

## **6.0 Other CEQA Considerations**

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## **6.0 OTHER CEQA CONSIDERATIONS**

### **6.1 LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT**

Pursuant to CEQA Guidelines Section 15126.2, the following is a discussion of short-term uses of the environment and the maintenance and enhancement of long-term productivity. If the proposed Project is approved and constructed, a variety of short- and long-term impacts would occur on a local level. During Project grading and construction, portions of surrounding uses would be temporarily impacted by dust and noise. Short-term soil erosion would occur during grading. There would 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 the *City of Whittier Municipal Code (WMC)*; refer to Section 5.0, *Environmental Analysis*.

Development of the Project site would create long-term environmental consequences associated with a transition in land use. Development of the proposed Project and the subsequent long-term effects could impact the physical, aesthetic, and human environments. Long-term physical consequences of development include increased traffic volumes, increased noise from Project-related mobile (traffic) and stationary (mechanical and landscaping) sources, hydrology and water quality impacts, and increased energy and natural resource consumption. Incremental degradation of local and regional air quality would also occur as a result of mobile source emissions generated from Project-related traffic, and stationary source emissions generated from the consumption of natural gas and electricity.

### **6.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED**

According to CEQA Guidelines Sections 15126(c) and 15126.2(c), an EIR is required to address any significant irreversible environmental changes that would occur, should the proposed Project be implemented. As stated in CEQA Guidelines Section 15126.2(c):

*".....uses of nonrenewable resources during the initial and continued phases of the Project could be irreversible since a large commitment of such resources makes removal or nonuse thereafter likely, Primary impacts and, particularly, secondary impacts [such as highway improvement which provides access to a previously inaccessible area] generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the Project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."*



The Project would consume and result in the reduction of limited, slowly renewable and non-renewable resources. This consumption would occur during the Project's construction phase and would continue throughout its operational lifetime. Project development would require a commitment of resources that would include: building materials; fuel and operational materials/resources, and the transportation of goods and people to and from the Project site. Project construction would require the consumption of resources that are non-replenishable or that would renew so slowly as to be considered non-renewable. These resources would include the following construction materials: lumber and other forest products; aggregate materials used in concrete and asphalt; metals; and water. Fossil fuels such as gasoline and oil would also be consumed to power construction vehicles and equipment.

The resources that would be committed during Project operation would be similar to those currently consumed by existing uses and planned future uses within the City of Whittier and in the region. These would include energy resources such as electricity and natural gas, petroleum-based fuels required for vehicle-trips, fossil fuels, and water. Fossil fuels would represent the primary energy source associated with both construction and ongoing operation of the Project, and the existing, finite supplies of these natural resources would be incrementally reduced. Project construction and operation would occur in accordance with the 2013 Building Energy Efficiency Standards (Title 24, Part 1, Chapter 10 and Part 6, and affected provisions in Part 11 [Cal. Green Building Standards Code]), which will take effect July 1, 2014 and set forth conservation practices intended to limit the Project's energy consumption. However, the Project's energy requirements would, nonetheless, represent a long-term commitment of essentially non-renewable resources.

Limited use of potentially hazardous materials typical of residential, commercial and office uses, including vehicle maintenance materials, would be used and stored on the Project site. These materials would be used in small quantities, and used, handled, stored, and disposed of in accordance with the manufacturer's instructions and applicable government regulations. In addition, demolition activities would be subject to compliance with the regulatory requirements to ensure that asbestos and lead-based paints are not released into the environment. Compliance with such regulations would protect against a significant and irreversible environmental change resulting from the accidental release of hazardous materials.

In summary, Project construction and operation would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would limit the availability of these particular resource quantities for future generations or for other uses during the life of the Project. However, continued use of such resources would be on a relatively small scale in a regional context. As such, although irreversible environmental changes would result from Project implementation, such changes would not be considered significant.

### 6.3 GROWTH-INDUCING IMPACTS

The environmental analysis in this subsection is patterned after the Initial Study Checklist recommended by Appendix G of the *CEQA Guidelines*, as amended, and used by the City of Whittier in its environmental review process. The Initial Study Checklist includes a question related to population growth. Accordingly, a project may create a significant environmental impact if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).



