Section 4.0
Alternatives

This section provides a description and analysis of alternatives to the proposed project and the potential environmental consequences of each project alternative considered.

4.1 Introduction

Section 15126.6 of the *California Environmental Quality Act (CEQA) Guidelines* requires an environmental impact report (EIR) to describe a range of reasonable alternatives to the project, or to the location of the project, "which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparable merits of the alternatives." The analysis of alternatives shall focus on alternatives "which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly."

The selection and discussion of alternatives is intended to foster public participation and informed decision making. An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and/or speculative. The *CEQA Guidelines* further require the analysis of a No Project Alternative, and the identification of the Environmentally Superior Alternative. Where the Environmentally Superior Alternative is the No Project Alternative, the EIR shall also identify an Environmentally Superior Alternative among the other alternatives.

In addition, Section 15126.6 of the *CEQA Guidelines* requires an EIR to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination.

Accordingly, several alternatives that have the potential to avoid or substantially lessen project impacts were considered, and two alternatives were selected for further analysis, as detailed below.

Case law suggests that the discussion of alternatives need not be exhaustive and that alternatives be subject to a construction of reasonableness. The impacts of the alternatives may be discussed in less detail than the environmental effects of the proposed project.

4.2 Project Objectives

The alternatives to the proposed project ultimately selected for analysis in this EIR were developed to avoid or substantially lessen one or more of the significant environmental impacts associated with the proposed project, while still meeting most of the basic project objectives. The objectives for the proposed project include the following:

- Provide new apartments to assist in satisfying the increasing demand for this product type in the City of Pasadena, and particularly in the Central District and within easy walking distance of jobs and the Metro Gold Line.

- Provide new restaurant, commercial, and retail shops in Old Pasadena, thereby increasing tax revenues throughout the City.
- Provide multi-family housing within a transit-oriented district and within the immediate vicinity of a Metro Gold Line station.
- Provide affordable multi-family housing to the City's underserved affordable market demand, particularly within the Central District and within walking distance of service oriented jobs.
- Provide the residents of the adjacent existing Green Hotel Apartments appropriate parking with direct ingress/egress.
- Build out the third parcel of the Castle Green/existing Green Hotel Apartments in a manner that is based on the original turn of the 20th century vision, which has been underutilized as surface parking since the 1950's, to thereby create a compatible new gateway framing an entrance to Old Pasadena.
- Broaden the retail connection on Fair Oaks Avenue to Colorado Boulevard by providing retail services along the street frontage.
- Create a mixed-use development that faces, compliments, and engages with the open space to the south of the site.
- Preserve views of the park from the south-facing units of the existing Green Hotel Apartments by providing an open space corridor between the Castle Green and the proposed project.

4.3 Selection of Alternatives for Analysis

According to the *CEQA Guidelines*, the discussion of alternatives should focus on alternatives to a project or its location that can feasibly avoid or lessen the significant effects of the project. The *CEQA Guidelines* further indicate that the range of alternatives included in this discussion should be sufficient to allow decision makers a reasoned choice. The alternatives discussion should provide decision makers with an understanding of the merits and disadvantages of these alternatives.

In 2007, the project applicant submitted an application to the City of Pasadena (City) for a Preapplication Conference for the construction of a six-story, 103,350-square-foot mixed-use project consisting of 8,000 square feet of ground-floor commercial space and 68 residential units with parking for 179 vehicles. The building was a contemporary design that was U-shaped in plan with the building footprint essentially covering the entire lot. In response to identified concerns and sensitivity to the neighboring historic buildings, in 2010, an application for Preliminary Consultation (the first phase of the design review process) was submitted, which reduced the building to 97,086 square feet and the number of residential units to 64 (commercial space was proposed to remain at 8,000 square feet). The design remained contemporary, although modified from the previous contemporary design. The plan of the building was also modified but essentially remained covering the entire project site with a slightly increased setback from the easterly property line adjacent to the Castle Green. In response to comments provided by both the Design Commission and the public, the design of the proposed project was further modified to be more consistent with a late-nineteenth-century design for an addition to the Hotel Green that was planned for this parcel. In 2011, a second application for Preliminary Consultation was submitted which further reduced the size of the building to 84,797 square feet, with the commercial space reduced to 7,450 square feet and the number of

units remaining at 64. The design was revised to be more traditional in character and to limit the building footprint to the westerly portion of the project site. The current proposal on which the analysis in Section 3.0, Environmental Impact Analysis, in this EIR is based further reduces the overall building size to 76,980 square feet and the commercial space to 5,000 square feet, while retaining the residential unit count at 64. The previously proposed more traditional building character has been further refined and the building footprint remains limited to the westerly portion of the project site, set back from the Castle Green.

