

F. SOCIAL CHARACTERISTICS

- 2.754 1. Introduction. The Composite Environmental Statement must concern itself with the relationship of dredging to the judicious use of all resources in the Bay Area, whether natural or man-made. Social characteristics are those man-made resources which cannot be assigned a dollar value, as can economic aspects, yet contribute to the quality of life for residents of the area, and as such they must be weighed subjectively against other factors. This section attempts to first identify these resources on a regional level, then focus on those social aspects which are directly related to maintenance dredging in the Bay.
- 2.755 2. Archaeology, Ethnography and Early History. This section focuses on the prehistory and early history of the Bay Area in order to identify those archaeological and historical resources which might be directly impacted by dredge disposal operations. The prehistoric occupation of Greater San Francisco Bay was, for the most part, by a division of the Penutian speaking linguistic group called Costanoan. Kroeber (1925) credits early Spanish explorers with the designation Costanoan coming from the Spanish Costanos, "coast people":
- "The San Joaquin River belonged to the Yokuts, the Sacramento to the Miadu and Wintun. At the point where these two streams debouch into San Francisco Bay, Costanoan territory begins. The winding north shores of the bay were Wintun and Coast Miwok; but the entire southern border, including the long arm known as San Francisco Bay proper, was Costanoan to the Golden Gate." (93)
- The Costanoan group had at least seven dialects. It is estimated that approximately 1,000 per dialect, and 7,000 in total, is an accurate tally of the aboriginal population at the time of Spanish contact. Kroeber says that the entire Costanoan frontage on ocean and bay is lined with shell deposits. "San Francisco Bay in particular is richer in such remains than any other part of the State, except perhaps Santa Barbara Islands." (93)
- 2.756 The first official archaeological survey to locate and record Indian sites and shell mounds was conducted by N. C. Nelson in 1907-08. At that time Nelson concentrated his survey on mostly coastal terraces and all types of drainage systems (i.e., rivers, streams, and creeks) that emptied into San Francisco Bay. Over 400 sites were located and recorded in this original survey of the nine bay counties. Since that time over one thousand additional sites have been located and recorded.

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The actual written history of the San Francisco Bay Area began with the sixteenth century exploration of the California coast by both Spanish and English explorers. Spanish explorers Jaun Rodriguez Cabrillo (1542), Rodriguez Cermeno (1595), and Sebastian Vizcaino (1602) sought suitable anchorage and protection from the stormy Pacific sea. Sir Francis Drake (1578) conducted highly profitable raids on Spanish shipping and native and Spanish settlements along the western coast of South America and Mexico. In Drake's quest for a northern passage back to England he inadvertently bypassed the Bay and moored his vessel, the Golden Hinde, for necessary repairs in "snug" harbor, which is thought to be the present-day Drake's Bay. (26)

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First visual sighting and preliminary exploration of the Bay was carried out by members of the Portola expedition in October 1769 (36). Spanish occupation of the San Francisco Bay Area began with Juan Bautista de Anza's establishment of the missions at Arroyo de los Dolores, plus the selection of Fort Point as a presidio site in the spring and summer of 1776. Further Spanish expansion and settlement in the Greater Bay Area resulted in the establishment of four additional missions. Missions at Santa Clara de Asis (1777), San Jose (1797), San Rafael Arcangel (1817), and San Francisco Solano (1823) were founded as part of Spain's attempt to colonize the Bay Area and to commercialize and develop the Port of San Francisco (78). The mission founding program was originally spurred by Spain to determine to what extent the Russians and English had explored and developed central and northern California coast (68). As part of the Spanish colonization program, life at first centered on the missions, which had been founded also for the purpose of converting the Indians to Christianity and teaching them the Spanish way of life (36). During the sixty year period between 1776 and 1836 most of the 7,000 Costanoan Indians living in the Bay Area were either forced into adopting Christianity as a way of life or, if they dissented, were hunted down, enslaved, and/or killed (191). The ten year period between 1826 and 1836 saw the beginning and completion of secularization of the Mission. The overland migration of Americans to California and the subsequent development of the Greater Bay Area added to the demise of the Costanoan culture (122). Urban development in the 1880's following the Gold Rush forced the few remaining Costanoans to mingle with the nearby Miwok, Wintun and Yokuts tribes (191).

2.759 The above discussion has depicted the Greater San Francisco Bay Area as rich in early cultural resources. It is probably accurate to say that many of the 20 maintenance dredging projects may in the past have had some adverse impact on these cultural resources. However, at this time the Corps is addressing its responsibilities pursuant to the most recent federal guidelines for cultural resource management as described in the Federal Register, Section 106 of the National Historic Preservation Act of 1966, and Executive Order 11593. The potential impacts on cultural resources will be discussed in Section IV.

2.760 3. Demography. Demography is the study of the quantitative aspects of the human population. The science is concerned with the number of inhabitants in an area, the composition, spatial distribution, trends, and social well-being of the population.

2.761 a. Number of Inhabitants. In 1970, according to the U.S. Census, the population of the San Francisco Bay Area was 4,628,199 persons. The term "San Francisco Bay Area" as used in this section is that area which includes the nine counties that border the Bay; namely, Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties. Table II-28 of the preceding section on economics lists the populations of these counties. Alameda and Contra Costa counties are the most populous. The three delta counties also listed on Table II-28 will not be discussed with regard to social aspects, since they are economically - but not sociologically - related to the Bay Area.

2.762 b. Composition of the Population. Table II-83 presents the sex, age and ethnic composition of the population. The Los Angeles and the San Francisco Bay Area combined make up approximately 58 percent of the entire population of California. Minority or non-white groups are still relatively small in the Bay Area and in California as a whole.

2.763 c. Spatial Distribution. Table II-84 presents population density for the nine counties. San Francisco is by far the most heavily populated county, while Napa is sparsest. Population is densest along the borders of the Bay, particularly in the Central and South Bay. An urban corridor runs south along both sides of the Bay, beginning at the Golden Gate on the peninsula side and at the Carquinez Bridge in the East Bay, meeting at San Jose south of the Bay. The mountain ranges running parallel east and west of this corridor are only sparsely populated. Densities are highest bordering the Central Bay and lowest north of San Pablo and Suisun Bays. Major ports are focal points of most populated areas around the Bay.

TABLE II- 83

COMPOSITION OF POPULATION
(Percent of Total)

PARAMETER	CALIFORNIA	LOS ANGELES	SAN FRANCISCO BAY AREA
Total Population	19,953,134	7,032,075	4,682,199
Percent of Total	100	100	100
<u>SEX COMPOSITION</u>			
Male	48	48	49
Female	52	52	51
<u>AGE COMPOSITION</u>			
0-17 years	33	32	32
18-64 years	58	59	59
65 and over	9	9	9
Median Age	28	29.2	29.1
<u>ETHNIC COMPOSITION</u>			
White	89	85	86
Others	11	15	14
Black	7	11	8
Indian	0.4	0.3	0.4
Japanese	1	1	1
Chinese	0.8	1	2
Filipino	0.6	1	0.4
All Others	0.8	1	1

Source: U.S. Department of Commerce, Bureau of the Census, 1970.

