Monterey Downtown Lighting Strategy

design standards and guidelines

July 2013
public review draft 1

content

introduction

Scope of the Project

This project includes lighting standards and guidelines for the greater Downtown Specific Plan area. They address the design and placement of poles and fixtures, lighting levels, and lighting quality. They apply to streetlights in the public realm, as well as lighting on private property that is visible from the public way.

The standards and guidelines also address the appropriateness of existing lighting levels and fixtures. The intent is to ensure that future lighting within the Downtown Specific Plan area is appropriate for the area's historic resources, design character, and safety needs.

These standards and guidelines will be incorporated into the Downtown Specific Plan, which will be the City's controlling land use, development, and design regulation for the area. All future projects, public and private, will be required to achieve consistency with these guidelines.

Project Process

The process for developing the lighting standards and guidelines included community meetings with private property owners, representatives of the National Trust for Historic Preservation, the National Park Service, California State Parks department, staff of the City of Monterey, and city residents.

A mix of light sources and colors exists on Alvarado. The relationship of street lights to buildings, in terms of color and means of illuminations, are considerations. Historic street lights establish a distinct rhythm along the block, which contributes to a sense of visual continuity. The "cool" color of the lights, however, contrasts with the warmer lighting used on signs and buildings. Seasonal lighting wrapped on street trees adds another aspect to consider.

The historic Alvarado street light, at the intersection of Munras and Pearl, in 1948

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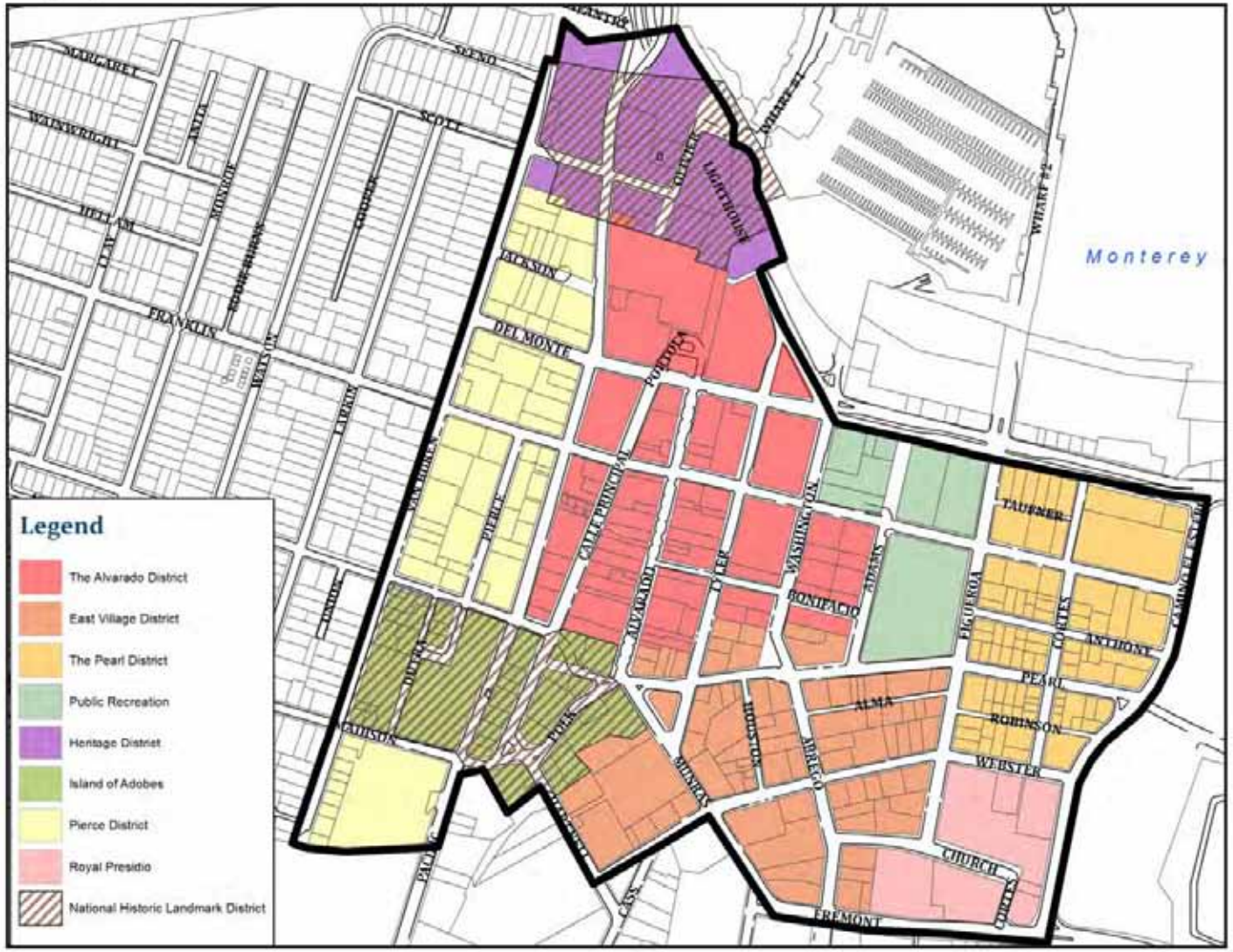
Character Areas