Section 3.0, Environmental Impact Analysis, of this EIR concludes that implementation of the proposed project would result in significant and unavoidable impacts regarding traffic impacts to the street segment of Dayton Street between Fair Oaks Avenue and Raymond Avenue. Additionally, potentially significant impacts associated with air quality and noise and vibration were also identified; however, these impacts can be reduced to less than significant levels through the implementation of mitigation. Impacts associated with greenhouse gases were determined to be less than significant. While impacts are notable to the adjacent Castle Green and the existing Green Hotel Apartments with regard to aesthetics and cultural resources, impacts were also determined to be less than significant. Taking these impacts into consideration, as well as the refinement of the project design since 2007, and in compliance with CEQA, to fully explore and evaluate the impacts of what can be built on the project site, one build alternative, in addition to the No Build Alternative, was evaluated in depth. However, a number of additional alternatives were considered but dismissed as infeasible, as discussed in Section 4.4, below. The following two alternatives are evaluated in this section of the EIR.

- Alternative 1 – No Project

The No Project Alternative is the No Build Alternative and assumes that the proposed building would not be constructed; the site would remain in its current state and continue to be occupied by a billboard and utilized for parking by residents of the existing Green Hotel Apartments building.

- Alternative 2 – Reduced Height

The Reduced Height Alternative assumes the construction of a mixed-use building, much like the proposed building; however, two fewer floors would be constructed thereby reducing the number of residential units from 64 to 42 and reducing the required number of parking spaces from 166 to 131. A total of 5,000 square feet of commercial space would remain within the ground floor of the building under the Reduced Height Alternative.

4.4 Alternatives Considered but Rejected as Infeasible

The *CEQA Guidelines* requires an EIR to identify any alternatives that were considered by the lead agency but were rejected as infeasible and briefly explain the reasons underlying the lead agency's determination. Section 15126.6(c) of the *CEQA Guidelines* states the following:

> *The EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination…Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.*

The analysis of alternatives began with identification of potential alternatives to the proposed project that had the potential to reduce or eliminate the project's significant environmental impacts, namely

the impact to the street segment of Dayton Street between Fair Oaks Avenue and Raymond Avenue. Reducing this impact would require a substantial reduction in the number of vehicle trips on this street segment. Currently, this street segment experiences, on average, 883 trips; to fall below the impact threshold, the project would need to result in fewer than 43 new average daily trips along this street segment. Such an impact could potentially be avoided by relocating the project's access driveway off of Dayton Street and onto Fair Oaks Avenue, providing off-site parking at a location accessed on a street other than Dayton Avenue, or by constructing a smaller scale project generating fewer than 43 daily trips. In addition to the No Project/No Build Alternative and the build alternative identified above, the City considered, but dismissed, the following alternatives. Reasoning behind each dismissal is provided below.

4.4.1 Alternate Access Alternative

An alternative where access to parking would be provided along Fair Oaks Avenue was considered. Under this scenario, the project would be constructed in much the same manner as the proposed project; however, access to and from the underground parking garage would be provided via right-turn in, and right-turn out driveway on Fair Oaks Avenue. Vehicles traveling southbound on Fair Oaks Avenue would not be permitted to turn left into the parking garage, and vehicles exiting the parking garage would not be able to turn left out of the structure. Left-turns would not be permitted due to the high volume of traffic on Fair Oaks Avenue.

Because southbound traffic would still need to use Dayton Street to access the site by turning left on Green Street, then turning right on Raymond Avenue, Dayton Street, Fair Oaks Avenue, and finally turning right into underground parking, the number of vehicles traveling on the Dayton Street segment between Fair Oaks Avenue and Raymond Avenue would still remain high and would not alleviate the impact. Existing traffic volumes on Dayton Street are so low that even the addition of 43 new daily trips would exceed the threshold and result in a significant and unavoidable traffic impact to this street segment. By comparison, the proposed project would add 313 trips to this intersection. For this reason, the Alternate Access Alternative was eliminated from further consideration and evaluation in this EIR.