TABLE II-84

POPULATION DENSITY 1970

<u>Counties</u>	<u>Pop.</u>	<u>Water Area (sq. mi.)</u>	<u>Land Area (sq. mi)</u>	<u>Density (pop. per sq. mi. land)</u>
Alameda	1,073,184	84.1	733.4	1,463.3
Contra				
Costa	558,389	73.3	732.6	762.2
Marin	206,038	86.6	520.2	396.1
Napa	79,140	6.4	787.4	100.5
San				
Francisco	715,674	56.6	45.4	15,763.7
San Mateo	556,234	106.4	446.6	1,245.5
Santa				
Clara	1,064,714	11.6	1,300.4	818.8
Solano	169,941	75.3	825.6	205.8
Sonoma	204,885	4.5	1,603.5	127.8
Bay Area	4,628,199	504.8	6,995.1	661.6

Source: U.S. Department of Commerce, Bureau of the Census, 1970.

d. Population Trends. Population increase since 1900 is summarized in Table II-85. Bay Area population has doubled since the end of the Second World War and is continuing to grow rapidly, at a rate comparable to California as a whole. Table II-86 serves to illustrate trends particularly over the past decade. The percent increase in population has been by far the greatest in suburbs such as Pleasanton, Lafayette, and Walnut Creek, all of which are located in the vicinity of developable lands along the recently constructed BART line, suggesting the important effect availability of lands and new transportation systems may have on housing and population increase. Significant population increases have also been recorded at Fremont, Livermore, Newark, Union City, Concord, Cupertino, Milpitas, San Jose and Fairfield. By comparison, population has decreased in the core cities of Oakland and San Francisco during the same period.

TABLE II- 85

HISTORICAL POPULATION TRENDS 1900-1970
(In Thousands)

	U.S.	13 Western <u>1/</u> States	California	S.F. Bay <u>2/</u> Area
1900	76,212	4,308	1,485	648
%	21.0	64.4	60.1	40.7
1910	92,228	7,082	2,378	925
%	15.0	30.1	44.1	27.8
1920	106,021	9,213	3,427	1,183
%	16.0	33.8	65.7	33.4
1930	123,202	12,323	5,677	1,578
%	7.3	16.7	21.7	9.9
1940	132,164	14,378	6,907	1,734
%	14.5	40.4	53.0	54.6
1950	151,325	20,189	10,586	2,681
%	18.5	38.9	48.5	35.7
1960	179,328	28,053	15,717	3,633
%	13.3	24.1	27.0	27.2
1970	203,235	34,804	19,953	4,630

1/ Includes: Alaska, Hawaii, Washington, Oregon, California, Idaho, Nevada, Arizona, Utah, Montana, Wyoming, Colorado, and New Mexico.

2/ Includes: The counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

Source: U.S. Department of Commerce, Bureau of the Census.

TABLE II- 86

POPULATION COUNT AND NUMERICAL AND PERCENT CHANGE
BAY AREA CITIES AND COUNTIES
1960 AND 1970

	1960 to 1970 CHANGE			
	<u>1960</u>	<u>1970</u>	<u>NUMERICAL</u>	<u>PERCENT</u>
ALAMEDA	908,209	1,070,550	162,350	17.9
ALAMEDA	63,855	70,968	7,113	11.1
ALBANY	14,804	14,674	- 130	- .9
BERKELEY	111,268	114,091	2,823	2.5
EMERYVILLE	2,686	2,681	- 5	- .2
FREMONT	43,790	100,869	57,079	130.3
HAYWARD	72,700	93,058	20,358	28.0
LIVERMORE	16,058	37,703	21,645	134.8
NEWARK	9,884	27,153	17,269	174.7
OAKLAND	367,548	361,561	-5,987	- 1.6
PIEDMONT	11,117	10,917	- 200	- 1.8
PLEASANTON	4,203	18,328	14,125	336.1
SAN LEANDRO	65,962	68,698	2,736	4.1
UNION CITY	6,618	14,724	8,106	122.5
UNINCORPORATED	117,716	135,134	17,418	14.8
CONTRA COSTA	409,030	555,805	146,775	35.9
ANTIOCH	17,305	28,060	10,755	62.1
BRENTWOOD	2,186	2,649	463	21.2
CLAYTON	N/A	1,385	N/A	N/A
CONCORD	36,208	85,164	48,956	135.2
EL CERRITO	25,437	25,190	- 247	-1.0
HERCULES	310	252	- 58	-18.7
LAFAYETTE	7,114	20,484	13,370	187.9
MARTINEZ	9,604	16,506	6,902	71.9
PINOLE	6,064	13,266	7,202	118.8
PITTSBURG	19,062	20,651	1,589	8.3
PLEASANT HILL	23,844	24,610	766	3.2
RICHMOND	71,854	79,043	7,189	10.0
SAN PABLO	19,687	21,461	1,774	9.0
WALNUT CREEK	9,903	39,844	29,941	302.3
UNINCORPORATED	160,452	177,240	16,788	10.5

TABLE II- 86 (Cont'd)

1960 to 1970 CHANGE

	<u>1960</u>	<u>1970</u>	<u>NUMERICAL</u>	<u>PERCENT</u>
MARIN	146,820	206,038	59,218	40.3
BELVEDERE	2,148	2,599	451	21.0
CORTE MADERA	5,962	8,464	2,502	42.0
FAIRFAX	5,813	7,662	1,848	31.8
LARKSPUR	5,710	10,487	4,777	83.7
MILL VALLEY	10,411	12,942	2,531	24.3
NOVATO	17,881	31,006	13,125	73.4
ROSS	2,551	2,742	191	7.5
SAN ANSELMO	11,584	13,031	1,447	12.5
SAN RAFAEL	20,460	38,977	18,517	90.5
SAUSALITO	5,331	6,158	827	15.5
TIBURON	N/A	6,209	N/A	N/A
UNINCORPORATED	58,969	65,762	6,793	11.5
NAPA	65,890	79,140	13,250	20.1
CALISTOGA	1,514	1,882	368	24.3
NAPA	22,170	35,978	13,808	62.3
ST. HELENA	2,722	3,173	451	16.6
YOUNTVILLE	N/A	2,332	N/A	N/A
UNINCORPORATED	39,484	35,775	- 3,709	-9.4
SAN FRANCISCO	740,316	715,674	-24,642	-3.3
SAN MATEO	444,387	556,234	111,847	25.2
ATHERTON	7,717	8,085	368	4.8
BELMONT	15,996	23,667	7,671	48.0
BRISBANE	N/A	3,003	N/A	N/A
BURLINGAME	24,036	27,320	3,284	13.7
COLMA	500	537	37	7.4
DALY CITY	44,791	66,922	22,131	49.4
HALF MOON BAY	1,957	4,023	2,066	105.6
HILLSBOROUGH	7,554	8,753	1,199	15.9
MENLO PARK	26,957	26,734	- 223	- .8
MILLBRAE	15,873	20,781	4,908	30.9
PACIFICA	20,995	36,020	15,025	71.6
PORTOLA VALLEY	N/A	4,999	N/A	N/A
REDWOOD CITY	46,290	55,686	9,396	20.3
SAN BRUNO	29,063	36,254	7,191	24.7
SAN CARLOS	21,370	25,924	4,554	21.3
SAN MATEO	69,870	78,991	9,121	13.1
SO. SAN FRANCISCO	39,418	46,646	7,228	18.3
WOODSIDE	3,592	4,731	1,139	31.7
UNINCORPORATED	68,408	77,158	8,750	12.8

