between East Creek Slough and Hegenberger Road the land is undeveloped except for an asphalt plant and a City corporation yard at the junction of the Freeway and Hegenberger. East Creek Slough, Arroyo Viejo Creek and San Leandro Creek have gouged out irregular inlets along San Leandro Bay's shoreline, making the land, in its natural state, unusable.

West of Airport Channel the Oakland Municipal Airport is located on an 860-acre site covering the east half of Bay Farm Island. The Airport has three runways large enough to accommodate transoceanic passenger planes. With its accommodations for passenger and freight transport, it is the second most important field in the Bay Area. Part of the Airport is used by the U. S. Navy. Rail freight can be shipped to and from the Airport via a Southern Pacific spur extending northwest from Davis Street in San Leandro, while deep-water port facilities are provided by Airport Channel.

To the west, the remainder of Bay Farm Island is largely undeveloped. The only improvements are a few industrial buildings adjacent to the Airport, the Alameda Municipal Golf Course, a four-block development of small homes in the middle of the Island, and a large tract of farm plots along the south shore.

Oakland's newest residential community lies south of Hegenberger Road and west of the railroad tracks. Seen from the air, it looks entirely different from other East Oakland residential neighborhoods because of the planned street system and the pleasing arrangement of the houses. Except for a few scattered homes, the entire development was constructed by large-scale builders in the early war years. Bounded by the railroad, the Freeway and Jones Avenue is Brookfield Village, the largest of the three new residential subdivisions. On the opposite side of the Freeway is Columbian Gardens, a smaller area of medium-priced homes. Sobrante Park, a third residential development, lies between 105th Avenue and the city limits. Some idea of the growth of this community can be gained from the fact that the 1940 census reported 686

persons in the area, while the 1950 census counted 8,974.

Although they are predominantly single-family developments, these residential neighborhoods are zoned in the "B" (two to four family) District. The whole area is served by two elementary schools. The new, modern Brookfield School is located at Jones Avenue abutting the Freeway. Sobrante Park School is located on a 24-acre site on Bergedo Drive. The largest part of the site soon will be developed as a community playfield, and a junior high school is to be constructed in 1952. There are neighborhood shopping centers at the busy intersection of 98th and Edes Avenues and at 105th and Acalanes Drive.

Just south of 98th Avenue the Southern Pacific branches off to the southwest parallel with 105th Avenue and continues on to San Jose. Between Hegenberger Road and Brookfield Village several large industrial plants and vacant tracts are located east of the Freeway. Below the Freeway and north of Columbian Gardens a 167-acre tract of vacant land bisected by San Leandro Creek is being used for truck gardening. A drive-in theater is located on the south side of 98th Avenue below San Leandro Creek. The city limit line runs through a large vacant field behind it. A scattering of industrial plants, farms, residences and the mud flats stretch south toward the municipal garbage dump.

Streets and Freeways

The street system is the most permanent and enduring feature of a city. Once the streets have been fixed and the land along them improved, changing the pattern of development is a slow and laborious process entailing large outlays for the purchase of property. Practically speaking, the existing street system imposes many limitations on the planning of the shoreline area. Street design, size, capacity, direction and function have a direct bearing on future improvements.

Several of the most important elements of Oakland's intricate major street system serve the shoreline. Two major through arteries are U. S. Highways 40 and 50, which cross the Bay Bridge, the former running north along the shore of the Bay past Berkeley to Sacramento and the latter passing over the Bridge distribution structure, along MacArthur Boulevard to Stockton and the Central Valley.

The backbone of the shoreline circulation system will be the Eastshore Freeway. When completed, it will extend from Richmond to the Bay Bridge and from there on through Oakland and San Leandro to San Jose, with a connection to Hayward and the Valley.

The section of the Freeway from 5th and Fallon Streets, near Lake Merritt, to 98th Avenue was opened to traffic in 1949 and 1950. It follows an alignment close to the Estuary and over the filled land on the San Leandro Bay shore. This six-and-a-half-mile roadway has six moving lanes as far south as High Street, but only four lanes beyond

that point. Access to the Freeway is provided at 5th and Fallon Streets and at 9th Avenue, 23rd Avenue, 29th Avenue, High Street, Hegenberger Road and 98th Avenue.

The State Division of Highways' schedule for the next two years calls for the extension of the Freeway south an additional seven and a half miles to the Hayward-Mt. Eden Road. Meanwhile property is being acquired between 5th and 6th Streets west of Fallon to extend the route to Cypress Street and thence north to the Bridge distribution structure. According to present plans, the Freeway will be elevated through most of congested downtown and West Oakland.

To accommodate the heavy volumes of traffic flowing to and from the central business district from the south, State Highway 17 (East 14th Street), State Highway 105 (East 12th Street) and San Leandro Street follow routes roughly parallel to and east of the Freeway. Both East 12th and East 14th Streets are lined with businesses and industrial plants which generate large volumes of local traffic.

The main highways are intersected by a network of major streets which distribute the local traffic and carry it to and from the waterfront. The principal streets serving the shoreline are West Grand Avenue, 14th Street, Grove Street, Fruitvale Avenue, Broadway, Webster Street, 23rd Avenue, High Street, Hegenberger Road and 98th Avenue. They are spaced at intervals of a quarter-mile to a mile apart. Webster Street connects Alameda with Oakland's central business district via the Posey Tube.

Campbell Street, 7th Street and Middle Harbor Road, while not major streets, are also of considerable importance in serving waterfront facilities in West Oakland.

THE NEEDS OF THE CITY

In planning the development of the shoreline, the logical next step is to find out what the needs of the city are and what they will be in the foreseeable future. Before deciding what use should be made of waterfront lands, we must catalog Oakland's requirements - and take note of the needs of the East Bay and the entire Bay Region as well.

Port, Airport, Rail and Industrial Facilities

The growth of population and prosperity in the East Bay basically depends upon the productivity of farms and factories and the use of railroads, airports and shipping facilities. However, expansion in any of these fields is related to many other complex short-range factors. For example, the decision to build additional harbor space would depend on such questions as the need for additional shipping facilities, the cost of building at the time, the financial situation of the Port, and the prospects of amortizing the investment over the period of its useful life. All of these variables are subject to wide fluctuations over relatively short periods of time. On the other hand, in the long run the growth of the Bay Region economy and Oakland's industrial and transport expansion probably will follow more consistent trends.

Needs for additional port, industrial, rail and airport facilities depend on two basic related developments: the degree of future industrialization of the domestic territory tributary to the Port of Oakland, and the rapidity of industrialization of our overseas markets, particularly the Far East. The two developments are related because, as in the past, increasing trade with Asia will attract new industries to the Pacific Coast, where cheaper transpacific transportation will yield a competitive advantage over eastern manufacturers. Conversely, increased industrialization of the Port's tributary area will mean a greater potential market to attract Far Eastern trade. These two long-range trends are immensely significant to the future growth and character of the Bay Area, the State and the entire West Coast.

Because of their complex causation, domestic and Oriental industrial trends are not precisely predictable. But they are definable. No one who has lived through the past two decades can ignore the signs of the new era that is commencing throughout Asia - an era of development and realization of economic potential. Throughout the continent a billion two hundred million people are passing through a period of political unrest and confusion similar to that which has preceded the industrialization of most of the great world states. Real economic growth must await political equilibrium, but when it comes, the United States will be in a most advantageous position to supply the capital equipment which is prerequisite to industrial development.

China, by virtue of her size and long history of civil disorder, holds the center of the stage in Asia. But the political and economic ferment has spread throughout the continent, involving Indo-China, Indonesia, Thailand, India and even Japan. The present Chinese regime is committed to agrarian reform and a program of state-owned industrial expansion. Without the surplus productivity of United States factories it is doubtful that such a program can succeed, since no other world power is able to export capital goods without curtailing its own economic program. Furthermore, our tremendous production and our large crew of skilled technicians will make it to China's advantage to establish working relations between the two countries. Similar reasoning applies to other Asiatic countries.

China's natural advantages - its central location in a vast trading area containing great resources and plentiful markets, its protected natural boundaries and compact shape, favorable climate, huge manpower reservoir, access to shipping and established trade routes and superabundance of coal and metals all contribute to a tremendous economic potential. The industrialization of China and the rest of the Orient is late in arriving. Because of its magnitude it will inevitably produce fundamental modifications in the world's economic and political structure.

The industrialization of Europe during the last century was primarily responsible for the economic ascendancy of the Atlantic seaboard. Trade with Europe has always been the mainstay of United States foreign commerce. It has been responsible for the growth of the great ports of New York, Baltimore and Boston. No one can say exactly what the impact of the industrial revolution in Asia will be on the economy of the Pacific Coast; the potentialities are beyond imagination. Asia's untapped resources are far greater than Europe's, and its population is more than half the world's total. China and southeast Asia may change swiftly - like Japan and Russia - within half a century, or it may take longer. Much depends upon the world political climate during the transition period. Given an era of peace so that she may concentrate on domestic problems, Asia's rise may be meteoric. But quickly or slowly, Asia seems destined to occupy a position in the foremost rank of world powers.

On the domestic scene long-range trends point surely to California's future as the heart of a mighty Pacific Coast industrial complex. Between World Wars I and II the Pacific Coast, especially Southern California, was becoming nationally important as an industrial center. Yet at the beginning of World War II its economy was still mainly dependent upon agriculture and the distributive service industries.

During the last war the West passed through a transition stage marked by a sudden shift toward industrial growth. Electric power, light metals, steel, shipbuilding and aircraft production mushroomed. At the war's end, the West produced more steel than it consumed in any pre-war year; output had more than doubled.

Since the war, existing plants have been greatly expanded and many enterprises have been established. Eastern producers have set up branches along the West Coast, and steel-using manufacturers have located here to take advantage of the new production. Although aircraft and shipbuilding were cut back considerably during the postwar period, the present military preparedness program has stepped up the tempo once again.

California's industrial development still lies ahead. Although the number of Pacific Coast industrial establishments increased 50 per cent and the number of production workers 80 per cent from 1939 to 1947, only 10 per cent of the nation's factories and only 6 per cent of its production workers were in the area. The West's proportion of the U. S. industrial plant is still small - but it is growing rapidly. In most indices of industrial growth the Pacific Coast states' absolute gains have been far above the national average, and California has been the leader. Population growth has far outstripped industrial growth. The Pacific Coast accounted for 31 per cent of the U. S. population increase but only 12 per cent of the increase in production workers and 8 per cent of the increase in value added by manufacturing between 1939 and 1947.

California's labor supply and its domestic market are continually being expanded as its population increases. A rich supply of undeveloped natural resources - metals, lumber, power and agricultural land - is available to swell the tide of economic expansion. The Central Valley project will reclaim three million acres of agricultural land and will stimulate industry by the production of additional electric power. California and the Pacific Coast have the potential capacity to bid for and serve the requirements not of its domestic market alone, but also the requirements of the colossus that is emerging in the Far East.

Oakland's geographical position at the gateway to northern California's rich hinterland and astride a sea lane to the Orient means that its future will be powerfully influenced by economic expansion in this state and in the Far East. Port expansion, on the scale indicated for the future, cannot take place in San Francisco, where space for warehouses and factories is now at a premium and where the waterfront already is almost filled with harbor facilities. Future growth must occur at other points around the Bay such as Redwood City, Alviso, Oakland, Richmond, Vallejo, Suisun Bay, Stockton and Sacramento. Of these, the East Bay shoreline is by all odds best suited to accommodate a considerable part of the shipping and industry that ultimately will be needed. Between Richmond and San Leandro is a vast reserve supply of waterfront land suitable for industrial and harbor development when the time is ripe. These lands are near existing transcontinental rail lines, have direct access to the large East Bay labor market, and from the regional point of view are ideally suited for industrial locations, assuming problems of air and water pollution are overcome.

The potentialities of the Port of Oakland have only begun to be realized. In addition to the very large areas of North Harbor and San Leandro Bay, a considerable portion of the Outer Harbor and Estuary frontage remains available for more intensive use. As the city's population increases and its economy expands, new and improved airport and rail facilities can be added without serious dislocation of existing built-up areas. Space is Oakland's prize asset. As long as there is suitable land available to supply the needs for expansion, the city can grow without great expense or dislocation. A survey of Oakland's industrially-zoned land completed by the Planning Commission in 1945 showed that there were over 2000 acres of unimproved land, exclusive of tidelands, compared with 3700 acres in use for industrial, rail, airport and military purposes. Adding 2200 acres of tidelands, the total available amount of unimproved port and industrial land is 4200 acres - more than is now used within the city.

It is apparent that the future will make heavy demands on Oakland. On the other hand, with proper guidance, Oakland is capable of taking growth in stride. In planning, the key question is how soon and how rapidly will the anticipated expansion occur. It is a question without an answer. Many of the variables involved, such as the issue of war or peace and our future relations in Asia, are beyond the knowledge of any man. The port and industrial portions of this master plan therefore cannot be assigned priorities - they cannot be scheduled as one might schedule a master plan of streets. The timing of those improvements must await economic justification, which is to say they will be built when they promise to pay off in terms of dollars and cents and to serve the public interest. The need today is to devise a plan flexible enough to answer the changing needs of the future.

Recreation Facilities

One of the city's greatest needs is for additional recreation facilities. Oakland has some fine city parks and playgrounds, and the East Bay boasts an outstanding system of regional parks located in the wooded hills. But nowhere in the metropolitan area is there a shoreline recreation facility of any significance. This situation is understandable in view of the fact that the dumping of raw sewage into the Bay has not only polluted the water but also has made the shore obnoxious and foul. Now that the sewage treatment and disposal facilities of Special Sewer District No. 1 are in operation, this condition gradually will be abated. Appropriate portions of the shoreline then will be available for recreation.

Among the most obvious needs of the area are beaches. Two decades ago there were a number of intensively used sand beaches in Alameda. Some of these were destroyed by being covered with silt, possibly as a result of various dredging operations, and others were taken by the Federal Government for the development of naval installations.

Despite the favorable sailing conditions on San Francisco Bay, there are relatively few small boat harbors. The popularity of sailing, as reflected in boat registrations, has increased steadily. But since 1942, when berthing facilities became filled, the rate of increase has declined. In 1947 there were 4,356 pleasure craft, including both motor and sail boats, in the nine Bay counties. According to an Oakland Chamber of Commerce spot survey made in 1947 in the East Bay, there were less than 600 berths available at that time. The number has not increased materially since then.

SMALL BOAT HARBORS, EAST BAY METROPOLITAN AREA, 1947

Berkeley Yacht Club	175 berths 50 dry storage 100 moorings
Encinal Yacht Club, Alameda	50 dry storage
Oakland Yacht Club	109 berths 8 moorings
Richmond Yacht Club	94 berths
TOTAL	586

At this time there were 1,375 pleasure boats owned by residents of Alameda County and 688 owned by residents of Contra Costa County, a total of 2,063.

The U. S. Corps of Engineers has prepared estimates of future small boat ownership in the Bay Area based on the assumption that new harbors with an adequate number of berths will be constructed in the near future.

ESTIMATE OF NUMBER OF PLEASURE BOATS

	1960	1970
San Francisco Bay Area (9 counties)	8,350	10,700
Alameda County	2,421	2,902
Contra Costa County	1,167	1,576

It is desirable to make provision for small boat harbors to accommodate the present and prospective number of pleasure craft, in planning for the development of the East Bay shoreline. In selecting

sites, certain limiting factors must be considered. Harbors should be readily accessible from the residences of boat owners, but, equally important, good fishing and sailing grounds and open-water moorings should be within reasonable distance of the harbors. Deep-water channels, reserved for commercial navigation, and restricted areas must be avoided.

The popularity of crew racing varies directly with the availability of facilities for the sport. At present the Oakland elementary and junior high schools and the Industrial Recreation League row on Lake Merritt, and the University of California crew uses the Estuary. Only a limited number of additional shells could be accommodated on the Lake, and commercial navigation on the Estuary makes it inappropriate for crew races. It would be desirable to provide a crew course on the shoreline if the right location could be found.

For several years the City has been contemplating constructing a municipal stadium. This facility could be used by the Oakland Baseball Club, which now plays in Emeryville in a ball park accommodating only 12,345. It also could be used for football games, other major athletic contests, and various types of attractions which draw large crowds. The primary requisites of a stadium site are easy access by public transit and private automobile, adequate parking areas, proper orientation and favorable weather conditions. All of the large vacant sites in Oakland and the immediate vicinity are located in the hills and along the shoreline. It would be difficult to provide proper access in the hill area, and sufficient parking space could not be secured without a tremendous amount of grading. The heavy traffic, noise and floodlights would have an unfavorable impact on surrounding residential neighborhoods. Consequently a shoreline location would be far more desirable than one in the hill areas.

Beaches, small boat harbors, crew courses and stadiums are specialized types of recreation facilities which appeal to particular interests. The experience of the most successful shoreline recreation installations, such as New York City's Jones Beach, indicates that a combination of various types of facilities, appealing to a wide range of tastes, attracts the largest crowds and ensures the maximum use of the area. San Diego has combined different types of recreation areas in its Mission Bay project, and Los Angeles plans to do the same thing in developing its shoreline. This kind of plan can win popular support. It also can result in significant economies in certain instances. For example, one parking area can serve several facilities at different times. The City should give consideration to tying in picnic grounds, athletic fields, parks, pleasure drives, restaurants and the like with the more specialized kinds of recreation facilities.

Residential and Commercial Areas

Oakland needs sites for new residential developments. At present the only vacant land zoned for residences is in the hill areas. Because

of the extreme ground slopes and the lack of streets and utility connections, this land is expensive to build on. Another disadvantage of these locations is that they are far removed from places of employment. Consequently the hill areas do not offer ideal sites for low and medium priced housing. Vacant areas along the shoreline should be carefully considered as potential sites for sound residential subdivisions. Appropriate sites probably will be difficult to find because of the presence of industries, rail lines, port facilities and the Airport, all of which are vital to the city's economic life but are incompatible with residential uses. However, there are certain types of non-waste-producing, light industries which do not have a harmful effect on living areas if they are located outside of the neighborhood and are protected from it by buffer uses such as park strips, landscaped parking areas and local retail centers. It would be essential to provide for shopping facilities as well as for schools, recreation areas and other community facilities if new residential neighborhoods were included in the plan.

Streets and Highways

The need for the construction of freeways and the widening of major streets in the shoreline area is specifically illustrated in the Master Plan of Freeways and Major Streets. The Shoreline Development Plan requires some modification of the Freeway and Major Street Plan, but such changes were anticipated when it was adopted.

Mass Transit

Extensions of the existing transit system will be essential to serve the shoreline area as it is developed. New industries, recreation facilities and other types of land uses each will have their particular mass transportation requirements. Recently, increasing attention has been given to the need for a rapid transit system in the East Bay. In its report on the transit problem in the metropolitan area the staff of the Oakland Planning Commission recommended that a comprehensive study be made and a plan evolved. Such a plan should take into account the transit demands created by future development of the shoreline.

Union Railroad Terminal

The three railroads that run along the shoreline now maintain six different passenger terminals in Oakland and Emeryville. The Santa Fe terminates at 40th Street and San Pablo Avenue in Emeryville, just beyond the Oakland city limit. San Francisco-bound passengers are transported across the Bay Bridge by bus. Southern Pacific's Overland and Valley trains stop at the 16th Street Station and terminate at the Mole, where the West Bay passengers are transferred to ferries. The Coast Line trains make stops at Southern Pacific's stations at Fruitvale Avenue and at 1st Street and Broadway and terminate at the Mole. Western Pacific

maintains a station at 3rd Street and Broadway for East Bay passengers, and San Francisco passengers are taken on to the Southern Pacific Mole where they transfer to ferries.

The present profusion of terminal facilities is neither economical from the viewpoint of the railroads nor convenient for the public. Fundamentally, it involves a waste of land that might better be used for other purposes. Many cities, including Los Angeles, Washington, D. C., Cleveland, Cincinnati, Denver, Omaha, St. Louis, Kansas City and New Orleans, have built union railroad terminals. Oakland is the western terminus of three major transcontinental railroads. The city needs a union passenger terminal.