4.4.2 Off-Site Parking Alternative

The Off-Site Parking Alternative would involve construction of the residences and ground-floor commercial only; no underground or at-grade parking would be provided at the site. Instead, parking would be provided at one of two nearby parking structures, and residents, tenants and visitors would access the project site on foot. This alternative was considered because it has the potential to redirect traffic off of Dayton Street and could also reduce the amount of on-site excavation for subterranean parking, thereby potentially lessening air quality and noise and vibration impacts.

Per City code, in order to construct this alternative, the existing 60 parking spaces on the site would have to be replaced on-site. Additionally, the required parking for the new commercial space would need to be provided on-site and at least one space per new unit would have to be provided on-site. Therefore, the only off-site parking option for the project would be the required parking for any of the new residential units that require more than one parking space as well as the required guest parking (6 spaces). The project includes 12 units that are less than 650 square feet in size and, therefore require only one parking space per unit. The remaining 52 units are proposed to be greater than 650 square feet in size and, therefore, require 1.5 parking spaces, one of which must be provided on-site. As such, those 52 units could have 0.5 spaces per unit (26 spaces) provide off-site. Including the 6 guest parking spaces, the total number of parking spaces that could be provided off-site is 32. In

order to have those 32 required parking spaces located off-site, a perpetual lease for the off-site parking from a site within a travel distance of 1,000 feet would be required. Capacity at the two nearby parking structures has been reached and they are therefore not available, thereby making it infeasible to provide off-site parking within 1,000 feet of the project site. For these reasons, the Off-Site Parking Alternative was eliminated from further consideration and evaluation in this EIR.

4.4.3 Alternate Site Alternative

The Alternative Site Alternative would involve the construction of the same project, a 64-unit residential project with 5,000 square feet of ground-floor commercial space, on a different site in the project area. The closest vacant site of similar size to the project is located approximately one and one-half blocks to the east at 100 East Green Street, which is at the intersection of East Green Street and Arroyo Parkway. However, the project applicant does not own or have control over other project sites in the project area, and the one vacant site that is located in the vicinity of the project is not for sale or able to be purchased at this time. As such, evaluation of the Alternate Site Alternative was eliminated from further consideration and evaluation in this EIR.

4.4.4 Smaller Scale Alternative

The Smaller Scale Alternative would involve the construction of a 13 residential unit building with no ground-floor commercial. The intent of this alternative would be to build a project that would result in less than significant traffic impacts to the Dayton Street segment between Fair Oaks Avenue and Raymond Avenue. Implementation of such an alternative, however, is determined to be infeasible because the cost of constructing 13 residential units is such that returns on investments made into the project would not be realized; as such, this alternative is financially infeasible.

4.5 Analysis Methodology

Each of the alternatives selected for analysis is evaluated in sufficient detail to determine whether it's overall environmental impacts would be less, similar, or greater in comparison to the impacts of the proposed project. The impact analysis sections for the proposed project (within Chapter 3, Environmental Impact Analysis, of this EIR) include design features and mitigation measures that reduce the environmental impacts of the proposed project. The following analyses assume that equally effective design features and mitigation measures would apply to the build alternative.

The alternatives analysis includes the following:

- An evaluation of the environmental impacts anticipated to occur for each environmental issue analyzed in Chapter 3, Environmental Impact Analysis, of this EIR and a determination as to the significance of those impacts. This discussion also includes an analysis of whether the alternative would avoid or substantially lessen any of the significant environmental impacts associated with the proposed project. Where the impacts of the alternative and the proposed project were roughly equivalent, the comparative impact is said to be similar.
- A summary of the comparative impacts across all of the issues.
- Identification of the Environmentally Superior Alternative.

4.6 Comparative Impact Analysis

4.6.1 Alternative 1 – No Project

Section 15126.6(e) of the *CEQA Guidelines* requires evaluation of the No Project Alternative. As described in the *CEQA Guidelines*, the purpose of describing and analyzing the No Project Alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. Therefore, as required by the *CEQA Guidelines*, the analysis must examine the impacts that might reasonably be expected to occur in the foreseeable future if the proposed project was not approved. Under the No Project Alternative the existing billboard would remain on site and residents of the existing Green Hotel Apartments would continue to lease parking spaces from the 60-space parking lot. No development of the site would be anticipated, and under the No Project Alternative, none of the objectives of the proposed project would be achieved.

The No Project Alternative analysis that follows discusses the existing conditions at the time the Notice of Preparation was prepared as well as what would be reasonably expected to occur in the foreseeable future if the proposed project was not approved.