TABLE II-86 (Cont'd)

1960 to 1970 CHANGE

	<u>1960</u>	<u>1970</u>	<u>NUMERICAL</u>	<u>PERCENT</u>
SANTA CLARA	642,315	1,064,714	422,399	65.8
CAMPBELL	11,863	24,770	12,907	108.8
CUPERTINO	3,664	18,216	14,552	397.2
GILROY	7,348	12,665	5,317	72.4
LOS ALTOS	19,696	24,956	5,260	26.7
LOS ALTOS HILLS	3,412	6,865	3,453	101.2
LOS GATOS	9,036	23,735	14,699	162.7
MILPITAS	6,572	27,149	20,577	313.1
MONTE SERENO	1,506	3,089	1,583	105.1
MORGAN HILL	3,151	6,485	3,334	105.8
MT. VIEW	30,889	51,092	20,203	65.4
PALO ALTO	52,287	55,966	3,679	7.0
SAN JOSE	204,196	445,779	241,583	118.3
SANTA CLARA	58,880	87,717	28,837	49.0
SARATOGA	14,861	27,110	12,249	82.4
SUNNYVALE	52,898	95,408	42,510	80.4
UNINCORPORATED	162,056	153,712	-8,344	-5.1
SOLANO	134,597	171,989	37,392	27.8
BENICIA	6,070	7,349	1,279	21.1
DIXON	2,970	4,432	1,462	49.2
FAIRFIELD	14,968	44,146	29,178	194.9
RIO VISTA	2,616	3,135	519	19.8
SUISUN CITY	2,470	2,917	447	18.1
VACAVILLE	10,898	21,690	10,792	99.0
VALLEJO	60,877	71,710	10,833	17.8
UNINCORPORATED	33,728	16,610	- 17,118	-50.8
SONOMA	147,375	204,885	57,510	39.0
CLOVERDALE	2,848	3,251	403	14.2
COTATI	1,852	1,368	-484	-26.1
HEALDSBURG	4,816	5,438	622	12.9
PETALUMA	14,035	24,870	10,835	77.2
ROHNERT PARK	N/A	6,133	N/A	N/A
SANTA ROSA	31,027	50,006	18,979	61.2
SEBASTAPOL	2,694	3,993	1,299	48.2
SONOMA	3,023	4,112	1,089	36.0
UNINCORPORATED	87,080	105,714	18,634	21.4
TOTAL BAY AREA	3,638,939	4,627,663	988,724	27.2

Source: U.S. Department of Commerce, Bureau of the Census, 1970.

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e. Social Status of the Population. Table II-87 presents other parameters regarding Bay Area population. Low family incomes are largely concentrated in central cities and minority communities. The more extensive high income areas are found in less developed parts of the Bay region, typically in areas of low density and attractive natural surroundings. Along with the trend toward polarization of jobs and housing in the region, there has been a corresponding polarization in densities, housing types and social characteristics. With the middle class flight to the suburbs has come an increasing dichotomy between the concentrations of the poor and non-whites in the inner cities and the more affluent white population in the lower density fringe areas. Table II-86 indicates the most affluent counties are Marin and San Mateo.

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Employment may be considered a social as well as economic aspect of the population. Table II-29 of the preceding section on economics shows employment increases between 1960 and 1970. Greatest percentage and overall increases in the nine county area have occurred in the service-oriented trades, while lesser increases have been recorded in production-oriented trades. The Bay Area reflects a nationwide trend toward service-oriented employment.

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4. Government/Civic Activity. The Bay Area is governed by an extremely complex combination of federal, state, regional, sub-regional, county and city agencies. The federal government maintains control of specific projects through urban renewal, mass transit, flood control, water supply, maintenance dredging, agricultural, health, and other programs, operates extensive Navy facilities in Oakland Harbor, Mare Island Strait, Suisun Bay and Point Molate, and maintains control over regional environmental quality through the Environmental Protection Agency. The State of California also regulates environmental quality through its Resources Agency. Within the Resources Agency are two sub-agencies particular to the Bay region: the Regional Water Quality Control Board (RWQCB), which has the power to enforce water quality guidelines for all non-federal activities; and the Bay Conservation and Development Commission (BCDC), which has the power to grant or deny permits for all non-federal activities along the Bay shoreline. Also on the regional level are five independent agencies: Association of Bay Area Governments (ABAG), Bay Area Air Pollution Control District (BAAPCD), Bay Area Sewage Services Agency (BASSA), Metropolitan Transportation Commission (MTC), and the East Bay Regional Park District (EBRPD). Generally speaking, most of the regional agencies act in an advisory capacity to local governments. On the sub-regional level are several flood control and water conservation districts, which maintain flood

TABLE II-87

SOCIAL ASPECTS OF POPULATION

Counties	Total Population	Total Families	Median Education (School years)	Mean Family Income	Median Value Housing Unit
Alameda	1,073,184	266,135	12.4	\$12,340	\$23,665
Contra Costa	558,389	146,479	12.5	\$13,778	\$25,721
Marin	206,038	51,912	13.1	\$16,136	\$33,858
Napa	79,140	19,870	12.4	\$11,513	\$21,100
San Francisco	715,674	165,342	12.4	\$12,507	\$28,057
San Mateo	556,234	146,882	12.6	\$15,138	\$30,396
Santa Clara	1,064,714	262,584	12.7	\$13,644	\$27,308
Solano	169,941	42,669	12.3	\$10,653	\$18,714
Sonoma	204,885	52,936	12.4	\$10,866	\$20,867

Source: U.S. Department of Commerce, Bureau of the Census, 1970.
General Social and Economic Characteristics of California.

control channels and water supply systems, and special purpose districts, such as the Bay Area Rapid Transit District, and school districts. On the county level are the nine county governments, within each of which are several departments such as planning, health care, education, courts of law, and public works. On the local level are 92 town and city governments, many of which have their own planning departments.

