



6.0 Long-Term Implications of the Proposed Project



6.0 LONG-TERM IMPLICATIONS OF THE PROPOSED ACTION

If the proposed project is approved and constructed, a variety of short-term and long-term impacts may occur on a local level. During project grading and construction, portions of surrounding uses may be temporarily impacted by dust and noise. Short-term soil erosion may also occur during grading. There may also be an increase in vehicle pollutant emissions caused by grading and construction activities. However, these disruptions would be temporary and may be avoided or lessened to a large degree through mitigation cited in this EIR and through compliance with existing Federal, State, and local regulations; refer to Section 5.0, *Environmental Analysis*.

Ultimate development of the project site may create long-term environmental consequences associated with a transition in land use. Development of the proposed project and the subsequent long-term effects may impact the physical, aesthetic, and human environments. Long-term physical consequences of development include increased traffic volumes, increased noise, increased energy and natural resource consumption, and incremental degradation of local and regional air quality. An analysis of potential long-term implications for the proposed project is provided below.

6.1 IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Approval of the proposed project would cause irreversible environmental changes, resulting in the following:

- Land, which would be physically altered;
- Soil erosion due to grading and construction activities;
- Water usage for the irrigation of landscaping during operation of the project;
- Utilization of various new raw materials, such as sand and gravel for construction; and
- Consumption of energy to develop and maintain the project, which may be considered a permanent investment.

6.2 GROWTH-INDUCING IMPACTS

Section 15126 of the *CEQA Guidelines* requires that an EIR discuss the project's potential to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The *CEQA Guidelines* also indicate that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. This section analyzes such potential growth-inducing impacts, based on criteria suggested in the *CEQA Guidelines*.



In general terms, a project may foster spatial, economic, or population growth in a geographic area if it meets any one of the following criteria:

- Removal of an impediment to growth (e.g., establishment of an essential public service and provision of new access to an area);
- Fostering economic expansion or growth (e.g., changes in revenue base and employment expansion);
- Fostering of population growth (e.g., construction of additional housing), either directly or indirectly;
- Establishment of a precedent-setting action (e.g., an innovation, a change in zoning, and general plan amendment approval); or
- Development of or encroachment on an isolated or adjacent area of open space (being distinct from an in-fill project).

Should a project meet any one of the above-listed criteria, it may be considered growth inducing. The potential growth-inducing impacts of the proposed project are evaluated below.

Note that the *CEQA Guidelines* require an EIR to “discuss the ways” a project could be growth inducing and to “discuss the characteristics of some projects that may encourage...activities that could significantly affect the environment.” However, the *CEQA Guidelines* do not require that an EIR predict (or speculate) specifically where such growth would occur, in what form it would occur, or when it would occur. The answers to such questions require speculation, which CEQA discourages (refer to *CEQA Guidelines* Section 15145).

POPULATION, HOUSING, AND EMPLOYMENT

Population

County of Orange. The County encompasses approximately 798 square miles. It is bordered by Los Angeles County to the north and northwest, San Bernardino County to the northeast, Riverside County to the east, San Diego County to the southeast, and the Pacific Ocean to the west. As of January 2010, the County of Orange had a population of 3,010,232. This represents an increase of approximately 5.8 percent over the County’s April 2000 population of 2,846,289.¹

The Southern California Association of Governments (SCAG) serves as the Metropolitan Planning Organization (MPO) for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. Generally, SCAG serves as the regional planning organization for growth management, transportation, and a range of additional planning and environmental issues within southern California. As part of its *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*:

¹ State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts*. Sacramento, California, November 2012.



Towards a Sustainable Future growth forecast, SCAG projects that the County’s population will reach 3,266,000 by 2020 and 3,421,000 by 2035.²

City of Huntington Beach. On a local level, the City of Huntington Beach’s April 2010 population was 189,992. This represents an increase of approximately 0.19 percent over the City’s April 2000 population of 189,627.³ SCAG projects that the City’s population will reach 199,800 by 2025 and 205,500 by 2035.⁴

Table 6-1, *Population Estimates*, provides a summary of both 2000 and 2010 population estimates for Orange County and the City of Huntington Beach.

**Table 6-1
Population Estimates**

Year	Orange County	City of Huntington Beach
Population		
2000	2,846,289	189,627
2010	3,010,232	189,992
Change	5.8%	0.19%
Source: State of California, Department of Finance, <i>E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts</i> . Sacramento, California, November 2012.		

Project Site. The majority of the project site currently consists of roadway uses and does not include a population. The portions of the adjoining commercial properties where right-of-way (ROW) acquisition would occur include parking and landscaped areas. The project would also require ROW acquisition on a single residential property, where a block wall currently exists. No residential structures would be affected by the project.