In addition, CEQA Guidelines Section 15126(d), *Growth Inducing Impact of the Proposed Project*, requires that an EIR “discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.” This section analyzes potential growth-inducing impacts, based on the criteria outlined below, as suggested in the CEQA Guidelines. In general terms, a project could foster spatial, economic, or population growth in a geographic area, if it meets any one of the criteria identified below. The CEQA Guidelines state that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

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

Should the Project meet any one of the above-listed criteria, it could be considered growth inducing. The Project’s potential growth-inducing impacts are evaluated below against these criteria.

It is noted 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 could 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; see CEQA Guidelines Section 15145, *Speculation*.

## IMPACT ANALYSIS

The Project includes a request for approval of the Lincoln Specific Plan, which would establish a maximum allowable development within the Specific Plan area of 750 dwelling units (DU), 208,350 square feet of commercial uses, 4.6 acres of open space, and infrastructure improvements (roadways and utilities); refer to Section 3.0, *Project Description*, for a detailed description of the Project. The potential growth-inducing impacts resulting from Project implementation are evaluated below.

Removal of an Impediment to Growth. The new land uses anticipated by the Project would occur as in-fill development on a fully improved property. The Project does not involve development that would establish a new essential public service or utility/service system. The proposed Specific Plan area is already served by: essential public services (i.e., fire and police protection, parks and recreational facilities, schools, and solid waste disposal); an extensive network of utility/service systems (i.e., water, wastewater, electricity, and natural gas); and other infrastructure necessary to accommodate or allow the existing conditions and planned growth. The existing public services and utility/service systems can be readily upgraded and/or



extended onto the Project site. The increased demands for public services and utility/service systems would not reduce or impair any existing or future levels of services, either locally or regionally, as concluded in Sections 5.12, *Public Services and Recreation*, and 5.13, *Utilities and Service Systems*. Project implementation would not require substantial development of unplanned or unforeseen public services and utility/service systems. The Project area is generally urbanized and built-out, and the proposed Project would not develop any new utility or transportation infrastructure that would indirectly result in new development or population growth in the surrounding vicinity.

In addition, although Project implementation would facilitate the installation and construction of transportation improvements necessary to carry out the Specific Plan, as discussed in detail in Section 3.0 and Section 5.14, *Transportation and Traffic*, these improvements would not provide new access to an area, since access is already provided by an existing roadway network. Therefore, Project implementation would not remove an impediment to growth or foster spatial growth through the provision of new access to an area.

Economic Expansion/Growth. As indicated in the *Population, Housing, and Employment Growth* Section below, Project implementation could increase the City's existing population by approximately 3 percent or 2,619 persons through buildout of the Project (expected in 2020). The projected population growth is anticipated to increase sales taxes, with resultant increases in the City's revenue base. Additionally, the proposed nonresidential land uses are forecast to create approximately 491 new jobs within the Specific Plan area through Project buildout, as indicated in Table 6-1, *Project Employment Forecast*.

**Table 6-1  
Project Employment Forecast**

Land Use	Employment Factor (SF per Employee) <sup>1</sup>	Square Feet	Employment Estimate
Commercial	424	208,350	491
<i>Total Proposed</i>		<i>208,350</i>	<i>491</i>
Notes:			
1. Southern California Association of Governments, Employment Density Study Summary Report Table II-B, <a href="http://www.scag.ca.gov/pdfs/Employment_Density_Study.pdf">http://www.scag.ca.gov/pdfs/Employment_Density_Study.pdf</a> , Accessed August 22, 2014.			
2. No reduction in employment would occur through removal of existing onsite institutional uses, since the youth correctional facility has been vacant since 2004. In addition, this analysis conservatively does not account for existing employment at the auto recycling facility located in the proposed Future Expansion Area, given the minor employment generated by the existing facility.			

The projected growth in nonresidential floor area and employment would foster economic expansion and increase the City's revenue base through increases the City's business license tax, utility user taxes, property taxes, and sales taxes. Therefore, the Project is considered growth inducing with respect to economic expansion.