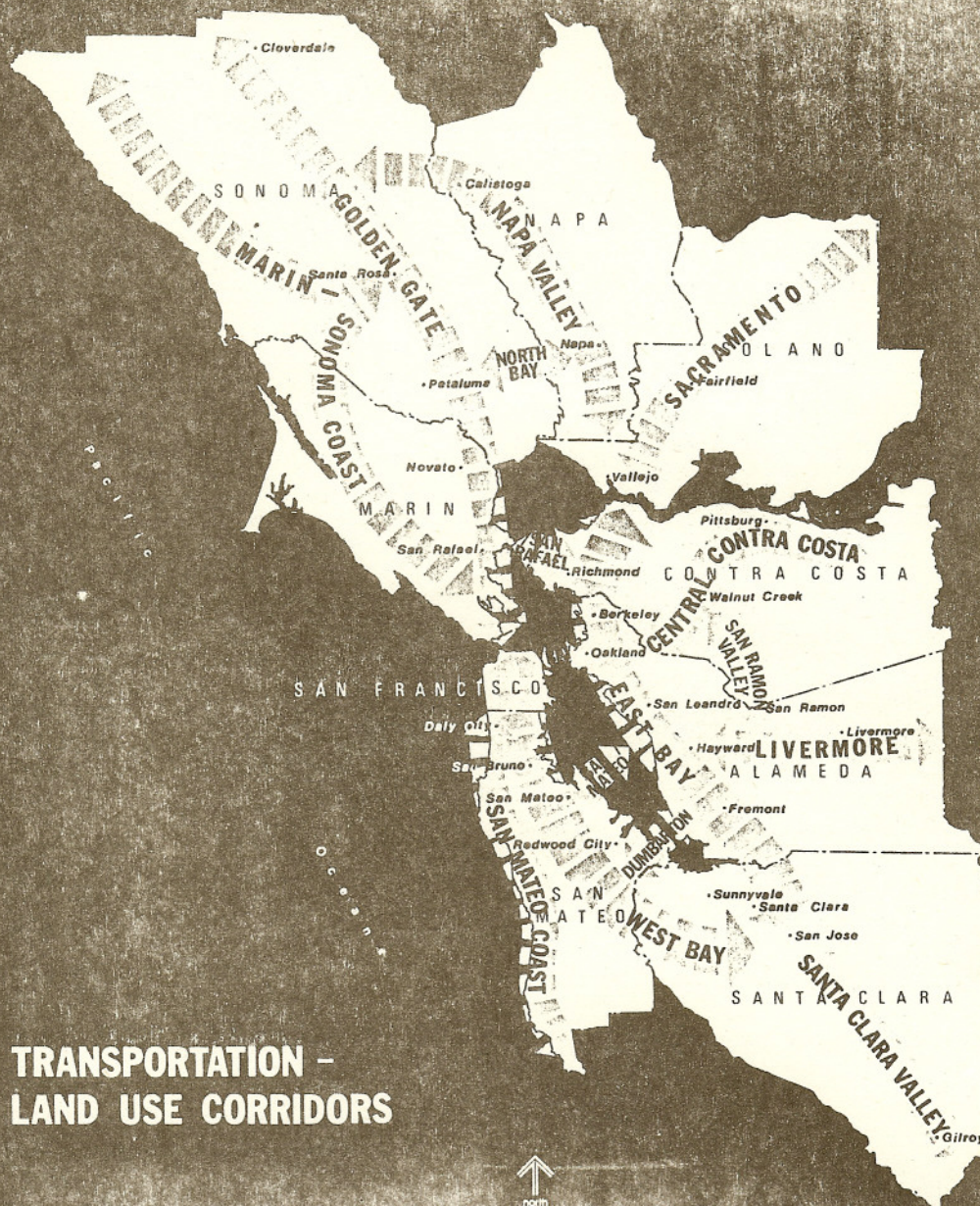
2.768 Of particular significance among Bay Area governments is the trend toward long-range regional planning. The seven regionally-oriented agencies mentioned above have recently been established in order to coordinate the fragmented, confusing and often ineffective mass of local controls. Regional planning provides a needed communications bridge which permits local authorities to determine guidelines in a way that benefits the entire region and not just the immediate locale. ABAG is generally considered the lead planning agency for the Bay Area. On the local level, the recent proliferation of city and county land use plans indicates the desire of nearly all governments in the Bay Area to establish long-range guidelines. The Composite Environmental Statement, by incorporating all maintenance dredging in the Bay Area, is closely related to these regional planning efforts.

2.769 5. Transportation. In 1965, the Bay Area's population of 4.1 million people made approximately 12 million person-trips within the region on an average weekday, relying heavily on private automobiles. Travelers in automobiles accounted for 76 percent of these daily trips. Mass transit systems accounted for 8 percent, while walkers accounted for the remaining 16 percent of the total trips (110).

2.770 a. Private Automobiles. A massive complex of highways, arterials, local roads, bridges, and parking areas serve automobile traffic. Highways include: Interstate Routes 505 and 80 through Contra Costa and Solano Counties to the north and east, Interstate 580 east and south through Alameda County, Interstate 680 from San Jose north through Contra Costa to Solano County, Interstate 280 along the peninsula, U.S. 101 to the north through Sonoma County and to the south through Santa Clara County, Route 17 from Marin County across the Bay and south through Contra Costa, Alameda and Santa Clara Counties, Route 1 along the entire ocean coastline, and seventeen other routes forming interconnecting links between the major highways. Seven bridges cross the Bay: the Golden Gate Bridge connecting Marin County with San Francisco, the Oakland-Bay Bridge connecting San Francisco with Oakland, the San Mateo and Dumbarton Bridges connecting the peninsula with the East Bay, the Richmond-San Rafael Bridge connecting Marin County with Contra Costa County, and two bridges crossing Carquinez Strait. Major arterials and local roads carry the volume of traffic within the 92 cities and towns of the Bay Area, in addition to parking areas and structures.

- 2.771 b. Mass Transit. Mass transit modes of transportation include bus, rail, air and ferry. There are four major bus systems and several newly-formed transit districts: Alameda-Contra Costa (AC) Transit serves Alameda and Contra Costa Counties, in addition to service across the Bay Bridge to and from the Transbay Terminal; the Municipal Railway is a system of trolleys and buses operating within the City of San Francisco; Greyhound Bus Lines provides commuter bus service between regional points as well as nationwide service; Golden Gate transit (GGBHTD) provides commuter service between San Francisco across the Golden Gate Bridge to and from Sonoma and Marin Counties; and new transit districts have recently been formed in San Mateo and Santa Clara Counties.
- 2.772 Rail systems include: Bay Area Rapid Transit (BART), serving large volumes of passengers between San Francisco, Alameda and Contra Costa Counties; AMTRAK, a nationwide system connecting the Bay Area to other parts of the country; Southern Pacific Railroad, providing commuter service south along the peninsula, as well as nationwide service; and Union Pacific and Western Pacific Railroads, which also provide nationwide service terminating in Oakland.
- 2.773 Passenger air service is provided at San Francisco and Oakland International Airports and San Jose Municipal Airport. More than twenty airlines have regularly scheduled service from San Francisco and Oakland to major cities throughout the United States, as well as the Orient.
- 2.774 Limited commuter ferry service between Marin County and San Francisco is provided by Golden Gate transit, which also maintains and collects tolls on the Golden Gate Bridge and operates the bus service to Marin and Sonoma Counties, mentioned above.
- 2.775 c. Freight. The Bay Area is supplied with major commodities by air freight lines, trucking firms, railroads, and shipping firms. The three largest air freight carriers are World Airways, Trans-International Airways and Saturn Airways. A multitude of trucking firms operate along the complex highways and arterials described earlier in this section and provide a strategic means of transfer between air, rail and shipping lines. Southern Pacific Railroad is the major rail freight carrier. Several short-haul rail belt lines operate in the port areas around the Bay, connecting between Southern Pacific, shipping and trucking firms. More than 60 shipping firms operate out of San Francisco, Oakland, Richmond, Redwood City, Stockton, Sacramento, and ports along San Pablo Bay, Carquinez Strait, and Suisun Bay, carrying more than 56 million short tons of commodities per year. This mode of transport is the focus of this Composite Environmental Statement and is described in greater detail under Port and Terminal Characteristics.