Housing

County of Orange. The County’s housing stock was estimated to be 1,048,329 in January 2010. This represents an increase of approximately 8.1 percent over the estimated 969,484 housing units reported in April 2000. The vacancy rate in January 2010 was estimated to be approximately 5.32 percent, with approximately 2.992 persons per household.⁵ SCAG projections indicate that the number of households within the County will increase to 1,049,000 in 2020 and 1,125,000 in 2035.⁶

² Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, <http://www.scag.ca.gov/forecast/index.htm>, accessed March 7, 2013.

³ State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts*. Sacramento, California, November 2012.

⁴ Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, <http://www.scag.ca.gov/forecast/index.htm>, accessed March 7, 2013.

⁵ State of California, Department of Finance, *E-8 Historical Population and Housing Estimates for Cities, Counties, and the State, 2000-2010*. Sacramento, California, November 2012.

⁶ Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, <http://www.scag.ca.gov/forecast/index.htm>, accessed March 7, 2013.



City of Huntington Beach. The City’s housing stock was estimated to be 78,005 in January 2010. This represents an increase of approximately 3.1 percent over the estimated 75,679 housing units reported in April 2000. The vacancy rate in January 2010 was estimated to be approximately 4.71 percent, with 2.546 persons per household.⁷ According to SCAG projections, the number of housing units in the City is expected to be 75,800 in 2020 and 79,200 in 2035.⁸

Table 6-2, *Housing Estimates*, provides a summary of both 2000 and 2010 housing estimates for Orange County and the City of Huntington Beach.

**Table 6-2
 Housing Estimates**

Year	Orange County	City of Huntington Beach
Housing		
2000	969,484	75,679
2010	1,048,329	78,005
Change	8.1%	3.1%
Source: State of California, Department of Finance, E-8 <i>Historical Population and Housing Estimates for Cities, Counties, and the State, 2000-2010</i> . Sacramento, California, November 2012.		

Project Site. The majority of the project site currently consists of roadway uses and does not include housing. The portions of the adjoining commercial properties where ROW acquisition would occur include parking and landscaped areas. The project would also require ROW acquisition on a single residential property, where a block wall currently exists. No housing structures would be affected by the project.

Employment

County of Orange. According to the California Employment Development Department, the civilian labor force within Orange County totaled approximately 1,608,000 as of September 2010. An estimated 9.6 percent of the County’s workforce (154,000 persons) was unemployed.⁹ SCAG projections indicate that the number of employees within the County will be 1,626,000 in 2020 and 1,779,000 in 2035.¹⁰

City of Huntington Beach. According to the California Employment Development Department, the civilian labor force within the City of Huntington Beach totaled approximately 121,900 persons as of September 2010. An estimated 7.8 percent of the City’s workforce (9,600 persons) was

⁷ State of California, Department of Finance, E-8 *Historical Population and Housing Estimates for Cities, Counties, and the State, 2000-2010*. Sacramento, California, November 2012.

⁸ Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, <http://www.scag.ca.gov/forecast/index.htm>, accessed March 7, 2013.

⁹ *Labor Force Data for Sub-County Areas*, with March 2008 Benchmark, California Employment Development Department, October 22, 2010.

¹⁰ Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, <http://www.scag.ca.gov/forecast/index.htm>, accessed March 7, 2013.



unemployed.¹¹ SCAG projections indicate that the number of employees within the City will be 80,100 in 2020 and 80,600 in 2035.¹²

Project Site. As stated above, the majority of the project site currently consists of roadway uses and does not generate employment. The portions of the adjoining commercial properties where ROW acquisition would occur include parking and landscaped areas as well as a portion of one commercial building. The project would also require ROW acquisition on a single residential property, where a block wall currently exists.

IMPACT ANALYSIS

A project could induce population growth in an area either directly or indirectly. More specifically, the development of new residences or businesses could induce population growth directly, whereas the extension of roads or other infrastructure could induce population growth indirectly.

Proposed Project

The project is located at the intersection of Brookhurst Street and Adams Avenue within a fully developed, urbanized area of Huntington Beach. Project implementation would involve widening improvements at the intersection to improve traffic operations; refer to Section 3.0, *Project Description*.

