Chapter 4
Socioeconomics

CHAPTER SUMMARY

This chapter characterizes the existing socioeconomic conditions of the proposed Project area and vicinity, as well as the factors contributing to positive or adverse conditions affecting environmental quality. Potential socioeconomic outcomes are evaluated in terms of potential effects of the proposed Project on employment, housing, and population.

Chapter 4, Socioeconomics, provides the following:

- Population characteristics at the regional, county, and local levels;
- Employment and income conditions at the regional, county, and local levels;
- Housing construction trends, characteristics of the housing stock, and trends in housing prices;
- A discussion on the methodology used to determine socioeconomic effects associated with the proposed Project; and
- An evaluation of the socioeconomic effects associated with the proposed Project.

Key Points of Chapter 4:

The proposed Project would involve various wharf and shore side improvements to an existing marine oil terminal and expenditures from construction activities and "Port Industry" operations. The proposed Project would allow the Shell Oil Company to maximize its ability to ensure continued reliability and availability of fuel supplies to meet Southern California's energy needs. The proposed Project would not result in an increase in capacity or require any additional employees. However, rebuilding the wharf and associated structures would result in the need for up to 24 construction workers per day for up to four years.

4.1 Introduction

This chapter describes the existing socioeconomic conditions of the proposed Project area.

4.2 Environmental Setting

The environmental setting encompasses a five-county region comprised of Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. This region represents the area in which the bulk of the economic activity stimulated by the Port (directly and indirectly) occurs and for which economic modeling is appropriate.

4.3 Socioeconomic Topical Areas

Socioeconomics encompasses a number of topical areas, including population, employment, income, and housing.

4.3.1 Population

4.3.1.1 Existing Population

Between 1990 and 2010, the number of residents in the five-county region increased by about 3,345,477, or an average annual rate of 1.15 percent. The most rapid rate of change and the largest numeric increase took place in Riverside County (4.35 percent annual average and just over 1,000,000 people) and San Bernardino County (2.17 percent annual average). Los Angeles County had the second-largest numeric increase (approximately 955,553 persons). (Refer to Table 4-1). The population of the City of Los Angeles increased over the same time, but at a slower pace.

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Table 4-1: Population by Region, County, and City of Los Angeles (1990–2010)

	1990 (Census)	2000 (Census)	2010 (Census)	Change (1990–2010)		
				Numeric	Percent (%)	Average Annual Percent (%)
Southern California (Five-County Region)	14,531,529	16,373,645	17,877,006	3,345,477	23.02	1.15
Counties						
Los Angeles County	8,863,052	9,519,338	9,818,605	955,553	10.78	0.54
Orange County	2,410,668	2,846,289	3,010,232	599,564	24.87	1.24
Riverside County	1,170,413	1,545,387	2,189,641	1,019,228	87.08	4.35
San Bernardino County	1,418,380	1,709,434	2,035,210	616,830	43.49	2.17
Ventura County	669,016	753,197	823,318	154,302	23.06	1.15
Local Jurisdictions						
City of Los Angeles	3,485,398	3,694,820	3,792,621	307,223	8.81	0.44

Source: AFF, 2016

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4.3.1.2 Projected Population

Population projections prepared by the California Department of Finance forecast an increase in population in the five county region of almost five million residents by 2060. (Table 4-2). The highest growth rates are projected for Riverside and San Bernardino Counties. The population of Los Angeles County is projected to increase by approximately 1,664,933 residents.

4.3.2 Employment and Income

Between 1990 and 2015, total civilian employment in Southern California increased by 1,456,300 jobs (from 6,981,700 jobs to 8,438,000 jobs) at an average annual rate of 0.8 percent. However, this growth rate has been uneven, with high annual increases occurring during periods of strong economic growth, and negative job growth occurring during economic downturns, such as 2008 through 2010. Within the region, the most rapid increase in annual percentage employed over the 25-year period took place in Riverside County, where employment grew at an annual average rate of 3.8 percent. San Bernardino County experienced the next-highest rate of growth at 1.8 percent per year, on average. Orange County and Ventura experienced the third-most rapid growth rate in employment of 0.7 percent annually. Los Angeles County experienced the smallest increase with a 0.4 percent annual growth rate (CEDD, 2016.)