TRANSPORTATION - LAND USE CORRIDORS

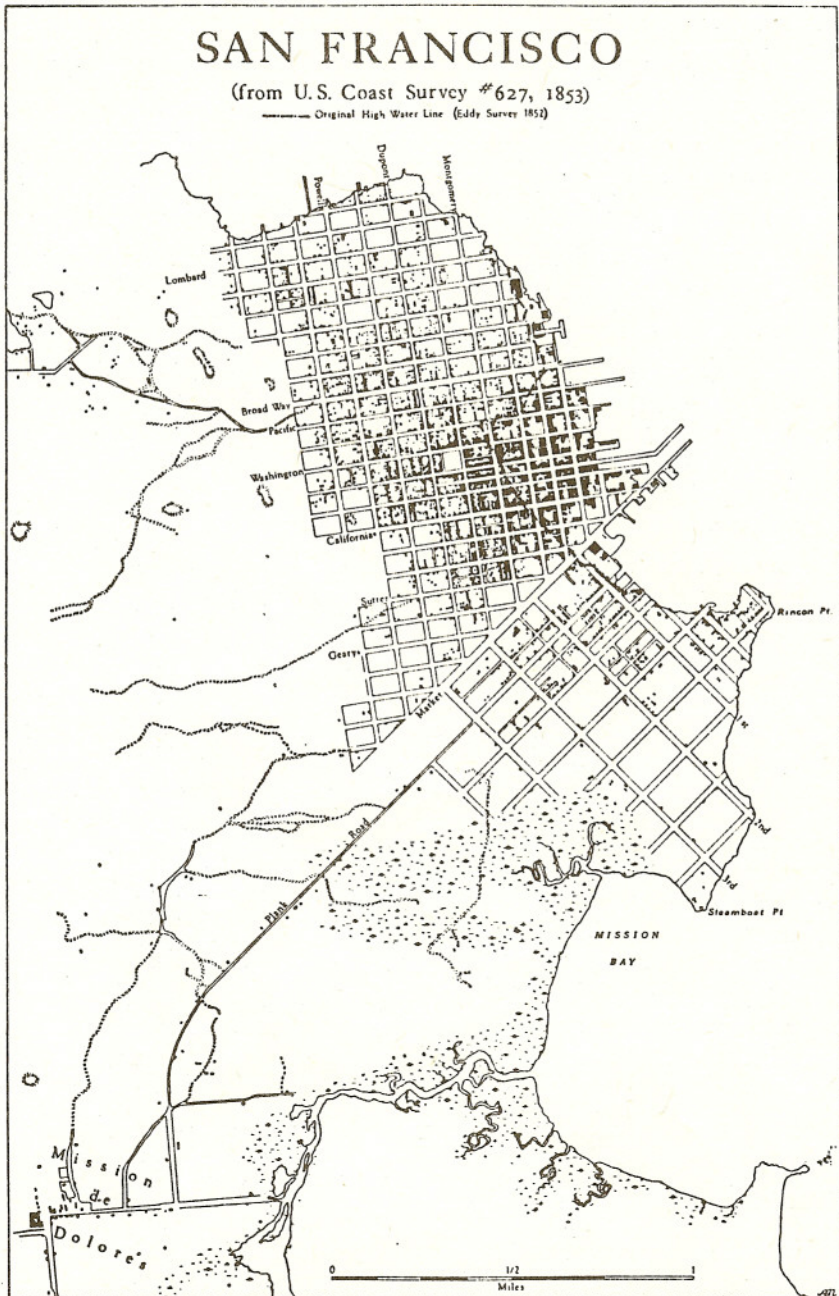


2.776 d. Corridors. In addition to evaluation by modes and systems of transportation, Bay Area transportation may be evaluated as twelve land use-transportation corridors, once again indicating the intimate inter-connection between land use and transportation systems (Plate II-54).

2.777 e. Priorities. Some major Bay Area transportation priorities are: improved local transit, especially for elderly or handicapped people; an alternative to auto commuting; and access to airports, recreational areas and institutions. The Metropolitan Transportation Commission, established in 1970 by State Assembly Bill 363, has identified these and other priorities and has proposed a series of policies to coordinate Bay Area transportation development. With regard to waterborne commerce, MTC's Regional Transportation Plan states as Policy 5.6 that, "MTC shall encourage harbor planning and development decisions in conformance with the Regional Transportation Plan, the BCDC San Francisco Bay Plan, and plans of other regional agencies." Policy 5.7 states, "Seaport access routes shall be developed and maintained as an integral part of existing and planned surface transportation systems." (110)

- 2.778 6. Land Use. The Bay Region's nine counties - Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma - occupy approximately 7,000 square miles of land and accommodate approximately 4.8 million people. Urban development in the region forms a nearly uninterrupted continuous band along the narrow Bay Plain which rings the Bay. On this Plain, which constitutes 10 percent of the region's land area, are located over 70 percent of the region's population and over 80 percent of its economic activity (110).
- 2.779 The Bay Area urban form has evolved due to many factors. In his article, "Geography and Urban Evolution in the San Francisco Bay Area," James E. Vance, Jr. traces this evolution in detail (247). The first major determinant has been the physical setting. A shallow, expansive Bay, a peninsula on the west side, a great protected harbor with immediate access to the Pacific Ocean, and a river system connecting the Bay to many inland waterways, all contributed to speed the development of the area.
- 2.780 San Francisco Bay was first discovered by land, not by sea, due to its narrow ocean opening and persistent coastal fogs. The first commercial venture in the Bay Area was the fur trade with China during the 1790's and early 1800's. Over the years, as the fur trade steadied out, these early traders settled on shore. The Gold Rush of 1849 made permanent the urban geography of the hide trade. Gold diggers needed goods and San Francisco Bay was the natural transfer point, so San Francisco became the storehouse for the gold fields. Since most of the Bay was shallow, ship captains unfamiliar with the area wanted the first firm anchorage inside the Golden Gate, so San Francisco at the tip of the peninsula became the primary transfer point. During the Gold Rush, the Sacramento River to the "northern diggings" and the San Joaquin River to the "southern diggings" were used extensively. Before the wheat bottom of the 1860's and 1870's, California's rivers were clearer and deeper. Boats could navigate up to 400 miles upstream on either of these two rivers, making good speed. (In 1861 a riverboat traveled from Sacramento to San Francisco, averaging a record 24 miles per hour). San Francisco became the focal point at which this river network was attached to the outside world. There was no rival.
- 2.781 During the Gold Rush, urbanization proceeded at a frantic pace and land speculation was rampant. Large Spanish and Mexican land grants to private owners made conditions ideal for speculation. Land use in San Francisco became segregated, evolving about an urban core. Within San Francisco a financial district developed, specializing in mining stocks. A wholesale district developed on the waterfront, retailing flourished on the west side, the focus of which today is Union Square, and Market Street established itself as a general gathering place and connector between districts, as the city continued to grow westward across the hills toward the ocean shoreline (Plate II-55).