Population, Housing, and Employment Growth. A project can induce population growth either directly (e.g., by proposing new homes/businesses) or indirectly (e.g., through extension of roads or other infrastructure). Table 6-2, *Project Compared to Existing Conditions*, compares the Project's population, housing, and employment forecasts with existing conditions in the City.



**Table 6-2  
Project Compared to Existing Conditions**

Description	Housing (Dwelling Units)	Households (Occupied Dwelling Units)	Population (Persons)	Employment (Jobs)
<b>PROJECT</b>				
Residential Land Uses	750	716	2,250 <sup>1</sup>	0
Nonresidential Land Uses	0	123 <sup>2</sup>	369 <sup>1</sup>	491 <sup>3</sup>
<i>Total Project</i>	<i>+750</i>	<i>+839</i>	<i>+2,619</i>	<i>+491</i>
<b>EXISTING + PROJECT CONDITIONS</b>				
2014 Existing City of Whittier Conditions <sup>4</sup>	29,598	28,280	86,538	31,300 <sup>5</sup>
<i>2014 / Project Implemented Total</i>	<i>30,348</i>	<i>29,119</i>	<i>89,157</i>	<i>31,791</i>
<i>2014 / Project Implemented % Change</i>	<i>+3%</i>	<i>+3%</i>	<i>+3%</i>	<i>+2%</i>
Notes:				
1. Assumes 3.00 persons per household (State of California, Department of Finance, <i>E-5 Population and Housing Estimates for Cities, Counties and the State - January 1, 2011-2014</i> . Sacramento, California, May 2014).				
2. Assumes 25 percent of the Project employees would choose to relocate to Whittier.				
3. See <u>Table 6-1, Project Employment Forecast</u> .				
4. State of California, Department of Finance, <i>E-5 Population and Housing Estimates for Cities, Counties and the State - January 1, 2011-2014</i> . Sacramento, California, May 2014.				
5. Year 2008 estimate (Southern California Association of Governments Website, Adopted 2012 RTP Growth Forecast, <a href="http://www.scag.ca.gov/forecast/index.htm">http://www.scag.ca.gov/forecast/index.htm</a> , Accessed August 4, 2014).				

The Project proposes new residential land uses, and would directly induce population growth within Whittier. As indicated in Table 6-2, Project implementation could increase the City's population by approximately 2,250 persons through new residential land uses. The Project's employment growth could also result in population growth within the City, as future employees (and their families) may choose to relocate to the City. Estimating the number of these future employees who would choose to relocate to the City would be highly speculative, since many factors influence personal housing location decisions (e.g., household income, location of employers for other household members, personal preference, etc.). However, for analysis purposes, it is assumed that 25 percent (123 employees) of the Project's new employees would choose to relocate to the City. Thus, Project implementation could increase the City's population by approximately 369 persons through new nonresidential land uses. However, the Project's forecast population growth attributed to the proposed nonresidential land uses (369 persons) is considered unlikely, based on the following factors:

- The newly created jobs could be filled in part by persons occupying the proposed onsite residential uses.
- It is anticipated that significantly fewer than 123 of the Project's future employees would chose to relocate to Whittier, since:
  - The jobs created by the Project could be filled in part by the approximately 18,500 unemployed persons who already reside in Whittier and surrounding communities, as follows:<sup>1</sup>
    - > Whittier: 2,600 persons;

<sup>1</sup> State of California, Employment Development Department Labor Market Information Division, *Monthly Labor Force Data for Cities and Census Designated Places (CDP) June 2014 - Preliminary*, July 18, 2014.