Unified facilities offer the advantages of more economical operation and maintenance not only to the railroads but to express companies and the Post Office as well. A single station affords better connections with the local transit system and better taxi service. Union terminals invariably are larger and more impressive than individual stations and have better service facilities such as restaurants, shops, waiting rooms and dressing rooms. Larger crowds can be handled. A single terminal is more convenient for people meeting passengers. This is particularly true in Oakland, where Southern Pacific has several stations and there easily can be confusion as to where people will get off the train.

Air and Water Pollution Abatement

Other pressing needs of Oakland and the entire Bay Region are the abatement of water and air pollution. For most of the East Bay, the water pollution problem will be solved when Special Sewer District No. 1 has been operating for a period of time. However, El Cerrito, Richmond and San Pablo on the north and Hayward on the south are not included in the District and have no sewage treatment facilities of their own as yet. Not until these cities stop emptying raw sewage and industrial wastes into the Bay will the east shore be free from pollution.

The problem of air pollution is one which cannot be solved on a strictly local basis. The efforts of local officials to abate specific smoke and gas nuisances have been helpful and should be continued. But not until positive controls are imposed on all waste-producing plants in the Bay Region will the area be safe from the potential danger of smog and other types of air pollution.

EXISTING PLANS

The Bay Area is growing. And as it grows, the great metropolitan community along its east shore is spreading out. Empty lots and vacant hillsides are disappearing, and the search for suitable home sites, factory sites and store sites becomes progressively more difficult. Highways and city streets pulsate under heavy traffic loads. The cities have burst their seams, spilling their excess population south and east into Alameda County and past the barrier of the hills into Orinda, Lafayette and Walnut Creek. Growth has brought problems and pressures and new tensions. When there was plenty of land to go around, expansion was easy and effortless - just buy some land and build on it. But the land has been getting scarcer and the pressures greater.

The Rees Plan

Men have been thinking about the land and anticipating growth for many years. As long as 40 years ago Colonel Thomas H. Rees foresaw the future of the East Bay as a thriving port and industrial center. Under his direction the Army Engineer's Office prepared a plan for the creation of a great harbor along the waterfront from North Oakland to Richmond. The shoals were to be filled in and port facilities developed along a ten-mile channel running parallel with the shore. The Rees Plan was the first attempt to set a pattern for development of the East Bay waterfront. Many of its elements were adopted in later proposals and remain a part of present-day thinking.

The Hegemann Report

In 1915 the cities of Oakland and Berkeley, Alameda County and a number of civic organizations sponsored a planning study by Werner Hegemann, entitled "Report on a City Plan for the Municipalities of Oakland and Berkeley." This was the earliest example of comprehensive planning for the East Bay.

Hegemann was quick to see the superb natural advantages of San Francisco Bay contrasted with other major ports. Deep, sheltered, ice-free waters, a straight channel through the Golden Gate, and the long shoreline and abundance of fine anchorages rank it as one of the finest harbors in the world. Hegemann also pointed out the advantages of the east side of the Bay as a harbor, industrial center and rail terminal. He criticized the waste involved in using the scarce flat sites in San Francisco for industry when large tracts of cheap level land were available close to transcontinental railroads and shipping facilities in the East Bay. He urged that wasteful competition and duplication of facilities within the Bay Area be eliminated by establishing a single manage-

ment for the entire harbor.

The Reber Plan

In recent decades plans for airport location, sewage disposal facilities, railroad terminals, streets and freeways, industrial site development and many other specific projects have been devised. Proposals affecting shoreline development have been made by cities, counties, special districts, the State and Federal governments and by many private individuals and groups. Some of the plans have been bold and imaginative, while others have set modest goals. Very few of them attempt to strike a balance among the various needs of the area for shipping, industry, transportation, sanitation, residences and recreation.

The best known of the comprehensive schemes is the controversial Reber Plan which would dam the north and south ends of the Bay to create two fresh water lakes connected by a ship channel along the East Bay shore. In spite of its many questionable features, the Reber Plan is the closest approach yet made to an area-wide physical plan for the Bay Region. It attempts to solve transportation problems by using the tops of the dams for transbay rail and highway rights-of-way. It would create industrial and residential lands, its supporters say, by eliminating tidal action and thus opening thousands of acres of tidelands for development. The water shortage problem might be solved if river waters were impounded in the two lakes. The additional water supply would open new lands for cultivation and offer additional incentives to industries to locate here. The plan offers an elaborate system for eliminating periodic floods in the Sacramento-San Joaquin delta and provides for vastly increased harbor facilities along the Oakland-Richmond waterfront.

The Reber Plan has been studied and discussed for more than a decade. After a study made in 1945, a joint Army-Navy Board termed the plan economically unfeasible and untenable from the standpoint of navigation and national defense. A similar conclusion was reached by a group of consulting engineers in a recently completed study made for the California Assembly Committee on Bay Area Problems.

Airport Plan for the San Francisco Bay Area

The Bay Area Airport Plan was published in July 1949 under the sponsorship of the Bay Area Airport Planning Group. The object of the report was to present an evaluation of Bay Region airport requirements to serve as a framework for city and county planning. A committee of the Oakland Planning Commission has recommended that it go on record in favor of the adoption of the applicable portions of the Airport Plan as a part of the Master Plan. Further action awaits the consideration of the Board of Port Commissioners.

The plan makes a number of recommendations affecting the East

Bay shoreline. For example, the immediate construction of a small airport on the Berkeley-Richmond tideflats is recommended to serve the northern part of the East Bay.

At present the San Francisco International Airport and the Oakland Municipal Airport are the two largest non-military flying fields in the Bay Area. Oakland Airport is a Class 5 field, its longest runway being 6200 feet. The Airport Plan recommends that the San Francisco and Oakland fields continue as the major facilities in the area. It is anticipated that they would be adequate to handle all air transport operations through 1960 provided the latest types of navigation and landing aids were installed, operating efficiency were increased, and the fields were made more readily accessible from the cities they serve. The report recommends that Oakland Airport be enlarged to Class 6 status (runway length 6500 to 7499 feet). The largest type of intercontinental transport aircraft now in use requires a runway from 7000 to 8400 feet long. The plan also recommends the construction of a road along Alameda's west shore to connect with the Airport via Bay Farm Island. Such a road, together with the Eastshore Freeway, would improve the accessibility of the field.

Bay Crossings Plans

An unknown quantity in the future of the East Bay waterfront is the location of an additional Bay crossing or crossings. In all, more than a dozen possible routings for a future San Francisco-East Bay connection have been proposed, but there has been no general agreement on the best location. Studies of the Bay crossing problem have been in progress since 1945 when the State authorized an investigation by the Department of Public Works. In 1946 Congress appropriated funds for a joint Army-Navy Board report on the need for an additional crossing and its effect on national defense. In 1948, the State Division of Bay Toll Crossings recommended both a parallel and a southern crossing, the former to have first priority. The joint Army-Navy Board recommended the southern crossing plus a subaqueous tube for rapid transit from the Southern Pacific Mole to the Key System Terminal in San Francisco. For several years the proper location for the bridge was a bitterly contested issue at the local, state and federal levels. More recently, the noise has died down somewhat, but, of course, traffic congestion on the Bay Bridge continues to increase.

The Bay Area Council recently proposed a solution to the impasse, calling for the building of a southern crossing in addition to the construction of bridge connections radiating from a rotary distribution structure on Yerba Buena Island to Ashby Avenue, to the foot of 7th Street and to downtown Alameda in the East Bay, and to Telegraph Hill and to Army Street in San Francisco. Additional bridges are proposed at the north end of the Bay, connecting Point Richmond with San Rafael, and at the south end parallel with the existing San Mateo Bridge. The engineering and cost features of the scheme have not been

worked out as yet. Irrespective of the merits of the plan, it may provide a point of departure for resuming negotiations, without which there can be no solution.

Future Bay crossings are of direct concern to cities interested in waterfront improvements because of their impact upon such development. The cities and the bridge engineers bear a reciprocal obligation to coordinate their plans. A sound solution for new toll crossings must recognize the interest of the East Bay in the development of the tideflats for industry, recreation and residence. On the other hand, Oakland and the other East Bay cities must accept responsibility for guiding the thinking of the bridge engineers by adopting definite proposals for shoreline improvement before the bridge plans become crystallized. If the cities fail to act promptly and in concert, they may find themselves saddled with a solution that satisfies no one and seriously interferes with the most advantageous development of the shoreline.

Alameda County Plans

All of the intensively developed part of Alameda County's shoreline lies within the incorporated cities of the East Bay. For 23 miles south of the San Leandro city limits there are only low-lying fields and farm lands, scattered subdivisions, an occasional industrial plant, and thousands of acres of tideflats. The Alameda County Zoning Ordinance controls the use of this unincorporated land. However, other than a heavy industrial zone near the Oakland boundary, a 20-block strip of multiple residences, a single-family residential district, and another, larger industrial zone south of West Avenue 136, the remainder of the County's shoreline is in the "U" unclassified zone. Here densities, coverage and land use are uncontrolled except that permits are required for nuisance enterprises.

The heavy pressure of building development in southern Alameda County steadily is pre-empting usable land. The wide, level belt between San Leandro and Centerville offers choice industrial sites near railroad and highway transportation. Regrettably, most of this area is in the unclassified zone, and residential subdivisions are mushrooming on land far better suited for industry. The County doubtless will wish to ensure healthy future development by completing its zoning ordinance in accord with a sound land use plan.

In 1946 the County Planning Commission had a Beach and Shoreline Master Plan prepared, and it was officially adopted by the Board of Supervisors. Actually, except for a small area directly west of San Leandro and a piece lying in Contra Costa County to the north, the plan covers only the shorelines of the incorporated cities. The plan is in the form of a generalized map of land uses, including the area west of San Pablo Avenue and East 14th Street. The Berkeley-Emeryville waterfront is designated for industrial use except for a recreation area on the Albany-Richmond boundary and the existing yacht harbor north of

Berkeley Pier. The Eastshore Highway and Bridge approach are developed as parkways. Oakland's shoreline is designated for industry as far south as the Airport. The airfield has been materially enlarged, and a large lagoon and recreation beach is indicated directly to the south. The proposed development of Alameda's shoreline is substantially the same as in that city's master plan.

Although the County Master Plan is a step in the right direction, it is too generalized to be usable even for planning very large areas. By omitting any reference to a major street system, it leaves the entire traffic circulation pattern in doubt. The extent and character of proposed developments are not indicated, and in many cases the existing zoning patterns of the cities are ignored. For instance, the entire area covered by the plan has been stripped of residential development, completely overlooking the attractiveness of parts of the waterfront for homes and the convenience of housing industrial workers near their employment. Two of Oakland's newest subdivisions are located within the proposed industrial area. The amount of land devoted to industry seems out of scale - an area roughly one-third the total size of San Leandro, Oakland, Alameda, Emeryville, Berkeley and Albany combined. Finally, although it purports to be a County plan, no program is presented for the shoreline of most of the unincorporated area.

Richmond Plans

The Richmond Zoning Ordinance designates the entire sweep of its shoreline for industrial use with the exception of a residential neighborhood to the north of Point Richmond. A small tract on the west shore of Point Richmond and an area between Access Highway and Richmond Inner Harbor are designated for light industry and for limited industry and wholesaling respectively. The remainder of the shoreline, including Brooks Island, is in the heavy industrial district. Altogether, well over half of the land in Richmond is set aside for industrial use, leaving the zoning ordinance open to possible criticism on the grounds of imbalance among various land uses.

Richmond's "Airport and Cargo Terminal Plan" was prepared in 1948, and the Planning Commission has recommended that the City Council adopt it. The principle feature of the plan is the creation of a large island surrounding existing Brooks Island and the dredging of a wide navigable channel separating it from the mainland. The Island would be the site of an airport and deep sea shipping terminal with access to the mainland to the north via a tube under the channel to Potrero Point and to the east by a bridge or causeway to Point Isabel. The connection with Point Isabel would provide a right-of-way for a spur of the Santa Fe Railway and for a street connecting with Route 69 (Access Highway). The Santa Fe has indicated its intention to relocate its right-of-way along a route that will skirt the east side of the Richmond Inner Harbor, swinging out on filled land to the west of the Golden Gate Fields race track in Albany.

Richmond also is planning a bathing beach and yacht harbor, protected by a levee extending more than half a mile out into the Bay, between Ferry Point and the Standard Oil Pier. The proposed development includes a yacht club, casino, bathhouse, park and boat anchorages. Although the details of the project have not been fully worked out and approved, it is likely that it will go forward eventually because the proposed site, a 186-acre tract of tax-delinquent land, was given to the City by Contra Costa County with the understanding that it would be used for recreation.

Albany Plans

The City of Albany has no plan for the development of its mile of shoreline. It has a zoning ordinance adopted in 1933 which follows the pattern of other East Bay cities - industrial zoning along the waterfront and residences in the uplands. Albany's industrial zone is proportionately smaller than any of the other cities and includes only the land west of the Southern Pacific tracks and an area south of Buchanan Street and west of 8th Street. Albany has the opportunity now, while the land is still relatively undeveloped, to plan for a well laid-out waterfront that will harmonize with the plans of her neighbors, Berkeley and Richmond.

Berkeley Plans

Berkeley's zoning ordinance, adopted in 1949, sets the keynote for future use of existing waterfront land. All of the industrial development in Berkeley is located between San Pablo Avenue and the Bay. The zoning ordinance confirms the existing pattern, setting aside all of this area for industry except a residential district bounded by San Pablo, 5th Street, Dwight Way and Camelia Street. Within the industrial zone all manner of commercial, manufacturing and public utility enterprises and installations are permitted.

Over the years a number of different schemes have been advanced for the development of the Berkeley shoreline. The earliest proposal was the Rees Plan referred to previously. In 1919 Berkeley leased its tideland holdings to a private corporation for development as a port. However, the lessee was unable to finance the installations required by the contract, and the tidelands were turned back to the City five years later.

Beginning in 1940, the Berkeley Chamber of Commerce and other local groups advocated that the offshore area be filled for use as an airport. The U. S. Engineers held a hearing on the project in 1945, and the City submitted an application for federal aid in financing construction. The application was favorably received in Washington, but Berkeley was not able to raise its share of the project cost.

In 1948, the City Council appointed the Berkeley Waterfront Development Committee for the purpose of formulating comprehensive long-range plans. After spending two years studying the problem, the Committee submitted a preliminary report recommending the preparation of a plan involving a variety of uses, including an airport, deep-water shipping facilities, railroads and highways, industry, recreation, and residential areas complete with shopping centers and community facilities.

Pursuant to the recommendation, the City Council instructed the Planning Department and the Public Works Department to proceed with preliminary studies. As of the date of this report, the Planning Department has prepared several alternative tentative plans. All of them provide for filling an area extending more than a mile out from the existing shoreline for industrial development. On the assumption that Berkeley would be adequately served by expansion of the existing ports of Oakland and Richmond, none of the plans call for creating any new harbor facilities within the city. West of the industrial zone, a waterfront residential development is proposed. One of the schemes envisions this area as an island separated from the mainland by a crew course three miles long and an aquatic park. All of the plans suggest a pleasure drive skirting the waterfront and a yacht harbor at the north end of the residential area. One of the tentative schemes calls for tying in an airport directly with the residential development on the Berkeley tidelands. Another proposal locates the airport off the Richmond shore at Brooks Island, in conformity with the Richmond plan.

All of the plans assume that the Eastshore Highway will be converted to a freeway, in accord with the program of the State Division of Highways. Even this improved facility will not have sufficient capacity to carry the heavy traffic that is anticipated. Consequently another freeway is proposed, running along the western boundary of the filled industrial area parallel to the Eastshore Highway. At its southerly end, the freeway would be linked with the Bay Bridge and any additional crossings which might be constructed in this area.

The Santa Fe Railway now runs through residential districts in Berkeley, but its franchise expires in 1951. The Berkeley plans anticipate the relocation of the right-of-way on the tidelands, some of which the company already owns. At this location the Railway could serve the proposed new shoreline industrial area.

Another plan, devised by Lionel E. Spratling and Howard Gilkey, calls for reclaiming an area extending all the way from Richmond to the Bay Bridge and out to the Pierhead Line. They propose that the Berkeley tidelands be used for the site of a world's fair to be held in 1960 to celebrate the centennial of the University of California. The plan designates areas for residential and industrial development. Presumably the fair grounds ultimately would be converted to these uses. Also included in the plan are an airport off the Richmond shore, harbor facilities along the northern and southern bounds of the filled area, a crew course

on the western edge and a yacht harbor, a stadium and a union railroad terminal.

A variation of the Spratling-Gilkey scheme is the proposal of Robert Sibley to retain the fair grounds as a permanent headquarters for major athletic events and an annual music and drama festival. This plan locates the airport off the Albany shore and recommends port and industrial developments north of the Contra Costa County line.

Still another variation on the theme has been provided by Chesley Bonestell who has proposed an evolutionary scheme for the development of the Oakland-Richmond waterfront over a period of 25 years. On fill extending two-and-a-half miles into the Bay, a nine-and-a-half square mile area would be built for the site of harbor and industrial facilities, an airport, a residential area, a bird sanctuary and lagoon and an exposition park.

Emeryville Plans

Like Albany, Emeryville has made no plans affecting the shoreline other than a zoning ordinance. The small industrial city fronts along a mile-and-a-quarter of shoreline between Oakland and Berkeley and extends out onto the tidelands for a distance of two miles. If either Oakland or Berkeley proceeds with a plan for utilizing the western waterfront, Emeryville's holdings will be directly affected. In fact, a unified development along the shoreline would be impossible without the cooperation and participation of Emeryville.

Because it is essentially a single-function city, Emeryville's zoning ordinance is correspondingly simple. It divides the city into two zones - one for residence and one for industry. About three-fourths of the entire area is zoned for industry, including all of the land between Doyle Street and the Bay. Although the remainder is classified as a "residential" zone, all types of business, both wholesale and retail, are permitted there.

Alameda Plans

Alameda has the distinction of being the first city in the Bay Area to have adopted a master plan for its shoreline. The plan was recommended by the Alameda Planning Board and was approved by the City Council in 1948. The scope is limited to the shores of San Francisco and San Leandro Bays, excluding the port and industrial areas of the city which are strung out along the Estuary and the north end of the island. The proposal involves filling in the shallow waters along Alameda's south shore, creating a strip of new land from a quarter to a half-mile wide and three miles long.

The master plan contemplates using the new land for residences,

for parks and public beaches and for a freeway. There will be no industry or harbor facilities along the south shore; for these purposes the zoning ordinance designates all of the land north of Main Street, all of Government Island, and roughly all of the land east of Eagle Street as far as Versailles Avenue. The south shore is zoned for various types of residential development. The master plan proposes to extend these neighborhoods onto the newly filled areas. Washington Park, in the vicinity of Page and 8th Streets, is to be greatly enlarged and extended to the new waterline.

South Shore Drive, a six-lane freeway, will skirt the shore of the newly developed land from the extension of Main Street to the new Bay Farm Island Bridge. Parking for beach users will be provided on the south side of the service road which parallels the freeway. Clover-leaf structures will be built at the foot of Park Street and at either end of the new bridge to take care of the increased traffic which will be generated by the development of Bay Farm Island and the enlargement of the Airport.

Seaward of South Shore Drive the waterfront will be devoted to recreation and will be developed in four stages. The first project will be built on publicly owned land between the Naval Air Station and Park Street, and will consist of a yacht harbor with a capacity of 600 boats, a 10,000-foot sand beach and the expansion of Washington Park. Project number two, also on public land, will include the development of a 4300-foot sand beach that will taper off at San Leandro Channel, and the construction of the freeway clover-leaf at Park Street. The third project will be the construction of the interchange between Otis Drive, the freeway and Bay Farm Island Bridge and the creation of a 1400-foot beach along the south end of the Island bordering San Leandro Bay. The fourth project, to be developed between Encinal Avenue and High Street along San Leandro Bay's shores, will consist of a 1600-foot strip of beach and several boat landings, presumably to serve small boat activity in San Leandro Bay.

In view of the Port of Oakland's proposed plan for the development of San Leandro Bay as a harbor and industrial area, the desirability of the third and fourth projects is open to question. It is very likely that small craft would interfere with the movement of shipping through San Leandro Channel and within San Leandro Bay and constitute a hazard to navigation. Furthermore, the ships in the Bay and the industries on its shores probably would render the proposed beaches unusable for swimming because of pollution and oil wastes, in spite of reasonable preventive measures.