SAN FRANCISCO: THE ENTREPÔT FOR THE GOLD FIELDS, 1853



This map shows the encroachment of the city on the mudflats of Yerba Buena Cove below the original high water line, and the virtual isolation of the trading town from land. Except for the "Plank Road" across the marsh at the head of Mission Bay, the city was framed by marsh, steep hills, or sand-dunes. It was along the wharves extending the streets to deep water that San Francisco made its contact with "the world" and "the diggings."

Source: Vance, James E., Jr. "Geography and Urban Evolution in the San Francisco Bay Area" IN: The San Francisco Bay Area: Its Problems and Future. S. Scott (ed.). University of California, Berkeley, CA, 1966.

the steep hills of San Francisco, trolley lines branched out further to promote development of the suburbs. East Bay urbanization began on a small scale during the era of ferry commuting, but with the advent of trolley lines in the Bay Area, as elsewhere in the United States, the spreading of the urban fabric was dramatically accelerated. Prairie-form metropolises spread out to the Mission District of San Francisco, East Oakland, West Berkeley, and San Jose. Sub-centers sprang up along trolley intersections. When interconnecting trolley lines were built between East Bay towns, enabling economic activity independent of San Francisco, we may date this as the birth of the true Bay Area metropolis. No longer was San Francisco the only functional center. The rapid growth of the East Bay between 1900 and 1920 signaled the end of San Francisco's reign as "the City". The idea often espoused that the railroad era was immediately followed by the automobile is erroneous. The trolley era was a major force in shaping the modern urban form.

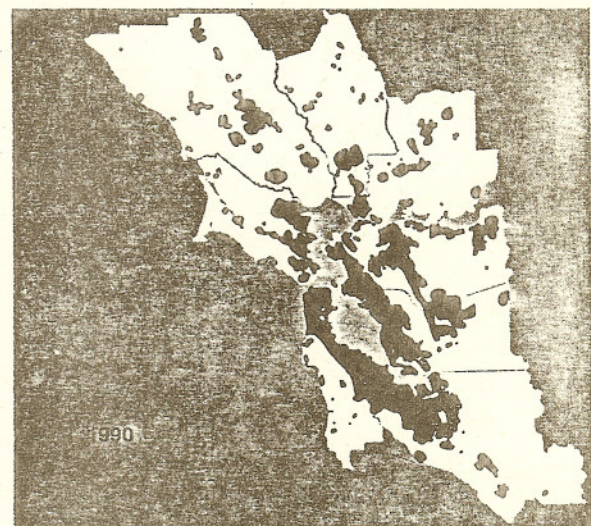
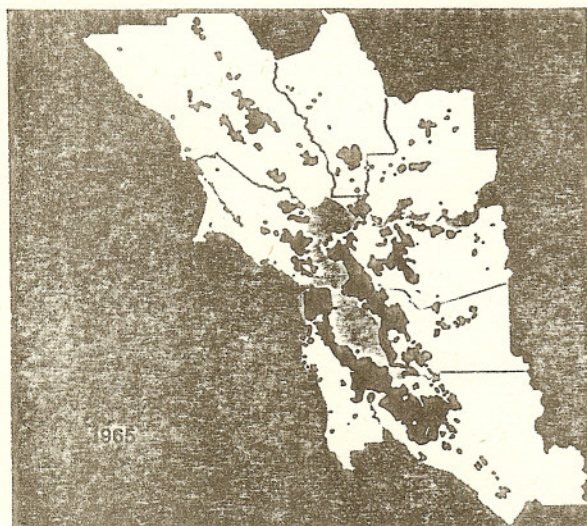
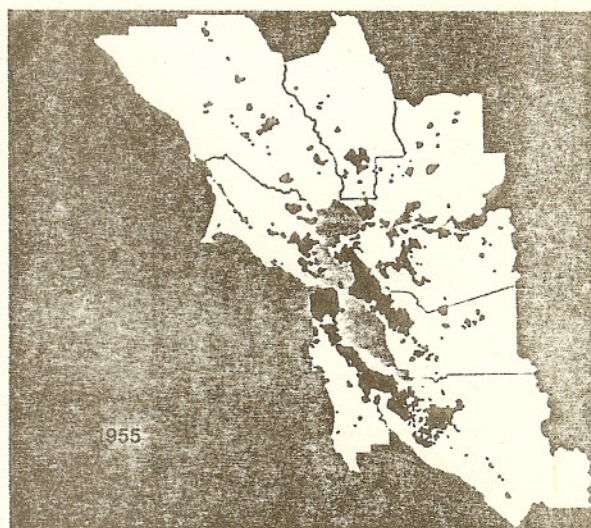
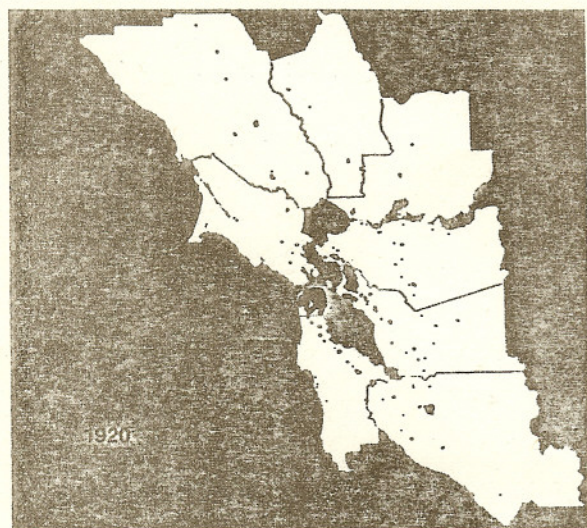
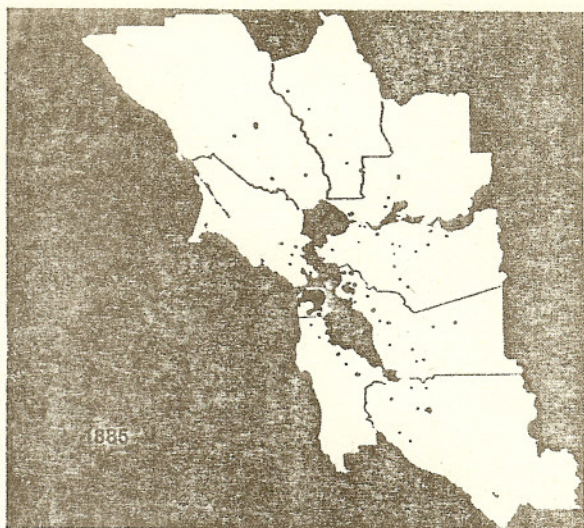
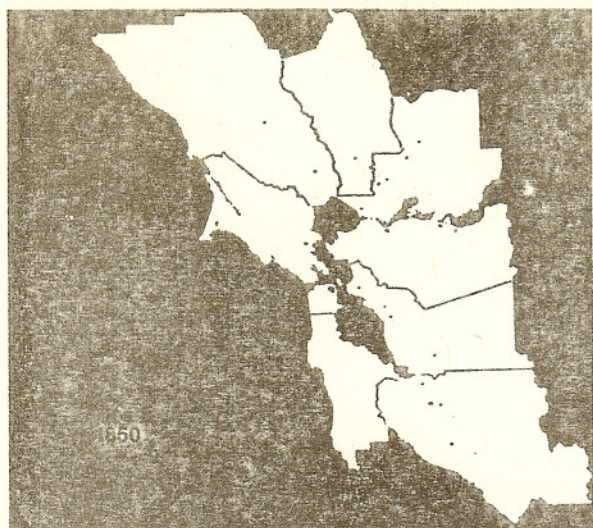
2.788 The automobile has had perhaps the greatest impact of all in creating the present-day urban landscape. The private automobile further extended individual freedom. Close workplace-residence ties were broken, and residential areas developed more along income strata and social orientation. With the rapid population increase in California came the even more rapid increase in automobile ownership, as California became known as the auto state. Within the Bay Area thin tendrils of roads encouraged greatest growth at outlying communities of Lafayette, Walnut Creek and Concord, along the south shore of Carquinez Strait and Suisun Bay, and in Livermore Valley. In the two decades before the Second World War, six East Bay towns more than doubled in population.