4.6.1.1 Aesthetics

Under the No Project Alternative, the project site would remain in its existing condition. The site is along Fair Oaks Avenue, which serves as one of the gateway entrances to Old Pasadena from the south and the site would continue to remain relatively vacant and utilized for vehicle parking. In its current state, the site includes a number of mature trees and provides visual access to the neighboring historic Castle Green and the existing Green Hotel Apartments building. The site also includes a billboard. Under the No Project Alternative, the billboard would remain, and views of the existing Green Hotel Apartments building and Castle Green would be retained. Additionally, the mature trees currently located on the site would remain in place and the site would continue to serve as a visual buffer or transition from the greenery of Central Park to the neighboring historic buildings. The analysis within Section 3.1 for the proposed project identified visual impacts as less than significant. As identified in the analysis, although views would be altered under the proposed project, they would not be at a level considered to be significant. As such, given that no significant and unavoidable aesthetic impacts were identified for the proposed project, the No Project Alternative would not avoid or reduce the severity of significant aesthetic impacts of the proposed project.

4.6.1.2 Air Quality

Under the No Project Alternative, the project site would remain in its existing condition; no construction activities would occur, and no new project emissions would result from construction or operation. However, given that no significant and unavoidable air quality impacts were identified for the proposed project, the No Project Alternative would not avoid or reduce the severity of significant air quality impacts from the proposed project.

4.6.1.3 Cultural Resources

Under the No Project Alternative, the project site would remain in its existing condition. Maintaining the site in its existing condition would not affect the neighboring historic Green Hotel Apartments building, the Castle Green, other historic buildings in the vicinity of the site, or historic districts. Additionally, under the No Project Alternative, no new ground distributing activities would occur; therefore, the potential to disturb or unearth archaeological materials would be reduced when compared to the proposed project. However, given that no significant and unavoidable cultural

resources impacts were identified for the proposed project, the No Project Alternative would not avoid or reduce the severity of significant cultural resources impacts of the proposed project.

4.6.1.4 Greenhouse Gases

Under the No Project Alternative, the project site would remain in its existing condition; no construction activities would occur, and no new greenhouse gas (GHG) emissions would result from construction or operation of a project. However, given that no significant and unavoidable GHG impacts were identified for the proposed project, the No Project Alternative would not avoid or reduce the severity of significant GHG impacts from the proposed project.

4.6.1.5 Noise and Vibration

Under the No Project Alternative, the project site would remain in its existing condition; no construction activities would occur, and no new noise emissions or groundborne vibration would result from construction or operation of a project. However, given that no significant and unavoidable noise or vibration impacts were identified for the proposed project, the No Project Alternative would not avoid or reduce the severity of significant noise or vibration impacts from the proposed project.

4.6.1.6 Transportation and Traffic

Under the No Project Alternative, the project site would remain in its existing condition; no construction activities would occur, and no new traffic would be generated by construction or operation of a project. As such, the significant traffic impact along the Dayton Street segment between Fair Oaks Avenue and Raymond Avenue would be avoided, and no significant unavoidable transportation and traffic impacts would occur under the No Project Alternative.

4.6.1.7 Conclusion

Implementation of Alternative 1, the No Project Alternative, would reduce environmental impacts when compared to the proposed project. As summarized in Chapter 3 of this EIR, with the exception of transportation and traffic, all potentially significant environmental impacts can be reduced to less than significant levels with the implementation of mitigation measures, and the No Project Alternative would not avoid or reduce the severity of significant impacts from the proposed project regarding aesthetic, air quality, cultural resources, GHG, and noise and vibration. However, the No Project Alternative would not generate any new traffic, and therefore, the significant and unavoidable transportation and traffic impact to the street segment along Dayton Street between Fair Oaks Avenue and Raymond Avenue would be avoided.

4.6.2 Alternative 2 – Reduced Height

The Reduced Height Alternative would involve the construction of a residential and commercial building on the same footprint as the proposed building; however, the top two floors of the building would be eliminated thereby reducing the overall height of the building to four stories. The resulting project would include 5,000 square feet of ground-floor commercial and 42 residential units with a total of 131 underground parking spaces. Setbacks along Fair Oaks Avenue and Dayton Street, as well as distances from the existing Green Hotel Apartments and Castle Green would be the same as those of the proposed project, as the building would occupy the same footprint. Under the Reduced Height Alternative, visual access to the adjacent Green Hotel Apartments building and Castle Green would be slightly improved, and the reduced number of residences would result in fewer daily traffic trips, as discussed in detail below. For the Reduced Height Alternative, the basic project objectives related to providing additional apartment housing within the Central District and within a transit-oriented

district and the build-out of the third parcel in the block of Castle Green and the existing Green Hotel Apartments in a manner based on the original design would be achieved.