- > Brea: 800 persons;
  - > La Habra: 1,900 persons;
  - > La Habra Heights: 100 persons;
  - > La Mirada: 1,200 persons;
  - > La Puente: 1,900 persons;
  - > Montebello: 2,700 persons;
  - > Monterey Park: 1,800 persons;
  - > Pico Rivera: 2,200 persons;
  - > Rosemead: 1,800 persons;
  - > Santa Fe Springs: 500 persons; and
  - > South El Monte: 1,000 persons.
- Numerous alternative housing opportunities would be available to the future employees. Based on surrounding communities' existing vacancy rates of between 2.7 and 4.6 percent, approximately 5,438 housing units would be available locally to the Project's future employees, as follows:<sup>2</sup>
- > Brea: 549 units;
  - > La Habra: 952 units;
  - > La Habra Heights: 75 units;
  - > La Mirada: 411 units;
  - > La Puente: 310 units;
  - > Montebello: 757 units;
  - > Monterey Park: 897 units;
  - > Pico Rivera: 543 units;
  - > Rosemead: 560 units;
  - > Santa Fe Springs: 242 units; and
  - > South El Monte: 142 units.

Potential growth inducing impacts are also assessed based on a Project's consistency with regional growth forecasts. The Southern California Association of Governments (SCAG) is the responsible agency for developing and adopting regional growth forecasts for Los Angeles County governments, among others. SCAG provides 2008, 2020, and 2035 population, household, and employment forecasts for the City, as shown in Table 6-3, Project Compared to SCAG Growth Forecasts.

As indicated in Table 6-3, the City's households are forecast to total 29,400 by 2020, with a resultant population of approximately 87,600 persons. Additionally, the City's employment is forecast to total 33,000 jobs by 2020. Table 6-3 also compares the population and households for year 2020 under City plus Project conditions with SCAG's growth forecasts for the City. The Project would not exceed SCAG's household and employment forecasts for the City, as indicated in Table 6-3. However, the Project would exceed SCAG's population forecast for the City by approximately 1.7 percent. However, although the Project is considered growth-inducing with respect to fostering population growth, the Project's forecast population growth would occur over an approximately five-year period, allowing for development of necessary services and infrastructure commensurate with the anticipated growth. Finally, as concluded in Sections 5.12 and 5.13, the substantial development of unplanned or unforeseen public services and utility/service systems would not be required.

<sup>2</sup> State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State - January 1, 2011-2014. Sacramento, California, May 2014.



**Table 6-3  
Project Compared to SCAG Growth Forecasts**

Description	Housing (Dwelling Units)	Households (Occupied Dwelling Units)	Population (Persons)	Employment (Jobs)
<b>PROJECT</b>				
2014 Existing + Project Conditions <sup>1</sup>	30,348	29,119	89,157	31,791
<b>SCAG GROWTH FORECASTS FOR WHITTIER</b>				
2020 Forecasts <sup>2</sup>	30,785 <sup>3</sup>	29,400	87,600	33,000
<i>2020 / Existing + Project Implemented Difference</i>	-437	-281	+1,557	-1,209
<i>2020 / Existing + Project Implemented % Difference</i>	-1.4%	-1.0%	+1.7%	-4%
Note:				
1. Refer to <u>Table 6-2, <i>Project Compared to Existing Conditions</i></u> .				
2. Southern California Association of Governments Website, <i>Adopted 2012 RTP Growth Forecast</i> , <a href="http://www.scag.ca.gov/forecast/index.htm">http://www.scag.ca.gov/forecast/index.htm</a> , Accessed August 4, 2014.				
3. SCAG does not provide housing forecasts; therefore, this housing forecast was extrapolated based on DOF's 2014 vacancy rate of 4.5 percent and SCAG's 2020 household forecast of 29,400 households.				

At the regional level, the emphasis is placed primarily on achieving a balance of employment and housing opportunities within the subregions. This regional concept, referred to as jobs/housing balance, encourages the designation and zoning of sufficient vacant land for residential uses with appropriate standards to ensure adequate housing is available to serve the needs derived from the local employment base. The jobs/housing ratio can be used as the general measure of balance between a community's employment opportunities and the housing needs of its residents. A rate of 1.0 or greater generally indicates that a city provides adequate employment opportunities, potentially allowing its residents to work within the city. A desirable jobs/housing balance improves regional mobility (traffic), reduces vehicle miles traveled, and improves air quality. Conversely, imbalance between a city's jobs and housing increases commutes, with resultant increases in traffic volumes and air emissions, and overall reduces the quality of life.

