

Engineering Design Section. Reference the [TEDM Section I – General, Chapter 2, 2.5](#) for a discussion of Bridge Data Requests. The bridge designer will review the structural impact of the proposed pole locations. He may then suggest alternate pole locations for the lighting designer to review and determine compatibility with the lighting criteria. This iterative procedure applies to any bridge structure requiring lighting.

The installation of navigation and air obstruction lights can, occasionally, be an integral part of the bridge and lighting design. The VDOT Bridges and Structures Section may ask the lighting designer to coordinate electrical service points for the roadway lighting and navigational/air obstruction lighting. FAA, Coast Guard, and Corps of Engineer circulars should be consulted for more detailed recommendations of the placement of these lights.

3.10.4 Lighting Near Airports

[TEDM Section I – General, Chapter 4, 4.5](#) discusses the various FAA references regarding on the placement of objects near airports and heliports. These documents describe clear zones where objects are prohibited. Slopes extending from various points relative to the runway define the clear zones. Light poles can easily extend into the clear zone if the designer does not recognize changing elevations around the airport. The lighting designer should make every effort to contact the airfield safety officer to review the placement of light standards. Local and military regulations may be more stringent than FAA standards.

3.10.5 Tunnel Lighting

A tunnel is defined as a structure over a roadway that restricts the normal daytime illumination, such that the driver's visibility is substantially reduced. Unlike an interstate roadway underpass, vehicular tunnels greatly reduce visibility either due to their length or due to the reduced size of the tunnel portal. Vehicular tunnels are classified by AASHTO and IESNA RP-22 as:

- **Long Tunnel:** Having a length greater than the minimum wet pavement stopping sight distance. Distances are then established delineating the Entrance Zone, Transition Zone, and Interior Zone. AASHTO recommendations provide the lighting designer with illumination levels in these zones that effectively taper the lighting levels, allowing the driver's eyes to adapt to the reduced lighting within the interior of the tunnel. The length of each zone is based on the design speed of the roadway and the minimum safe stopping distance.
- **Short Tunnel:** Having a length of less than the minimum wet pavement stopping sight distance. Lighting levels are not typically tapered because the driver's eyes never have a chance to adapt to the darkness.