4.6.2.1 Aesthetics

Under the Reduced Height Alternative, a new four-story building would be constructed on the project site. The building would house ground-floor commercial use and provide three floors of apartment residences. The footprint of the building would be the same as the footprint of the proposed project; the height would merely be reduced by two stories. This reduction in height would decrease the number of residential units to 42 apartments.

As discussed in Section 3.1, Aesthetics, of this EIR, aesthetic impacts of the proposed project associated with changes in views of the historic Castle Green and the existing Green Hotel Apartments would occur; however, these impacts were determined to be less than significant. One view point, however, would be more notably altered by the proposed project than the other viewpoints. The view of the turrets on top of the Castle Green would be obstructed by the proposed project looking eastward from Dayton Street west of Fair Oaks Avenue. Construction of the Reduced Height Alternative, as shown in the before and after visual simulation in Figure 4-1 below, would not reduce the building height enough to allow views of the Castle Green turrets from the west. (In order to be able to see at least the top half of the turrets, the building height would have to be reduced to at least three stories, if not two stories in height, and the extent of this reduction would render the project infeasible, much like the Smaller Scale Alternative.) While the building under the Reduced Height Alternative would be shorter than the proposed project and afford some additional views of the top floors of the neighboring Green Hotel Apartments, the Reduced Height Alternative building would still alter views, remove the existing mature trees from the project site, and introduce a building that would obstruct views for residents within the existing Green Hotel Apartments and Castle Green buildings, except at the uppermost floors of those buildings. The Reduced Height Alternative would not avoid aesthetic impacts. As with the proposed project, aesthetic impacts would remain less than significant under the Reduced Height Alternative.

4.6.2.2 Air Quality

Under the Reduced Height Alternative, a residential building with 5,000 square feet of ground-floor commercial use and 46,860 square feet of mid-rise apartments (including ancillary functions like the lobby and gym), 0.5 acre of paved area (which includes 20 additional parking spaces), and a 131-space underground parking structure would be constructed. As with the proposed project, emissions from building construction activities were modeled using a 24-month construction schedule commencing in December 2014 and ending in December 2016; additionally, demolition and site preparation activities would occur from August to November 2014, resulting in a total construction period of 28 months. Based on the above, Table 4-1 summarizes the construction emissions associated with the Reduced Height Alternative. All emissions would still remain below significance thresholds.

Figure 4-1
Reduced Height Alternative Simulation Looking Westbound Along Dayton Street

Table 4-1 Reduced Height Alternative Demolition and Construction Emissions Summary

Source[1]	Maximum Daily Construction Emissions (lbs/day)					
	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition	2	24	16	<1	2	1
Site Preparation	2	14	11	<1	1	1
Grading	7	92	51	<1	5	4
Building Construction	2	14	14	<1	2	1
Architectural Coating	8	2	3	<1	<1	<1
Paving	1	9	7	<1	1	1
Maximum Daily Reduced Height Alternative Emissions[1]	**10**	**92**	**51**	**<1**	**5**	**4**
Maximum Daily Proposed Project Emissions[1]	***11***	***92***	***51***	***<1***	***5***	***4***
Regional Construction Threshold	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

Note:
[1] Maximum daily ROG emissions would occur during the overlap of building construction and architectural coatings in 2016
Key: "<" = less than; CO = carbon monoxide; lbs/day = pounds per day; NOx = nitrogen oxides; PM_{10} = inhalable particulate matter; $PM_{2.5}$ = fine particulate matter; ROG = reactive organic gases; SO_2 = sulfur dioxide.

Operationally, the Reduced Height Alternative would generate fewer automobile trips overall due to the decreased number of residential units. As shown in Table 4-2 below, overall emissions associated with the Reduced Height Alternative would be the same, with the exception of reactive organic gases (ROG) and carbon monoxide (CO), which would be reduced in comparison to the proposed project. In all instances emissions would still remain below thresholds of significance under the Reduced Height Alternative.

