



SUBJECT  Illumination Design	FINAL NUMBER TR07-10(B)	EFFECTIVE DATE 09/28/2007	VALIDATION DATE 7/18/2012	SUPERSEDES TR 05-11
WEB LINK(S) <a href="http://www.oregon.gov/ODOT/HWY/TECHSERV/Pages/technicalguidance.aspx">http://www.oregon.gov/ODOT/HWY/TECHSERV/Pages/technicalguidance.aspx</a>				
TOPIC/PROGRAM  Illumination	APPROVED SIGNATURE  Original signed by:  Bob Pappé, P.E., PLS State Traffic-Roadway Engineer			

*PURPOSE*

To clarify and document ODOT’s strategy for providing illumination design resources.

*DEFINITIONS*

Experienced Illumination Designer: Designer with a minimum of 2 years of roadway illumination/street lighting and electrical power distribution system design experience.

All complex illumination projects (e.g. ornamental illumination; linear illumination; or illumination for tunnels, interchanges or rest areas) require the use of an experienced illumination designer.

*BACKGROUND/REFERENCE*

The ODOT Lighting Policy and Guidelines, approved by the Oregon Transportation Commission on January 15, 2003 and available on the Traffic-Roadway web site at <http://www.oregon.gov/ODOT/HWY/TS/pages/illumination.aspx> , must be used to determine whether illumination is included on construction or reconstruction projects.

The ODOT Traffic Lighting Design Manual contains standards, criteria and guidance for the completion of illumination designs on Oregon state highways.

Experienced illumination designers are available through various price agreements through the ODOT Procurement Office.

*EXPLANATION*

During the meetings to discuss the decentralization of design responsibilities within ODOT, the Strategic Alignment Steering Committee (SASC) decided that illumination design resources were sufficiently available through consultants and that ODOT would not retain internal illumination design resources. This guidance to outsource all illumination design has not been practical to implement, so this technical bulletin

attempts to clarify when illumination design may be considered with internal traffic design resources and when consultants should be used while staying as consistent as possible with the original guidance decision.

As a practical matter, illumination design is often an integral part of a signal design with illumination provided through signal pole extensions. For simple intersection illumination designs, it makes sense to at least have an option for the signal designer to include the illumination design as part of the signal design package. Traffic Roadway Section offers training that will provide signal designers with some basic background on illumination design allowing signal designers to complete this type of illumination design work.

Other more complex illumination design work such as that associated with full or partial interchange illumination, linear illumination of highway facilities, tunnel illumination, or rest areas should be performed by experienced illumination designers. These projects involve electrical design associated with 480 volt power distribution systems (and in some cases three phase distribution systems) and transformer design that is beyond the experience for signal designers and those providing consultant design oversight. Further, there are a limited number of illumination projects making development and maintenance of these design skills within ODOT impractical.

## *RESPONSIBILITIES*

### *Traffic-Roadway*

The Traffic-Roadway Section will make illumination training available for traffic designers to allow traffic design staff to complete simple illumination projects that are an integral part of signal design projects.

Upon request, the Traffic-Roadway Section will assist Regions in selecting illumination design consultants and in reviewing scopes of work, consultant designs, or internally prepared designs.

### *Region Traffic Managers*

On simple intersection illumination projects involving a power distribution system of 240 volts or less, the Region Traffic Manager will make the determination whether to use internal or consultant resources to complete the illumination design.

## *CONTACT INFORMATION*

Title: Illumination Engineer  
Branch/Section: Traffic-Roadway Section  
Phone: 503-986-3587  
E-mail: [ernest.c.kim@odot.state.or.us](mailto:ernest.c.kim@odot.state.or.us)