

L. SHADE AND SHADOW

This section evaluates the effects of the Uptown Mixed Use Project on shade and shadow in the vicinity of the Project site. This analysis is adapted from shadow pattern simulations prepared for the proposed Project by Environmental Vision.¹ Shadow pattern simulations were prepared for the following dates: June 21 (the summer solstice, when the sun is at its highest point in the sky); December 21 (the winter solstice, when the sun is at the lowest point in the sky); and March 21 and September 21 (the spring and fall equinoxes, respectively, when day and night are of approximately equal length). Simulations were prepared for three times during each day: 9:00 a.m.; 12:00 p.m. (noon); and 3:00 p.m.

1. Setting

The following discussion describes existing shadow conditions within the Project site on the four dates for which shadow pattern simulations were prepared. The shadow simulations assume sunny conditions, and do not take into account overcast or foggy conditions, which are common during the summer and during stormy periods in the winter. Shadow generation within the Project site is generally limited by the presence of surface parking lots and the lack of buildings exceeding three stories.

June 21. On June 21, shadows cast by buildings within the Project site are typically limited to the confines of the site. During the morning (9:00 a.m.) and afternoon (3:00 p.m.), shadows from buildings within the Project site extend slightly into San Pablo Avenue and Telegraph Avenue, respectively (see Figure IV.L-1 and Figure IV.L-9). The Pacific Gas and Electric (PG&E) Substation, adjacent to Thomas L. Berkley Way (20th Street) and 21st Street, is partially covered by shadow during the morning hours. Shadow coverage of areas surrounding the Project site by buildings within the Project site is minimal during the noon hour on June 21 (see Figure IV.L-6).

December 21. On December 21, the shortest day of the year, shadows are widespread within and around the Project site during the morning (9:00 a.m.) and late afternoon (3:00 p.m.) hours (see Figure IV.L-2 and Figure IV.L-10). At these times, the sun is seen near the horizon and areas without shadows are typically those that are immediately adjacent to open space areas and surface parking lots. During noon on December 21, the sun shines above from a southerly direction; during this time, buildings within the Project site cast shadows to the north. The most prominent shadows generated by buildings within the Project site are associated with the multi-story parking garage between William Street and 19th Street, and the commercial buildings along the south side of Thomas L. Berkley Way (20th Street) and the east side of San Pablo Avenue (see Figure IV.L-6). The building most affected by these shadows is the PG&E Substation.

March 21/September 21. Shadows generated by buildings are similar on March 21 and September 21, when the sun shines at a moderate angle at noon. Shadows generated on March 21 in the morning extend to the northwest, compared to morning shadows on September 21, which extend only slightly to the northwest. However, the extent of shadows on these two dates is similar. Morning shadows on these dates generated from buildings within the Project site are

¹ Environmental Vision, 2003. *Project Shadow Patterns, Uptown Mixed Use Project EIR*. July.

Figure IV.L-1: Project Shadow Patterns

8x11 B&W

Figure IV.L-2: Project Shadow Patterns

8x11 B&W

Figure IV.L-3: Project Shadow Patterns

8x11 B&W

Figure IV.L-4: Project Shadow Patterns

8x11 B&W

Figure IV.L-5: Project Shadow Patterns

8x11 B&W

Figure IV.L-6: Project Shadow Patterns

8x11 B&W

Figure IV.L-7: Project Shadow Patterns

8x11 B&W

Figure IV.L-8: Project Shadow Patterns

8x11 B&W

Figure IV.L-9: Project Shadow Patterns

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Figure IV.L-10: Project Shadow Patterns

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Figure IV.L-11: Project Shadow Patterns

8x11 B&W

Figure IV.L-12: Project Shadow Patterns

8x11 B&W

generally confined to the Project site itself; some shadow spillover occurs onto the PG&E Substation, San Pablo Avenue, and Thomas L. Berkley Way (20th Street) (see Figure IV.L-2 and Figure IV.L-3). Shadows produced by buildings within the Project site are relatively constrained during the noon hour on March 21 and September 21 (see Figure IV.L-6 and Figure IV.L-8). Shadows produced around 3:00 p.m. on these days extend into 22nd Street, Telegraph Avenue, 21st Street and Thomas L. Berkley Way (20th Street).

