LIGHTING

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PRINCIPAL CONSIDERATIONS

Nighttime Activities. Lighting illuminates and supports nighttime activity. The quality of lighting is critical for the safety of motorists, bicyclists, and pedestrians. Well-lighted places also deter crime and unwanted behavior, and well-lighted places are perceived as more secure. Pedestrian-scaled lighting is especially important along paths to major evening destinations, such as BART, parking garages, and evening destinations, such as theaters, cinemas, nightclubs, and restaurants – and can help increase economic activity Downtown.

Placemaking Potential. At night and during the day, the style of light fixtures and poles has a significant impact on the character of urban areas. For urban districts and corridors, a consistent style provides visual continuity that helps harmonize varied facades and conditions. Within a generally unified lighting scheme, the style of lighting can be varied to accentuate unique subareas, as has been done within portions of the Civic Center Historic District. Also note that lighting with large horizontal overhangs, such as existing "cobra-head" fixtures, creates visual interruptions that may be avoided with other types.

Facing Page: Lighting & Placemaking. *The intensity, scale, and aesthetic quality of lighting play an important role in making downtowns more distinct and successful, as has been the case along State Street in Chicago.*

Figure I.1. Light Intensity & Pedestrian Activity. *Pedestrian-oriented lighting attracts people and helps them feel at ease (top). Not all Downtown street segments have adequate lighting, as illustrated by parts of Shattuck Avenue (below).*

Figure I.2. Energy Efficient Technology. *LEDs generate a lot of light with little electricity. Reflectors accompany LEDs to illuminate larger areas, and can be designed to be compatible with traditional light fixtures.*

POLICIES AND ACTIONS

Policy 9.1, Light Intensities & Distribution. The form and placement of lighting and the quality of light should promote attractive, distinctive, and safe environments Downtown. At the same time, lighting should not create a nuisance for residents nor should it needlessly contribute to light pollution (i.e., "sky glow").

a. City Standards. Lighting shall meet City standards described in the Municipal Code, including standards for travel lanes. Pedestrian areas should be well lighted, and the light intensity of pedestrian areas should generally exceed City standards. All lighting proposals shall be subject to review and approval by Berkeley's Department of Public Works.

b. Lighting Priority. Prioritize installation of new pedestrian-scale lights along paths to major evening destinations, such as BART, entertainment, and parking garages.

c. Lighting Master Plans. So that lighting can be installed in a coordinated fashion, the City should develop lighting master plans during the design development phase for larger project subareas. The master plans should apply these design guidelines, and attain appropriate levels of illumination by determining the exact location, height and intensity of fixtures. In locations outside of Larger Project subareas, lighting improvements should also be defined through technical analysis and conform with these guidelines to the extent possible.

d. Placement. Street lighting poles should generally be placed near curbs and in line with street trees. Poles may also be needed in other locations, such as for the illumination of traffic lanes and to illuminate parks, plazas, and sidewalks of exceptional width. Lighting is recommended where midblock pedestrian paths meet public sidewalks.

e. Fixture Heights. The height of fixtures and poles should emphasize pedestrian activity to the extent possible, while also providing sufficient illumination for the safety of bicycles and vehicles. Generally, new fixtures should not exceed a height of 16 feet to optimize pedestrian-level lighting and place-making. To provide sufficient illumination for motorists and bicyclists, taller fixtures should be used at intersections and in select midblock locations, as is determined through technical analysis. At intersections, taller poles should also be used for mounting traffic signals to the extent possible, so that the number of poles is minimized.

f. Fixture Spacing. The spacing of fixtures should be determined through technical analysis, and should consider pedestrian-scaled fixtures in midblock locations to the extent possible.

g. Maintenance. When specifying a lighting fixture, ease of maintenance should be evaluated, such as efforts associated with replacing lamps.

h. Glare and Light Pollution. Each light fixture should direct its light toward the areas that it serves. Light fixtures should use "cutoffs" and other devices to shield the light source when seen from upper-story residential units in mixed-use areas. In residential areas, ground-floor units should be shielded. Directing light downward also mitigates "sky glow," the cumulative aesthetic impact

from urban light sources (see also Placement, Fixture Heights & Fixture Spacing).

i. Trees. Nearby trees' lowest branches should be pruned to a 14-foot minimum over vehicle lanes and an 8-foot minimum over pedestrian paths of travel (see Street Trees & Landscaping chapter). Where frequent light fixtures are called for, a higher minimum may be needed to adequately illuminate streets and sidewalks.

Policy 9.2, Energy Efficiency. The City should continue to use energy-efficient fixtures, and should seek to use more efficient technologies as they become technically adequate and cost effective. Energy efficiency should be measured as a function of light output per watt, instead of a fixture's wattage. Light output is best measured by considering the surfaces that a fixture should illuminate.

Figure I.3. Traditional Light Fixtures. *Traditional "acorn" light fixtures are extensively used and complement Downtown's historic resources (left). To accentuate the Civic Center Historic District, different historic light fixtures were selected (right).*

Figure I.4. Banner Signs. *Banner signs can announce special districts with relatively little expense (above), and take up no space on the ground because they are mounted on light poles (below).*

a. Continue to improve energy efficiency while addressing safety and other community needs. New technologies, like LEDs, should be considered and used if their relative performance and costs (both capital and ongoing costs) are competitive.

b. Optical systems should direct light to where it is needed, and minimize light on other surfaces.