The destiny of Alameda's portion of Bay Farm Island is controlled by two plans. Beach development is provided for in the shoreline master plan, and the rest of the Island will be developed according to an over-all community plan adopted by the City Council in 1950.

The beach plan covers the shores of the Island lying within

Alameda. The program is to be undertaken in three steps. Northeast of Bay Farm Island Bridge a public park and beach will be constructed on newly filled land, and the Alameda Municipal Golf Links will be enlarged. The second project includes the remainder of the San Leandro Channel side of the Island where a six-lane freeway will be constructed on fill. At the northwest corner of the Island there will be a yacht basin large enough to accommodate 400 boats, with room for future expansion. The entrance to the yacht harbor will be located on San Leandro Channel, a feature which may give rise to conflicts between pleasure craft and commercial shipping.

Extensive fill operations will be necessary to bring the shoreline out beyond the tideland lot line for the third project. A long sand beach will be provided from the yacht harbor south to the Oakland-Alameda boundary.

As the largest undeveloped tract of land close to a metropolitan center, Bay Farm Island promises to become not only one of the most extensive, but also one of the most attractive new residential communities in the Bay Area. Today much of the Island lies under water except at low tide. Within the Alameda portion, there are 950 acres of tidelands and only 700 acres of dry land. The present population is a mere 116 families.

Realizing the potentialities of this tract, the Alameda Planning Board commissioned the late L. Deming Tilton, city planner, to prepare a master plan to control its development. A preliminary report was published in 1949. Following Mr. Tilton's death in 1950, Kenneth F. Jones completed the plan.

In general, the plan calls for filling in the tidelands and building a residential community designed to accommodate an optimum population of about 23,000. Following currently accepted planning practice, the community is divided into five neighborhood units. The nucleus of each neighborhood will be an elementary school, centrally located on a five-acre site. Each neighborhood will be bounded by major streets to minimize traffic flow within it. The internal traffic circulation system is well designed.

As much cannot be said, however, for access between Bay Farm Island and the surrounding areas. There are only two approaches, one from Alameda over the Bridge, and the other from the Eastshore Freeway along the east boundary of the Airport. These roads will have to carry not only the traffic created by the daily movement of residents, but also traffic between Alameda and the Airport and the industrial center planned for the south side of San Leandro Bay. In addition, heavy volumes would be generated by the golf course, parks, beaches and yacht harbor and by the community shopping center. If a southern Bay crossing were built to connect with the South Shore Freeway on Alameda, the problem would be complicated still further. The importance of easy traffic movement from Bay Farm Island to all parts of the metropolitan area

cannot be overemphasized, both for the success of the community and in order to avoid creating additional congestion in Alameda, Oakland and southern Alameda County.

Four compact shopping centers will be developed at convenient locations within the community, and off-street parking will be provided at a ratio of two square feet of parking space for each square foot of commercial ground floor space.

The focal point of the plan is a municipal sub-center which will contain a city hall annex, post office, fire station, library, clinic, and possibly an auditorium or art gallery. Immediately adjacent is a 32-acre high school campus. Three junior high school sites averaging 8 acres are to be strategically located around the Island, bringing to 81 acres the total land devoted to schools.

A questionable feature of the plan is the shortage of recreation and park space conveniently located within the neighborhoods. This is mitigated to some extent by the generous areas reserved for schools and by the enviable belt of open space surrounding the community. But play lots and preschool-age playgrounds, universally recognized as a necessary complement of a well-designed neighborhood, are missing from the plan.

The three neighborhoods on the north and west sides of the Island were to contain a combination of single-family and multiple residences with the multiples along the water's edge. However, since adopting the plan, the City Council has acceded to the request of a private housing developer to rezone a 40-acre parcel located at the southeast corner of the project from single-family to multiple-family use in order to accommodate an 800-unit, $13,000,000 garden apartment project.

The City of Alameda has not set up a schedule for the completion of the master plan. Most of the land involved is in private hands and the fruition of the plan will depend largely upon the initiative of the owners, on one hand, and the judicious exercise of adequate controls by the City on the other. Successful evolution of a major part seems assured by the fact that the largest private landholder closely cooperated in the production of the master plan.

San Leandro Plans

Most of San Leandro lies east of the Eastshore Freeway, but the incorporated limits reach westward, tentacle-like, enclosing several scattered tracts near the shoreline. Unincorporated areas of the County surround most of these and extend to the water's edge. In view of San Leandro's active annexation program (1,640 acres since 1940), it is not unlikely that as the unincorporated area near the shoreline develops it ultimately will become part of that city.

San Leandro's zoning ordinance was adopted in 1949, and it ties in closely with the Oakland and the County zoning ordinances. Between the Oakland boundary and Williams Street, from the railroad to the Eastshore Freeway, the land is zoned mainly for single-family residences. Three small single-family tracts lie just across the Freeway. The remainder of the incorporated area west of the Freeway is zoned for heavy industry with the exception of residential Mulford Gardens at the foot of Williams Street. The subdivision is separated from the industrial area to the east by a strip of commercial zoning. San Leandro excludes all residential uses and nuisance enterprises from industrial districts unless a use permit is granted by the Planning Commission.

Oakland Plans

A comprehensive plan of freeways and major streets was adopted by both the Oakland and Alameda City Councils in 1948. The principal projects contemplated by the master plan that will affect the shoreline are as follows:

1. A freeway is to be built along the alignment of the Eastshore Highway, Cypress Street, and 5th-7th Street connecting with the present northern terminus of the Eastshore Freeway.

2. At 7th and Cypress Streets the freeway will connect with a four-lane subaqueous tube crossing the Estuary. The route will continue along Main Street in Alameda and thence to the South Shore Freeway. This artery will lead to Doolittle Drive and Maitland Drive on Bay Farm Island. Doolittle will be a major street providing a link with the industrial area to be developed around San Leandro Bay and with the southern part of the County.

3. West Grand Avenue is scheduled to become a major street between the central business district and the Bay Bridge approach near the toll plaza. The section from Cypress Street to the Bridge is to be an elevated structure over the Southern Pacific main line and freight yards. Completion of this project will reduce the proportion of traffic flowing through the present bridge distribution structure from downtown Oakland. A system of four-lane streets will handle traffic within the Army Base and Naval Supply Depot.

4. An additional two-lane tube will connect Webster Street in Alameda with Webster Street in Oakland, supplementing the badly overcrowded Posey Tube. The old tube will carry one-way northbound traffic, and the new tube will carry southbound traffic.

5. A waterfront embarcadero is planned to serve the maritime facilities along the Estuary, particularly the Grove Street Terminal, the proposed municipal wharf development at the foot of Fallon Street and the 9th Avenue Terminal.

6. The plan calls for a new four-lane bridge across the Estuary at Fruitvale Avenue. Oakland and Alameda currently are negotiating with the Federal government to replace the present obsolete two-lane structure.

7. East 12th-San Leandro Street is designated a major street with six moving lanes from the central business district to the city limits. Sections of this project have been completed.

8. Hegenberger Road is to be widened to provide a better connection between the Freeway, the industrial area east of San Leandro Bay and Doolittle Drive.

9. Ninety-eighth Avenue is to be a major street from Mountain Boulevard to the Airport.

Plans of the Military Installations

Approximately 18 per cent of Oakland's usable shoreline area now is occupied by the military. The Army Base and the Naval Supply Depot sites are potentially the most desirable general cargo harbor space in the city. Clearly any major expansion or relocation of one or both military establishments would materially affect the future of the shoreline.

The commandants of the military posts in Oakland and Alameda were contacted concerning future expansion plans. Beyond small-scale building and local improvements, no future expansion is contemplated with the single exception that the Alameda Naval Air Station has a long-range plan calling for the reclamation of 220 acres of tidelands southwest of the present station. This program would have little effect upon either Alameda's or Oakland's shoreline development plans.

It is reasonable to expect that a continuation of existing international tensions will accelerate activity at the military installations and quite possibly make it necessary to enlarge them. In view of the fact that the future of these installations is so filled with uncertainty at this time, the only safe conclusion is that an accelerating defense program will require at least the continuing use of the existing facilities for the foreseeable future.

The Port of Oakland Plan

The Post-War Projects Plan of the Board of Port Commissioners, proposed in 1945, is the most important of the many plans affecting the shoreline. Its importance stems from two facts: the Board of Port Commissioners is directly responsible for the development of most of the shoreline area, and their plan deals with the mainstays of the city's economy - its port and its industry.

The plan is an informal statement of policy concerning future use of Port land for shipping and industry. Some of the projects have been assigned priorities. Portions of the plan are being revised and refined continually. For instance, the San Leandro Bay project has been enlarged from 643 to 960 acres, and the design has been changed. Constant study and revision to make the plan conform with changing conditions can be expected in the future.

The program is divided into two parts, one dealing with the development and improvement of harbor facilities, and the other with the expansion and improvement of the Airport. Twenty separate projects are included - 14 related to harbor improvements at an estimated 1945 initial cost of $44,045,000 and 6 airport projects totaling $11,700,000. It is anticipated that the ultimate cost of the harbor program would be many times greater.

Completion of the plan would treble the amount of existing general cargo berthing space, would increase transit shed space manyfold, and would double the size of the Airport. Caution should be used in making such comparisons, however, because many other factors beside the mere size and number of port facilities determine the volume and value of trade in a given harbor. Oakland harbor, exclusive of Alameda, now has berthing and docking space to accommodate 70 ocean-going vessels; its capacity upon completion of the Port plan would be about 234 vessels. The Airport would be increased from its present 851 acres to 1600 acres with six runways up to 10,000 feet maximum length.

The most ambitious single project is the development of North Harbor by dredging deep-water channels, filling the tidelands out from the shore and constructing a modern finger pier and warehouse development that would accommodate 90 vessels. The mammoth development would occupy a total of 1,080 acres. Off the present shoreline a mile-and-a-quarter of tideland lots would provide ideal industrial locations. The harbor proper would stretch for two miles - from the U. S. Bulkhead Line (about even with the Bay Bridge toll plaza) westward to the San Francisco-Oakland boundary. North Harbor would be served by the railroads. It would have direct truck access to San Francisco via the Bay Bridge and to the other East Bay communities via the Eastshore Freeway and the MacArthur Freeway. It is estimated that the initial development outlay would be fifteen million dollars with ultimate costs running as high as one hundred million.

Four smaller projects are planned for the improvement of Outer Harbor. The largest of these is the construction of two mole-type piers 1600 feet long, providing berthing space for 18 vessels. Two two-story terminal buildings containing over a million square feet of storage space, railroad tracks and roadway will serve the piers at the end of Key System Mole. On the east side of the harbor, Outer Harbor Terminal Wharf is to be extended 750 feet toward 7th Street, additional transit shed space is to be added at the foot of 7th Street and the existing oil wharf at Outer Harbor Terminal is to be replaced by a new 1000-foot

wharf.

Seven harbor projects are scheduled for the improvement of Inner Harbor. Between Clay Street and Broadway a wharf accommodating three large ships and a transit shed are to be built. The wharf will extend to the Pierhead Line, and will be served by new rail and roadway connections. Another wharf will be built at the foot of Fallon Street with 1200 feet of berthing space and 720,000 square feet of storage space. An embarcadero is planned to connect the Clay Street docks with those located around Brooklyn Basin near 19th Avenue. An additional berth, a warehouse and other improvements, including new street and rail connections, are to be added to the 9th Avenue Pier along Clinton Basin. Along the north shore of Brooklyn Basin the Port plan calls for the extension of 9th Avenue Pier by constructing an additional 600-foot section and a transit shed. To the south, along the east shore of Brooklyn Basin from 11th Avenue to 17th Avenue, a 2300-foot wharf, backed by a 440,000-square-foot transit shed served by rail and roadway, is proposed.

The plan to turn San Leandro Bay into a bustling industrial harbor is second only to North Harbor in size, scope and cost. A large part of the 960-acre project is to be given over to industrial sites, enviably located immediately adjacent to a freeway, an international airport, two transcontinental railroads and ocean-going shipping. From East Creek Slough, the project extends south to Hegenberger Road and is bounded on the east by the Freeway and on the west by Doolittle Drive. San Leandro Bay is slated to be dredged for deep-draught vessels which will use three slips to be built along the shore. One 400-by-1900-foot slip will be created by dredging out East Creek Slough, and two parallel 500-by-3200-foot slips will be located between the Freeway and the Airport. One has already been dredged to a depth of 35 feet at the mouth of San Leandro Creek. A 3000-foot turning basin in the middle of San Leandro Bay will permit deep-draught vessels to maneuver. Dredging a five-mile channel from San Leandro Bay through San Leandro Channel into San Francisco Bay and deepening the Tidal Canal will provide two approaches to the new harbor.

Berthing space will be provided for 44 vessels along the 22,000 feet of piers and quays. Railroad spurs and transit sheds will line the dock sides and behind these will be space for industrial plants.

The first of four units into which the project is divided has already been filled and soon will be ready for lease to industrial firms. It is located east of San Leandro Creek on the southeastern 180 acres of the project. Unit 1 will not have direct access to shipping facilities but will be leased for factory sites. Once the industrialization of San Leandro Bay is well under way, Units 2 and 3 directly to the north will be developed. Unit 2 covers 140 acres; the west side will be lined with docks and transit sheds. Unit 3 lies between East Creek Slough and Unit 2. Its 170 acres will be bordered by 5000 feet of docks, 1900 feet of which will be built along the slip in East Creek Slough. The largest of the projects, number 4, comprising the 470 acres between

San Leandro Creek and Doolittle Drive, will be the final stage of development. It will contain a third slip, terminal buildings, transit sheds and industrial lots. A portion of Airport Channel will be filled in to provide factory sites. The entire project area will be served by a network of railroad spurs and sidings and by a gridiron of local service streets.

Crossing Units 1 and 4 from the intersection of the Freeway and Hegenberger Road, a new major street will provide a main approach to the Airport. The roadway will terminate at the new Airport terminal building, which is to be built at a more central location 3000 feet north of the existing administration building. Four other airport improvements are projected which would make the Oakland field second to none in the Bay Area. Initially, the landing area will be extended by filling along the southwest shore to provide one additional 6600-foot runway. Ultimately the field will be expanded to provide duplicate runways in three directions with a maximum length of 8000 feet. In all, the six runways will provide 43,850 feet of landing strip, exclusive of the network of taxiways and loading aprons. When the improvements are completed the area of the Airport will have been doubled and the landing strip length increased by 255 per cent. The smallest of the three existing runways will have been removed to make way for a new air-freight terminal and wider passenger loading aprons, and all but one runway will be equipped with instrument landing devices. Access to the Airport from Alameda will be improved by extending Doolittle Drive to Bay Farm Island Bridge.

* * * * *

Even though some of the plans of the past have lost much of their value because of changing conditions or impracticality, all of them have focused attention on our growing problems, and many contain valuable ideas. Similarly, of the two or three dozen plans of public agencies that affect the development of the East Bay shoreline, nearly all have some bearing upon the formulation of this master plan. It is not enough to catalog these plans, to read them and forget them. Planning for Oakland's shoreline involves a recognition that this city is a part of a growing community of mutually dependent neighbors. Oakland's plans should be integrated with theirs and mutual problems ironed out in such a way as to yield the greatest advantage to the entire Bay Area.

FUTURE DEVELOPMENT

Every foot of the shoreline of San Francisco Bay possesses a unique value. Because the Bay is a matchless coastal harbor backed by a rich agricultural hinterland, the shore offers an ideal site for a great shipping center - for port facilities, transcontinental railroad and airway terminals and extensive warehousing and industrial areas. Because the Bay and its surroundings are breathtakingly beautiful when viewed from a distance - and could be equally pleasant from close-at-hand -, the shoreline is singularly appropriate for residential and recreational use. These potentialities have been observed as guide posts in formulating the master plan. Rather than to recommend that all of the shoreline be turned over to any one use, an effort has been made to devise a balanced scheme of development.

In working out the plan, it was necessary to decide approximately how far into the future it should extend. Research can accurately reveal the extent of today's needs. Reasonably sound predictions of what our needs will be in the future can be made on the basis of knowledge of existing conditions supplemented by information on past events. However, it would be extremely difficult, if not impossible, to try to foresee what conditions will be more than three or four decades hence. Consequently it was decided that, for most purposes, the time dimension of this plan should be limited to 30 or 40 years. But, as has been pointed out, the ultimate development of the port depends on a tremendous increase in trade with the Orient. Inevitably this will come, but no one can say with certainty that it will occur by 1980 or 1990. The industrialization of the Far East will be so important to the future of the port that today's planning must take it into account, even if the advent of the new Asia is a long time in coming.

Port Facilities

Because of their highly specialized requirements and strategic economic role, port facilities were given first consideration in developing the shoreline master plan. The discussion of Oakland's needs indicated that the future will require harbor expansion on an unprecedented scale as the countries of the Pacific Basin become industrialized.

To meet those needs, the Port of Oakland has prepared a plan of harbor improvements. The full significance of the Port's plan cannot be conveyed by cataloging projects or totaling the funds to be expended. More significant is the fact that the harbor is a large and vital part of the city's economic base and that its expansion implies comparable growth of industry, of services and trades, of population and, indeed, of all factors of city development. Regarded in this way, the Port plan is an ambitious one. But based on a realistic appraisal of long-term

needs, it is completely in scale with the city's future requirements.

On the basis of past performance and current trends, Pacific Coast and Bay Area shipping will experience little growth over the next decade or so. Such a prediction does not in any way contradict estimates of greatly expanded local port activity when Asia becomes politically stable.

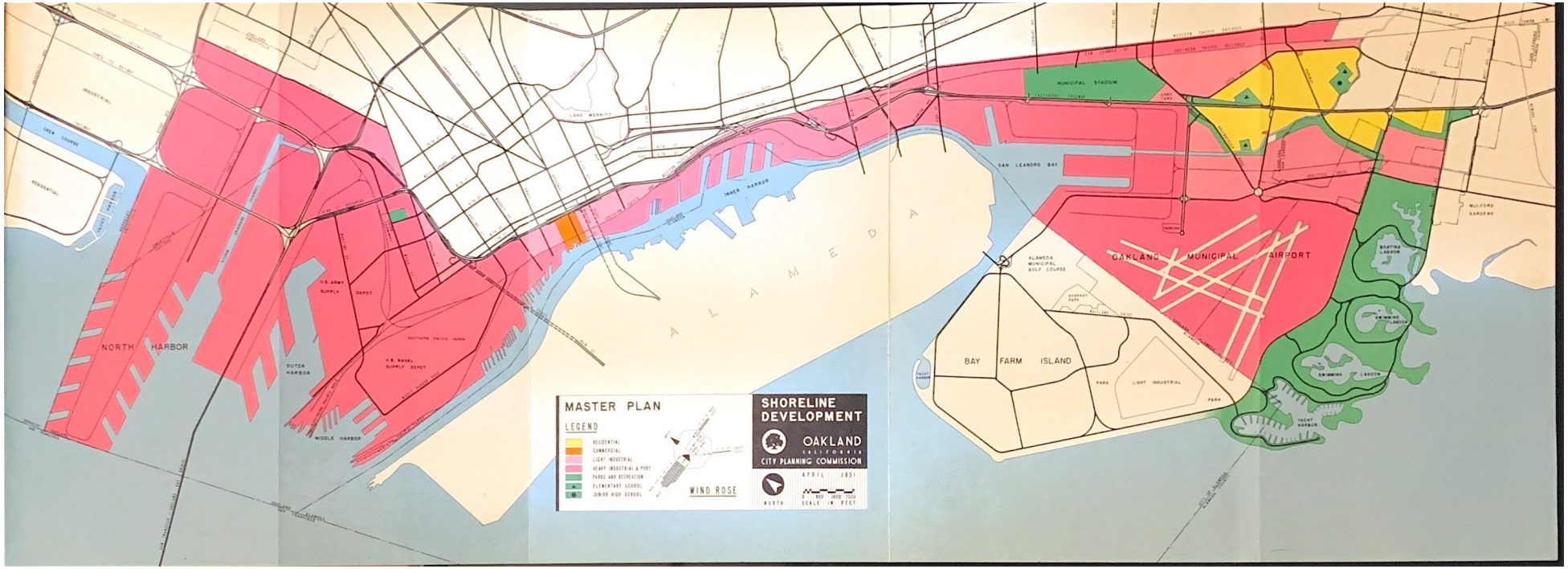
Despite an increase in population and a growing industrial output, Pacific Coast shipping has barely held its own over the past 20 years. During World War II, it is true, exports from Pacific Coast ports increased almost fourfold, principally because of the military campaign against Japan. But immediately after the war, exports dropped back to or below prewar levels despite the fact that the United States as a whole experienced an increase in foreign commerce. The Korean War has again stimulated Pacific Coast trade.