Based on projections prepared by the Southern California Association of Governments (SCAG) for the 2016 to 2040 Regional Transportation Plan/Sustainable Communities Strategy, employment in Southern California will expand over the next decades, particularly in Riverside and San Bernardino Counties. These two counties are expected to experience growth rates far in excess of those of other counties.

Unemployment levels in Southern California have closely mirrored the cyclical pattern of the State of California. In 1993, the state's unemployment rates peaked and then fell gradually throughout the remainder of the 1990s, with the rebound of the economy buoyed by the surge in dot-com activity and the residential construction boom. Following the exuberance of this period, unemployment rates rose for a few years before moving downward again for several years. Beginning in 2007, the unemployment rates began again to rise, and by 2010 were at their highest levels in the past two decades (12.2 percent), before beginning to drop in 2011. Throughout these cycles, the unemployment rate in Orange County was consistently lower than that of other counties in Southern California, as well as the state (CEDD, 2016b).

The total number of farm and non-farm jobs in Los Angeles County increased over the period of 1990 to 2015 by approximately 2.1 percent (CEDD, 2016c). Declines took place in several sectors, such as the manufacturing sector, which was offset by large increases in education and health services, leisure and hospitality, and local government.

According to SCAG, following massive job losses associated with the recession from 2007 to 2009, the region's employment levels are now where they were in 2007. However, population is continuing grow slowly and the median household income (adjusted for inflation) in the region has declined as wages have stagnated (SCAG, 2016).

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Table 4-2: Population Projections for Region and County (2010–2060)

							Projected Change (2010–2060)		
	2010	2020	2030	2040	2050	2060	Numeric	Percent (%)	Average Annual Percent (%)
Southern California (Five-County Region)	17,898,356	19,260,501	20,598,733	21,705,120	22,422,345	22,826,576	4,928,220	27.53	0.55
County									
Los Angeles	9,824,194	10,435,991	10,930,986	11,290,501	11,494,738	11,489,127	1,664,933	16.95	0.34
Orange	3,014,996	3,243,261	3,361,556	3,449,498	3,481,613	3,464,374	449,378	14.9	0.3
Riverside	2,194,933	2,478,059	2,862,915	3,215,291	3,480,980	3,678,439	1,483,506	67.59	1.35
San Bernardino	2,039,040	2,227,066	2,515,972	2,783,746	2,997,446	3,190,566	1,151,526	56.47	1.13
Ventura	825,193	876,124	927,304	966,084	987,568	1,004,070	178,877	21.68	0.43

Source: DOF, 2014

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4.3.2.1 Geographical Distribution of Port Workers

The employment generated by maritime cargo activity at the marine terminals owned by the Port can be categorized into trucking, International Longshore and Warehouse Union (ILWU), freight forwarders/customs house brokers, warehousing, steamship agents, chandlers, surveyors, and others. In 2007, LAHD retained the services of Martin Associates to evaluate the economic impacts generated by waterborne cargo and other activity at the Port. The study found that approximately 43,397 jobs are directly generated by activities at the marine terminals (Martin Associates, 2007). Table 4-3 presents the geographical distribution of the 43,397 direct jobs by place of residency, based on the results of interviews with 721 firms. As this table indicates, 12.7 percent of the direct job holders reside in the City of Los Angeles (excluding Wilmington and San Pedro).

Table 4-3: Distribution of Direct Cargo Jobs by Place of Residency for the Port of Los Angeles

Jurisdiction	Share (by Percent - %)	Cargo Direct Jobs
City of Los Angeles (Excluding San Pedro and Wilmington)	12.66	5,495
City of Long Beach	16.78	7,280
San Pedro	13.06	5,669
Wilmington	8.73	3,790
Other Los Angeles County	36.97	16,042
Orange County	7.76	3,367
Riverside County	1.15	498
San Bernardino County	2.25	978
Ventura County	0.13	58
Other	0.51	220
Total	**100.00**	**43,397**

Source: Martin Associates, 2007

4.3.3 Income

The median household income (income received by all members of a household, 16 years old and over) reported by AFF between 2010 and 2014 for Los Angeles County was just under $56,000. Riverside and San Bernardino counties had very similar values, while the value for Orange County was approximately $75,998 and for Ventura County was $77,335. By comparison, the median household income for the City of Los Angeles was $49,682 (AFF, 2016b).

