

U.S. Department of Transportation
Federal Highway Administration
1200 New Jersey Avenue, SE
Washington, DC 20590
202-366-4000

6.4 Lighting Master Plans

Lighting master plans are formal documents created through a study and planning process. They are based on input from municipal staff, public officials, lighting professionals, citizens, business owners, and others. Lighting master plans define the purpose of lighting, and contain area maps with road types, classifications, land use, pedestrian and cyclist routes, parks, and other infrastructure information. They also contain information regarding fixtures and poles, light sources, fixture cutoff, lighting levels, design criteria, design and construction specifications, historical considerations and recommendations. This information is combined in a single, organized package that becomes the basis for lighting projects.

Lighting master plans take into account anticipated economic and cultural changes, a community's public image and economic development goals, and technological advancements. The benefits of such plans include the coordination of the various municipal lighting functions, proactively planning lighting for the different areas of a community by recognizing their unique character and needs. The plans also provide scheduling of capital expenditures, as well as implementation and maintenance strategies. Lighting master plans are based on the core concept that public facilities should enhance safety, encourage economics, contribute to beautification, and provide a secure environment for people and property. Transportation-related lighting is viewed as a key component of community management.

Lighting master plans are typically adopted by a jurisdiction through a bylaw, resolution, or similar measure, and as such may

dictate specific design requirements for roadway lighting. The purpose of a lighting master plan is to ensure adequate lighting is provided for future development, and that public lighting will be installed in a consistent manner that takes into account the needs and desires of citizens. If an area is designated for historic preservation, the lighting master plan may define luminaires and light sources that are compatible with and preserve the area's historical character, or that enhance the existing historical character.

Lighting master plans typically address the following major subject areas:

- Improved safety provided by lighting.
- Improved sense of security provided by lighting.
- Costs (capital and operating).
- Aesthetics (daytime and nighttime).
- Lighting design criteria.
- Environmental issues and constraints, including the control of spill light, glare and skyglow.
- Energy use (through definition of unit power density).
- Potential for economic development and the enhancement of nighttime activities through lighting
- Preservation of areas of darkness, such as areas around observatories.
- Maintenance requirements.

Designers should check with local officials prior to beginning the design process to determine if a lighting master plan is in place, or is anticipated. Designers should be aware of the requirements of lighting master plans as they relate to the specific project under consideration. At the same time, under no circumstances should lighting master plan requirements dictate the quantity or quality of light for a roadway facility, since the safety of the roadway user is of paramount importance.