Compared with the Gulf and Atlantic Coast ports, the Pacific Coast handles only a minor proportion of the nation's waterborne commerce. Since the war, the West Coast has carried less than 10 per cent of the foreign tonnage and less than one-fourth of the domestic tonnage. Similarly, Pacific Coast far eastern trade is of minor importance compared with the total foreign trade of the nation.

Trade among the Pacific Coast ports and trade between the Pacific Coast and the Gulf and Atlantic coastal districts have shown severe declines within the past decade. The growing use of motor transport, rate differentials favoring overland hauling, waterfront labor conditions and many other factors have contributed to a situation which is endangering the solvency of port operations on this coast.

As might be expected, the Pacific Coast handles an impressive share of the nation's total trade with the Asiatic countries. During recent years, from 55 to 70 per cent of Coast tonnage has been foreign trade and by far the greatest share of that, about 40 per cent, has been with the Far East. In contrast, commerce with the Orient constitutes only 10 per cent of the Atlantic and Gulf ports' foreign trade. However, even in this respect, the Coast has been losing ground to the Gulf and Atlantic Coasts. Back in the twenties the West did over 60 per cent of the transpacific business; in 1948 the ratio had dropped to 43.7 per cent in spite of the industrialization and growth of the area.

Until recently San Francisco Bay was the leading port on the Pacific Coast. In 1949, for the first time, the Bay Area was surpassed by Los Angeles as the leading foreign trade dry cargo tonnage port. Both San Francisco and Los Angeles gained during the postwar years, but Los Angeles advanced more rapidly. In terms of total volume of foreign cargo handled, the Bay ports have more than held their own during recent years, but the gains have been modest and well within the handling capacity of existing port facilities.


MASTER PLAN
LEGEND
RESIDENTIAL
COMMERCIAL
LIGHT INDUSTRIAL
HEAVY INDUSTRIAL & PORT
PARKS AND RECREATION
ELEMENTARY SCHOOL
JUNIOR HIGH SCHOOL
WIND ROSE
SHORELINE DEVELOPMENT
OAKLAND
CALIFORNIA
CITY PLANNING COMMISSION
APRIL 1951
NORTH
SCALE IN FEET
NORTH HARBOR
OUTER HARBOR
MIDDLE HARBOR
INNER HARBOR
U.S. ARMY SUPPLY DEPOT
U.S. NAVAL SUPPLY DEPOT
SOUTHERN PACIFIC YARDS
ALAMEDA
SAN LEANDRO BAY
MUNICIPAL STADIUM
OAKLAND MUNICIPAL AIRPORT
ALAMEDA MUNICIPAL GOLF COURSE
BAY FARM ISLAND
PARK
LIGHT INDUSTRIAL
YACHT HARBOR
BOATING LAGOON
SWIMMING LAGOON
MILFORD GARDENS

Within San Francisco Bay, the Port of Richmond holds a commanding lead in the weight of cargo handled. About 30 per cent of all Bay Area cargo tonnage passes through Richmond. However, most of it is bulk shipments of oil and petroleum products which create little port activity compared with dry cargo movements. Percentagewise, San Francisco has lost half of its tonnage to other Bay Area ports during the past 20 years, mostly to Richmond and the San Pablo Bay area. The Port of Oakland has enjoyed a steady but unspectacular increase in both foreign and domestic shipments since 1928. The greatest gain has been in overseas exports, which jumped from a prewar average of 193,000 tons annually to a 1947-49 average of 1,190,000 tons. However, a large part of this 600-per-cent increase was military cargo.

The short-range forecast for Oakland is a continued consistent upswing in tonnage, comfortably within the capacity of existing port facilities. Emergency conditions, such as increased military or foreign aid activity in the Orient, may bring temporary deviations, but the need for major port expansion will depend on a deep-rooted, long-term demand based on a permanently increased level of trade between this nation and Asia.

Meanwhile Oakland faces a dilemma. Ocean-going vessels require deep-water channels, direct rail connections and access to streets capable of carrying heavy truck traffic. Back of the docks there should be extensive areas for warehousing, railroads, and processing and manufacturing. Oakland's waterfront has all of these advantages. There are more than 10,000 acres of land and tideland ideally suited for harbor and related uses. Much of it is lying vacant. But there is no immediate need for port expansion, and for the next decade or two only gradual growth is in prospect. By 1970 Oakland probably will have changed beyond recognition. Population will have risen sharply, and vacant buildable land will be at a premium for all types of uses. Naturally, as the city grows, there will be greater temptation and incentive to expand in the only possible direction - out into the Bay, onto the land so ideally suited for harbor development. The problem is whether those portions of the tidelands which are not apt to be needed for harbor space for many years should be used for other purposes in the interim. This question cannot be answered authoritatively until the extent and timing of Oakland's harbor requirements become more apparent with the passage of time.

Meanwhile, on the assumption that additional space will come into demand shortly, the Port Commission is proceeding with the development of San Leandro Bay. These docks will serve hundreds of acres of bay-side land now vacant and ripe for industrial development.

The Port also plans to add to its existing facilities along Inner Harbor, where space for expansion is limited. Practically the entire length of the Estuary is appropriate for harbor use. Cut off from residential areas by the Freeway, rail lines and the industrial belt, this section of the shoreline has little to offer as a recreational or

residential site. The Alameda shore opposite is built up almost solidly with industrial plants. The Estuary makes an undesirable mooring for pleasure boats because of the danger of collision with larger vessels and the distance from good sailing grounds.

The proposed addition to Outer Harbor would be a logical extension of the existing facility. Since it adjoins the Key System Mole, the project would involve very little filling and only a minor widening of the deep-water channel.

The North Harbor development would be the most expensive to construct because of greater fill requirements and greater size. However, the project promises to be sound and economic. It involves the filling of new lands and the dredging of channels in tidelands now under less than 12 feet of water. According to the U. S. Engineer's District Office, which is responsible for maintaining navigable channels in the Bay, the construction of North Harbor would pose no complex engineering problems and the cost would be small compared with the value of the new lands created. Because it adjoins existing and projected port facilities and industrial lands, the area is an eminently logical choice for harbor development. The site is not particularly suitable for recreation or residences because it is directly exposed to the cold winds and fogs that blow in through the Golden Gate.

North Harbor will be left as the final stage of the Port's improvement program. The fact that the ultimate development lies beyond the next few decades does not mean that the area will remain as it is now until the Port decides to improve it. The Santa Fe Railway soon will be filling in its right-of-way parallel with the Eastshore Highway. It is not unlikely that some of the property close inshore may be sold for development as industrial sites to defray the cost of the new right-of-way. Even though the Port may not be prepared to go ahead with its project for many years, there may be spontaneous industrialization in this area. Such an eventuality would be all to the good. It would tend to establish the industrial character of North Harbor. In any event, the development of North Harbor can be guided to conform with the master plan because most of this vast area is in public ownership.

The Port of Oakland's development program is bold but realistic. The proposed harbor projects are well located with respect to existing industrial and rail centers and are satisfactory from the standpoint of navigation. The plan permits a healthy balance among diversified uses of the shoreline in spite of the great size of shipping and manufacturing areas. Finally, the program gives full expression to Oakland's function and importance as a distribution center located on the shores of a magnificent harbor at the terminus of the world's most promising trade route. For all these reasons, the program of the Port of Oakland has been incorporated with only minor modifications in the master plan.

One major project, not included in the Port's plans, is recommended for Inner Harbor. It is suggested that Government Island be

reconstructed to make way for three large mole-type piers providing berthing space for 27 ocean-going vessels. The project would involve merely cutting channels through the 100-acre Island and filling the area between it and the Oakland shore. Government Island was created by dumping material dredged from Brooklyn Basin. It was unused until the Federal government took it for a Coast Guard station in 1931. On the assumption that the Coast Guard will continue to occupy the Island, the Port's plan calls only for enlarging the existing pier at this location and constructing an apron wharf backed by shallow warehousing space. As part of a comprehensive port development, the area is far better suited for harbor facilities than for the Coast Guard station, which readily could be moved elsewhere.

Industrial Sites

It is recommended that three types of areas be developed as industrial sites: lands suitable for industrial use and now vacant; lands suitable for industrial use and now occupied by inappropriately mixed uses; and tidelands now submerged but capable of being reclaimed.

North of the Bay Bridge it is recommended that an area be filled extending approximately 1200 yards from the Eastshore Highway out to North Harbor. This proposal embraces the offshore lands of Emeryville as well as those of Oakland. The plan ties in with Berkeley's tentative project to reclaim its tidelands out an equal distance for industrial development. The land between the Eastshore Highway and the Southern Pacific Railroad tracks in Oakland and Emeryville is now used for industry and should continue in this use.

At Outer Harbor and Middle Harbor most of the Port area is in the hands of the national military establishment. Except for the housing of personnel, all of the activities conducted at these installations depend on the proximity of rail and water transportation facilities. If the Army and the Navy were to abandon their bases, an area of over 800 acres would become available, ideally located and already partially developed with docks, warehouses and industrial plants.

Between the Southern Pacific yards and Cypress Street, industrial establishments are concentrated near the railway, and the rest of the land is occupied mainly by dwellings in poor condition with stores intermixed. This area is completely unsuited for residential use. Bounded by railroads and the Port on the west and by a future freeway (Cypress Street) on the east, the district is potentially appropriate for industrial development, and it has been so designated on the master plan.

Even if the dwellings in this section were to be removed, it is recommended that Ernie Raimondi Park be retained. The park has two baseball diamonds and it can be used for other sports. It would be very desirable to have these facilities available to the people employed in

the surrounding industrial area for use during their lunch hours and after work.

Although it is peppered with a great many stores and industrial plants, the area east of Cypress Street is predominantly a residential district. Most of the houses are old and many are in poor condition. Eventually it may be possible to redevelop the district, building attractive residential structures surrounded by generous open spaces. As long as it is primarily in residential use, this area should be insulated from the impact of heavy industry. Therefore a protective belt of light industry has been planned in the two triangles formed by Cypress and Peralta Streets between MacArthur Boulevard and West Grand Avenue and between West Grand and the 7th Street leg of the Freeway. Additional protection, such as a park strip or recreation area, would be needed where the belt thins down in the vicinity of West Grand Avenue.

Served by the Inner Harbor dock facilities and by the Freeway and rail lines that parallel it, the land along the Estuary mainly is suitable for small industrial sites, warehouses, storage depots and similar facilities. The exception is the area around the foot of Broadway, for which a special type of development is proposed later in this chapter. In the predominantly residential triangle bounded by 23rd Avenue, 29th Avenue and the Western Pacific right-of-way, most of the houses are old and dilapidated. The area is ripe for industrial redevelopment.

The land around San Leandro Bay is ideally situated for industry. It will be served by main-line railroads and harbor installations and is conveniently near the Airport.

Most of the land bounded by Edes Avenue, the south city line, San Leandro Creek and Hegenberger Road has been subdivided and built up with residences within the past ten years. Considering the proximity of railroads, the Freeway, the Airport and projected port facilities, the area might better have been used for industry. However, the new residences are there now and undoubtedly will remain for many decades to come. The City must protect these neighborhoods from inharmonious uses or they will become the blighted areas of the future. Surrounding them with heavy industries unquestionably would affect them adversely. The residents would be plagued by noise, vibration and fumes, not only from the plants themselves but also from the railroad spurs and heavy truck traffic. Therefore it is recommended that the surrounding lands be used for light industries which will not have an unfavorable impact on the residences. To further insulate the neighborhoods it is recommended that they be separated from the light industrial zones by park strips several hundred feet wide.

Railroads

The three main-line railroads that serve the shoreline area are valuable economic assets to the city, but they create certain circulation and land use problems that must be solved in working out the master plan. For safety reasons it is essential that tracks should not cross heavily traveled streets at grade, and, wherever possible, grade crossings also should be avoided at minor streets. Railroad lines are needed in industrial areas but should be kept away from residential neighborhoods because of their blighting effect. Marshaling yards require substantial amounts of land and also should be isolated from residential districts.

The Atchison, Topeka and Santa Fe Railway now runs through residential West Berkeley and a portion of North Oakland and terminates at 40th Street and San Pablo in Emeryville. The Santa Fe's franchises in Berkeley expire in 1951 and in Oakland in 1952. Because the railroad runs through predominantly residential areas in both cities, it would be inadvisable for either Berkeley or Oakland to renew the franchises for an extended length of time. Consequently the Santa Fe plans to relocate its right-of-way on the tideland lots it owns along the Berkeley, Emeryville and Oakland shores. This will not impose an unreasonable financial burden on the Railway. When its tideland holdings are reclaimed for industrial and port use, the company stands to gain far more from their sale or lease than the cost of relocating the route.

The master plan calls for running the Santa Fe tracks on filled land west of the Eastshore Highway. Here the Railway will be ideally situated to serve the new industrial area contemplated by the City of Berkeley and the North Harbor development of the Port of Oakland. Rail connections with these areas are suggested in the plan. It is recommended that the main line turn east at Powell Street, running under the grade separation that is to be constructed for the freeway, and make use of the Southern Pacific right-of-way to the 16th Street Station. Santa Fe has extensive yards in Richmond, and there are suitably located lands available in Oakland for any additional yard space which may be needed in the future.

The location of the Southern Pacific Railroad's Overland Route is not altered by the master plan. One change is recommended in the Newark branch of the Coast Line which runs south to Los Angeles. This route now branches off from the Niles Canyon Line just north of the San Leandro boundary and cuts through a relatively new residential area. This situation is disadvantageous to both the Railroad and the residences. It is suggested that a substitute route be considered farther to the south in an industrial zone of the County between West Avenue 132 and West Avenue 150.

From its intersection with Davis Street the Newark branch would be extended northerly to serve the industrial area west of the Freeway, the Airport, and the San Leandro Bay port development. For the rest of

its length the Southern Pacific would run on its present right-of-way to the 16th Street Station. The Railroad's extensive yard facilities probably will prove adequate for many decades to come. Should it be needed, there is room for future expansion at the Army Base and Outer Harbor.

Between the south city limit and Fruitvale Avenue, the Western Pacific Railroad runs parallel to the Southern Pacific on the opposite side of San Leandro Street. No farther than 350 yards apart, the two lines constitute, in a sense, a duplication of facilities and practically double the number of grade crossings. However, most of these crossings are on minor streets, and the present arrangement has the great advantage of providing railroad connections in the industrial areas on both sides of San Leandro Street without the need for any spur tracks crossing that important artery. Consequently the master plan recommends no change in the Western Pacific right-of-way south of High Street.

However, where the Western Pacific and Southern Pacific tracks now run side by side between Fruitvale Avenue and 14th Avenue, it might be economical to consolidate the two rights-of-way. West of 14th Avenue the lines divide again. The Western Pacific runs on 3rd Street and the Southern Pacific on 1st. The railroad on 3rd Street exerts a highly disruptive effect on street traffic, particularly in the central business district. Therefore it is recommended that the Western Pacific's trains be rerouted over the 1st Street tracks of the Southern Pacific. These lead directly to the Western Pacific yards south of Middle Harbor Road. If more marshaling space were to be needed in the future, the yards could be expanded into the adjoining area.

Union Railroad Terminal

Construction of a new union railroad terminal would be an expensive undertaking. The costs of relocating trackage and providing off-street parking space must be added to outlays for the buildings and the site. Therefore, if any of the existing stations is satisfactorily located, if it would be possible to enlarge the site, and if the building could economically be remodeled into a modern terminal, it would be advisable to use it for this purpose.

The Santa Fe Station is extremely small, and there is no room for expansion at 40th and San Pablo. The facility is poorly situated with respect to other rail lines, and Santa Fe itself plans to relocate its tracks after its franchise expires. Southern Pacific's Fruitvale and 1st and Broadway stations are totally inadequate structures standing on pinched little sites. Built many years ago as a suburban stop, Fruitvale is too far from the center of the city to be considered for a union terminal. On the other hand, 1st and Broadway is conveniently located on the edge of the business district with local transportation connections readily available. If the foot of Broadway were to be redeveloped as an

amusement center as proposed elsewhere in this chapter, the area would make a very attractive entrance to the city. Locating a union station here reasonably might be expected to help to revive this declining district.

However, there are several practical difficulties that militate against building a new terminal at 1st and Broadway. The master plan calls for running both Southern Pacific's Coast Line and Western Pacific's transcontinental trains on 1st Street. If, in addition, the much heavier rail traffic on Southern Pacific's Overland Route and Santa Fe's line were to use the terminal, 1st Street would have to be closed to vehicular traffic. Access to the docks and other facilities along the Estuary would be cut off at frequent intervals. Depressing the tracks in this vicinity would be impossible because minimum grade requirements would result in conflicts with the Posey Tube and the proposed Webster Street tube. Elevating the tracks would be expensive, and the resulting noise, dirt and obstruction of light would make the surrounding area unfit for commercial or recreational use.

Although it is not located in the central district and is not a modern structure, the 16th Street Station offers a number of advantages as a potential union terminal. It is only one-and-a-half miles from 14th and Broadway, a 10-minute automobile ride or a 15-minute bus trip. Direct access to the central business district would be afforded on 14th and 18th Streets, both scheduled to be major streets. Traffic destined for East Oakland, Alameda and points south would be able to get on the Eastshore Freeway at 7th and Cypress Streets, 12 blocks from the terminal. Northbound traffic would have access to the Freeway at 14th and Cypress, only five blocks away. Passengers driving to San Francisco or transferring to buses could use the West Grand Avenue overhead approach to the Bridge. On and off-ramps will be located only three blocks from the terminal.

Southern Pacific's Overland lines now run to 16th Street. Its Coast Line and Western Pacific's trains could reach the union terminal via the present Southern Pacific right-of-way on 1st Street. The master plan recommends that Western Pacific's 3rd Street Station be abandoned. This would save money for the Railroad and would eliminate the blocking of traffic by trains stopping on 3rd Street. The plan provides for Santa Fe to tie in with the Southern Pacific right-of-way at Powell Street and to proceed along this route to the 16th Street terminal. It would then be possible for the Railway to abandon its Emeryville station, enabling Santa Fe to cut its costs and the public to gain relief from traffic obstructions.

The 16th Street Station now has four through tracks, and there is sufficient room for tracks to be added to accommodate the Western Pacific and Santa Fe trains. The terminal is located only a short distance from the Southern Pacific and Western Pacific yards. Trains entering the city from the north can proceed directly on to the Mole. Santa Fe could conveniently transfer its San Francisco passengers to buses at

the station or take them on to the Mole. Western Pacific would have the same choice.

At a union terminal it is necessary to provide bus and taxicab loading zones and automobile parking off the street. Without these facilities a railroad station becomes a sore spot of traffic congestion. Access to the terminal building should be so designed that baggage can be picked up and deposited conveniently. Passengers should be able to transfer from trains to local transportation without being exposed to inclement weather.