4.3.3.1 Business and Tax Revenue

According to data compiled by the U.S. Census Bureau in the 2012 Economic Census, most business establishments, sales, and employees in the five-county region were distributed among retail trade, health care and social assistance, accommodation and food

service, professional services, real estate, and other service industries (U.S. Census, 2012). Business establishments in the County of Los Angeles and the City of Los Angeles were similarly distributed (U.S. Census, 2012).

4.3.4 Housing

4.3.4.1 Housing Construction

Housing construction typically exhibits a cyclical pattern in response to local, regional, and national economic conditions. In Southern California, following a decline in the early 1990s, residential construction experienced a strong period of expansion between 1995 and 2004. A slight decline began in 2005, which continued in the following years. Since 2009, the number of new housing permits has shown a slow annual increase.

The contribution made to new housing (single-family and multi-family units) constructed in Southern California by each of the individual counties has varied over time. In the 1990s, the largest share of new housing was in Los Angeles County, followed by (in descending order) Riverside County, San Bernardino County, Orange County, and Ventura County. During the period of rapid housing growth in the mid-1990s and early 2000s, the share of new housing in Riverside and San Bernardino Counties grew, while the shares in Los Angeles, Orange, and Ventura Counties decreased. In 2006, the trends began to reverse, and as the Southern California housing market began recovering from the economic downturn, from 2010 to 2015, Los Angeles County accounted for the greatest number of new housing permits, followed by Orange County, Riverside, and San Bernardino, while Ventura County had the lowest number (U.S. Census, 2016).

4.3.4.2 Residential Property Values

During the period from 2004 to 2014, the median home price for existing homes in Los Angeles County increased at an average annual rate of 1.49 percent. Median prices for existing homes also rose in Orange County but decreased in the other three counties.

The rate of change in home prices did not take place uniformly during the period. Over the period from 2004 to 2009, median prices of existing homes fell in all counties, and over the period from 2009 to 2014, median prices of existing homes rose in all five counties. The trends in prices of new homes were similar, falling on average over the period from 2004 to 2009 and rising in the period from 2009 to 2014. (LAEDC, 2015). Overall during the period of 2004 and 2014, median home prices have increased in all counties with the exception of Ventura County, where prices have fallen.

4.4 Project Effects Related to Socioeconomics

This section evaluates the effects of the proposed Project and alternatives on employment, population, and housing along with a detailed description of the impact methodology used in the analysis.

The proposed Project would allow Shell Marine Oil Company to continue import fuel to Southern California with improved safety, to serve its energy needs, and to maximize the Port's ability to ensure continued reliability and availability of fuel supplies to meet Southern California's energy needs given the evolving market conditions and business cycle variability. The improved terminal under the proposed project would not affect the

terminal's capacity (i.e., maximum barrels and vessel calls) or require additional employees during the new 30-year lease period. As with the short-term construction employees discussed above, no significant influx of employees into the local communities would occur.

As discussed in Section 1.2.3.2 in Chapter 1, Introduction, Shell operates the terminal as part of its efforts to meet Southern California energy needs given evolving market conditions and business cycle variability. Marine oil terminal business cycles do not occur on a specific time-scale. Rather, the marine oil terminal business cycles are influenced by a myriad of economic factors and market conditions, including petroleum product supply and demand; economic and regulatory changes; fluctuating oil prices, gross domestic product (GDP), and unplanned supply disruptions.

Marine oil terminal operations in California are affected by economic cycles. Economic cycles include periods of GDP decline and growth caused by recession and recovery. During recession periods, or periods of slowdown in factors such as consumer spending, fuel consumption, industrial production, and manufacturing, the oil and gas industry is substantially affected. A substantial decrease in consumer fuel consumption occurs during recession periods, which demonstrates the variations of the impact and economic influence on the oil and gas industry. Due to these various factors, the Shell Marine Oil Terminal has experienced wide fluctuations in throughput during the past several years, ranging from 10.2 million barrels in 2014 to 20.6 million barrels in 2015.

4.4.1 Impact Methodology

CEQA is primarily concerned with the disclosure and mitigation of significant physical environmental effects related to the construction and operation of a proposed project.