2.789 The Second World War was in many ways the "take-off" period for the Bay Area. War-oriented industries emerged along the periphery of the urban area. The influx of immigrants from other parts of the country contributed their own attitudes and preconceptions about the Bay Area. Socially indeterminate housing tracts emerged in sharp contrast to the more socially established cities and towns around the Bay. As the Bay Area evolved into an auto commuting society, the new-found freedom of transportation made the journey-to-work more flexible; thus the major criteria for living place became oriented more by income level and social class.

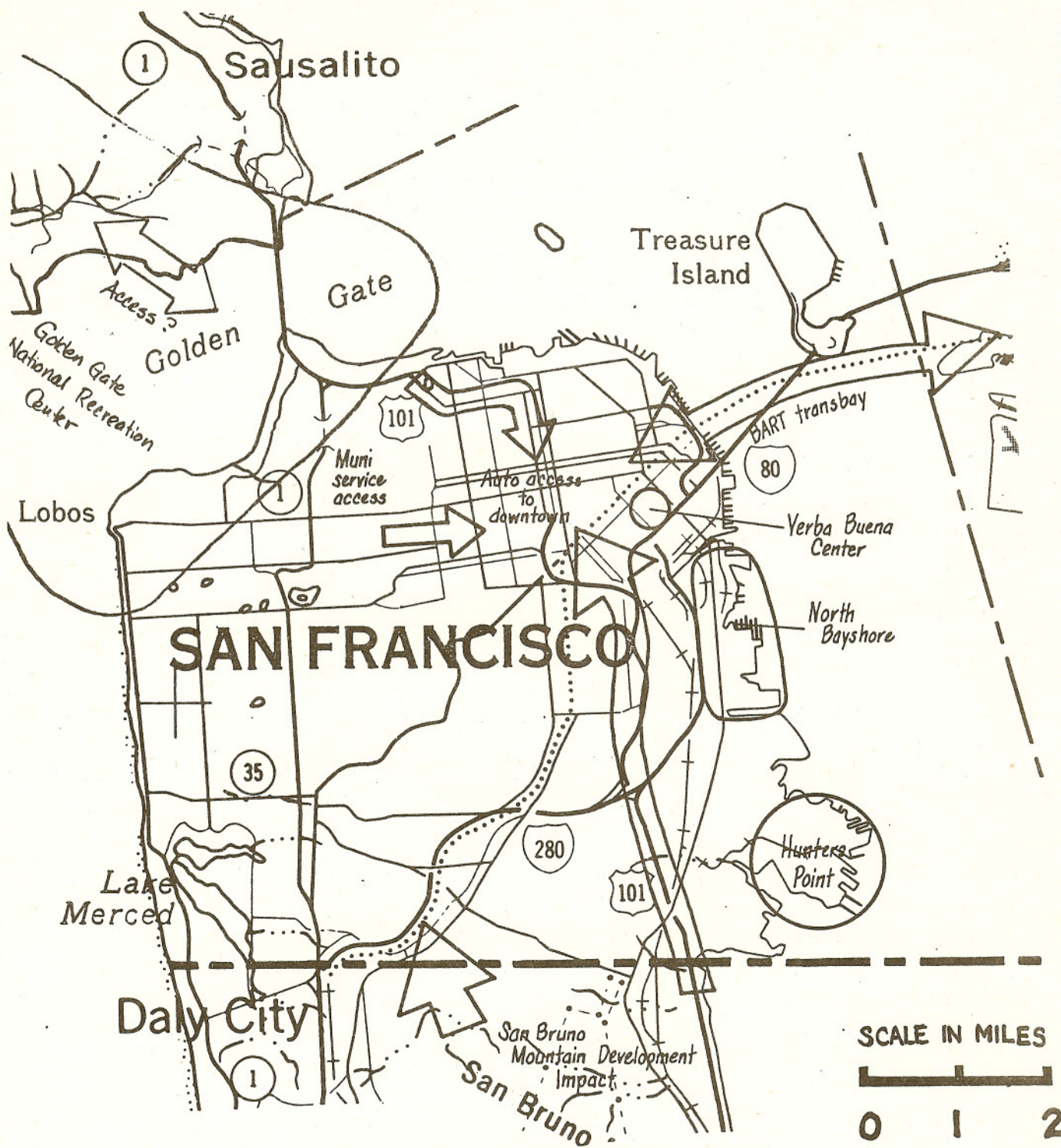
2.790 The distinct lack of bridges traversing the Bay and the lack of freeways until recent years encouraged the greatest movement of workers from one outlying area to another, rather than from the periphery to the core. The Bay Area had become non-centric.

- 2.791 The non-centric city neither seeks nor flees from the center. Rather it disregards it. Unlike land-locked cities such as Denver or Salt Lake City where the geographic, social and economic hub is clearly defined, the Bay Area is conspicuously non-centric. While San Francisco and Oakland are the two most prominent urban centers, neither one truly dominates the Bay Area as a whole.
- 2.792 It is fashionable, if somewhat simplistic, to refer to the modern urban area as a shapeless sprawl or cancer. The fact remains that an urban structure does exist in the Bay Area, but not as a single hub or simple hierarchy. As the Bay Area developed, the separate cities and towns which originally dotted the region coalesced into overlapping urban realms. Plate II-56 traces this coalescing of the urban form over the last century. Such a collection of urban realms is sometimes referred to as "conurbation". Although local economies, nationwide trends and countless other factors affect land use, the primary determinants in the past have been the physical constraints and transportation developments in the Bay Area.
- 2.793 The City of San Francisco is the historic core of the region and is still considered the center for "traditional activities." The San Mateo-Santa Clara County area has burgeoned in growth industries, while Marin County north of the peninsula has no real alternative to commuting to and from San Francisco. The East Bay is a metropolis in its own right. It has become dominant in heavy manufacturing, warehousing, shipping and trucking of freight. Despite attempts at redevelopment within urban centers, dispersal of population to the suburbs continues at a rapid pace. The absorption of vacant land in the prime development areas of the Bay Plain had led to significant residential growth in the hinterland. The rapid suburbanization of the Orinda-Walnut Creek-Concord area in the early 1960's is now expanding into the relatively undeveloped San Ramon, Livermore-Amador and Santa Clara Valleys. To the north, trends suggest suburban development will follow two major growth corridors: Novato-Petaluma-Santa Rosa, and central Solano County (110).
- 2.794 Future land use in the Bay Area will continue to be affected by those factors which have applied in the past: physical constraints (the relatively shallow depths of its waterway system and its extensive mountain ranges), modes of transportation (auto, bus, truck, railroad, air, shipping), and by local economies, government policies and nationwide trends.