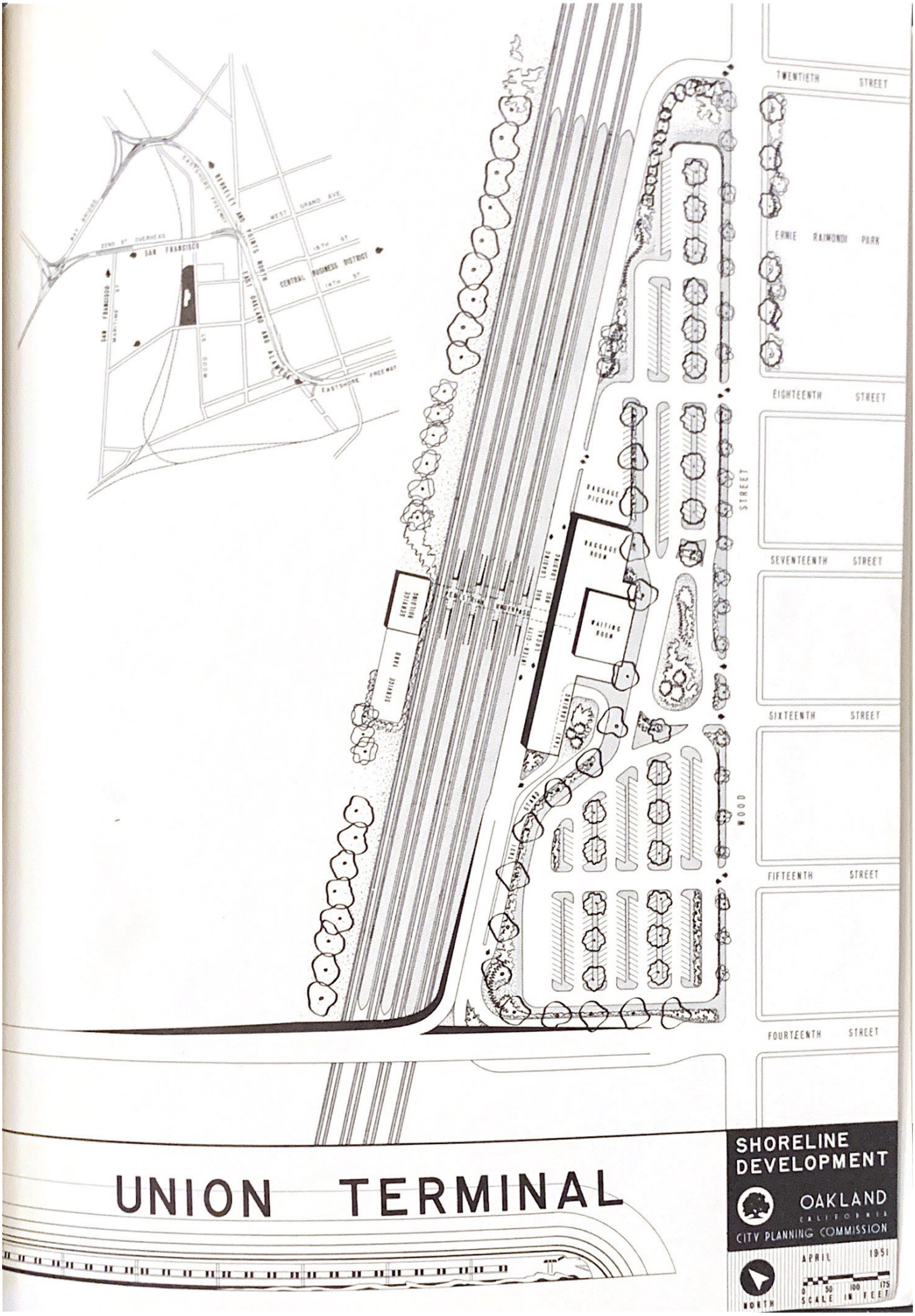
By removing only two warehouses and a few old store buildings, a 14-acre area bounded by 14th and 20th Streets, Wood Street and the tracks could be made available for expansion of the 16th Street Station. A site plan for this area is presented to illustrate its potentialities. The plan provides separate accessways and loading areas for private automobiles, taxis and buses. There would be off-street parking space for over 800 cars, a cab stand with a capacity of 80, and practically unlimited bus loading space. The proposed layout makes access between the parking lots and the passenger loading area as simple and direct as possible. A unique feature of the plan is the routing of local and transbay buses behind the station, immediately adjacent to the train platforms. This arrangement should prove exceptionally convenient for passengers transferring to and from buses.

A separate loading area for the baggage room also is planned. Automobiles could enter from the front of the station, but trucks would use the bus roadway at the rear.

The entire area would be attractively landscaped. Screens of trees would partially conceal the surrounding warehouses and other essential but not necessarily handsome structures.

Built in 1921, the existing steel-frame station building contains over 25,000 square feet of floor space. This does not include the elevated platform over which the interurban trains once ran. The station is large enough to handle the present average daily volume of 1,220 passengers entering and leaving Oakland in the summer months, when traffic is heaviest. This figure does not include passengers crossing the Bay by ferry. A materially increased volume could be accommodated, and the building readily could be enlarged if the need arose. The station is rather shabby at present, but remodeling it into an attractive, modern terminal would not be difficult or unduly expensive.

At present approximately 85 per cent of the train passengers passing through Oakland originate in or are destined for the west side of the Bay. It would be possible to terminate all routes at 16th Street and transfer San Francisco-bound passengers to buses. This change probably would cut over-all travel time except at peak hours when the lower deck of the Bay Bridge is congested.


SAN FRANCISCO
BERKELEY AND POINTS NORTH
EAST OAKLAND AND ALAMEDA
CENTRAL BUSINESS DISTRICT
EASTSHORE FREEWAY
TWENTIETH STREET
ERNIE RAIMONDI PARK
EIGHTEENTH STREET
SEVENTEENTH STREET
SIXTEENTH STREET
FIFTEENTH STREET
FOURTEENTH STREET
WOOD STREET
BAGGAGE PICKUP
BAGGAGE ROOM
WAITING ROOM
SERVICE BUILDING
SERVICE YARD
UNION TERMINAL
SHORELINE DEVELOPMENT
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However, a less tangible factor also should be considered before recommending that the Mole and the ferries be abandoned. The ferry boat is not an efficient form of transportation. Neither is the cable car, but every year thousands of tourists delight in riding on San Francisco's ancient trams. The trip across the Bay by ferry is a comparable case. Visitors enjoy the novelty of traveling on the vintage vessels as much as they enjoy the panoramic views of the Bay Area and the close-ups of the Bridge. The Southern Pacific Mole is old and drafty but not without a certain picturesque charm which might be enhanced by refurbishing the structure.

Because they are tourist attractions - and not for reasons of efficiency - it is recommended that the ferries be retained, at least for the present. If the cost of operating them were to become too great or passengers were to demonstrate a preference for transferring to buses at 16th Street, the ferry service should be discontinued and the Mole abandoned. Before this could be done, the 16th Street Terminal would have to be enlarged to take care of San Francisco passengers. There would be adequate room at the site for a larger building and expansion of the parking lots and loading zones. In the meantime, while the ferries still were running, the 16th Street Union Terminal primarily would serve the East Bay.

Municipal Airport

The Port of Oakland's program calls for enlarging the Municipal Airport so that it would have a capacity of 120 movements per hour and its runways would be long enough to handle the largest types of aircraft now anticipated by aeronautical engineers. In 1947 the total number of peak hour transport plane movements in the entire Bay Area was 30. This is expected to increase to 94 per hour by 1960, according to estimates of the Bay Area Airport Planning Group. Even if the Oakland Airport were to have a theoretical capacity of 120 plane movements and the San Francisco Airport were expanded to accommodate an equal number in accord with current plans, the actual combined capacity would be less than 240 take-offs and landings per hour. With the two fields only 11 miles apart, air congestion would limit the number of movements before a rate of 240 had been reached. Also, operation of an airport at less than maximum capacity is desirable from the safety standpoint and avoids the long delays that sometimes result from crowding. The proposed runways would be as long as 8000 feet, and there would be room to lengthen the strips to 10,000 feet in case further expansion should prove necessary.

It is recommended that the Port's program for improvement of the Airport be incorporated in the master plan. In all probability the increased capacity of the field would take care of anticipated gains in the number of aircraft not only during the next ten years, but also for several decades thereafter. The increased runway lengths would remove any limitation on the types of planes that could use the Airport. If it were to prove necessary, the field could be further expanded by moving

the proposed adjoining recreation area farther to the south.

Streets and Highways

In the main, the Shoreline Development Plan was designed so that it fits within the framework of the Master Plan of Freeways and Major Streets.

The freeway along the western boundary of the proposed industrial area north of the Bay Bridge is a major addition. The route parallels the Eastshore Highway and ties in with the Bridge at the same location as the West Grand Avenue overhead connection.

The existing Bridge distribution structure will be improved by adding a third-level ramp connecting the Bridge lanes with MacArthur Boulevard. This change will eliminate the dangerous conflict which now exists between the San Francisco-MacArthur traffic flow and the Berkeley-Cypress Street flow.

A second Bay crossing at any of the proposed locations could effectively be tied in with the proposed pattern of freeways and major streets. The master plan would work equally well with a parallel bridge; a southern crossing terminating in Alameda, at Bay Farm Island or farther to the south; or bridges radiating from Yerba Buena to the foot of 7th Street and Ashby Avenue, as proposed by the Bay Area Council.

The master plan calls for an embarcadero, a major street following approximately the alignment of 1st Street between Market Street and 19th Avenue, designed to serve the dock area. Because it would interfere with the proposed commercial recreation area at the foot of Broadway, the shoreline plan modifies the embarcadero by eliminating it between Clay and Franklin Streets.

The plan proposes a direct, grade-separated approach to the Airport from the Eastshore Freeway via the Hegenberger Road interchange. This connection would shorten the travel time between the Airport and the central business district. The portions of the Airport approach which were at grade could be given a parkway treatment to provide an attractive entrance to the city from the air terminal.

If the Southern Pacific tracks which now run through the Sobrante Park neighborhood were to be removed, the right-of-way might be converted to a broad parkway leading to a proposed beach and recreation area south of the Airport. Not only would the parkway be an attractive pleasure drive, but also it could serve as a buffer between the residential neighborhood and the light industrial area directly to the west. Connecting with the parkway and Davis Street, a major street would run along the edge of the recreation area, separating it from the Airport. Other approaches to the recreation area would be afforded by a new street west of Doolittle Drive between 98th Avenue and Davis Street and

by linking Williams Street and the Freeway interchange at West Avenue 132.

Mass Transit

In developing the shoreline plan, consideration was given the problem of how people can be moved within the area most efficiently and expeditiously. The plan contemplates that bus lines would operate on all of the freeways, tubes and bridges. Freed from the conflicts and delays that result from cross traffic, these lines would give far faster service than those now running on surface streets. It is recommended that special bus turnouts, sheltered passenger stops and pedestrian accessways be provided in the construction of all new freeways.

As a location for rapid transit, the shoreline has several disadvantages. Rapid transit lines are expensive to construct, and they should run through the most heavily populated areas, where they serve the most people. Obviously, a line running along the shore could draw patronage from only one side of its route. Furthermore, in Oakland such a route would not render service direct to any residential area except the subdivisions located at the south city limits. These neighborhoods and the port, industrial and recreation areas called for in the plan would require good transit service. For the next decade or so this probably could be provided by buses operating on the Eastshore Freeway. It is unfortunate that turnouts and stations were not included when the Freeway was built. It may be necessary to provide these facilities at important stops and transfer points.

If, in the future, passenger loads were to become too heavy to be handled by buses running on the Freeway, it might be necessary to build a shoreline rapid transit route. This might be done by widening the Freeway so as to provide a right-of-way in the center strip or on the shoulders. Or, in the alternative, it might be more economical to make use of the existing railroad tracks and to construct grade separations and to cut off access where necessary.

Drainage

The San Leandro Bay and North Harbor developments are the only master plan projects located near major drainage outlets. San Leandro Creek already has been rerouted so that it will not deposit silt in the Bay's navigation channels. Temescal Creek frequently overflows during the rainy season and floods portions of West Oakland and Emeryville, including the approaches to the Bay Bridge. A new storm sewer will be constructed to take care of most of this drainage, and the Creek will be dredged sufficiently to handle the rest. At the mouth of the Creek a ditch will connect with a drainage channel cutting a 375-foot-wide swath in the fill between the Bridge and North Harbor.

Recreation Facilities

Earlier in this report it was pointed out that very few of the residents of the East Bay live on its shores or use them for recreation. In allocating the city's waterfront land to various uses, first consideration was given to port facilities, industrial plants, rail lines and the Airport because they comprise the essential economic base of the area. The flat sites they require are available only along the shore. But, at the same time, it was not forgotten that it would be desirable to assign portions of the shoreline to residential or recreational use if possible, and a careful search was made for appropriate areas.

It was clear that the Outer, Middle and Inner Harbor areas should be excluded from consideration because millions of dollars already have been invested in port and related facilities there. The fact that the Alameda side of the Estuary, to the windward, is lined with docks and warehouses and industrial plants makes the Oakland side inappropriate for other types of uses. Eliminating these areas, only the tidelands north of the Bay Bridge and the shores of San Leandro Bay remained to be considered. These areas also are ideally suited for harbor and industrial development. The North Harbor tidelands are not particularly desirable for residences or recreation, but the sheltered San Leandro Bay shores could appropriately be used for such purposes.

However, it already has been demonstrated that San Leandro Bay will be needed for the future development of the Port of Oakland. If the land were to be recommended for residences or recreation, it would have to be shown that it would be more advantageous to use it for one or both of these purposes. In deciding on the ultimate use of the area, the Port's requirements were balanced against present and future needs for new shoreline housing sites and recreation facilities in the East Bay.

Berkeley plans a large Bay-front residential area, to be separated from its tideland industrial sites by a recreation belt and crew course. Except for the Naval Air Station, almost all of Alameda's south shore is in residential use at present. The City's master plan calls for filling additional areas for residential development and recreation facilities, including yacht harbors and a beach stretching from the Air Station to San Leandro Channel. Bay Farm Island is to be developed as a residential community with a yacht harbor and beaches along its shores.

The provision of these residential and recreation areas by surrounding cities will reduce the corresponding need in Oakland, although it probably will not be completely satisfied. Housing can be built in other parts of the city, so there would be little justification for preempting the shores of San Leandro Bay for that purpose. On the other hand, shoreline recreation facilities give many more people an opportunity to enjoy the Bay than would devoting the same areas to residential use. If San Leandro Bay were the only site available for waterfront recreation, serious consideration would have been given to devoting it to this purpose, despite the requirements of the Port. However, since an

equally appropriate site can be developed for a beach and yacht harbor not far away, the master plan designates the San Leandro Bay area exclusively for port and industrial use.

Waterfront Recreation Area

The Municipal Airport is to be expanded to the south, across the city line, as far as the extension of Davis Street. Adjacent to the Airport, in unincorporated territory, there is a large area vacant except for the premises of the Oakland Scavenger Company. Offshore a semicircular riprap wall has been built around 225 acres of shallow tidelands. Although only a small portion of the area has been filled, garbage is piled as high as 20 to 30 feet. The sanitary fill which gradually is being produced would make an excellent base for a recreation area and easily could carry the relatively light structures which would be required. In this vicinity, for a distance ranging from 2000 to 4000 yards offshore, the water is less than two feet deep. Consequently, if it were desired to reclaim additional tidelands, filling would be a relatively simple and inexpensive matter. Sand could be dredged from places where deep channels or basins were needed, to create new land masses.

If a recreation area were developed at the San Leandro line, the garbage dump would have to be relocated. Eventually such a move is inevitable anyway. Long before the area enclosed by the riprap wall is filled, the surrounding territory will have been built up with new industries and residences, and the dump will have become a nuisance. It would not be unduly expensive to move it farther to the south, to another site where sanitary fill is needed.

It is recommended that a waterfront recreation area of approximately 1400 acres be created just south of the city line. The site would include the 175 acres now vacant, the 225 acres being filled by the Scavenger Company, and 1000 acres of tidelands. To demonstrate the possibilities of the area, a site plan was prepared. The design was guided by four objectives: (1) to provide a sufficient amount of wind-sheltered beach space and safe, pollution-free swimming area to accommodate peak-hour crowds comfortably; (2) to provide a yacht harbor and related facilities of sufficient size to meet the needs of the anticipated number of pleasure boat owners in Oakland and environs; (3) to provide an attractive, safe watercourse for motorboats, canoes, rowboats, shells and small sailing craft; (4) to provide a variety of other recreation facilities appropriate to the shoreline so that the development would have wide appeal and would be intensively used.

The area was conceived as a naturalistic, irregularly shaped peninsula broken up by four large lagoons. Two of these would be used for swimming, one as a yacht harbor, and one as a boating and canoeing course. To give the beaches, lagoons and play areas maximum protection from the cool westerly winds that blow across the Bay, most of the land masses would be built up as hills and dunes as high as 40 feet above sea

level. Care was taken to ensure that the hills would not block the glide paths of planes taking off and landing at the Airport.

The basic aesthetic concept was to create a seascape rather than a landscape. The irregularly shaped coastline with its promontories, points and spits would present a picture somewhat like the dune-edged shores of Carmel Bay. The sands could be anchored down with wind-breaking groves of cypresses, pines and other trees and shrubs native to the shore.

The suggested plan calls for building several small landscaped islands in the swimming and boating lagoons to give them an attractive, natural look. The islands could serve as havens for swimmers and boaters, giving them a place to land and sunbathe.

The westerly lagoon would be the site of the yacht harbor. Channels would be dredged to provide connections with deep water. On the basis of the U. S. Corps of Engineers' estimates, the harbor was designed to accommodate 1500 sailboats and powered craft. It would take care of Oakland's share of the 3000 pleasure craft anticipated in Alameda County by 1970. The balance could be accommodated in the two harbors planned by Alameda (total capacity 1000) and the one planned by Berkeley.

In addition to moorings for all types of pleasure craft, the site plan provides the related facilities required by yachtsmen. On a peninsula jutting out into the lagoon, space is designated for both a commercial boat repair yard and a public yard for those who would work on their own boats. A small clubhouse nearby would serve light meals and beverages to scrapers and painters in need of refreshment. A site overlooking the entrance to the harbor is set aside for a yacht club. In addition to being a social center for East Bay sailors, the clubhouse could be rented to high schools, colleges and other organizations for dances and similar social affairs.

The two lagoons at the center of the development are intended for swimming. In this connection, the first problem that would have to be solved is ensuring that the water would be pure enough for bathing. The nearby San Leandro sewage disposal plant gives both primary and secondary treatment, which generally is sufficient to bring the effluent up to the minimum standard prescribed by public health authorities. However, at present the effluent empties into a drainage ditch 600 feet from the shore. If the recreation area were built, it would be necessary to construct an outfall sewer. Even then, there might be a pollution problem because of the shallowness of this part of the Bay. A considerable depth of highly oxygenated water and relatively swift currents are needed to ensure dilution and purification.

Because of the discharge of the sewer effluent of San Leandro and the growth of industrial and residential districts to the south, it might be necessary to chlorinate the water at the proposed recreation

WATERFRONT RECREATION AREA

SHORELINE DEVELOPMENT

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area to make it absolutely safe for swimming. It would be possible to do this in the lagoons by shutting off their narrow entrances with gates like those at Lake Merritt. Regardless of pollution, it would be desirable to have control gates to keep the water level in the lagoons from falling at low tide. It also would be advisable to install screens at the entrances in order to keep out solid refuse when the gates were open.

Another advantage of the enclosed lagoons is that they would make it possible for lifeguards to supervise the entire swimming area. This is virtually impossible at ordinary beaches. The proposed recreation area should have a far better safety record and probably would attract a considerable number of people who will not swim in open water because of the hazards involved.

Three and a half miles of sand beach would surround the two swimming lagoons - enough space to keep the beaches uncrowded even at times of peak attendance. An idea of how generous an allowance this would be can be gained by comparing it with the Los Angeles County shoreline development plan. Keeping in mind the fact that the warmer climate makes the demand for beaches greater in Southern California, compare the 61 miles of beach provided for a 1970 population of six million in the Los Angeles metropolitan area with the total of 19 miles planned for the East Bay, which is expected to have a population of only a million in 1970. However, with the possibility of attracting people from other parts of the Bay Area, the amount of space proposed would not be out of scale.

Each bathing beach would have three bathhouses approximately one-half mile apart. It would not be necessary to keep all the bathhouses in operation full time. One at each beach would be sufficient in slack periods, and the others could be opened as justified by the size of the crowds. In addition to the usual locker rooms, showers and toilets, these buildings could house snack bars and concessions for the rental of beach chairs, umbrellas and sports equipment.

Behind the beaches, both on the flat land and on the dunes, there would be large picnic areas. Many of these would be equipped with tables and barbecue pits, and others would be left unimproved for those who prefer more primitive picnicking. Some of the picnic sites would be located in shady groves, and others laid out to suit the ardent sunworshipper. Adjoining the beaches, flat areas would be reserved for volleyball and other games that can be played on the sand. Farther from the water there would be larger spaces available for softball, touch football and other sports. Two children's playgrounds are planned at one of the beaches and one at the other.

