

TRAFFIC AND SAFETY INFORMATIONAL SERIES FREQUENTLY ASKED QUESTION #22

WHY DO LIGHT POLES HAVE TO BE LOCATED SO FAR FROM THE STREET?

The US Department of Transportation *Roadway Lighting Handbook* identifies five objectives for roadway lighting. These objectives include

- supplementing vehicle headlights,
- improving a the ability of a driver to see roadway features and objects on or near the roadway,
- delineating the roadway ahead,
- providing the driver with a better view of the overall roadway environment, and
- reducing driver apprehension about using the roadway.

Roadway lighting should be implemented if it can accomplish one or more of these objectives, but cost and safety must also be considered. Light poles added to the roadway environment could become hazards if they are not located, installed, and maintained properly.

THE BENEFITS OF ROADWAY LIGHTING

A Federal Highway Administration study reported that nighttime crash rates are nearly five times higher than daytime crash rates. Fortunately, a study by Probst, Krafczyk, and Brandt found that roadway lighting can significantly reduce the number of nighttime crashes at a particular location.

Many nighttime crashes occur at intersections. The complex decision making and conflicts that occur at these locations produce an environment where crashes are more likely to occur and where roadway lighting is needed the most. In urban areas, the number and proximity of intersections is one of the reasons there is continuous lighting. In rural areas, however, the cost and small amount of traffic do not allow continuous roadway lighting, and a reduction in nighttime crashes depends on adequate vehicle headlights and an efficient and focused program for lighting at significant intersections.

WHERE ARE LIGHT POLES PLACED?

A roadway clear zone is the “. . . unobstructed, relatively flat area provided beyond the edge of the traveled way for the recovery of errant vehicles.” The recovery area should be clear of all permanent objects such as trees, non-breakaway sign supports, utility poles, and other fixed objects. The suggested clear zone for a roadway depends upon the vehicle speed, volume of the roadway, and the roadway embankment slope. They range from approximately 10 feet for low-speed roadways to 30 feet for high-speed and high-traffic volume roadways (e.g., a paved rural highway). In fact, “. . . studies have indicated that on high-speed highways, a width of nine meters [30 feet] or more from the edge of the traveled way permits about 80 percent of the vehicles leaving a roadway out of control to recover.” Overall, it is generally recommended that a roadside recovery area be as wide as possible, and the suggested width of a clear zone in rural areas almost always requires a breakaway support for any light poles.

WHAT CAN BE DONE TO MAKE LIGHT POLES LESS HAZARDOUS?

Safety is the primary reason that light poles are placed away from the roadway (i.e., outside the clear zone). However, in some situations, roadside devices (such as light poles) have to be placed nearer to the roadway. For example, in an urban area there may be no space to place the light pole outside the clear zone. Light poles placed within a clear zone represent a hazard to the traveling public, and their supports must be made to quickly break away or yield when hit by a vehicle. These breakaway supports are designed to reduce the severity of a vehicle impact with the light pole. If there are pedestrians in the area of the light pole (and speeds are 45 miles per hour or less), however, the use of a breakaway light pole support is not recommended. The breakaway pole may become more of a hazard to the pedestrian than the traveling public.

Although it is not typically possible or required, it is preferable that a light pole have a breakaway support and be outside the roadway clear zone. A pole designed and located in this manner would be less likely to be hit and would also result in a less severe impact if it were hit.

For more information, please contact _____.