Based on the factors discussed below, project implementation would not result in significant growth-inducing impacts:

- *Removal of an Impediment to Growth.* The project is located within a fully developed area of the City. Given the built-out nature of the project area and the availability of infrastructure already serving the project site and surrounding areas, the project would not represent a removal of an impediment to growth.
- *Economic Growth.* As stated above, the project involves improvements to the Brookhurst Street/Adams Avenue intersection to relieve existing congestion and accommodate future increase in traffic. As the project involves roadway improvements (and would not remove an impediment to growth), the proposed project would not have the potential to result in economic growth.
- *Population Growth.* The proposed project involves improvements to an intersection and does not include housing, and would not induce growth within the project area. As no new employees would be generated by the project following construction, project implementation would not result in a substantial number of people relocating to the City. Therefore, the project would not result in substantial growth-inducement impacts within the City.

¹¹ *Labor Force Data for Sub-County Areas*, with March 2008 Benchmark, California Employment Development Department, October 22, 2010.

¹² Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, <http://www.scag.ca.gov/forecast/index.htm>, accessed March 7, 2013.



- *Precedent-Setting Action.* The project involves improvements to the Brookhurst Street/Adams Avenue intersection, and would not require a precedent-setting action, such as a General Plan Amendment or Zone Change that would alter the City's long-term development plan for the project area. Thus, the project is not considered growth-inducing in this regard.
- *Development or Encroachment of Open Space.* The project site is located at an existing intersection and is surrounded by urbanized uses. Therefore, the proposed project would not be growth-inducing with respect to development or encroachment into an isolated or adjacent area of open space.

Overall, project implementation would not be considered growth inducing, inasmuch as it would not foster significant unanticipated economic expansion and growth opportunities. The project would not remove an existing impediment to growth and would not develop or encroach into an isolated or adjacent area of open space. The proposed project would not foster significant unanticipated population growth in the project area, as described above. Development within the project area would not require substantial development of unplanned and unforeseen support uses and services.

In addition to inducing growth, a project may create a significant environmental impact if it would displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere and/or displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. Implementation of the proposed project would not displace any existing housing or persons. Therefore, the project would not result in an impact with regard to the displacement of persons, housing, and businesses.

6.3 ENERGY CONSERVATION

Public Resources Code Section 21100(b)(3) and *CEQA Guidelines* Appendix F requires a description (where relevant) of the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, the California State Legislature adopted Assembly Bill 1575 (AB 1575) in response to the oil crisis of the 1970s. Appendix F of the *CEQA Guidelines* provides guidance for assessing potential impacts that a project could have on energy supplies, focusing on the goal of conserving energy by ensuring that projects use energy wisely and efficiently. Because Appendix F does not include specific significance criteria, this threshold is based the goal of Appendix F. Therefore, an energy impact is considered significant if the proposed project would:

- Develop land uses and patterns that cause wasteful, inefficient, and unnecessary consumption of energy or construct new or retrofitted buildings that would have excessive energy requirements for daily operation.

6.3.1 PROJECT ENERGY CONSUMPTION

SHORT-TERM CONSTRUCTION

In 1994, the U.S. Environmental Protection Agency (EPA) adopted the first set of emission standards (Tier 1) for all new off-road diesel engines greater than 37 kilowatts (kW). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing NO_x emissions from these engines by 30 percent. The EPA Tier 2 and Tier 3 standards for off-road diesel engines are projected to further reduce emissions by 60 percent for NO_x and 40 percent for particulate



matter from Tier 1 emission levels. In 2004, the EPA issued the Clean Air Non-road Diesel Rule. This rule will decrease emissions from off-road diesel engines by more than 90 percent, and will be fully phased in by 2014.

The project proposes improvements to the Brookhurst Street/Adams Avenue intersection. Construction activities would occur during demolition, site preparation/grading, and paving. Project construction is expected to occur over approximately six months. Table 6-3, Construction Fuel Consumption, provides an estimate of construction fuel consumption based on information provided by the CalEEMod air quality computer model; refer to Appendix 13.5, Air Quality and Greenhouse Gas Data.