In the boating lagoon the water level also would be controlled by gates at the entrance. On the south shore an enclosed basin 1000 feet long was provided for sailing model boats. One arm of the lagoon, with an undulating shoreline broken by numerous small bays, extends into a

heavily wooded area which was set aside as a bird sanctuary. This picturesque, secluded part of the watercourse would be ideal for leisurely canoeing and rowing and undoubtedly would be particularly popular with young couples. The main body of the lagoon could be used for motor and sail boat races, aquaplaning and other active types of water sports.

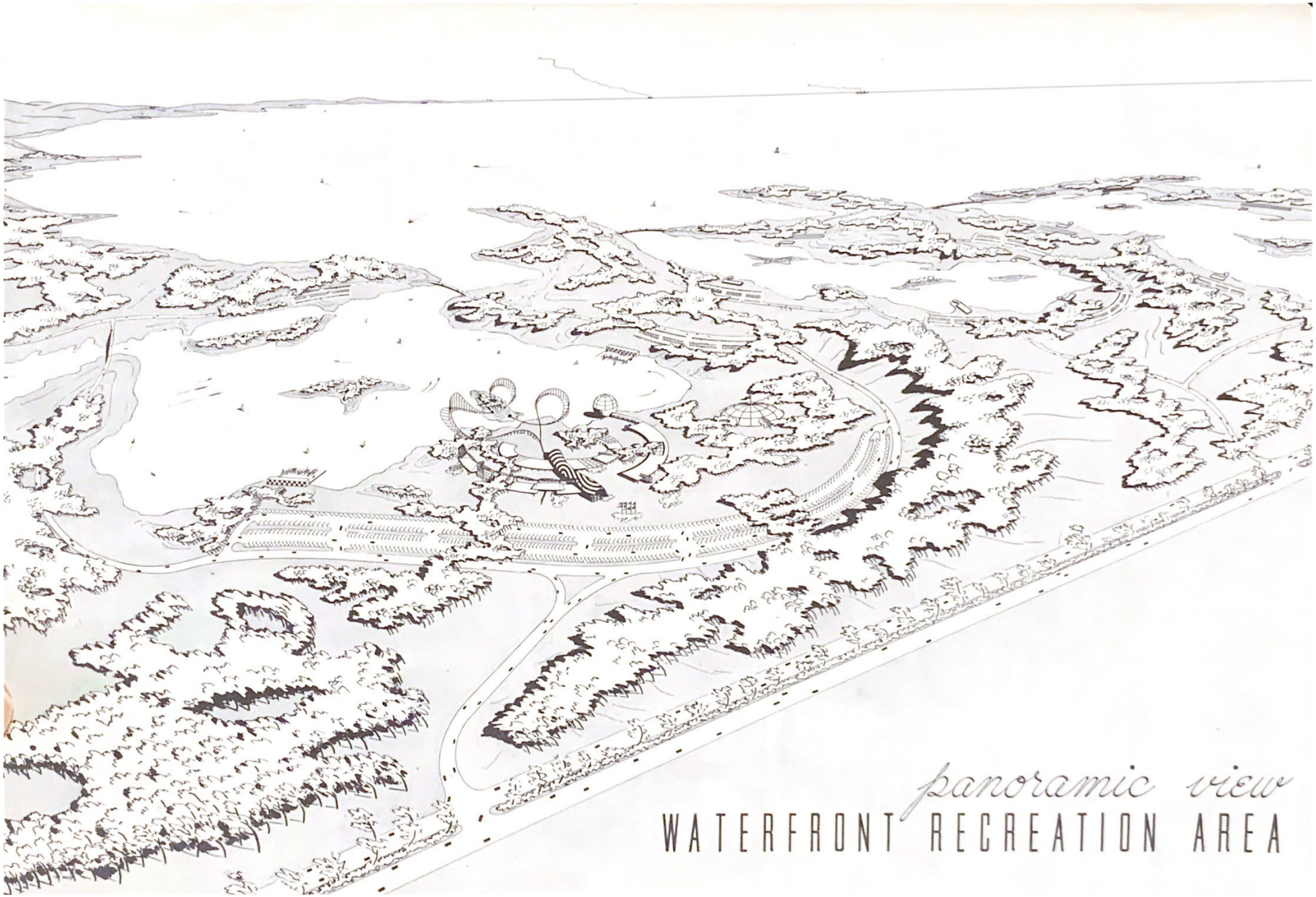
On the shore there would be two boathouses, one for canoes and rowboats and one for motor and sail boats.

The principal feature of the boating lagoon area would be the Fun Fair, an amusement park featuring a roller coaster, merry-go-round, ferris wheel and the usual variety of carnival concessions. This location, inland from the present shoreline, was selected because it is well protected from the wind, an essential feature of a facility which would be extensively used at night. At the same time, the Fun Fair could be laid out to take full advantage of the attractive features of its waterfront site. Most amusement parks present a rather shoddy appearance because they consist merely of a series of gaudily painted booths and the traditional "rides" lined up along a midway. But the few that have been skillfully laid out and landscaped, such as Playland at Rye, New York, demonstrate that an amusement park does not have to look like Coney Island to be a success. The Fun Fair should be designed to capture the carnival spirit without spoiling the appearance of the "natural" recreation area around it. With imaginative architectural design and landscape treatment, this purpose could be accomplished.

Near the Fun Fair, overlooking the lagoon, a restaurant would be located. Farther along the shore a dance pavilion and bandstand is suggested.

The north corner of the recreation area is set aside for a 45-acre turfed sports field. Existing slopes, built up by dumping garbage, could be used as foundations for bleachers overlooking hardball, softball and football fields. The suggested layout calls for two hardball diamonds and five softball diamonds. In the fall these readily could be converted to football fields. A clubhouse should be provided containing locker rooms and showers as well as equipment storage space. The plan also includes 18 tennis courts and, in the more isolated area near the bird sanctuary, an archery range and a golf driving range.

The principal approaches to the recreation area would be Davis Street, Williams Street, Doolittle Drive and the proposed major thoroughfare around the edge of Bay Farm Island and the Airport. Branching from this last artery there would be three principal loop streets - one running around the boating lagoon, one around the swimming lagoons, and one around the yacht harbor. Each of these loops would connect with Williams Street on the south side of the recreation area. This network of streets would constitute a shoreline drive of unusual scenic interest. A system of cul-de-sacs and minor access streets would carry automobile traffic to most parts of the area, but a few sections would be



panoramic view

WATERFRONT RECREATION AREA

left quiet and unspoiled - accessible only on foot.

Strategically located along the beaches and within easy walking distance of all of the principal attractions, there would be a series of 23 parking lots, each accommodating an average of 325 automobiles. Space for more than 2300 additional cars would be provided around the edge of the yacht harbor, close to the boat moorings. The total off-street parking capacity of the entire recreation area would be over 9500 - sufficient to accommodate peak hour traffic.

The site plan suggests two large maintenance yards, one located at each end of the area. These and all other service facilities should be appropriately screened with planting.

Whether this particular site plan or some other one were followed, it is recommended that this part of the shoreline be developed as a waterfront recreation area. Further, it is submitted that the four cardinal principles which guided the design of the plan should be followed if the area is to appeal to a maximum number of people.

Municipal Stadium

It is recommended that the land bounded by the Southern Pacific right-of-way, Hegenberger Road, the municipal corporation yard, the Eastshore Freeway and the extension of 57th Avenue be designated as a municipal stadium site. The entire 235 acres now is vacant except for an asphalt plant. Forty-seven per cent of the area already is in public ownership: 107 acres belong to the East Bay Municipal Utility District and 4 acres belong to the City. The site is large enough for a stadium seating 80,000, with room for traffic circulation and parking space for capacity crowds, assuming one car for every three spectators.

The chief advantage of the stadium site is its accessibility from major population centers around the Bay. It is only 5.7 miles from the Oakland City Hall, 10.3 miles from Berkeley, 16.6 miles from Richmond, 3.2 miles from Alameda, 9.5 miles from Hayward, 16.5 miles from San Francisco, 25 miles from San Mateo and 35 miles from San Jose. The Master Plan of Freeways and Major Streets calls for freeway connections leading directly to the site from virtually every city in the East Bay. Traffic from the north and south would approach the stadium via the Eastshore Freeway, which runs along one side of the property, and via six-lane San Leandro Street, which runs along the other side. East-west traffic would be carried by the five major thoroughfares which feed into San Leandro Street in this vicinity.

At present the Freeway has only four lanes west of High Street. It is recommended that it be widened to six lanes, not only to prevent congestion around the stadium but, more important, to handle the increased traffic volume which will be generated by the development of the surrounding port and industrial lands and the continued growth of the

area to the south. The State owns sufficient land for this purpose within the existing right-of-way. A local service road parallels the Freeway on the west side. Another service road on the east would be necessary to take care of stadium traffic. Simple overpasses probably would have to be built to connect the west service road with the site and to carry San Leandro Street traffic over the railroad tracks.

With regard to transit service, the stadium would be exceptionally well located. Buses run on both the Freeway and San Leandro Street, and it would be necessary only to construct turnouts and station facilities for them at the site. One of Key System's three division yards is located just across San Leandro Street at Seminary Avenue. From this point buses could conveniently be dispatched to the stadium just before the end of a game. Looking further into the future, if a shoreline rapid transit route were to be constructed, any of the possible alignments - along the Freeway, on the Southern Pacific right-of-way, or on the Western Pacific right-of-way - would provide good service to the site.

Climate is an important factor in selecting a stadium site, particularly if night games are to be played there. The weather at the proposed location is as mild as at any place along the East Bay shoreline. Records of the U. S. Weather Bureau Station at the nearby Municipal Airport show that the area is practically free from fog between noon and 11 p.m. except in December and January. The site is protected from direct ocean breezes. Because of the prevailing westerly wind, no smoke or other industrial wastes pollute the air except on a few exceptionally still days. If industrial plants were to be located to the windward, precautions would have to be taken to ensure that their wastes were controlled.

Although the soil in the general vicinity is soft and marshy, recent excavations indicate that foundation conditions on the site are surprisingly good. The soil is sandy clay, and it would be possible to construct a stadium without using deep piles. The sloughs that wind through the site would have to be covered.

Commercial Recreation Area

Legend has it that in the days when the Palace Theater in New York City was the national capital of vaudeville, there was a sign backstage that read, "The worst three weeks in the year are Christmas, Easter and Oakland." The implication that Oakland was the worst town in the country for show business may or may not have been accurate. At any rate, it is a fact that today, aside from a burlesque house and an occasional one-night stand at the Auditorium, there is no legitimate theater in Oakland. Other types of commercial amusements - good restaurants, cafes, night clubs and the like - also are scarce, considering the size of the metropolitan area.

Probably the principal reason for the drought is the fact that

San Francisco has captured most of the Bay Region's entertainment business. Internationally known for its cosmopolitan character, "The City" can offer its Chinatown, Fisherman's Wharf, Playland at the Beach, International Settlement, North Beach, Nob Hill, Opera House and theaters, and the bright lights of Market Street. Compare Oakland's after-dark attractions. Were it not for the moving picture palaces, there would be more than a little truth in the oft-made contention that almost any night of the week one could shoot a cannon up Broadway and not hit anybody.

Oakland is essentially a quiet community of homes and gardens, eminently well suited for family living. It would be foolish and inappropriate to attempt to transform this city into an entertainment capital or to try to compete with San Francisco as a tourist magnet. But it should not be necessary for Oaklanders to travel across the Bay for a fine dinner, a good play, a concert or an evening of dancing and a floor show. Oakland now is a city of almost 400,000, and close to a million people live in the East Bay. Many of them want to do something more with their evenings than take in an occasional movie and make an annual visit to the Flower Show. Recent developments suggest that a demand for more and better commercial amusements exists in the East Bay. "The Strip," which has built up on Highway 24 between Orinda and Walnut Creek since the opening of the Broadway Tunnel, is dotted with restaurants and night clubs. Berkeley and Richmond recently have built large, modern community theaters. But in Oakland there has been little change since the Auditorium opened in 1915 with the "Dance of a Thousand Colors."

In most American cities the commercial amusement center is strung out along Main Street. Usually the tastelessly ornamented buildings, glaring electric signs and garish advertising displays create a cheap, unwholesome, honky-tonk atmosphere. But, at the same time, it cannot be denied that a genuine spirit of excitement and gaiety prevails in crowded metropolitan amusement centers such as New York's Times Square, Chicago's State Street, and Los Angeles' Hollywood and Vine. Only at expositions has this atmosphere of fun and relaxation been generated amid truly attractive surroundings. However, nothing stronger than tradition dictates that cities' commercial amusement centers must be gaudy, ugly and congested. Copenhagen's famous Tivoli demonstrates the advantages of locating fine restaurants, cafes, theaters and other concessions in a downtown public park where band concerts are given and public festivities are held.

Oakland has only a few centrally located areas which could appropriately be developed as commercial recreation centers. The lands around Lake Merritt immediately suggest themselves. However, the civic center site surrounds the south end of the Lake, and the adjacent area will be needed for off-street parking, professional office buildings and other related uses. At the other end of the Lake, Children's Fairyland, the bandstand, the bowling greens and other activities already have preempted most of the space in Lakeside Park. A section with less obvious promise but even greater potential is the area around the foot of

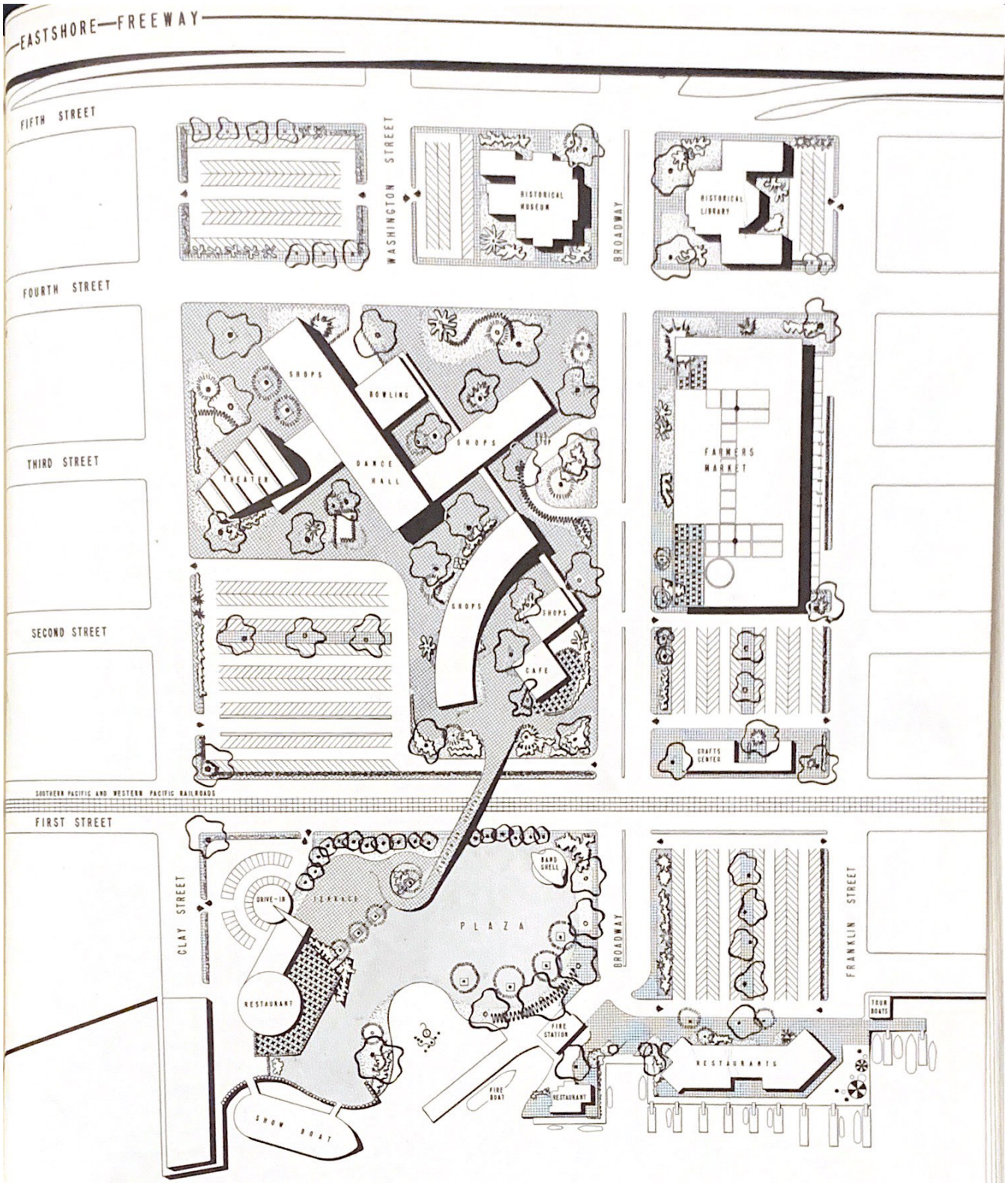
Broadway.

Today the blocks bounded by Clay Street, Franklin Street, 5th Street and the Estuary are occupied mainly by a jumble of decaying warehouses mixed with a few stores and small industrial establishments. Most of the structures are in very poor condition and are not worth preserving. But this area also is the site of some of the most historic and colorful buildings in the city. Facing each other on Broadway between 4th and 5th are the venerable, dilapidated old County Court House, which is being demolished, and the Hall of Records, which was restored by the W.P.A. and now is the headquarters of the County Welfare Commission. Built in 1875, both buildings are rich in local historical associations. Although it is not an architectural star of the first magnitude, the Hall of Records has considerable nostalgic charm. The neoclassic Court House, minus its original tower, was a rather handsome old pile. It was unfortunate that it was allowed to deteriorate to the point that it became unsafe. At 1st and Broadway stands the old Southern Pacific passenger station with its tasteful, simple lines and unpretentious colonnade.

Around the foot of Broadway, the waterfront has the picturesque, salty atmosphere of an old-time harbor. The mellow, weathered wood of the wharves and piles, the ropes and rigging and the ships passing in the stream suggest the adventure of life at sea and the glamour of foreign ports of call. Already two restaurants are located on the docks where they can capitalize on this unique waterfront atmosphere. Recently the Port of Oakland leased a site for another waterfront restaurant, to be called "The Sea Wolf" after Jack London's well-known novel. London lived in this area as a young man and spent a great deal of his time at Heinhold's "First and Last Chance," a saloon established at the foot of Webster Street in the 1880's. Originally a bunkhouse for oyster pirates, the venerable establishment is still in business despite the fact that it is gradually settling at a rakish tilt. The Port has named the block at the foot of Broadway in honor of Jack London and plans to develop the surrounding area as a restaurant center similar to San Francisco's Fisherman's Wharf.

West of Clay Street, the area near the waterfront is devoted principally to warehouses with a scattering of wholesale establishments and industrial plants. North of 5th, the streets are lined with commercial buildings, many of them old and in disrepair. This was Oakland's original business district. Over the years the center of activity gradually moved uptown, leaving this declining area behind. A large-scale development around the foot of Broadway would give the adjoining section a much-needed shot in the arm. Furthermore, the project would tend to halt the glacier-like movement of the center of business activity northward. It would anchor the central district at its present location, stabilize property values there and buttress the tax base of the city.

East of Franklin Street is the heart of the city's important wholesale produce district. Some of the warehouses are old and in need



COMMERCIAL RECREATION AREA

At the foot of Broadway

COMBINING THE ATTRACTIONS OF THE WATERFRONT, THE PRODUCE DISTRICT AND HISTORIC OLD OAKLAND WITH NEW RESTAURANTS, CAFES, MARKETS, SHOPS, THEATERS AND OTHER RECREATION FACILITIES IN A UNIFIED PLEASURE ZONE.