The City of Whittier's current jobs/housing ratio is approximately 1.06, indicating there are sufficient employment opportunities for the City's residents to potentially work within the City. With Project implementation, the City's jobs/housing ratio would be approximately 1.05. Therefore, with Project implementation, the City would continue to provide sufficient employment opportunities for its residents to potentially work within the City. Continuation of the City's adequate job/housing balance, along with the development of housing and creation of 491 jobs in close proximity, are considered beneficial Project impacts in a regional context.

Overall, Project implementation could increase the City's population by approximately 2,619 persons, or approximately three percent over the City's existing population of 86,538 persons. Therefore, the Project is considered growth-inducing with respect to fostering population growth. It is noted, the Project's forecast population growth would occur over an approximately five-year period, allowing for development of necessary services and infrastructure commensurate with the anticipated growth. Finally, as concluded in Sections 5.12 and 5.13, the substantial development of unplanned or unforeseen public services and utility/service systems would not be required.



Precedent-Setting Action. As previously noted, the Project would require a Zone Change and Zone Text Amendment and adoption of the Lincoln Specific Plan, in order to allow implementation of the proposed Specific Plan. However, given that the Specific Plan's proposed Land Use Plan and development regulations would apply only within the Specific Plan area, the Project would not be considered growth inducing with respect to a precedent-setting action.

Development or Encroachment of Open Space. The Project is considered an infill development, as the site has been previously developed and is surrounded entirely by urbanized uses. Therefore, the Project would not be growth-inducing with respect to development or encroachment into an isolated or adjacent area of open space.

Project implementation would not be considered growth inducing, inasmuch as it would not: remove an impediment to growth; establish a precedent-setting action; or develop/encroach on an isolated or adjacent area of open space. The Project would be considered growth inducing with respect to fostering economic expansion and population growth. However, as noted above, although the Project is considered growth-inducing with respect to fostering population growth, the Project's forecast population growth would occur over an approximately five-year period, allowing for development of necessary services and infrastructure commensurate with the anticipated growth. As concluded in Sections 5.12 and 5.13, the substantial development of unplanned or unforeseen public services and utility/service systems would not be required. Based on the analysis in Section 5.9, *Land Use and Planning*, the Project is consistent with the goals and policies of the *City of Whittier General Plan* and the City's long-range plans for development on the Project site. As such, the Project is not expected to result in substantial population growth that is inconsistent with local/regional plans, and that could not be accommodated by appropriate infrastructure and services. As such, impacts in this regard would be less than significant.

## 6.4 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 State 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 on 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.*

### 6.4.1 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<sub>x</sub> 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<sub>x</sub> 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 cut emissions from off-road diesel engines by more than 90 percent, and will be fully phased in by 2014.

Depending on market conditions, the Project is expected to be constructed over a period of several years, starting from 2015 to 2020. Construction would consist of demolition, grading, paving, and building activities. Table 6-4, Construction Fuel Consumption, provides an estimate of construction fuel consumption for the Project based on information provided by the CalEEMod air quality computer model; refer to Appendix 11.4, Air Quality/Greenhouse Gas Emissions Data and Health Risk Assessment.

As indicated in Table 6-4, Project construction would consume a total amount of approximately 978,346 gallons of fuel. As described in Section 5.2, Air Quality, Mitigation Measure AQ-3 requires all diesel fueled construction vehicles would be required to meet the latest emissions standards and would ensure idling is minimized which would improve construction fuel efficiency. Mitigation Measure AQ-3 would also ensure that the development associated with proposed Specific Plan utilizes diesel construction equipment that complies with Tier 3-level emissions standards during all construction phases. The use of Tier-3 off-road engines would not only reduce exhaust emissions, but would also improve the fuel economy of the equipment fleet. 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.

Trip generation rates and the daily vehicle miles traveled (VMT) provided in Appendix 11.6, Air Quality and Greenhouse Gas Data, were used to estimate vehicle fuel consumption associated with trips generated by the proposed Project. Table 6-5, Project Operational Fuel Consumption, provides an estimate of the mitigated annual fuel consumed by vehicles traveling to and from the proposed Project.