Table 4-2 Reduced Height Alternative Operational Emissions Summary

Source	Maximum Daily Operational Emissions (lbs/day)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Mobile	3	8	29	<1	5	1
Natural Gas Combustion	<1	<1	<1	<1	<1	<1
Architectural Coatings	<1	<1	<1	<1	<1	<1
Consumer Products	2	<1	<1	<1	<1	<1
Hearths	<1	<1	<1	<1	<1	<1
Landscaping	<1	<1	4	<1	<1	<1
Total Daily Reduced Height Alternative Emissions[1]	**6**	**8**	**33**	**<1**	**5**	**1**
Total Daily Proposed Project Emissions[1]	***7***	***8***	***35***	***<1***	***5***	***1***
Regional Operations Threshold	55	55	550	150	150	55
Significant?	No	No	No	No	No	No

Notes:
[1] Totals may not add exactly because of rounding.
Key: "<" = less than; CO = carbon monoxide; lbs/day = pounds per day; NOx = nitrogen oxides; PM_{10} = inhalable particulate matter; $PM_{2.5}$ = fine particulate matter; ROG = reactive organic gases; SO_2 = sulfur dioxide

As shown above, with the exception of ROG during construction and operation and CO during operation, construction and operational emissions generated by the Reduced Height Alternative

would be the same as those than those generated by the proposed project and in all instances would still remain below the significance thresholds. Both ROG and CO emissions would be reduced under the Reduced Height Alternative when compared to the proposed project.

4.6.2.3 Cultural Resources

Under the Reduced Height Alternative, a new building would be constructed on the same footprint as the proposed project; however, the building height would be reduced by two stories (from six stories down to four stories). As discussed in Section 3.3, Cultural Resources, of this EIR, no significant and unavoidable cultural resources impacts were identified for the proposed project. As with the proposed project, the Reduced Height Alternative site is an historical resource because it is within the boundary identified in the historic Hotel Green/Castle Green National Register nomination. The Reduced Height Alternative would still replace the existing surface parking lot and landscaping on the project site, which are not historically significant. Additionally, while trees would be removed as part of the Reduced Height Alternative, the trees themselves are not considered historic resources. As with the proposed project, the Reduced Height Alternative would not result in the relocation or removal of any historic resources.

The Reduced Height Alternative would alter the historic site and the surrounding area with the addition of a new four-story building and would change the existing setting of the historic Hotel Green/Castle Green buildings. However, the proposed project does not propose conversion, rehabilitation, or alteration of the historic Hotel Green/Castle Green buildings. These buildings, as well as the adjacent one-story café building, would remain unaltered and would continue to convey the historical significance of the project site. As a result, similar impacts to historic resources would result with implementation of the Reduced Height Alternative.

4.6.2.4 Greenhouse Gases

The principal GHGs that contribute to climate change are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and water vapor. Like the project, the primary GHG emissions that could be generated by the Reduced Height Alternative include CO_2, CH_4 and CO_2e; the major source for these emissions is vehicle trips. Table 4-3 summarizes the construction-related GHG emissions associated with the Reduced Height Alternative. As shown therein, all construction-related GHG emissions would be reduced when compared to the proposed project due to the reduced scale of the building under the Reduced Height Alternative.

Table 4-3 Reduced Height Alternative Demolition and Construction-Related GHG Emissions

Year	Annual GHG Emissions (metric tons per year)			Annual GHG Emissions ($MTCO_2e$/year)			
	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	Total
2014	436	0.1	<0.1	436	1.4	<0.1	437
2015	256	<0.1	<0.1	256	0.9	<0.1	257
2016	127	<0.1	<0.1	127	0.4	<0.1	127
Total Reduced Height Alternative Construction	**819**	**0.1**	**<0.1**	**819**	**2.6**	**<0.1**	**822**
Total Proposed Project Construction	***870***	***0.1***	***<0.1***	***870***	***2.7***	***<0.1***	***873***
Amortized Construction[1]	27	<0.1	<0.1	27	0.1	<0.1	27

Key: "<" = less than; CH_4 = methane; CO_2 = carbon dioxide; GHG = greenhouse gas; $MTCO_2e$/year = metric tons carbon dioxide equivalent per year; N_2O = nitrous oxide
Note:

(1) Project (Reduced Height Alternative) lifetime assumed to be 30 years (amortized emissions equal total construction emissions divided by 30 years).

During operation of the Reduced Height Alternative, fewer vehicle trips would result in fewer GHG emissions overall, when compared to the proposed project, as shown in Table 4-4 below.