The Downtown Specific Plan (draft), identifies different Character Areas, which reflect a combination of existing conditions and projected development. The boundaries of these character areas are a consideration in developing a lighting strategy for all of downtown.

Project Goals

The standards and guidelines in this report apply to the public and private realm. The intent is to provide a consistent approach to lighting that:

- Establishes a distinct identity for the downtown, at night and during the day
- Is compatible with historic resources as well as other traditional building types
- Visually connects the two National Historic Landmark areas
- Minimizes glare and light trespass
- Is appealing to the eye
- Complements retail display and nighttime activities

The Study Area

The downtown area is defined by Del Monte Avenue on the north, Camino el Estero on the east, and Van Buren on the west. The southern boundary consists of a part of Fremont Street, and then portions of Webster, Madison and Hartnell Streets.

The cool color temperatue of this street light contrasts with the warmer light used to illuminate building details and storefronts. An objective of street lighting is to complement retail display and nighttime activities.

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Box light on Oliver Street

Cobra light in front of historic adobe

Existing Conditions

Street Light Power Supply

At present (in 2013), approximately half of the streets in the downtown area are served by underground power supply; others are served by overhead power lines. Underground lines exist primarily along the north-south streets of Tyler, Alvarado, Callé Principal and Pacific.

Street Light Styles

A variety of street light styles exist in the downtown. At the heart, along Alvarado, historic streetlights run its length. They also extend north into the plaza of the Heritage District. The north-south streets that flank Alvarado have either concrete or metal poles, with a variant of a cobra head and arm. Farther east, in the Pearl District, cobra type streetlights are mounted either on wood utility poles or on traffic signals. A distinctly different light style exists along Oliver Street. This is a box-shaped luminaire, mounted on a square metal post.

Lighting Design Objectives

These design objectives apply to all exterior lighting in the downtown:

1. Light color

The intent is to promote the use of lighting that is in the range of 3500 Kelvin temperature. This yields a relatively warm light, and will be compatible with the wall materials and finishes of traditional buildings in the downtown. It also will provide a pleasing color rendition that complements product displays and supports nighttime outdoor events.

2. Light glare and trespass

The intent is to minimize glare from light sources and instead to focus light at intended surfaces. Exterior lighting should accomplish a generally subdued and uniform lighting pattern with a minimum potential for glare with combinations of multiple indirect lighting sources as opposed to fewer, more powerful direct lighting sources. Light sources should be shielded or directed away from residential areas. Lighting near mixed-use buildings should not have direct impact on upper story residential windows.