**Table 6-4  
Construction Fuel Consumption**

Equipment	Quantity	Horsepower	Load Factor	Fuel Consumption Rate <sup>1</sup> (gallons per hour)	Duration <sup>2</sup> (total hours)	Total Fuel Consumption <sup>3,4</sup> (gallons)
<b>Demolition</b>						
Bore/Drill Rigs	2	205	0.50	4.10	1,392	5,707
Concrete/Industrial Saws	4	81	0.73	2.37	2,784	6,598
Cranes	2	226	0.29	2.62	1,392	3,647
Crawler Tractors	4	208	0.43	3.58	2,784	9,967
Crushing/Proc. Equipment	1	85	0.78	2.65	696	1,846
Excavators	2	162	0.38	2.46	1,392	3,424
Off-Highway Tractors	2	122	0.44	2.15	1,392	2,993
Off-Highway Trucks	2	400	0.38	6.08	1,392	8,463
Rough Terrain Forklifts	2	100	0.40	1.60	1,392	2,227
Rubber Tired Loaders	4	199	0.36	2.87	2,784	7,990
<b>Grading</b>						
Crawler Tractors	3	208	0.43	3.58	2,088	7,470
Graders	3	174	0.41	2.85	2,088	5,958
Off-Highway Tractors	6	122	0.44	2.15	4,176	8,967
Off-Highway Trucks	6	400	0.38	6.08	4,176	25,390
Other Construction Equipment	4	171	0.42	2.87	1,392	3,999
Rubber Tired Loaders	2	199	0.36	2.87	1,392	3,989
Scrapers	12	361	0.48	6.93	8,352	57,889
Tractors/Loaders/Backhoes	2	97	0.37	1.44	1,392	2,004
<b>Paving</b>						
Graders	4	174	0.41	2.85	2,816	8,036
Off-Highway Trucks	4	400	0.38	6.08	2,816	17,121
Pavers	2	125	0.42	2.10	1,408	2,957
Paving Equipment	2	130	0.36	1.87	1,408	2,636
Rollers	4	80	0.38	1.22	2,816	3,424
Rubber Tired Loaders	2	199	0.36	2.87	1,408	4,035
Signal Boards	4	6	0.82	0.20	2,816	554
Tractors/Loaders/Backhoes	2	97	0.37	1.44	1,408	2,028
<b>Building</b>						
Bore/Drill Rigs	2	205	0.50	4.10	17,760	72,816
Cranes	4	226	0.29	2.62	31,080	81,430
Excavators	4	162	0.38	2.46	35,520	87,379
Rough Terrain Forklifts	4	100	0.40	1.60	35,520	56,832
Rubber Tired Loaders	4	199	0.36	2.87	35,520	101,942
Tractors/Loaders/Backhoes	20	97	0.37	1.44	177,600	254,963
Trenchers	8	80	0.50	1.60	71,040	113,664
<b>TOTAL<sup>4</sup></b>						<b>978,346</b>

Notes:

1. Derived using the following equation:  

$$\text{Fuel Consumption Rate} = \text{Horsepower} \times \text{Load Factor} \times \text{Fuel Consumption Factor}$$
 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 [Appendix 11.4, Air Quality/Greenhouse Gas Emissions Data and Health Risk Assessment](#).
3. Total Fuel Consumption calculated using the following equation:  

$$\text{Total Fuel Consumption} = \text{Duration in Hours} \times \text{Fuel Consumption Rate}$$
4. Values may be slightly off due to rounding.

Source: Refer to [Appendix 11.4, Air Quality/Greenhouse Gas Emissions Data and Health Risk Assessment](#), for CalEEMod assumptions used in this analysis.