2. Impacts and Mitigation Measures

This section analyzes impacts related to shade and shadow that could result from implementation of the proposed Project. The subsection begins with the criteria of significance, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed Project. Mitigation measures are recommended, as appropriate.

a. Criteria of Significance. Implementation of the proposed Project would have a significant effect on visual and aesthetic resources if it would:

- Introduce landscape that would now or in the future cast shadow on existing solar collectors (in conflict with California Public Resource Code Section 25980-25986);
- Cast shadow that substantially impairs the function of a building using passive solar heat collection, solar collectors for hot water heating, or photovoltaic solar collectors;
- Cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space; or
- Cast shadow on a historic resource, as defined by CEQA Section 15064.5(a), such that it would substantially diminish/impair its eligibility for listing in the National Register of Historic Places, California Register of Historical Resources, or in a local register of historical resources or a historical resource survey as defined by the Public Resource Code.

b. Less-than-Significant Shade and Shadow Impacts. The following discussion describes the less-than-significant shade and shadow-related impacts that could result from implementation of the proposed Project.

(1) New Shadows Generated by the Proposed Project. Implementation of the proposed Project would result in buildings that are taller and more massive than buildings currently within the Project site. As depicted in Figures IV.A-1 through IV.L-12, these buildings would cast new shadows on buildings, streets, and parking lots surrounding the Project site.

On June 21 (and generally in late spring and early summer), during the morning (9:00 a.m.) and afternoon (3:00 p.m.), new shadows created by the proposed Project would extend west across San Pablo Avenue into predominantly commercial areas, and east over the office building within the southeast quadrant of the intersection of 21st Street and Telegraph Avenue. The extreme western edge of the Paramount Theater could be affected by afternoon shadow from the proposed student housing tower in Block 3. However, shadow coverage of the Paramount Theater would be relatively small on June 21.

Shadows generated by the proposed Project during December 21 would be the most extensive that could occur as a result of Project development. Morning (9:00 a.m.) shadows would extend

northwestward across Interstate 980 into predominantly residential and commercial areas. Morning shadow would also cover the multi-story apartment complex immediately to the north of Block 7. Shadows at 3:00 p.m. would extend northeastward across a wide swath of downtown Oakland, including over the Paramount Theater. Morning and afternoon shadows during fall and spring resulting from the structures proposed as part of the Project would reach west almost to Martin Luther King Jr. Way (through predominantly residential areas) and east through retail and office uses fronting Telegraph Avenue.

(2) Solar Collectors and Photovoltaic Cells. A drive-through survey of the Project site vicinity, and an inspection of air photos identified no solar collectors or photovoltaic (PV) cells that would be substantially affected by shadow resulting from buildings or landscaping proposed as part of the Project.

(3) Historic Resources. The development of structures proposed as part of the Project would cast shade on portions or all of the Great Western Power Plant (formerly known as the Navlet's Florist and Nursery) for the majority of the year, with the exception of late afternoons in the spring and fall. However, under existing conditions, the Great Western Power Plant is already under shadow during mornings in the winter, spring, and fall, and afternoons during the winter. The Great Western Power Plant is characterized by a massive arched façade, overscaled classical detailing, and concrete construction. The façade does not contain complex detailing or color schemes that would be obscured by shade. In addition, there is no landscaping around the building (related to the historic integrity of the structure) that would be adversely affected by an increase in shadow. The major architectural features that make the Great Western Power Plant eligible for Designated Historic Property status would not be compromised by shade cast on the building by the proposed Project.

In addition, although mid-winter shadows generated by the proposed Project would affect other historic buildings in the Uptown District, including the Paramount Theater, these shadows would not occur throughout the year and would not substantially degrade the historic integrity of historic buildings in the vicinity of the Project site. Buildings in areas affected by new Project-related shadow are already subject to shadows cast by existing high-rise buildings in Downtown Oakland. New shadow would not be cast on the Fox Theater.

(4) Parks and Open Space. New shadow created by the proposed Project would not substantially impair the beneficial use of any public or quasi-public park, lawn, garden, or open space area. The public park located north of the Project site, within the northeast quadrant of the intersection of 21st Street and San Pablo Avenue would not be subject to shadow cast by the proposed Project. In addition, the proposed 25,000 square foot park within the Project site would not be substantially adversely affected by shade cast by Project structures. The park would be mostly or wholly shade-free during the majority of the year, including during most afternoons in the summer, spring, and fall. It is anticipated that shade cast by the Project structures on the proposed park would not adversely affect enjoyment of the park; due to the availability of afternoon sunlight within the park, it is expected that the park will provide an appealing place for outdoor activity.

c. Significant Shade and Shadow Impacts. Implementation of the proposed Project would not result in significant shade and shadow-related impacts.