Fixtures in the Heritage District have sodium lamps, which do not complement the character of the buildings in the area.

Historic Alvarado street light

introduction

Highlighting building details with uplighting should be reserved for historic landmarks.

Low level, concealed lighting on historic adobe structures should be encouraged.

3. Fixture designs

Public streetlights should help to establish a sense of identity for the downtown, and all exterior lighting (public and private) should be compatible with the historic character of the area. A palette of street light designs is described in the section that follows.

4. Uplighting

Uplighting should be minimized and limited to façade and landscape lighting. It may be used on historic landmarks, but should be designed to minimize dark sky impacts.

5. Safety

Lighting should be at levels sufficient to enhance safety along streets and other outdoor spaces. This is especially important at intersections for pedestrian crossings. In mid-block street light conditions, there should be sufficient light for safety, but it may be less than that at intersections.

6. Highlighting the adobe buildings

While lighting building faces is generally to be discouraged, in the interest of dark skies, a special condition may be considered for illuminating the adobe resources in the downtown. The use of low intensity, concealed lights that would softly illuminate the adobe facades should be considered. This would help to identity these resources at nighttime and therefore supplement heritage walks.

Street Lighting Design Strategy

The Lighting Design Strategy for street lights combines consideration of the National Historic Landmark districts and the Specific Plan Character Areas. These different street light areas are to be identified by their lighting design:

Alvarado Character Area and the NHLs

The commercial core of downtown should be identified with the historic street light that is presently used on Alvarado Street. This corresponds to the Alvarado District character area. In addition, the same light style should be used throughout the two NHLs (the Heritage District and the Island of Adoves District). This light style will be more compatible with the historic resources in these areas, particularly the adobes.

Pearl District Lighting Strategy

While this area also is zoned commercial, it presently contains substantial amounts of residential buildings, mixed in with commercial uses. The intent is to provide a lower level of lighting intensity, while meeting safety needs, and to accommodate a gradual increase in density as redevelopment occurs. The contemporary street light design will be used, but it will be spaced more widely. A “contemporary” crook-neck fixture would be used in this area.

East Village District Lighting Strategy

The East Village District is also a transitional area, with a mix of commercial and residential uses. The contemporary crook-neck fixture would also be used in this area.

Pierce District Lighting Strategy

The Pierce District is primarily residential and institutional in its current uses. It serves as a transition to the residential neighborhoods to the west. The contemporary cobra style would be used in this area.

Public Recreation District Lighting

The Public Recreation District lies between the Pearl District and the Alvarado District, with an edge along Del Monte. The contemporary crook-neck design should be used in this area, to link it with the Pearl and East Village areas. This style will also be compatible with light fixtures in the harbor area.

Royal Presidio District

While the historic Alvarado street light would be compatible with the chapel, this is a small area, and it would be difficult to establish a distinct identity with only a few fixtures. It is more reasonable to continue the use of the crook-neck fixture in this area. Accent lighting on the building itself would help to identify the structure as an important historic resource.

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Street Light Types Map

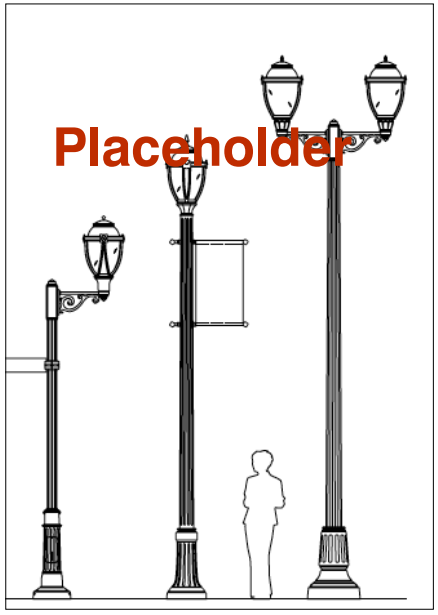
The map below identifies where specific street lights types are proposed.