SHORELINE DEVELOPMENT

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SCALE IN FEET

of rehabilitation or replacement, but most are still serviceable. Naturally, the streets carry a heavy load of truck traffic, particularly in the early morning hours, and the sidewalks are sometimes littered with debris. Nevertheless, the produce district is essentially an attractive place. The open-front buildings are overflowing with crates of bright-colored fruits and vegetables, and the air is full of interesting smells. The bustling atmosphere is not unlike that of such picturesque European market places as Paris' Les Halles and London's Covent Garden. In Boston the colorful produce district around Dock Square attracts large crowds of shoppers and sightseers, and the Fulton Fish Market in New York and the wholesale produce district of New Orleans are major tourist attractions.

At present the Western Pacific Railroad cuts through the foot-of-Broadway area on 3rd Street, and the Southern Pacific runs on 1st Street. It has been recommended that the W.P. right-of-way be combined with the S.P.'s. The Eastshore Freeway will run between 5th and 6th Streets on an elevated structure which will make the foot of Broadway easily accessible from all parts of the Bay Area.

It is recommended that the entire area bounded by Clay and Franklin Streets and 5th Street and the Estuary be developed as a centralized amusement area combining the attractions of the waterfront, the produce district and historic old Oakland with new restaurants, cafes, markets, shops, theaters and a plaza for public festivities. The site should be laid out to achieve efficiency and workability. At the same time, the development should present a pleasing appearance, and, above all, it should be the kind of place that generates a spirit of gaiety and good times. The architecture should be festive. Insofar as construction techniques and space usage are concerned, the buildings should be ultra-modern, but they should be imaginatively designed and decorated. It would be appropriate if some of the playful elegance of 19th century architecture were worked into the designs, not only as a reminder of the historical background of the area, but also to tie the new buildings in with any of the old ones which might be retained. The site should be imaginatively landscaped to provide an attractive setting for the buildings.

A commercial recreation center should have ample space for handling large crowds of pleasure-seekers. Space for pedestrian circulation is particularly important. People should be able to stroll about without being crowded off the sidewalk and without crossing the path of moving traffic. Easy access by automobile and by public transit is essential. The experience of shopping centers has demonstrated that there must be conveniently located parking areas of adequate size if the development is to be a financial success.

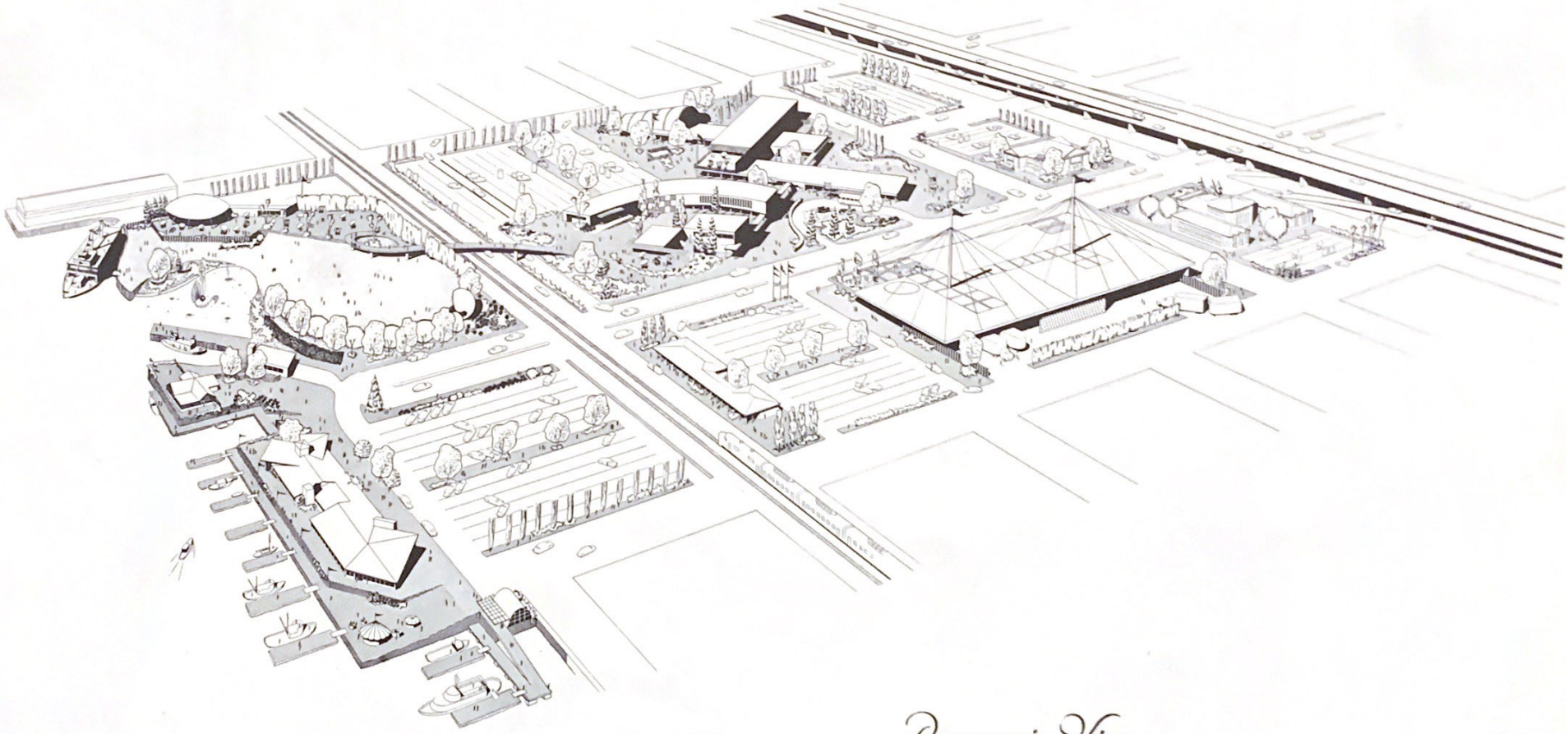
A site plan of the entire area is presented in order to indicate the possibilities of developing it as a commercial recreation center tied in with a museum, a library, a farmers' market and a public plaza.

The plan calls for closing 2nd and 3rd Streets from Clay to Franklin, and Washington Street between 1st and 4th. These changes would not interfere with the flow of through traffic because 2nd and 3rd Streets already end at Oak, and Washington Street at the Estuary. Closing the streets would create two large superblocks, one of twelve acres and one of five and a third acres. Broadway would be the main axis, bisecting the development and leading the eye down to the waters of the Estuary. Running between 5th and 6th Streets, the Freeway would make a logical uptown boundary. The space beneath the Freeway could be used for parking; there would be room for 500 cars between Clay and Franklin Streets.

It is suggested that a museum of early California history be built on the old Court House site. The structure appropriately might be a replica of the Court House. The foot of Broadway is a particularly suitable location for a historical museum, and the nucleus of a fine collection is available in Oakland. The obsolete County jail should be demolished and the space used for a parking area. This area plus the adjoining block, bounded by 4th and 5th and Clay and Washington Streets, would accommodate 252 cars. The Hall of Records would be converted to a historical library housing a collection of Californiana and Western Americana. As restored by the W.P.A., the building is eminently well arranged for this purpose. It contains a number of meeting rooms which could be made available to historical societies and other organizations primarily interested in early California and the Old West. Space for off-street parking is available at the rear of the building.

The plan designates the smaller of the two superblocks as the site of a large farmers' market. Immediately adjacent to the wholesale produce district and only one block from the Freeway, this is an eminently suitable location for such a facility. Oakland definitely needs a farmers' market. There should be some centrally located place in the city where farmers can sell direct to the public under satisfactory conditions. Since fruit raising, truck gardening and horticulture are among the economic mainstays of Alameda County, it would be appropriate that the market occupy a prominent location. The sensationally successful Farmers' Market in Los Angeles demonstrates how attractive and universally appealing this kind of development can be and how well it can be tied in with restaurants, cafes and specialty shops.

As projected on the site plan, the market would consist of 93,000 square feet of floor space which could be used with complete flexibility. The suggested architectural treatment calls for suspending a huge, flat steel truss roof by cables from two 150-foot steel masts. The space beneath could be divided into stalls, booths, display areas, storage areas or whatever else might be needed. The plan calls for a landscaped promenade on the Broadway front of the building and space for 36 trucks to park in the rear. Immediately adjoining would be an automobile parking lot with 172 spaces. The parking areas on the surrounding blocks would handle the overflow. The total number of spaces in the development is 1,778, including those under the Freeway.



Panoramic View

COMMERCIAL RECREATION AREA

At the Foot of Broadway

Across the parking lot from the farmers' market is the old Southern Pacific Station. It is proposed to remodel the interior and turn it into a crafts center. The building would provide a picturesque workshop for weavers, ceramics-makers, metal workers and other craftsmen.

The 12-acre superblock on the opposite side of Broadway would be the heart of the amusement center. Six buildings of one and two stories were designed as a unified group, with arcades along their fronts and covered walks running between them to provide shelter from sun and rain. There would be a loop driveway off Broadway so that buses could load and unload off-street. One of the buildings would be designed to house a dining and dancing pavilion, another a bowling alley, a third a theater, and a fourth a cafe with a sidewalk terrace. The other buildings would be planned so that the space could be divided up to meet the needs of various types of businesses. Stores could be leased to dealers in curios, arts and crafts, gifts and other specialty goods. There also would be room for a wide variety of restaurants, soda fountains, snack bars and taverns. To preserve the "First and Last Chance" for posterity, it might be advisable to move it to this site before it disappears into the Estuary.

Some of the buildings would be grouped so as to form attractive, intimate courts; others would be surrounded by broad promenades and terraces. Almost a quarter of the superblock would be devoted to a parking lot with space for 450 cars. The entire area should be attractively landscaped with shade trees, shrubbery, flower beds and appropriate types of ground cover. Contributing to the festive atmosphere would be ornamental light standards, poles flying brilliant banners, colorful poster displays and brightly painted kiosks. There also might be free-standing sculpture in appropriate settings and mosaics and murals on the walls of the buildings. At night the center could be effectively illuminated.

Toward the 1st Street side of the amusement area the terrace would slope gradually upward, and a broad pedestrian overpass would lead to the plaza across 1st Street, making it unnecessary to cross the railroad tracks on foot. The possibility of depressing or elevating the right-of-way was considered but proved impractical. In the final analysis, it might not be undesirable to have trains running on 1st Street through the foot-of-Broadway area. Many people, particularly the very young and the very old, enjoy looking at trains. The modern streamliners are handsome. Passengers arriving in Oakland would be favorably impressed by passing through the new development. Because it would be partially screened by trees, the railroad probably would not be too obtrusive and would not be a disruptive element in the over-all scheme.

Between 1st Street and the Estuary the principal feature of the plan would be a great public plaza to be used for official celebrations, mass meetings, band concerts, open-air dances and similar events. In one corner would stand a band shell. Tall shade trees and a planted strip would bound the landlocked sides of the plaza. The water side would wrap

around a parabolic basin where a spectacular fountain would shoot jets of glistening spray into the air. A showboat would be moored just outside of the basin. Besides being a picturesque landmark, this anachronistic type of theater has proved outstandingly popular in several other cities. Overlooking the plaza and the basin would be a restaurant and a snack bar with an elevated terrace. To the rear of the snack bar, accessible from 1st and Clay Streets, would be a drive-in restaurant.

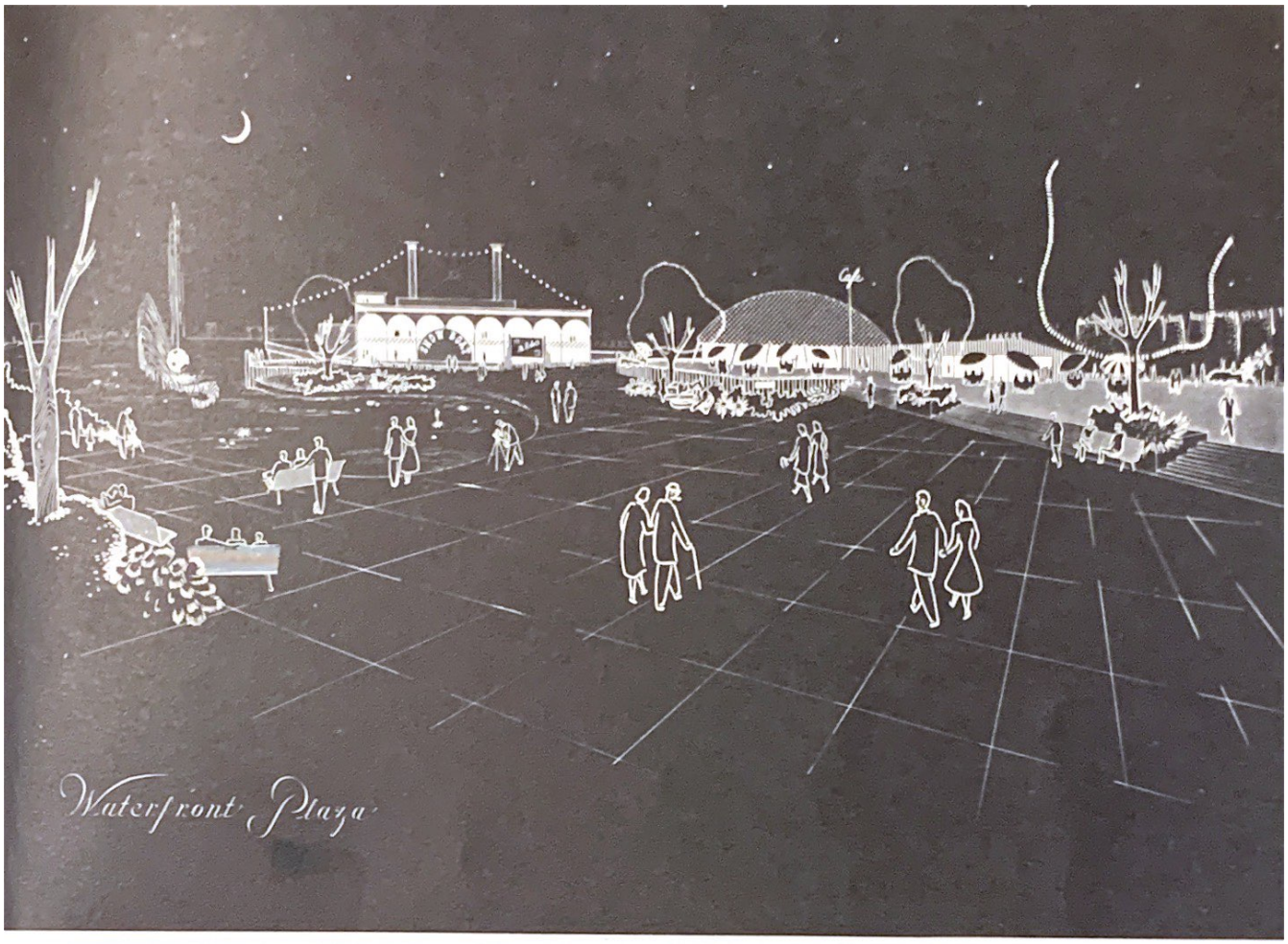
At the foot of Broadway the existing firehouse, fireboat pier and the attractive "Bow and Bell" restaurant would be left unchanged except for some additional landscaping. At the end of Broadway, space would be left for the erection of a community Christmas tree during the holiday season.

Across Broadway, at the water's edge, will stand the new Sea Wolf restaurant. The building could be enlarged to accommodate one or two additional restaurants in a Fisherman's Wharf type of development. At the foot of Franklin Street, on a terrace overlooking the Estuary, there would be room for crab pots and small stands for the sale of sea food. Between Broadway and Franklin the waterfront would be lined with boat landings where pleasure craft could moor while their owners came ashore to dine or join the crowds in the amusement center. There also would be a dock for sightseeing boats which would cruise down the Estuary and around the Bay. A square block of parking space, large enough to accommodate 310 cars, would serve this area.

In preparing the site plan, the objective was to create a center where the average Oaklander could have a good time. The foot of Broadway would not be a swank, de luxe development; neither would it be a place to go slumming. There would be attractions to appeal to all age groups and all income groups and all tastes. The assortment would range from a lively dance pavilion to a quiet park area, from hot dog stands to fine restaurants, from floor shows to historical exhibits. Although the area might attract considerable tourist trade, it was primarily designed to meet the need for commercial amusement facilities that unquestionably exists in the East Bay now. The historic flavor and colorful atmosphere of this part of the city should not be overlooked in preparing a master plan for the future of the area. The scheme presented here would ensure their preservation.

Residential Areas

The only areas set aside for residences by the master plan are the new subdivisions at the south city line - Brookfield Village, Sobrante Park and Columbian Gardens - and the adjoining vacant land to the west as far as Hegenberger Road and San Leandro Creek. If one were planning from scratch, these areas might better have been put to industrial use. But the existing subdivisions are well laid out and are built up with relatively new homes, and they are worth conserving and working into the over-all pattern of the master plan. Accordingly, these resi-



Waterfront Plaza

Amusement Center

COMMERCIAL RECREATION AREA

At the Foot of Broadway

dential areas must be protected from inharmonious uses and provided with essential community facilities.

The insulation of Brookfield Village, Sobrante Park and Columbian Gardens by means of park strips, major traffic arteries and non-nuisance light industries already has been described. A five-acre playground and a community center will be added to the Brookfield School site when a portion of Brookfield Annex temporary war housing project is demolished. A community shopping center serving both Brookfield Village and the surrounding neighborhoods is located at 98th and Edes Avenues. Sobrante Park has an elementary school, a junior high school and a playfield. A small neighborhood shopping center is located at 105th and Edes Avenues.

At present Columbian Gardens is not large enough to constitute a self-contained neighborhood. Bounded on two sides by vacant land, it has neither a school nor shopping facilities. It is recommended that the subdivision be expanded as far as Hegenberger Road and San Leandro Creek, which would make logical boundaries between the residential and light industrial areas. The neighborhood would then be large enough to support its own community facilities. Five acres next to the Creek were set aside for a school site, and property on Jones Avenue was designated for a shopping center.

ACHIEVEMENT

The master plan recommends drastic changes in Oakland's shoreline. It proposes that vast vacant lands and tidelands be developed and that areas not now advantageously used be redeveloped. The plan is broad and sweeping in its basic concept. It embraces a wide variety of land uses. It is geared to the needs of the entire metropolitan area. It anticipates conditions which lie decades in the future.

But it is a realistic plan. It is based on a careful analysis of current conditions viewed in the light of past trends. There is no phase of the plan that could not be achieved by existing public agencies or private interests or the two working together. Although the initial investment would total tens of millions, it would be well within the means of a community with the wealth and resources of Oakland. Some of the projects would be self-liquidating. Most of them could be developed by stages. All of them, from great harbors to bathing beaches, are necessary for the city's future growth and prosperity and the happiness and well-being of its citizens.

This chapter will deal with the steps that must be taken to transform the master plan into reality. The scope of the inquiry will cover consideration of the agencies capable of assuming responsibility for the various projects and the possible means of financing them. Cost estimates will not be included because it would be impossible to do so without preparing detailed plans, and because in most instances today's figures would be meaningless tomorrow.

Port Facilities

The Port of Oakland was created to develop the city's potential harbor facilities. The improvements made to date have been financed partly from profits but mainly by general obligation bonds of the City of Oakland. The $2,503,000 bond issue of 1909 was paid off by 1949, and the 1925 Harbor Improvement issue of $9,960,000 will be completely amortized by 1966. As of 1951 $3,705,000 remained outstanding.

Since the war the Port has made a maximum annual profit of $420,598 and sustained a maximum loss of $86,343, not including Airport operations. These figures take into account bond redemption and interest which are paid out of the City's general fund rather than from Port income. Because the Port is not entirely self-supporting, it is clear that, except when funds are available from profits, future improvements will have to be financed by issuing general obligation bonds. If the Port were to show a consistent record of profits over an extended period, revenue bonds might be floated. But it should be remembered that the interest rate on this type of issue is substantially greater than on

bonds backed by public credit.

The U. S. Army Corps of Engineers reclaimed hundreds of acres of tidelands to create Outer Harbor, and it has dredged and currently maintains navigable channels for the Port of Oakland. It is anticipated that, as in the past, the Engineers will conduct the extensive dredging and filling operations called for in the master plan.

The proposed North Harbor development embraces Emeryville's tidelands as well as Oakland's. It would be necessary to have the cooperation of Emeryville to ensure that its submerged lands could be used for this project.