Table 4-4 Reduced Height Alternative Operational GHG Emissions

Emissions Type	Annual GHG Emissions (metric tons per year)			Annual GHG Emissions ($MTCO_2e$/year)			
	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	Total
Mobile	971	<0.1	<0.1	971	0.9	<0.1	972
Building Electricity	451	<0.1	<0.1	451	0.2	0.5	452
Natural Gas Combustion	17	<0.1	<0.1	17	<0.1	0.1	17
Hearth	9	<0.1	<0.1	9	<0.1	0.1	9
Landscaping	1	<0.1	<0.1	1	<0.1	<0.1	1
Indoor/Outdoor Water Use	48	0.1	<0.1	48	2.1	0.8	51
Solid Waste Disposal	5	0.3	<0.1	5	6.2	<0.1	11
Total Reduced Height Alternative Operational Emissions	**1,502**	**0.4**	**<0.1**	**1,502**	**9.4**	**1.4**	**1,513**
Total Proposed Project Operational Emissions	***1,629***	***0.6***	***<0.1***	***1,629***	***13.0***	***2.0***	***1,644***

Key: "<" = less than; CH_4 = methane; CO_2 = carbon dioxide; GHG = greenhouse gas; $MTCO_2e$/year = metric tons carbon dioxide equivalent per year; N_2O = nitrous oxide

As shown in the tables above, the total emissions associated with the Reduced Height Alternative would be 1,513 $MTCO_2e$/year, which is less than the SCAQMD's proposed screening-level significance threshold of 3,000 $MTCO_2e$/year for residential and commercial land uses and less than the 1,644 $MTCO_2e$/year anticipated from the proposed project. Therefore, the Reduced Height Alternative would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, as such impacts to GHG would be less than significant and would in fact generate fewer GHG emissions than the proposed project.

4.6.2.5 Noise and Vibration

Under the Reduced Height Alternative, an approximately 51,860 square-foot, four story building would be constructed, along with 131 underground parking spaces. The construction timeframe for the Reduced Height Alternative would be slightly reduced from the construction timeframe of the proposed project; however, construction would still require excavation and at least 14 months of construction equipment generating noise and ground-borne vibration at the project site. As such, noise and vibration impacts during construction of the Reduced Height Alternative would be similar to those associated with construction of the proposed project. As with the proposed project, no significant construction noise and vibration impacts would occur.

Potential operational noise sources include traffic generated by the residences and commercial use(s), and general activities associated with residential buildings such as the running of air conditioning units. The Reduced Height Alternative would result in fewer traffic trips overall when compared to the proposed project and the other operational noise sources would be comparable to those

associated with the proposed project. As such, similar to the proposed project, no significant noise impacts would result from the operation of the Reduced Height Alternative.

4.6.2.6 Transportation and Traffic

The Reduced Height Alternative assumes development of the project site as a four-story multi-family residential building with ground-floor commercial space. This alternative would result in the construction of 42 multi-family dwelling units (apartments), 5,000 square feet of ground-floor commercial, and approximately 131 parking spaces.

Utilizing the land use assumptions for this alternative, trip generation estimates were prepared utilizing the *Trip Generation – An ITE International Report,* 8th Edition and compared to trip estimated for the proposed project, as shown in Table 4-5 below.

Table 4-5 Comparison of Trip Generation Estimates – Proposed Project and Reduced Height Alternative

Scenario	Daily Total	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Proposed Project [1]	626	11	28	39	35	23	58
Reduced Height Alternative	479	8	19	27	26	18	44
Difference from Proposed Project	147	3	9	12	9	5	14
% Difference	23%	27%	32%	31%	26%	22%	24%

Source: City of Pasadena, Department of Transportation; December 10, 2013.
Notes:
d.u. = dwelling units
[1] Trip generation estimates from Traffic Impact Study for the Green Hotel Apartments Project, KOA Corporation, June 2013.

As discussed in Section 3.6, Transportation and Traffic, in this EIR, one significant and unavoidable impact would result from implementation of the proposed project. As identified in the Traffic Impact Study prepared for the project, the proposed project had a 35.4 percent segment impact on Dayton Street between Fair Oaks Avenue and Raymond Avenue. This 35.4 percent segment impact would occur because the Dayton Street segment between Fair Oaks Avenue and Raymond Avenue currently receives approximately 883 average daily trips; implementation of the proposed project would result in approximately 313 new trips on this Dayton Street segment, thereby resulting in a 35.4 percent increase in the number of vehicles traveling along Dayton Street between Fair Oaks Avenue and Raymond Avenue on any given day.