Summary of Street Light Fixture Applications

Character Area	Historic Light	Contemporary Crookneck	Contemporary Cobra
Alvarado	X		
East Village		X	
Pearl		X	
Public Recreation		X	
Heritage	X		
Island of Adobes	X		
Pierce			X
Royal Presidio		X	

Contemporary cobra goes here.

Contemporary industrial crook-neck fixture



Alvarado street light

General Principles

City Streetlights

Three different types of street light designs will be used in the downtown:

Type 1: Historic (Alvarado) Street Light

This light will identify the historic core and will draw upon the precedent of the fixture that presently exists on Alvarado. It would be installed throughout the Alvarado District character area, as well as in all portions of the two National Historic Landmark districts. This would have a black metal finish.

Technical specifications for historic (Alvarado) street light:

This historic fixture shall have an assembly that consists of a tapered, octagonal lamp housing. It is topped with an opaque cap, which terminates in a finial. The pole shall be cast metal, in a tapered fluted design with a flared, ornamental base.

Lamp: The lamp shall be an LED or Induction source

Light temperature: 3500k range

Luminaire: Shall be a full cut-off

Height of Pole: Maximum 15 feet

Location: Spacing of poles shall be to meet IES footcandle recommendations (approximately 60ft is assumed).

Type 2: "Contemporary down-light"

The second street light design will be a simpler design, but still one that is distinct to the area in which it is used. This will be installed in the Pearl and East Village Districts. It is a shielded lamp, on a crook-necked arm, which keeps the light focused downward. This fixture is one that can be used on existing poles in the Pearl and East Village Districts, but later can be mounted on new poles as redevelopment in the area occurs and as the city's policy of undergrounding power lines moves forward.

Technical specifications for contemporary down-light:

Lamp: LED or Induction

Light temperature: 3500k range

Luminaire: full cutoff

Height of Pole: 20 feet maximum

Location: Spacing to meet IES footcandle recommendations

Type 3: "Contemporary Cobra Light"

This light would be used to supplement light levels at intersections where additional lighting is needed and where the lower-height Types 1 and 2 cannot meet the light level standards alone. It also would be used on existing poles in the Pierce District. It would have a black metal finish.

Technical specifications for contemporary cobra light:

Lamp: LED or Induction

Light temperature: 3500k range

Luminaire – full cutoff

Height of Pole: ?? feet maximum

Location: Spacing to meet IES footcandle recommendations

Public Alleys

Where public alleys connect directly to streets and are highly visible from sidewalks in the core area or the NHLs, they should have the same historical luminaire design. These may be mounted on poles, or on wall brackets. Where a public alley is less visible from a street, a contemporary crook-neck fixture may be used.

Technical specifications for public alleys:

Lamp: LED or Induction

Light temperature: 3500k range

Luminaire – Full cut-off

Height of Pole: 15 feet maximum

Location: Spacing to not exceed IES footcandle recommendations

Recommended: Motion sensing with light reduced to ½ of maximum

lighting standards and guidelines for public realm

Lighting Paseos

Paseos in the Alvarado should also have the historic street light design. Where space is available, these should be on poles; in other locations, they may be bracket mounted on walls.

Technical specifications for public paseos:

Lamp: LED or Induction

Light temperature: 3500k range

Luminaire - Full cut-off

Height of Pole: 15 feet maximum

Location: Spacing to meet IES footcandle recommendations

Recommended: Motion sensing with light reduced to ½ of maximum

Lighting Plazas and courtyards

The historic streetlight also should be used in public parks, plazas and courtyards within the core area and in the NHLs.

Technical specifications for lights in public plazas and courtyards:

Lamp: LED or Induction

Light temperature: 3500k range

Luminaire - Full cut-off

Height of Pole: 15 feet maximum

Location: Spacing to not exceed IES footcandle recommendations

Recommended: Motion sensing with light output reduced to ½ of maximum

Lighting Public Parking Facilities

The contemporary fixture should be used in public parking lots and on top levels of parking structures.