However, LAHD is committed to disclosing the greater impacts a project may have on the community, including effects related to socioeconomics and environmental quality. Consequently, an impact discussion on socioeconomics is provided below. The initial step in estimating socioeconomic effects associated with implementation of a project is to characterize aspects of the construction and operational phases of that project.

The primary catalyst for changes to socioeconomic resources is a change in economic activity (that is, industrial output [value of goods and services], employment, and income). Changes in employment in an area have the potential to affect population, housing, and environmental quality.

Indirect construction jobs are related to purchases from materials supply firms and their suppliers, and induced jobs are related to household expenditures by workers.

The employment effects of the proposed Project and alternatives relative to construction are presented in terms of direct and secondary jobs, and total jobs (direct and secondary combined) over the approximate four-year construction period.

4.4.1.1 Construction Model Description

LAHD relies on the IMPLAN (IMpact analysis for PLANning) economic impact modeling system to calculate the economic impacts of Project-related construction.

4.4.1.1.1 Construction Impacts: IMPLAN Model

The economic impact analysis of the construction phase was prepared using the IMPLAN model to evaluate potential changes in regional economic activity. Originally developed by the U.S. Department of Agriculture, Forest Service to assist with land and resource management planning, the IMPLAN model is a widely used model employed to assess the regional economic impacts of private and public projects.

The heart of IMPLAN is an input-output model. Input-output accounting describes commodity flows from producers to intermediate and final consumers. The total industry purchases of commodities, services, employment compensation, value added, and imports are equal to the value of the commodities produced. Purchases for final use (final demand) drive the model. Industries produce goods and services for final demand and purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services (indirect purchases) continues until leakages from the region (imports and value added) stop the cycle.

These indirect and induced effects (the effects of household spending) can be mathematically derived. The derivation is called the *Leontief inverse*. The resulting sets of multipliers describe the change of output for each and every regional industry caused by a one-dollar change in final demand for any given industry.

Creating regional input-output models requires a tremendous amount of data. The costs of surveying industries within each region to derive a list of commodity purchases (production functions) are prohibitive. IMPLAN was developed as a cost-effective means to develop regional input-output models. The IMPLAN accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the Bureau of Economic Analysis (2000) and the rectangular format recommended by the United Nations.

The IMPLAN model used by LAHD is based on 2011 regional data for the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura (MIG, 2011). The model calculates the direct, indirect, and induced effects of construction projects based on the estimated changes in final demand across industries, as shown in the projected design and construction costs.

Although input-output analysis is a widely used approach to estimate the local and regional economic effects of implementing projects, it is not without its limitations. The information represents a snapshot at a specific time. In the case of the current model, the technical coefficients are based on 2011 data. Over time, the relationships between industries in an economy change, and their dependency on each other shifts. Input-output modeling does not account for economies of scale. Thus, the input required by an industry does not vary proportionately even though the final demand that is entered in the model varies.

4.4.2 Region of Influence

The Port of Los Angeles is a national asset. Many of the direct and secondary economic impacts associated with its operation, however, are concentrated in a region of influence comprised of Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. The large majority of people working at the Port reside in Los Angeles and Orange Counties.

4.4.3 Economic Measures of Effects of Project Effects

In describing the economic effects that implementation of a project could have on the regional economy, a number of measures can be used such as net changes in regional employment, output, wages, tax revenue, and value added. Proposed Project Effects Construction of the proposed Project would be carried out over an approximate four-year period beginning in 2018 with proposed Project expenditures estimated at approximately $43.6 million. During the construction period, materials, supplies, services, equipment and wages would be paid for by the applicant and LAHD.

These expenditures, in turn, would produce a multiplier (ripple) effect that includes "indirect" activity associated with purchases by firms that supply goods and services to the construction industry, as well as "induced" activity resulting from expenditures by workers employed by the various firms involved in the economic activity (e.g., benefits to the retail sector from increased purchases by households). For simplicity, these indirect and induced effects are referred to collectively as "indirect effects."