Under the Reduce Height Alternative, the project would introduce 42 new dwelling units along with 5,000 square feet of ground-floor commercial space. Under this scenario, as shown in Table 4-6 below, the Dayton Street segment between Fair Oaks Avenue and Raymond Avenue would experience an increase of 239 new daily vehicle trips, thereby resulting in an increase 27.1 percent segment impact.

Table 4-6 Reduced Height Alternative – Traffic Generation

Street Segment	Existing Traffic	Daily Project Traffic	Percent (%) Increase
Fair Oaks Avenue between Green Street/Dayton Street	20,690	132	0.6
Raymond Avenue between Green Street/Dayton Street	6,879	144	2.1
Raymond Avenue between Dayton Street/Del Mar Avenue	7,664	96	1.3
Dayton Street between Fair Oaks Avenue/Raymond Avenue	883	239	27.1

Source: City of Pasadena Department of Transportation, November 2013.

Overall, this alternative would result in fewer traffic impacts than the proposed project because fewer trips would be generated, and the existing street segments in the project area would not experience as significant of an increase in daily trips. However, under this alternative, the 27.1 percent street segment impact along Dayton Street still represents a significant and unavoidable impact. According to the City's Department of Transportation, in order to avoid a significant impact along Dayton Street between Fair Oaks Avenue and Raymond Avenue, the project would have to be limited to 13 residential units with no ground-floor commercial use, which was determined to be financially infeasible. Therefore, given that significant and unavoidable traffic impacts were identified for both the proposed project and the Reduced Height Alternative, implementation of the Reduced Height Alternative would not avoid the significant traffic impact of the proposed project.

4.6.2.7 Conclusion

Overall, Alternative 2, the Reduced Height Alternative, has the potential to result in fewer environmental impacts when compared to the proposed project due to the fact that the building would be slightly reduced in size and scale and be occupied by fewer residents. The residential building, however, would generate fewer vehicle trips when compared to the proposed project, thereby resulting in fewer operational air quality, GHG, noise and vibration, and transportation and traffic impacts. However, the reduction of the number of vehicle trips generated by the Reduced Height Alternative is not enough to avoid the significant impact to the Dayton Street segment between Fair Oaks Avenue and Raymond Avenue. Therefore, the same significant and unavoidable environmental impact was identified for the Reduced Height Alternative, and all other impacts would either be similar to or reduced in comparison to the proposed project. Therefore, the Reduced Height Alternative would not avoid but would reduce the severity of the significant traffic impact of the proposed project.

4.7 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) requires that an "environmentally superior" alternative be selected among the alternatives that are evaluated in the EIR. In general, the Environmentally Superior Alternative is the alternative that would be expected to generate the fewest adverse impacts. If the No Project Alternative is identified as environmentally superior, then another environmentally superior alternative shall be identified among the other alternatives. Table 4-7 summarizes the effects of the alternatives.

Table 4-7 Comparison of Alternatives to the Proposed Project

Environmental Issue Area	Proposed Project Impacts	Alternative 1 – No Project	Alternative 2 – Reduced Height
Aesthetics	Less than Significant	No Impacts/ Fewer than Proposed Project	Less than Significant/ Similar to Proposed Project
Air Quality	Less than Significant	No Impacts/ Fewer than Proposed Project	Less than Significant/ Fewer than Proposed Project
Cultural Resources	Less than Significant	No Impacts/ Fewer than Proposed Project	Less than Significant/ Same as Proposed Project
Greenhouse Gases	Less than Significant	No Impacts/ Fewer than Proposed Project	Less than Significant/ Fewer than Proposed Project
Noise	Less than Significant	No Impacts/ Fewer than Proposed Project	Less than Significant/ Fewer than Proposed Project
Transportation and Traffic	Significant and Unavoidable	No Impacts/ Fewer than Proposed Project	Significant and Unavoidable/ Fewer than Proposed Project

As identified above, the No Project Alternative would result in no environmental impacts and therefore would be the Environmentally Superior Alternative to the proposed project. However, as required by *CEQA Guidelines* Section 15126.6(e)(2), if the No Project Alternative is identified as the Environmentally Superior Alternative, a second build alternative must be identified as the Environmentally Superior Alternative. As such, Alternative 2, the Reduced Height Alternative, would be the Environmentally Superior Alternative to the proposed project because this alternative would reduce the severity of the significant and unavoidable impact along Dayton Street between Fair Oaks Avenue and Raymond Avenue.