- 2.795 7. Major Development Issues. This section, derived from the ABAG Regional Plan Review/Update Report (7), discusses development issues in each of the nine counties to illustrate - as one context in which to view Bay dredging - the wide variety of immediate planning concerns in the Bay Area. The review is summarized for four major parts of the region: San Francisco, Peninsula/South Bay, East Bay and North Bay.
- 2.796 a. Overview--San Francisco as the Region's Center (Plate II-57). San Francisco is a city of truly international reputation and stature. Its urbane qualities bring thousands of visitors to the Bay Area annually. These same qualities make the city attractive as a place to live and thus as a headquarters city for offices and services of national and international scope. San Francisco has acted as the historic center of the Bay Area and, being the oldest urban center, has the problems attendant to that role.
- 2.797 Because the city is older, provides a number of unique functions and services for the region as a whole, and contains a significant portion of the region's total disadvantaged population, increasing pressures on the city's tax base have been apparent. San Francisco's role as the Region's center has generated a number of serious economic questions and planning issues. For example, the fast growth of the office sector has produced thousands of new jobs and badly-needed tax revenues. To what extent do some downtown jobs aid the economically disadvantaged residing in the city? Or, do the jobs primarily serve the middle income white collar worker who lives in the suburbs and commutes, placing an added strain on the regional transportation system? Historically, San Francisco has been losing its middle income population to the outlying suburban areas. The city has a potential to attract a significant proportion of new population growth, but the desire and the means to add additional people without serious social and economic implications are not clear. The city has taken as a major objective the intention to retain a balanced population including middle income families.
- 2.798 San Francisco contains considerably more than the regional average of poor and minority citizens. These persons face the problem of finding suitable jobs in the city, or they face transportation problems if they commute to the suburbs. How can new jobs be made available to them in the city? Or, if they commute to outlying areas, how can adequate low-cost public transportation be provided for them? If low income and economically disadvantaged citizens move to the suburban areas to be closer to their place of employment, how can the housing supply be adjusted regionally in order to provide real choices for residential location to disadvantaged persons? How can a balanced housing supply in the city be maintained without public funding support?



HISTORIC URBAN FORM



DEVELOPMENT ISSUES
San Francisco County

Source: ABAG. 1974. Regional Plan Review/Update Report.

- 2.799 The concentrated business activities in downtown San Francisco are currently very conveniently accessible by auto and the continual dominance of auto access for commutation consumes large amounts of gas and oil and is one of the most significant contributors to the region's air pollution problem -- a problem, which because of prevailing winds, the South and East Bay areas have a very great stake in seeing improved. BART transbay service is an important step in making public transit competitive with autos in downtown San Francisco but improved public transportation within the city and from the Peninsula and North Bay is also urgently needed. Freeway investments serving downtown need to be carefully considered in light of this problem.
- 2.800 San Francisco performs many region-wide functions, including serving a disproportional share of the Region's disadvantaged population found concentrated within the city. Some means will be required to compensate for this heavier financial burden which the city has assumed. To date the city has been very successful in attracting more tax and job generating offices in the city. The costs of continued downtown growth on transportation systems, noise and air pollution are at the heart of a continuing dilemma for the city and the whole region. How can the city address its problems and still retain those remarkable qualities unique to San Francisco and to the Bay Area?
- 2.801 b. Overview - The Peninsula and South Bay (San Mateo and Santa Clara Counties, Plates II-58 and II-59). Growth in San Mateo County has slowed as its cities have become built-up. However, the 1950's and 1960's trend which saw a large portion of total regional growth going to Santa Clara County is still continuing even though total regional growth rate is declining.
- 2.802 The creation of new jobs, added to commitments for housing to meet existing needs, makes the development process difficult to manage in spite of very serious efforts by Santa Clara County and many of its cities. San Jose, the only South Bay city with a large socially and economically disadvantaged population, needs to add to its tax base to meet urban service commitments already made, and at the same time is trying to achieve a more manageable ratio between new housing and jobs. In San Jose and some of the older cities the potential for conservation and rebuilding of built-up areas will be important considerations to achieving a city-centered region.
- 2.803 The question of where new growth will occur is very complicated. Many cities on the Peninsula are close to being fully built-up, and special efforts are being made by the cities and San Mateo County to keep intensive development out of the hills. At the same time retention of prime agricultural lands--predominantly orchards--is a continuing serious problem throughout Santa Clara County. The most pressing case is in south Santa Clara

County where the cities of Gilroy and Morgan Hill are working with the County to reach agreements on the extent of urban development with regard to how much and for how long prime land can be reserved for orchards. Pending developments at the extreme south end of San Jose could place virtually irresistible pressure for development on the South County valley floor.

- 2.804 To a large extent, growth in the South Bay has been the result of prosperity and growth during the 1950's and 1960's in the aerospace and high technology industries located in the area from Palo Alto through San Jose. The future of much of the Santa Clara Valley appears to be tied to the ability of the County to continue to attract those types of firms.
- 2.805 In the South Bay area--seriously impacted by air quality problems--air quality regulations could trigger controls on development which would have serious implications for public agencies. Ironically, the air quality problem in Santa Clara County is generally recognized to be as much due to smog generated in upwind San Francisco and Oakland as to the substantial growth of the Santa Clara Valley itself. In this sense the South Bay area has an important stake in a successful regional solution to the air quality problem. The recently established Santa Clara Transit District is an important first step in reducing auto dependency and its attendant energy and air pollution problems in the South Bay itself.
- 2.806 Many of the San Mateo County cities bordering the Bay are essentially built-up and developed. These cities represent a potential for achieving the objective of a city-centered region through carefully planned rebuilding programs which focus on higher densities, instead of growth exclusively confined to the fringe areas of the region. In order to effectively implement the city-centered planning concept, conservation measures to retain the viability of the large 1950 and 1960 housing stock, which will be thirty to forty years old by 1990, must be given higher public priority. Finding ways to manage the private rebuilding process to provide new housing opportunities in built-up areas in a coherent manner with minimum disruption is another issue that needs to be addressed. Additionally, some cities rest on recent Bay fill where the serious hazards of seismic shaking and flooding must be dealt with. Two additional issues will substantially affect future growth in the peninsula cities. San Mateo County and the Palo Alto area have traditionally been high income areas. There is a serious shortage of low- and moderate-income housing in that area. Additionally, adequate public transit including competitive trunk transit services to San Francisco and San Jose must ultimately be provided. At the extreme northern end of the Peninsula the San Bruno Mountain development proposal could significantly affect open space, as well as transportation systems and new housing assumptions elsewhere on the peninsula. Serious problems of access to San Francisco airport will also need to be resolved.