Policy 9.3, Character & Identity. Light fixtures and poles should have a consistent appearance and reinforce Downtown's historic character (see also Furnishings & Other Street Elements, Policy 6.3, Visual Consistency). In addition, lighting types and characteristics should be well suited to the activities they support, and make Downtown more vibrant.

a. Traditional Appearance. To accentuate Downtown's historic character, existing "acorn" light fixtures, poles, and base covers should be maintained and expanded in the Downtown Area – with pole height varying as needed and horizontal arms used where needed for traffic signals.

b. Civic Center. On street segments within and abutting the Civic Center Historic District, the style of previously installed fixtures should be maintained. On street segments surrounding Civic Center Park and the Civic Center Building, this style of historic light fixtures should be maintained and expanded.

c. Other Exceptions. Exceptions may also be made to help specific streets and plazas stand out, but exceptions should generally not be made where historic resources are concentrated, such as on Shattuck between Berkeley Way and Durant Avenue and on University Avenue east of Shattuck.

d. Cobrahead Lighting. Traditional lighting should replace existing cobrahead lighting to the extent feasible. The replacement of cobrahead lighting may necessitate additional light poles with more frequent spacing. Where cobrahead poles must be retained, they should be repainted to have the same color as other street elements.

e. Banners. Banners are encouraged to help define distinct subdistricts in Downtown, especially where cobrahead lighting is retained. Review standards for banners to maximize their size. Banners with colorful and iconic images are encouraged, and might be developed by local artists. Small and illegible features should be avoided.

f. Bollards. Lighting bollards are recommended to illuminate pedestrian paths that are away from street lighting. Bollards should generally be 36 inches tall with the light source and horizontal louvers at the top. Their style and color should be consistent with other street elements.

g. Color. The City should use full-spectrum metal halide lamps along pedestrian paths, unless a cost-effective low-energy equivalent is identified. Full-spectrum light makes colors easier to see and places more inviting. High-pressure sodium lamps have yellow glow and may continue to be used to illuminate traffic lanes, because they are energy-efficient and easy to maintain, unless a cost-effective low-energy full-spectrum alternative is identified.

h. Evening Destinations. Install additional lights around the BART rotunda and Addison Street by hanging lamps on cables that are attached to light poles and, if feasible, buildings. Consider other ways to increase lighting near entertainment venues.

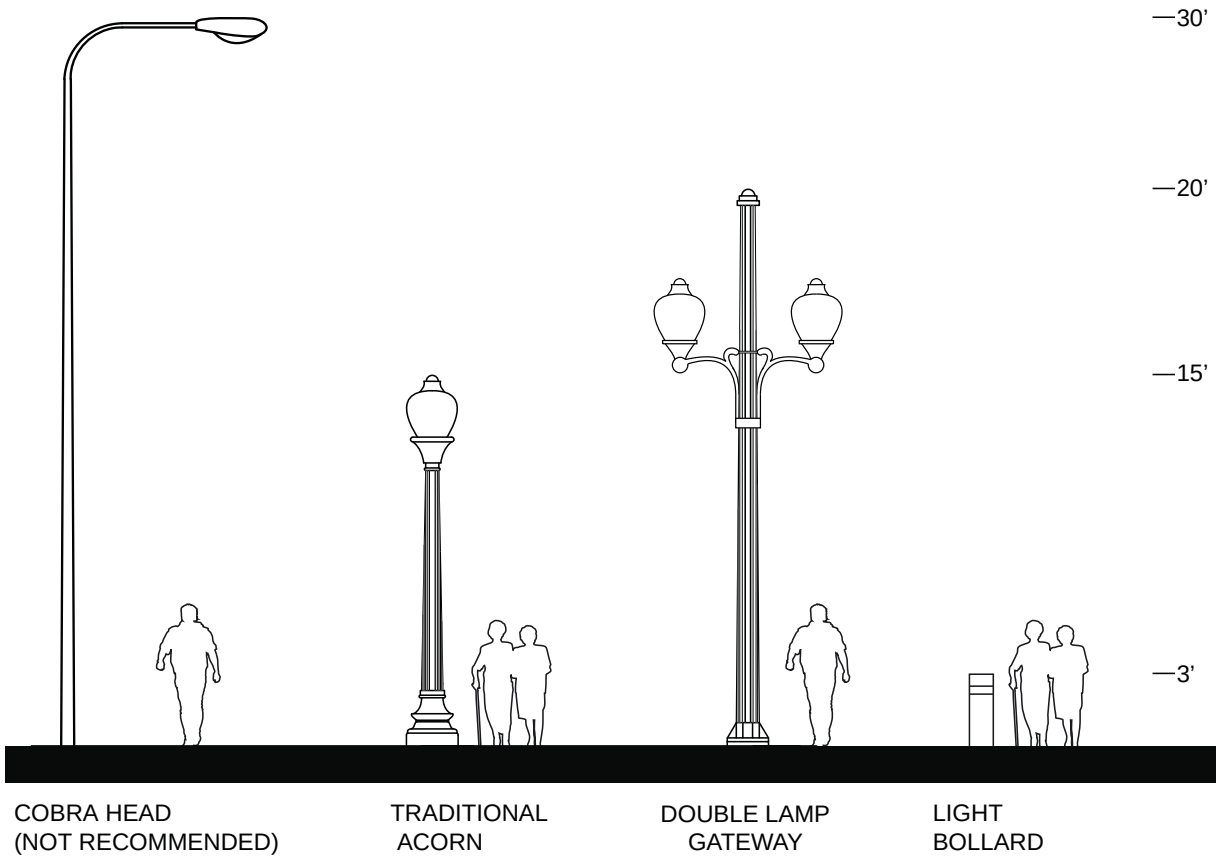

Figure I.5. Light Poles & Fixtures. *Light poles and fixtures vary in scale and character. Cobrahead fixtures (left) are the tallest and have a spare modern appearance. Traditional acorn lighting typically has only one fixture but can have two for additional light or visual emphasis. Light bollards light pedestrian paths directly.*