At its 1951 session, the State Legislature passed a measure creating a San Francisco Bay Port Development Commission responsible for promoting trade and assisting in the planning and development of the port. The Commission will be in a position to aid in the achievement of the Port of Oakland's plan. If, as a result of the Commission's activities, more trade were attracted to the Bay Region, the need for expansion of the port would come sooner.

Industrial Sites

If Oakland's full economic potential is to be realized, both public agencies and private interests will have to bend their efforts to creating new industrial sites. The Port of Oakland is responsible for the development of its expanding holdings and leasing them to industrial concerns. It now owns almost half of the total shoreline area, including tidelands. Under the City Charter, the Port is prohibited from leasing its lands for periods exceeding 25 years. This limitation makes it difficult to interest manufacturers in constructing plants in the area. To attract new industries, the Charter should be amended to extend the maximum leasehold to cover a more realistic amortization period.

Several thousand acres of vacant land and tidelands designated for industrial use are in private ownership. A positive effort should be made to promote the development of these sites as well as to further the Port's program. Three local organizations are equipped to do this job: the Oakland Chamber of Commerce's New Industries Committee, Alameda County Industries, Inc., and the San Francisco Bay Area Council. By selling industrial firms on locating here, these agencies could make a major contribution to the development of Oakland's shoreline.

Extensive areas recommended for industrial use are now occupied primarily by a jumble of old dwellings intermixed with small stores and manufacturing plants. These declining districts are unsatisfactory for residential or commercial use, but because the land is subdivided into small lots and held in many different ownerships, it is unduly expensive to assemble sites large enough for modern industrial plants. These properties cannot be put to their appropriate use without some means of

writing down their prices to reasonable levels.

Under the Federal redevelopment law, funds are available to subsidize the difference between the inflated prices of individual parcels and their resale value for industrial use. If the City had a redevelopment agency, it would have the power to acquire these properties, consolidate them and transfer them to private enterprise for development. Before turning it over for demolition and reconstruction, each area would be replanned to provide a more logical street and subdivision pattern. Blocks could be consolidated and streets closed to create industrial sites of adequate size without interfering with traffic circulation.

The master plan sets up a zoning pattern based on two objectives: (1) to designate each area for its most appropriate use, and (2) to protect each area from the impact of inharmonious uses. Because of the unfavorable effect of heavy industrial installations on residential and business districts, light industrial zones are recommended as buffers between the conflicting uses. Some of these areas already are zoned for light industry. It would be advisable to exclude heavy industrial uses by modifying the Zoning Ordinance.

To insulate residential West Oakland from Outer Harbor and the adjoining industrial district, the triangle bounded by Cypress, Peralta and MacArthur should be rezoned from the heavy to the light industrial district. The master plan also calls for the rezoning of the inharmonious heavy industrial districts that adjoin the Brookfield Village, Sobrante Park and Columbian Gardens residential neighborhoods.

Two areas now zoned for residences are designated for industrial use in the plan. One lies north of 98th Avenue between the Southern Pacific Railroad and Edes Avenue, and the other is located south of 98th between the Western Pacific and the Southern Pacific lines. The former should be rezoned for light industry and the latter for heavy industry.

The regulation of land use by zoning should work two ways. Most ordinances exclude industries from residential and commercial districts but fail to give industrial areas the same protection. If land is best suited for industry, it should be reserved for that vital purpose and not chopped up into small residential or commercial lots. To protect such land, many cities now require that a special permit be obtained before a nonindustrial use can be located in an industrial zone. A few jurisdictions exclude nonindustrial uses from these districts altogether. To ensure the optimum development of the industrial areas designated in the master plan, Oakland's Zoning Ordinance should be amended to protect them from encroachment by residential or commercial uses.

If a major industrial complex is to be developed on the shoreline, precautions will have to be taken to protect the city from water and air pollution. Industrial sewage could ruin the waterfront recreation area recommended in the plan and the beach projects of surrounding

cities as well. Gaseous wastes could give rise to smog which would drift eastward over the business and residential districts. Neither of these problems could be solved by the City acting alone. Pollution does not stop at official boundaries.

The State prohibition against dumping wastes into the Bay should be rigidly enforced by each city and county throughout the metropolitan area. All industrial plants should be required to connect with the East Bay Municipal Utility District sewerage network or one of the local disposal systems. The recently created Regional Water Pollution Control Board would support city and county enforcement.

Air pollution is even more difficult to control than water pollution. The cities and counties will have to exercise strict surveillance over industrial processes. Joint action will be needed in many cases. But the efforts of public agencies, acting individually or jointly, will not be sufficient to ensure against a smog problem's arising. It would take an army of highly trained technicians to devise means to eliminate or neutralize gaseous wastes and to police every industrial plant. Consequently, it will be necessary for private interests to cooperate with public authorities to protect the Bay Area from contamination of its climate.

Railroads

The master plan recommends the relocation of only two sections of railroad lines. The Santa Fe tracks are to be removed from Lowell Street in Oakland and from Adeline and Yerba Buena in Emeryville and relocated on the Railway's tideland holdings. Santa Fe already has planned this move and will bear the entire cost. The Newark branch of Southern Pacific's Coast Line might be removed from the Sobrante Park neighborhood, between 98th Avenue and the city line, and relocated in an industrial zone to the south. This would be an expensive project. In addition to the costs of right-of-way and trackage, it would involve a substantial outlay for a freeway grade separation somewhere between West Avenue 132 and West Avenue 150. Most of the price probably would have to be paid by the public because the Railroad would gain nothing but the advantage of abutting on industrial properties where potential customers would be located. However, the proposed expenditure should be considered in the light of the future of the Sobrante Park neighborhood. For an indication of what otherwise might lie ahead, it is only necessary to look out of any train window at the residential properties that adjoin the right-of-way. If the rail line were relocated, the adjacent area should be zoned exclusively for industry so that henceforth outlays for such remedial measures will not be necessary.

All of the other recommended changes in railroad routings depend on the consolidation of existing facilities rather than on the addition of new ones. Because of the substantial savings they could realize, the railroads probably would be willing to cooperate by pooling their

facilities as proposed in the master plan.

In the course of making the street improvements recommended in the plan, it would be desirable to eliminate as many railroad grade crossings as possible. Grade separations are needed particularly where the railroads cross major streets. Southern Pacific, Western Pacific or both intersect at grade with 23rd Avenue, 29th Avenue, Fruitvale Avenue, High Street, Seminary Avenue, 73rd Avenue, Hegenberger Road, 81st Avenue, 98th Avenue, and the proposed parkway through Sobrante Park. Beyond the city limits there also are grade crossings on Davis Street and West Avenue 132; these streets would be major approaches to the proposed waterfront recreation area.

The elimination of grade crossings generally is financed jointly by the City and the railroads. The two parties negotiate an agreement and submit it to the State Public Utilities Commission for approval. The costs are apportioned on the basis of benefits received, which means that the railroad usually pays a relatively small share. No Federal funds have been appropriated specifically for the elimination of grade crossings, but Federal highway aid can be applied to such projects.

Union Railroad Terminal

The proposed site plan for the union terminal covers all the land from Wood Street to the tracks between 14th and 20th Streets. A large warehouse building and the Railway Express Agency occupy most of the land between 14th and 16th. On the south side of 16th is a row of old wood-frame stores. All of the property except the 16th Street frontage is in a single ownership. The blocks from 16th to 20th are vacant with the exception of a small parcel now occupied by temporary public housing. Southern Pacific owns all of the land but the housing site.

The union terminal plan involves only the acquisition of slightly more than two blocks, demolition of the improvements, paving and landscaping the parking areas and loading zones, and remodeling the existing station. The total cost of the project would be relatively small. By abandoning their old passenger stations the railroads would save considerable sums. Dividing the cost of the new terminal among the three railroads, each would shoulder a relatively light burden. However, if they proved unable to finance the project alone, the City might make some contribution on the basis that terminal unification is in the public interest.

Municipal Airport

Development of the Municipal Airport is the responsibility of the Port of Oakland. As in the case of harbor improvements, airport projects would have to be financed at the local level by bond issues or out of Port profits. However, under the Federal Airport Act, substantial

grants-in-aid are available for this purpose. The government will contribute 25 per cent of the cost of land acquisition or of flight easements or rights-of-way necessary to eliminate hazards or to control airfield development. The government also will pay 50 per cent of the cost of improvements, plus an additional percentage based on the amount of nontaxable Federal lands in the State. In California the total Federal share is approximately 54 per cent.

At present there is no State aid for airport development except for a small amount of unclaimed gasoline tax refunds which accrues annually. Under a 1947 law, the State Aeronautics Commission could make contributions to cities, counties and airport districts if funds were appropriated for this purpose by the Legislature.

To date the Corps of Engineers has done no work on the Airport directly for the Port of Oakland. But, under contract with the Civil Aeronautics Administration, the Engineers have conducted filling operations as part of the Federal contribution to airport improvements. It might prove advantageous to have the Army participate in the future expansion program. In the master plan, there are several projects, including the development of San Leandro Bay and the waterfront recreation area, which involve extensive dredging near the Airport. It may be that some of the dredged material could be used for fill in the course of adding the 700 acres to the airfield.

Streets and Highways

Like all the other road projects in Oakland, the freeways and street improvements recommended in this report would be financed from City, County, State or Federal sources. The City pays for street projects out of tax revenues, bond issue proceeds and its share of State gasoline tax receipts. Of the 1945 Bond Issue, $4,950,000 was earmarked for nine specific street construction projects. One of these, the widening of East 12th-San Leandro Street, is in the shoreline area. Of the four-and-a-half-cent State tax collected on each gallon of gasoline sold in Alameda County, five-eighths of one cent is allocated to the City of Oakland for street improvements. The County gets one-and-three-eighths cents, and it redistributes part of this to the cities.

State highway projects, including freeways, are financed partially from gasoline tax revenues and partially from various highway user taxes such as motor vehicle licenses and levies on trucking concerns. The Federal government's contribution is split among four types of projects: interstate highways, primary state highways, urban highways and secondary or county highways. The largest share goes toward financing urban highways.

Three street projects - the Embarcadero, the Airport approach and the extension of Doolittle Drive - are included in the Port of Oakland's improvement program. All but the Embarcadero are incorporated

without change in the master plan. The Port might make some contribution to the cost of these projects which are included in the master plan primarily for its benefit.

Mass Transit

The plan recommends that provisions for bus service be made in the design of all future freeways and points out that alterations of the existing Eastshore Freeway eventually may be needed for this purpose. Who would pay for these bus turnouts, passenger stations and accessways? This question is merely part of the far broader problem of how to provide adequate transit service in the East Bay. The present operator, Key System Transit Lines, has indicated that it could not afford to make the necessary investment. As an alternative, it has been suggested that the cities and counties or some other public agency finance the improvements and turn them over to Key System or some other private company for operation. If the Federal government were to recognize the importance of an effective Bay Area transit system to the national defense, it might contribute to such projects just as it does to highways and airports.

Under the Bay Area Metropolitan Transit District Act, it would be possible to set up a special authority to construct and operate a transit system, including feeder bus lines where they did not compete with existing operators. In its report, "The Transit Problem in the East Bay," the City Planning Commission's staff pointed out that a metropolitan area-wide district appears to be the most promising instrumentality, and recommended that the cities and counties jointly sponsor a technical survey to discover the answers to all of the various aspects of the problem, including organization and financing. Until such a study has been made, it will not be possible to recommend how transit improvements, even the relatively simple ones suggested in the master plan, should be paid for. In 1951, the State Legislature created a Bay Area Rapid Transit Commission and gave it an initial appropriation of $50,000 to study the problem and to work out a solution for the entire Bay Region.

Drainage

The Temescal Creek storm sewer and drainage channel are to be financed jointly by the City and the State. Tax revenues and bond issue funds will make up the local contribution, and this will be matched by the State under the Construction and Employment Act. In addition, properties particularly benefited by the project may be assessed to help defray the cost.

The Creek creates a flood problem in Emeryville as well as in Oakland, but at present there are no plans for joint action. The City of Emeryville is expected to take care of its portion of the Creek independently. However, as the project progresses, it may be found that a

cooperative intercity approach is both desirable and practical.

Waterfront Recreation Area

The proposed waterfront recreation area south of the Airport might be financed by any one of several public agencies or by a combination of interests. If the City were to undertake the project alone, it might be desirable to annex the area, most of which lies in the County. The issue of annexation could be settled relatively simply, there being only three dwellings in the entire area at present.

Since the recreation area would serve people living in all parts of Alameda County and residents of other parts of the Bay Region as well, it might appropriately be sponsored by the County, by a group of cities, or by a combination of cities and the County. Even better suited to assume this responsibility is the East Bay Regional Park District. It now includes only the cities of Alameda, Berkeley, Emeryville, Oakland, Piedmont and San Leandro, but it can annex contiguous territory anywhere within the East Bay Municipal Utility District, which extends from San Pablo on the north to Hayward on the south and as far east as Lafayette and Castro Valley. The Regional Park District is specifically empowered to own and control parks, playgrounds, beaches, parkways, scenic drives and other facilities for public recreation. Unquestionably this authorization is broad enough to cover the proposed waterfront development. At present all of the District's preserves are former properties of E.B.M.U.D., located in the East Bay hills. However, there is nothing to prevent the District from expanding the scope of its activities to include beaches, if such is the will of the electorate.

Whether the waterfront recreation project were undertaken by Oakland alone, by the County, by a group of cities, by a combination of cities and the County, or by the Regional Park District, the original capital investment would have to be financed by a bond issue or issues. The District has no bonded indebtedness at present, but it has the power to incur such indebtedness up to five per cent of the assessed valuation within its territory.

Under the California Public Recreation Facilities Act of 1945, State funds are available on a matching basis for the acquisition of recreation areas. A proposed amendment would increase the State's contribution to two-thirds of the total. Of the 15 million appropriated to the State Park Commission for this purpose, 10 million can be expended on beaches, tidewater bays and inlets. Another proposed amendment would broaden this provision to include yacht harbors and marinas. However, the Act expressly prohibits any appropriation being made for the purchase of beaches in counties which have not adopted a comprehensive master plan of shoreline development, setting up priorities for acquisition.

In large measure the costs of operating and maintaining the

waterfront recreation area could be made up from concession rentals or income from publicly operated facilities. The yacht harbor, repair yards, yacht clubs, bathhouses, boathouses, restaurants, dance pavilion, Fun Fair, golf and archery ranges and possibly even the parking lots would be revenue producers. Any deficit would have to be made up from tax levies, just as the Regional Park District pays its operating costs and the cities support their recreation programs.

The U. S. Army Corps of Engineers could aid materially in dredging the lagoons and filling in the land masses. The recreation ground could be developed in stages, if desirable. The garbage dump would provide a satisfactory foundation for the easterly part of the area. It would be necessary only to top the sanitary fill with five or six feet of sand. The financing of the project might have to include part of the cost of relocating the dump farther to the south and the cost of constructing an outfall sewer from the San Leandro treatment plant. Neither of these undertakings would be unduly expensive.

Most of the land around the proposed site is in the County, and the rest is within San Leandro's irregularly shaped boundaries. All of this territory is zoned for heavy industry except for a single-family residential district to the south and a band of light industry between it and Doolittle Drive. The residential subdivisions and the recreation area would be harmonious land uses. But, in order to protect the public's investment, all of the other abutting areas, except the Airport, probably should be rezoned from heavy to light industrial.

It is particularly important that the beaches be permanently protected from pollution. All of the East Bay cities as far north as Richmond and as far south as Hayward have sewage treatment plants in operation or under construction. Both Richmond and Hayward shortly will refer local bond issue proposals to their voters. San Francisco and the Peninsula cities also have plants operating, under construction or in the advanced planning stage; so there will be no danger of pollution of the waterfront recreation area from the south and west. However, even when the practice of dumping raw sewage in the Bay is completely eliminated, it will be necessary to exercise constant vigilance to ensure that the water always is safe for swimming. Because it has the authority to set standards of purity for sewer effluent and to enforce them, the Regional Water Pollution Control Board can help to provide this essential protection.

Municipal Stadium

If the stadium were used for both football and baseball, there is a strong probability that income would balance operating costs. It even is possible that a considerable share of the original debt might be paid off from revenues. Regardless of this possibility, it would be necessary for the City to finance site acquisition and construction by a general obligation bond issue. Or, since the stadium would serve the

entire metropolitan area, it might be possible to interest the County and/or the other East Bay cities in joining with Oakland in underwriting the project.

Commercial Recreation Area

The proposed commercial recreation area at the foot of Broadway would be an ambitious project. Public and private efforts would have to be combined to achieve an undertaking as vast as the reconstruction of an area covering most of 15 square blocks now mainly in commercial and industrial uses. The two blocks occupied by the old Court House and the Hall of Records are owned by the County, and most of the area between 1st Street and the Estuary is held by the Port of Oakland. Title to the rest of the land is vested in various private individuals and corporations; the largest holdings are those of Pacific Gas and Electric Company and Fruit and Produce Company. Practically none of the improvements is worth preserving except those recommended for inclusion in the plan. Exceptions are the Coroner's Office and the present Western Pacific Station.

To carry out the larger projects, such as the amusement center and the farmers' market, it would be necessary for a single sponsor, private or public, to acquire the property, develop it according to plan, and lease the facilities to various operators. It would be up to the City to close the streets and to develop the waterfront plaza. The Western Pacific Railroad should remove its tracks from 3rd Street and enter into an agreement with Southern Pacific to share the 1st Street right-of-way. Western Pacific's franchise on 3rd Street expires in 1952. It should be renewed only on a limited basis, subject to an agreement that the line will be removed when the foot-of-Broadway project goes forward.

The idea that this area should be redeveloped as a picturesque amusement center originated with the Board of Port Commissioners. It is safe to anticipate that the Port will cooperate fully in the development of the foot of Broadway.

The commercial recreation center should be protected from inharmonious uses by rezoning it from industrial to commercial. Surrounding areas which now are in the heavy industrial district should be reclassified to the light industrial district. If the blocks east of Franklin Street are to remain as the city's produce center, they should be reclassified to a wholesale district in order to exclude manufacturing establishments.

Residential Areas

The plan recommends the expansion of Columbian Gardens to a full-size neighborhood, complete with shopping center and an elementary

school. The residential subdivision would be a private undertaking, but the City could foster the development of the shopping center by rezoning the site to commercial. The School District would be responsible for providing the new school.

Located close to industries, railroads and the Airport, Columbian Gardens and the Brookfield Village and Sobrante Park neighborhoods must be more zealously protected from deterioration than most residential subdivisions. Since the existing development is almost entirely single-family homes, it probably would be advisable to rezone the area from the "B" two-to-four-family district to the "A" one-family district. Only the sites designated as shopping centers on the plan should be zoned commercial. The surrounding areas which are now in the heavy industrial district should be rezoned for light industry. If the City makes these changes and the neighborhoods develop a sense of cohesiveness and local pride, there is no reason why they should not remain sound districts of small homes. But if heavy industries were allowed to come too close, residential properties would tend to backslide, and these pleasant neighborhoods could become problem areas.

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To retrace our steps for a moment - this plan will not gain official status until it has been adopted by the City Council as a part of the master plan. Even then the plan cannot advance to the action stage until venture capital is ready to invest in the private projects and the taxpayers are willing to finance the public projects. In short, this is a plan for the people of Oakland, and its achievement is left up to them and their elected representatives.

To accomplish the recommendations will demand vision and courage. Since these are the characteristics that have built the Oakland of today, it is reasonable to anticipate that, as the decades pass, the shoreline plan will become reality.

Acknowledgments

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Berkeley City Planning Commission
California Senate Fact-Finding Committee on San Francisco Bay Ports
California Department of Public Works, Division of Highways
City of Alameda
City of Albany
City of Emeryville
City of San Leandro
East Bay Municipal Utility District, Sewage Disposal Division
Carl E. McDowell, Graduate School of Business, Stanford University
Oakland Army Base
Oakland Chamber of Commerce
Oakland Health Department
Oakland Naval Supply Center
Oakland Park Department
Oakland Recreation Department
Oakland Street Department
Pacific Coast Board of Intergovernmental Relations
Pacific Transport Lines, Inc.
Port of Oakland
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