**Table 6-3
Construction Fuel Consumption**

Phase	Equipment	Quantity	Horsepower	Load Factor	Fuel Consumption Rate ¹	Duration ² (total hours)	Total Fuel Consumption ^{3,4}
					(gallons per hour)		(gallons)
Demolition	Concrete/Industrial Saws	1	81	0.73	2.37	200	473
	Excavators	3	157	0.38	2.39	600	1,432
	Rubber Tired Dozers	2	358	0.40	5.73	400	2,291
Site Preparation/ Grading	Excavators	1	157	0.38	2.39	600	1,432
	Graders	2	162	0.41	2.66	1,200	3,188
	Off-Highway Trucks	1	381	0.38	5.79	600	3,475
	Rubber Tired Dozers	1	358	0.40	5.73	600	3,437
	Tractors/Loaders/Backhoes	4	75	0.37	1.11	2,400	2,664
Paving	Pavers	1	89	0.42	1.50	240	359
	Paving Equipment	2	82	0.36	1.18	480	567
	Rollers	2	84	0.38	1.28	480	613
Project Construction Total⁴							19,930
Notes: 1. Derived using the following equation: Fuel Consumption Rate = Horsepower x Load Factor x Fuel Consumption Factor Where: Fuel Consumption Factor for a diesel engine is 0.04 gallons per horsepower per hour (gal/hp/hr) and a gasoline engine is 0.06 gal/hp/hr. 2. Total hours of duration derived from CalEEMod modeling results; refer to <u>Appendix 13.4, Air Quality/Greenhouse Gas Emissions Data</u> . 3. Total Fuel Consumption calculated using the following equation: Total Fuel Consumption = Duration in Hours x Fuel Consumption Rate 4. Values may be slightly off due to rounding.							
Source: Refer to <u>Appendix 13.4, Air Quality/Greenhouse Gas Data</u> , for CalEEMod assumptions used in this analysis.							

As indicated in Table 6-3, project construction would consume a total amount of approximately 19,930 gallons of fuel. Mitigation Measure AQ-1 would implement dust control techniques (i.e., daily watering), limitations on construction hours, and adherence to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc). It is noted that the fuel consumption quantities in Table 6-3 do not account for the implementation of the construction air quality mitigation measure. Therefore, with implementation of mitigation, fuel consumption may be reduced. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.



LONG TERM OPERATIONS

Transportation Energy Demand

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration (NHTSA) is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with Federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States.

Although the project involves intersection improvements and does not propose a trip-generated land use, the operational, transportation-related fuel consumption associated with the forecast year 2030 condition has been calculated using data provided in [Appendix 13.3, *Traffic Impact Analysis*](#), and the daily vehicle miles traveled (VMT). [Table 6-4, *Forecast Year 2030 Operations Fuel Consumption*](#), provides an estimate of the daily fuel consumed by vehicles traveling through the Brookhurst Street/Adams Avenue intersection. As indicated in [Table 6-4](#), approximately 1,812 gallons of fuel is estimated to be consumed daily. The project would not result in any new or altered land use that would directly generate traffic trips or associated fuel consumption. Fuel consumption that would occur under the forecast year 2030 conditions would not be considered inefficient, wasteful, or unnecessary in comparison to other similar intersections in the region.

Table 6-4
Forecast Year 2030 Operations Fuel Consumption

Vehicle Type	Percent of Vehicle Trips ¹	Daily Vehicle Miles Traveled ^{2,6}	Average Fuel Economy (miles per gallon) ³	Total Daily Fuel Consumption (gallons) ⁴
Passenger Cars	90	28,091	21.6	1,300
Light/Medium/Heavy Trucks/Other	10	3,121	6.1	512
TOTAL⁵	100	31,212	--	1,812
Notes:				
1. Percent of Vehicle Trip distribution based on trip characteristics within the CalEEMod model.				
2. Daily Vehicle Miles Traveled (VMT) calculated by multiplying percent vehicle trips by total VMT (i.e., VMT x percent of Vehicle Trips).				
3. Average fuel economy derived from the Department of Transportation.				
4. Total Daily Fuel Consumption calculated by dividing the daily VMT by the average fuel economy (i.e., VMT/Average Fuel Economy).				
5. Values may be slightly off due to rounding.				
6. Based upon data within the <i>Brookhurst Street/Adams Avenue Improvement Project Traffic Impact Analysis</i> , prepared by RBF Consulting, dated April 11, 2013; refer to Appendix 13.3, <i>Traffic Impact Analysis</i> .				
Source: Refer to Appendix 13.4, <i>Air Quality and Greenhouse Gas Data</i> , for CalEEMod assumptions used in this analysis.				



Other Non-Motorized Transportation Options

The project does not propose a new or altered trip generating land use that would result in transit usage. However, the project vicinity is currently served by bus transit lines operated by Orange County Transportation Authority (OCTA) (Lines 35 and 178). There are six existing bus stops along the project site. Four bus stops are located along Adams Avenue (two to the east of Brookhurst Street and two to the west of Brookhurst Street), all of which include shelters. Two bus stops are located along Brookhurst Street (one north of Adams Avenue and one south of Adams Avenue). The project would replace existing bus stops subsequent to construction to ensure that bus transit opportunities are unaffected. Thus, the proposed project would not result in the inefficient, wasteful, or unnecessary consumption of transportation energy.

Building Energy Demand

As the project involves intersection improvements and does not propose any new land uses, the project would not demand any new building energy. Therefore, the project would not be considered inefficient, wasteful, or unnecessary.



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