Technical specifications for public parking facilities:

Lamp: *LED*

Light temperature: *3500k to 4000k*

Luminaire – *Full cut-off*

Height of Pole: *15' maximum*

Location: Spacing *to not exceed IES footcandle recommendations*

Recommended: *Motion sensing with light output reduced to ½ of maximum.*

lighting standards and guidelines for private realm

Light package systems that do not control glare should be discouraged.

Commercial Properties

These are standards and guidelines for lighting in the private realm on commercial properties.

Buildings

Wall mounted lights

Intent: Wall mounted lights should provide lighting for walkways in the vicinity, but should not generate glare. Historic styles are encouraged, especially within the core area.

Specifications:

Shielding: No uplight

Light level: Not to exceed IES footcandle recommendations

Color range: 3500k

lighting standards and guidelines for private realm

Primary Building Entry lights

Intent: Entry lights should provide sufficient light for safety, but not generate excessive glare.

Specifications:

Shielding: no uplight

Light level: Not to exceed IES footcandle recommendations

Color range: *3500k to 4000k*

Lighting architectural details

In general, building walls should not be illuminated (except where the wall surface is part of a sign). An exception is for historic landmarks, with these provisions:

- Lighting should be indirect, from concealed sources
- Lighting should not shine up into the sky.
- A relatively low level of lighting should be used.

Specifications:

Shielding: Source not visible from side or from behind fixture

Light level: *2-5 footcandles average*

Color range: *3500k to 4000k*

lighting standards and guidelines for private realm

ATMs

ATM lighting is addressed separately, because there are specific state-mandated standards, in the interest of safety. To the extent feasible, it should be shielded. Where an ATM light fixture itself will be visible, using a historic style is preferred.

Specifications:

Shielding: no uplight

Light level: to not exceed California Financial Code Footcandle requirements

Color range: 3500k to 4000k

Canopies

Lighting should be recessed or concealed.

Specifications:

Shielding: Full cut-off

Light level: average 20 footcandles maximum

Color range: 3500k to 4000k

Alleys and Paseos

Lighting in private alleys and paseos may be pole mounted, or bracket mounted. Using historic styles is encouraged, but contemporary styles may be used as well.

Specifications:

Shielding: Full cut-off

Light level: to not exceed IES footcandle recommendations

Color range: *3500k*

Parking Lots

Lighting in private parking lots should be shielded. Contemporary styles are appropriate.

Specifications:

Shielding: Full cut-off

Light level: to not exceed IES footcandle recommendations

Color range: 3500k

Maximum pole height: 15 feet

lighting standards and guidelines for private realm

Service Areas

Lighting in private service areas should be shielded. Contemporary styles are appropriate.

Specifications:

Shielding: Full cut-off

Light level: *10 foot-footcandles maximum*

Color range: *3500k*

Courtyards

Lighting in private service areas should be shielded.

Historic styles should be used in the Alvarado Character area. Contemporary styles are appropriate elsewhere.

Specifications:

Shielding – full cut off

Light level:

Color range: 3000k-3500k

Lighting Trees

Lighting in trees in private yards should be at a low level, to remain subordinate to the overall street lighting. Lighting should not contribute to glare. Light sources should be concealed, or visual impacts minimized.

Specifications:

Light level:

Color range: 3000k-3500k

Glossary

Lamp: the light source

Luminaire: A complete lighting unit, consisting of one or more lamps (bulbs or tubes that emit light), along with the socket and other parts that hold the lamp in place and protect it, wiring that connects the lamp to a power source, and a reflector that helps direct and distribute the light.

Pole: *the pole and the base height shall be considered together in calculating maximum height*

Shielding: *the part of the fixture that blocks or controls light direction*

Standard: *IES: Illuminating Engineering Society of North America Handbook*

Dark Sky: International Dark – Sky Association

T-24: California Building Energy Efficiency Standards – current edition.