

It's Time to Look Beyond the Roadway

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Roadway lighting designers have always been concerned about providing adequate visibility for the driver but often did not look beyond the roadway. There is now a pending release of a new national practice that helps focus attention on pedestrians and areas adjacent to the roadway.

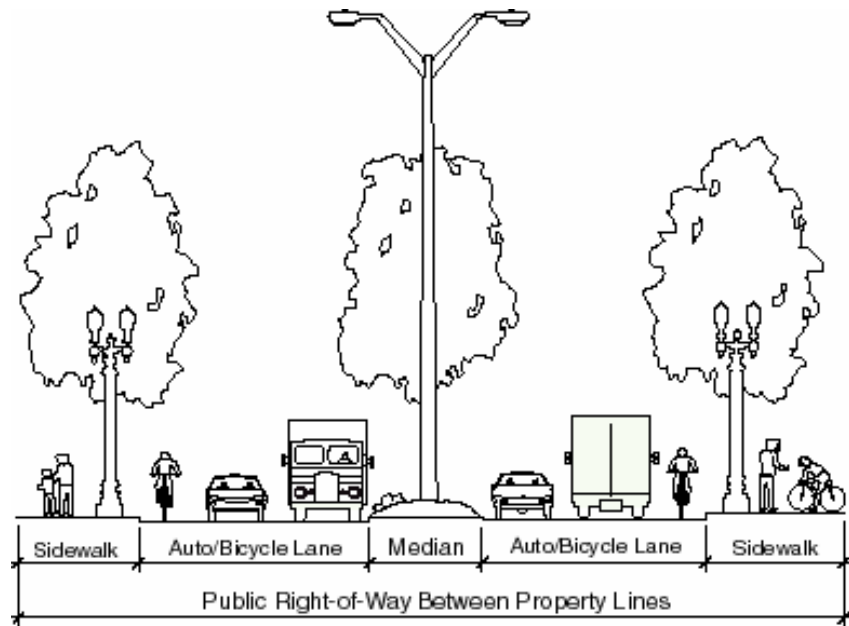
The Illuminating Engineering Society of North America's Roadway Lighting Committee has issued a new national standard for roadway lighting. This is the first revision to the document in 17 years and addresses issues long ignored in roadway lighting. The most important of these are the pedestrian and the overall aesthetics and integration of the roadway lighting system with its surrounding area.

Integration

The focus of previous versions of ANSI/IESNA RP-8 "Recommended Practice for Roadway Lighting" focused on the roadway surface and a driver's ability to see obstructions and hazards in the roadway. The newly defined area of concern is the entire Right of Way (ROW) including pedestrian zones. Elements within this ROW can include landscaping, signs, bus shelters, street furniture, outdoor café seating, banners, and many other elements which must be architecturally coordinated in order to achieve an integrated and harmonious outdoor environment.

Scale

In areas with a large number of pedestrians the pole size and luminaire mounting height should respond to a more human scale. This means the use of 3 to 6 meter poles instead of typical 10 to 15 meter standards. In many cases the designer may find that a pattern of higher roadway poles with cut-off luminaires lighting the road can be reasonably supplemented by pedestrian scale luminaries for sidewalks and plaza areas.



Vertical Surface Illumination

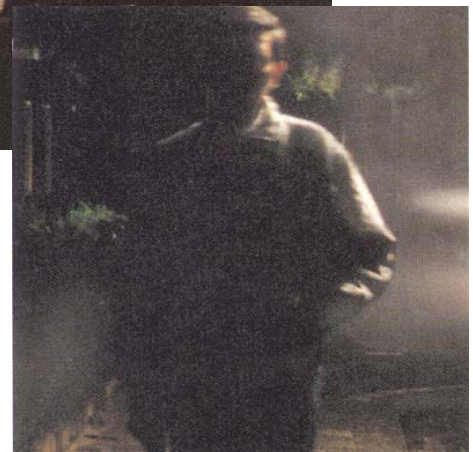
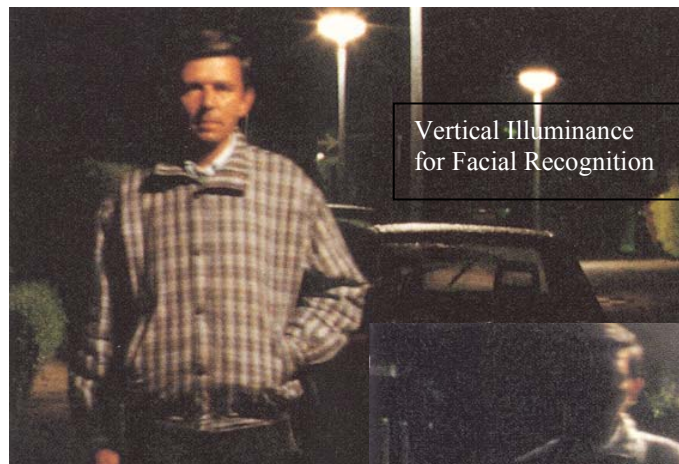
In some environments, like downtown and urban areas, the use of vertical illumination is necessary for several reasons. One of these is the illuminating of building facades to provide fill lighting that defines and highlights the night scene.



Security

Vertical illuminance is also provided so that there is a sense of security felt by pedestrians. The ability to see an approaching person's face, and thus gauge their intent, has a significant impact to how safe a person feels in a given situation.

Unfortunately, most roadway lighting systems do a poor job meeting this goal. That is why it is so important to have a small percentage of vertical light in high pedestrian environments. The new RP-8 offers criteria for vertical illuminance covering different areas which should assist the designer in providing a system that will be both comfortable and support the sense of safety and security.



Glare

With enhanced requirements for vertical illuminance there is an increased possibility of glare negatively impacting the visual environment (as well as the ability to see and enjoy the surroundings). As a result a balancing glare criteria has also been included in the new recommendation, which if applied, will help limit the amount of discomfort and disability glare in an outdoor environment.

This glare criteria is called a veiling luminance ratio which contrasts the brightest source in an observers field of view with the overall scene (road) brightness.



Summary

With the introduction on this national recommended practice designer's now have a tool to improve the outdoor environment while still satisfying all of the functional requirements necessary to develop for a safe roadway system.

Paul Lutkevich is Chair of the Illuminating Engineering Society of North America Roadway Lighting Committee. He has 18 years of experience in lighting design for infrastructure and outdoor lighting projects. He has received an International Illumination Design Award for his use of light guides and has written and spoken extensively on Urban Lighting and Outdoor Lighting Issues.