**Table 6-5  
Project Operational Fuel Consumption**

Vehicle Type	Percent of Annual Vehicle Miles Traveled <sup>1</sup>	Daily Trips <sup>2</sup>	Daily Vehicle Miles Traveled <sup>3</sup>	Average Fuel Economy (miles per gallon) <sup>4</sup>	Total Daily Fuel Consumption (gallons) <sup>5</sup>
Passenger Cars	90	18,298	95,664	21.6	4,429
Light/Medium Trucks	7	1,423	7,441	17.2	433
Heavy Trucks/Other	3	610	3,189	6.1	523
<i>Total<sup>6</sup></i>	<i>100</i>	<i>20,331</i>	<i>106,293<sup>8</sup></i>	<i>--</i>	<i>5,384</i>

Notes:

1. Percent of Vehicle Trip distribution based on trip characteristics within the CalEEMod model.
2. Daily Trips calculated by multiplying the total daily trips by percent vehicle trips (i.e., Daily Trips x percent of Vehicle Trips).
3. Daily Vehicle Miles Traveled (VMT) calculated by multiplying percent vehicle trips by total VMT (i.e., VMT x percent of Vehicle Trips).
4. Average fuel economy derived from the Department of Transportation.
5. Total Daily Fuel Consumption calculated by dividing the daily VMT by the average fuel economy (i.e., VMT/Average Fuel Economy).
6. Values may be slightly off due to rounding.
7. Based upon data within the *Lincoln Specific Plan Traffic Impact Study*, prepared by RBF Consulting, dated August 2014; refer to [Appendix 11.16, Traffic Impact Analysis](#).
8. Total VMT are the reduced VMT (from project design features) obtained from the CalEEMod model.

As indicated in [Table 6-5](#), operation of the Project is estimated to consume approximately 5,384 gallons of fuel daily. However, the Project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption. The Project is located in close proximity to existing bus transit stops. Additionally, Mitigation Measure GHG-1 would require the Project to provide pedestrian connections to the off-site circulation network, include a trip reduction program, and implement a ride sharing program, which would in turn result in reduced fuel consumption. Therefore, incorporation of Mitigation Measure GHG-1 would result in fuel savings. Fuel consumption associated with vehicle trips generated by the Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

### Other Transportation Options

The Project vicinity is currently served by bus transit lines operated by Metro (Route 270). The nearest transit stops are approximately 0.32 miles south of the Project site along Washington Boulevard and Lambert Road. The proximity of the Project site to existing transit would reduce the number of trips to and from the Project site. Additionally, the Project proposes non-vehicular circulation elements accommodating pedestrians and bicyclists via the Freedom Trail and connection to the Whittier Greenway Trail. Fuel consumption associated with vehicle trips generated by the Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

### Building Energy Demand

With implementation of Mitigation Measure GHG-1, the proposed Project would be expected to demand approximately 8.4 million kilowatt hours (kWh) of electricity per year and approximately 18.8 million British Thermal units (BTU) of natural gas per year. These figures were obtained from [Appendix 11.4, Air Quality and Greenhouse Gas Data and Health Risk Assessment](#). The Project would involve operations typical of residential, and commercial uses, requiring electricity and natural for typical lighting, climate control, and day-to-day activities. Additionally, the



proposed Project would incorporate several water, energy, solid waste, and land use efficiency measures, such as efficient site/neighborhood design, building design (energy efficient water heaters, lighting, windows, heating/ventilation/air conditioning, use of solar energy), and energy efficient construction practices. Therefore, the Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar residential subdivisions within the region.

## **Energy Efficiency Measures**

Title 24, California's Energy Efficiency Standards for Residential and Non-residential Buildings, was established by the California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, and provide energy efficiency standards for residential and non-residential buildings. In 2013, the CEC updated Title 24 standards with more stringent requirements. The 2013 Standards are incorporated within the California Building Code and are expected to substantially reduce the growth in electricity and natural gas use. Additional savings result from the application of the Standards on building alterations. For example, requirements for cool roofs, lighting, and air distribution ducts are expected to save about additional of electricity. These savings are cumulative, doubling as years go by.

Additionally, implementation of the Project's design features (i.e., high efficiency lighting, energy efficient appliances, low-flow faucets, toilets, and showers, water-efficient irrigation systems, and exclusion of hearths) would further reduce energy consumption.

The Project would adhere to all Federal, State, and local requirements for energy efficiency, including the Title 24 standards, as well as the Project's design features. The proposed Project would not result in the inefficient, wasteful, or unnecessary consumption of building energy.