4.4.3.1 Effects on Employment

The proposed Project would generate approximately 350 direct construction jobs (based on 8.04 construction jobs/million dollars of construction cost; estimate from the IMPLAN economic impact modeling system). Construction of the proposed Project is subject to some variations. Up to 24 construction workers would be required at the site at any given time, depending on the construction phase, over the course of the construction period. The direct construction jobs would also further result in approximately 286 indirect and induced jobs (based on 2.34 indirect jobs and 4.21 induced jobs/million dollars of construction cost, from IMPLAN). These indirect/induced increases in employment are related to purchases from materials supply firms and their suppliers and household expenditures by workers, referred to, when combined, as "secondary employment."

Impacts on regional employment associated with construction activity can be assessed by comparing existing regional employment and the effects of the proposed Project. The County has a large pool of construction labor (126,100 people were employed in the construction industry in 2015 [CEDD, 2016c]) from which to draw. Much of the indirect workforce would also likely come from within the Los Angeles Basin. The proposed Project, therefore, is not anticipated to result in either in-migration or relocation of construction employees to satisfy the need for increased temporary, construction-related employment.

Long-term operation of the proposed Project would not result in a marked increase in jobs following final buildout in 2020. Liquid bulk employees are currently performing the same job duties at the Project site and in other locations within the region (i.e., Kinder Morgan at Berths 118-119; Phillip 66 at Berths 148-151; NuStar Energy/Shore Terminal at Berth 163; Valero/Ultramar at Berth 164; Vopak at Berths 187-191; and PBF Energy at Berths 238-239). The proposed Project would allow Shell Marine Oil Company to continue import fuel to Southern California with improved safety, to serve its energy needs, and to maximize the Port's ability to ensure continued reliability and availability of fuel supplies to meet Southern California's energy needs given the evolving market conditions and business cycle variability. The improved terminal under the proposed project would not affect capacity (i.e., maximum barrels and vessel calls) or require additional employees during the new 30-year lease period. As with the short-term construction employees discussed above, no significant influx of employees into the local communities would occur.

4.4.3.2 Effects on Local Businesses, Income and Tax Revenues

Existing businesses within Mormon Island near Berths 167-169 include Rio Tinto Minerals, NuStar Energy/Shore Terminal, Valero, and Pasha Terminal, which would remain open during proposed project construction and operation. The proposed Project would result in the replacement of the existing timber wharf with new loading platforms, mooring dolphins and catwalks, and provide shore side improvements along the landside portions of the terminal adjacent to both operating berths.

Industry and jobs in the area as a whole would not be adversely affected. The proposed Project would not lead to increased tax revenues for the Port and the City of Los Angeles because its operations would not be increased.

4.4.3.3 Effects on Population

The proposed Project does not include the development of new housing or infrastructure that would directly induce population growth. Therefore, no shifts in residential population are expected as a result of the proposed Project. Construction of the proposed Project is expected to begin in 2018, and would generate approximately 350 construction jobs (based on the 8.04 construction jobs/million dollars of construction cost, IMPLAN) over the course of the construction period. The direct construction jobs would also further result in in 286 indirect and induced jobs (based on 2.34 indirect jobs and 4.21 induced jobs/million dollars of construction cost, from IMPLAN). Because construction workers commute to a job site that often changes many times throughout the course of the year, they are not likely to relocate their households to any significant degree as a consequence of opportunities for construction work.

No increase in employees is anticipated during the new 30-year lease period. The proposed Project would therefore not be associated with substantial population growth and would not result in population displacement. Thus, as per Chapter 7, Growth-Inducing Impacts, only negligible impacts on population are anticipated.

4.4.3.4 Effects on Housing

The proposed Project would not displace any housing and does not propose construction of housing. Because of the large construction workforce in the region, the need for construction workers (350 direct construction jobs and 286 secondary [indirect and induced] jobs as described above) during the construction period is expected to be filled by existing labor pool in the region. Thus, the proposed Project would result in negligible changes in demand for additional housing.

4.4.3.5 Effects on Property Value Trends

The construction of the proposed Project would increase the number of (temporary) direct and secondary jobs and income in the region, and result in other economic benefits. While the economic impacts are beneficial, the increase in jobs attributable to the construction of the proposed Project would be relatively small compared to current and projected future employment in the larger economic region. Thus, the proposed Project would also not likely contribute substantially to demand for housing, and would result in a negligible effect on property values.

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